

REAL INSTITUTO Y OBSERVATORIO DE LA ARMADA EN SAN FERNANDO



# ALMANAQUE NÁUTICO 2024

CON SUPLEMENTO PARA NAVEGACIÓN AÉREA

Vol. CCXXXIII



MINISTERIO DE DEFENSA



REAL INSTITUTO Y OBSERVATORIO DE LA ARMADA EN SAN FERNANDO

**ALMANAQUE NÁUTICO 2024**  
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**Vol. CCXXXIII**



**MINISTERIO DE DEFENSA**



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1. La Armada es responsable de realizar las funciones de Cooperación y Guía del Tráfico Marítimo (NCAGS – *Naval Cooperation and Guidance for Shipping*) en aquellos casos que se considere necesario.
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En <https://encomar.covam.es/registro-de-transito> se encuentran las instrucciones de cómo solicitar el registro de un buque.
3. La publicación doctrinal **ATP 02.1 Guía para los Armadores, Operadores, Capitanes y Oficiales** está accesible a través del portal ENCOMAR en el enlace arriba indicado.
4. Salvo orden expresa del estado de bandera, la participación de los buques es **voluntaria** y se realiza por medio de la remisión de los Formatos ALFA.



5. Dicha participación se solicita normalmente por medio de radioavisos costeros y de área. Se invita a todos los buques españoles<sup>1</sup> a participar y cooperar activamente en todas las operaciones y ejercicios nacionales y aliados.

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<sup>1</sup>Por buques españoles deberá entenderse aquellos de abanderamiento nacional o pertenecientes a compañías nacionales.





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<i>Luna:</i> Edad, semidiámetro (SD), paralaje horizontal ecuatorial (PHE), paso meridiano Greenwich (PMG), retardo (R.°), horario en Greenwich (hG ☾), declinación (Dec), salida y puesta con sus retardos (R.°).	
<i>Aries:</i> Horario en Greenwich (hG ♈), paso meridiano Greenwich (PMG).	
<i>Venus:</i> Magnitud, paso meridiano Greenwich (PMG), horario en Greenwich (hG ♀) y declinación (Dec).	
<i>Marte:</i> Magnitud, paso meridiano Greenwich (PMG), horario en Greenwich (hG ♂) y declinación (Dec).	
<i>Júpiter:</i> Magnitud, paso meridiano Greenwich (PMG), horario en Greenwich (hG ♃) y declinación (Dec).	
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# Real Instituto y Observatorio de la Armada en San Fernando

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## Sistema de Constantes Astronómicas UAI 2012

### CONSTANTE DEFINITORIA NATURAL:

Velocidad de la luz.....  $c = 299\,792\,458\text{ m s}^{-1}$

### CONSTANTES DEFINITORIAS AUXILIARES:

Unidad astronómica.....  $au = 149\,597\,870\,700\text{ m}$

$1 - d(\text{TT})/d(\text{TCG})$ .....  $L_G = 6.969\,290\,134 \times 10^{-10}$

$1 - d(\text{TDB})/d(\text{TCB})$ .....  $L_B = 1.550\,519\,768 \times 10^{-8}$

$\text{TDB} - \text{TCB a } T_0 = 2\,443\,144.500\,372\,5\text{ TCB}$   $\text{TDB}_0 = -6.55 \times 10^{-5}\text{ s}$

### Ángulo de rotación terrestre (ERA)

en J2000.0 UT1.....  $\theta_0 = 0.779\,057\,273\,2640\text{ revoluciones}$

Velocidad de avance del ERA.....  $d\theta/d\text{UT1} = 1.002\,737\,811\,911\,354\,48\text{ rev. días UT1}^{-1}$

### CONSTANTE NATURAL MEDIBLE:

Constante de gravitación.....  $G = (6.674\,28 \times 10^{-11} \pm 6.7 \times 10^{-15})\text{ m}^3\text{ kg}^{-1}\text{ s}^{-2}$

### OTRAS CONSTANTES:

Valor medio de  $1 - d(\text{TCG})/d(\text{TCB})$ .....  $L_C = 1.480\,826\,867\,41 \times 10^{-8} \pm 2 \times 10^{-17}$

Constante de gravitación heliocéntrica.....  $GM_S = (1.327\,124\,420\,99 \times 10^{20} \pm 1 \times 10^{10})\text{ m}^3\text{ s}^{-2}\text{ (TCB)}$   
 $= (1.327\,124\,400\,41 \times 10^{20} \pm 1 \times 10^{10})\text{ m}^3\text{ s}^{-2}\text{ (TDB)}$

Radio ecuatorial terrestre.....  $a_E = (6\,378\,136.6 \pm 0.1)\text{ m}$

Factor de forma dinámica terrestre.....  $J_2 = 1.082\,6359 \times 10^{-3} \pm 1 \times 10^{-10}$

Variación temporal de  $J_2$ .....  $\dot{J}_2 = (-3.0 \times 10^{-9} \pm 6 \times 10^{-10})\text{ siglos}^{-1}$

Constante gravitacional geocéntrica.....  $GM_E = (3.986\,004\,418 \times 10^{14} \pm 8 \times 10^5)\text{ m}^3\text{ s}^{-2}\text{ (TCB)}$   
 $= (3.986\,004\,415 \times 10^{14} \pm 8 \times 10^5)\text{ m}^3\text{ s}^{-2}\text{ (TT)}$   
 $= (3.986\,004\,356 \times 10^{14} \pm 8 \times 10^5)\text{ m}^3\text{ s}^{-2}\text{ (TDB)}$

Potencial del geoide.....  $W_0 = (6.263\,685\,60 \times 10^7 \pm 0.5)\text{ m}^2\text{ s}^{-2}$

### Velocidad angular media

de rotación de la Tierra.....  $\omega = (7.292\,115 \times 10^{-5})\text{ rad s}^{-1}\text{ (TT)}$

### Relación entre masas:

Luna y Tierra.....  $M_M/M_E = 1.230\,003\,71 \times 10^{-2} \pm 4 \times 10^{-10}$

Sol y Mercurio.....  $M_S/M_{Me} = 6.023657330 \times 10^6 \pm 2.35 \times 10^{-1}$

Sol y Venus.....  $M_S/M_{Ve} = 4.085\,237\,19 \times 10^5 \pm 8 \times 10^{-3}$

Sol y Marte.....  $M_S/M_{Ma} = 3.098\,703\,59 \times 10^6 \pm 2 \times 10^{-2}$

Sol y Júpiter.....  $M_S/M_J = 1.047\,348\,644 \times 10^3 \pm 1.7 \times 10^{-5}$

Sol y Saturno.....  $M_S/M_{Sa} = 3.497\,9018 \times 10^3 \pm 1 \times 10^{-4}$

Sol y Urano.....  $M_S/M_U = 2.290\,2951 \times 10^4 \pm 1.7 \times 10^{-2}$

Sol y Neptuno.....  $M_S/M_N = 1.941\,226 \times 10^4 \pm 3 \times 10^{-2}$

Sol y (134340) Plutón.....  $M_S/M_P = 1.365\,66 \times 10^8 \pm 2.8 \times 10^4$

Sol y (136199) Eris.....  $M_S/M_{Eris} = 1.191 \times 10^8 \pm 1.4 \times 10^6$

(1) Ceres y Sol.....  $M_{Ceres}/M_S = 4.72 \times 10^{-10} \pm 3 \times 10^{-12}$

(2) Palas y Sol.....  $M_{Palas}/M_S = 1.03 \times 10^{-10} \pm 3 \times 10^{-12}$

(4) Vesta y Sol.....  $M_{Vesta}/M_S = 1.35 \times 10^{-10} \pm 3 \times 10^{-12}$

Oblicuidad de la eclíptica en J2000.0.....  $\epsilon_{J2000.0} = \epsilon_0 = 23^\circ\,26'\,21.406'' \pm 0.001''$

## Otros datos

Duración del día sidéreo medio . . . . . : 23<sup>h</sup> 56<sup>m</sup> 4.091<sup>s</sup> de tiempo universal.

Duración del día de tiempo universal . . . . . : 24<sup>h</sup> 3<sup>m</sup> 56.555<sup>s</sup> de tiempo sidéreo medio.

Reducción de la latitud geográfica  $\varphi$  a la latitud geocéntrica  $\varphi'$ :

$$\varphi' - \varphi = -692.74'' \operatorname{sen} 2\varphi + 1.16'' \operatorname{sen} 4\varphi$$

Radio geocéntrico:

$$\rho = (0.9983271 + 0.0016764 \cos 2\varphi - 0.0000035 \cos 4\varphi) a_E$$

Aceleración de la gravedad (en  $\text{cm s}^{-2}$ ):

$$g = 978.0318(1 + 0.0053024 \operatorname{sen}^2 \varphi - 0.0000059 \operatorname{sen}^2 2\varphi)$$

Corrección de  $g$  por elevación (en  $\text{cm s}^{-2}$ ):

$$\Delta g = -(0.00030855 + 0.00000022 \cos 2\varphi)H + 0.000072(H/1000)^2,$$

siendo  $H$  la elevación en metros.

Definición del segundo: es la duración de 9 192 631 770 períodos de la radiación correspondiente a la transición entre los dos niveles hiperfinos del estado fundamental del átomo de cesio 133.

(13 Conferencia General de Pesas y Medidas. Octubre-1967)

Definición del metro: es la distancia recorrida por la luz en el vacío durante  $1/299\,792\,458$  de segundo.

(17 Conferencia General de Pesas y Medidas. Octubre-1983)

## Artículos principales del calendario 2024

Áureo número . . . . .	XI	Epacta . . . . .	20
Año del período Juliano . . . . .			6737
Año de la era de los judíos, que comienza el 2 de octubre . . . . .			5785
Año de la Hégira o época de los mahometanos, que comienza el 7 de julio . . . . .			1446

## Calendario religioso 2024

Epifanía (sábado) . . . . .	6	Ene	Ascensión . . . . .	9	May
Miércoles de Ceniza . . . . .	14	Feb	Pentecostés . . . . .	19	May
Domingo de Ramos . . . . .	24	Mar	Corpus Christi . . . . .	30	May
Viernes Santo . . . . .	29	Mar	Primer Domingo de Adviento . . . . .	1	Dic
Pascua de Resurrección . . . . .	31	Mar	Navidad (miércoles) . . . . .	25	Dic
Pesach (5784) . . . . .	22	Abr	Yom Kippur (5785) . . . . .	11	Oct
Shavuot (5784) . . . . .	11	Jun	Succoth (5785) . . . . .	16	Oct
Año Nuevo Judío (5785) . . . . .	2	Oct			
Primer día del Ramadán (1445) . . . . .	10	Mar	Año Nuevo Islámico (1446) . . . . .	6	Jul

Las festividades judías e islámicas comienzan al ocaso de la fecha anterior a la indicada y finalizan al ocaso de dicha fecha.



## Principio de las estaciones en 2024 (horas UT)

Primavera: . . . el 20 de marzo a 3<sup>h</sup> 6<sup>m</sup>      Verano: . . . . . el 20 de junio a 20<sup>h</sup> 50<sup>m</sup>  
 Otoño: . . . . . el 22 de septiembre a 12<sup>h</sup> 43<sup>m</sup>      Invierno: . . . . . el 21 de diciembre a 9<sup>h</sup> 20<sup>m</sup>

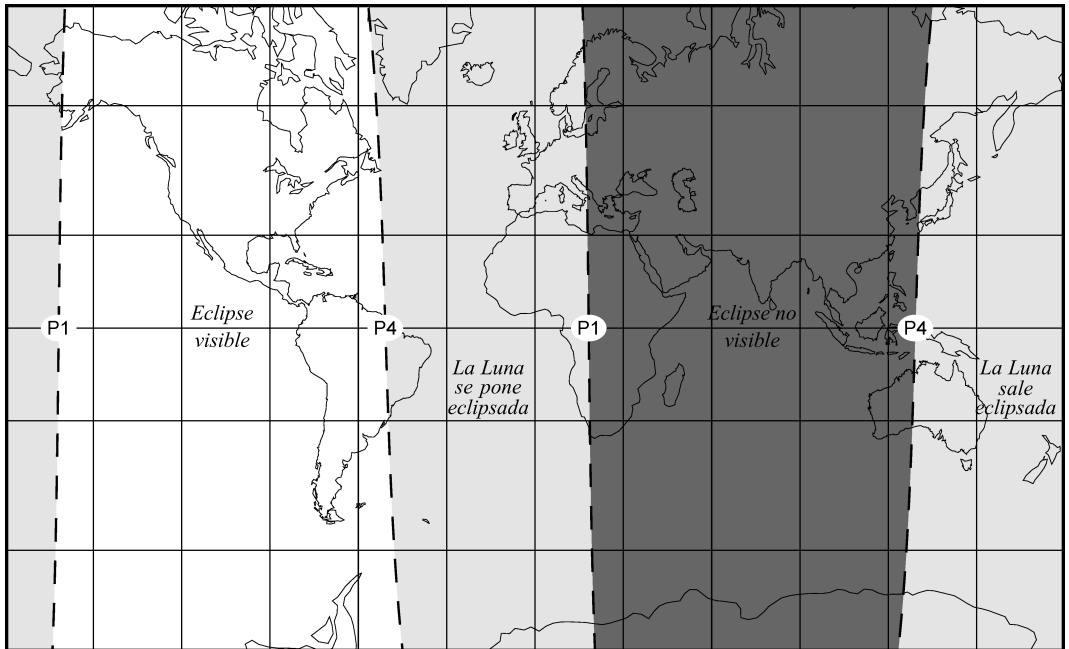
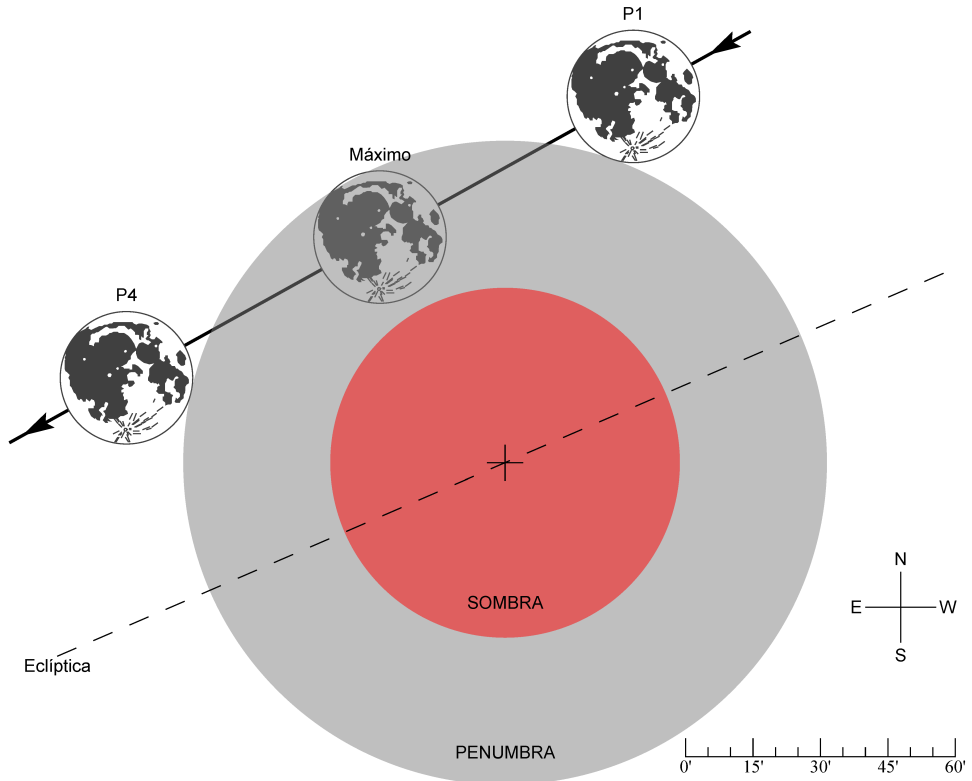
## Fases de la Luna en 2024 (horas UT)

Lunación	Luna Nueva		Cuarto Creciente		Luna Llena		Cuarto Menguante	
	d	h m	d	h m	d	h m	d	h m
1249							Ene.	4 3 30
1250	Ene.	11 11 57	Ene.	18 3 53	Ene.	25 17 54	Feb.	2 23 18
1251	Feb.	9 22 59	Feb.	16 15 01	Feb.	24 12 30	Mar.	3 15 23
1252	Mar.	10 9 00	Mar.	17 4 11	Mar.	25 7 00	Abr.	2 3 15
1253	Abr.	8 18 21	Abr.	15 19 13	Abr.	23 23 49	May.	1 11 27
1254	May.	8 3 22	May.	15 11 48	May.	23 13 53	May.	30 17 13
1255	Jun.	6 12 38	Jun.	14 5 18	Jun.	22 1 08	Jun.	28 21 53
1256	Jul.	5 22 57	Jul.	13 22 49	Jul.	21 10 17	Jul.	28 2 52
1257	Ago.	4 11 13	Ago.	12 15 19	Ago.	19 18 26	Ago.	26 9 26
1258	Sep.	3 1 56	Sep.	11 6 06	Sep.	18 2 34	Sep.	24 18 50
1259	Oct.	2 18 49	Oct.	10 18 55	Oct.	17 11 26	Oct.	24 8 03
1260	Nov.	1 12 47	Nov.	9 5 55	Nov.	15 21 29	Nov.	23 1 28
1261	Dic.	1 6 21	Dic.	8 15 27	Dic.	15 9 02	Dic.	22 22 18
1262	Dic.	30 22 27						

## Eclipses en 2024

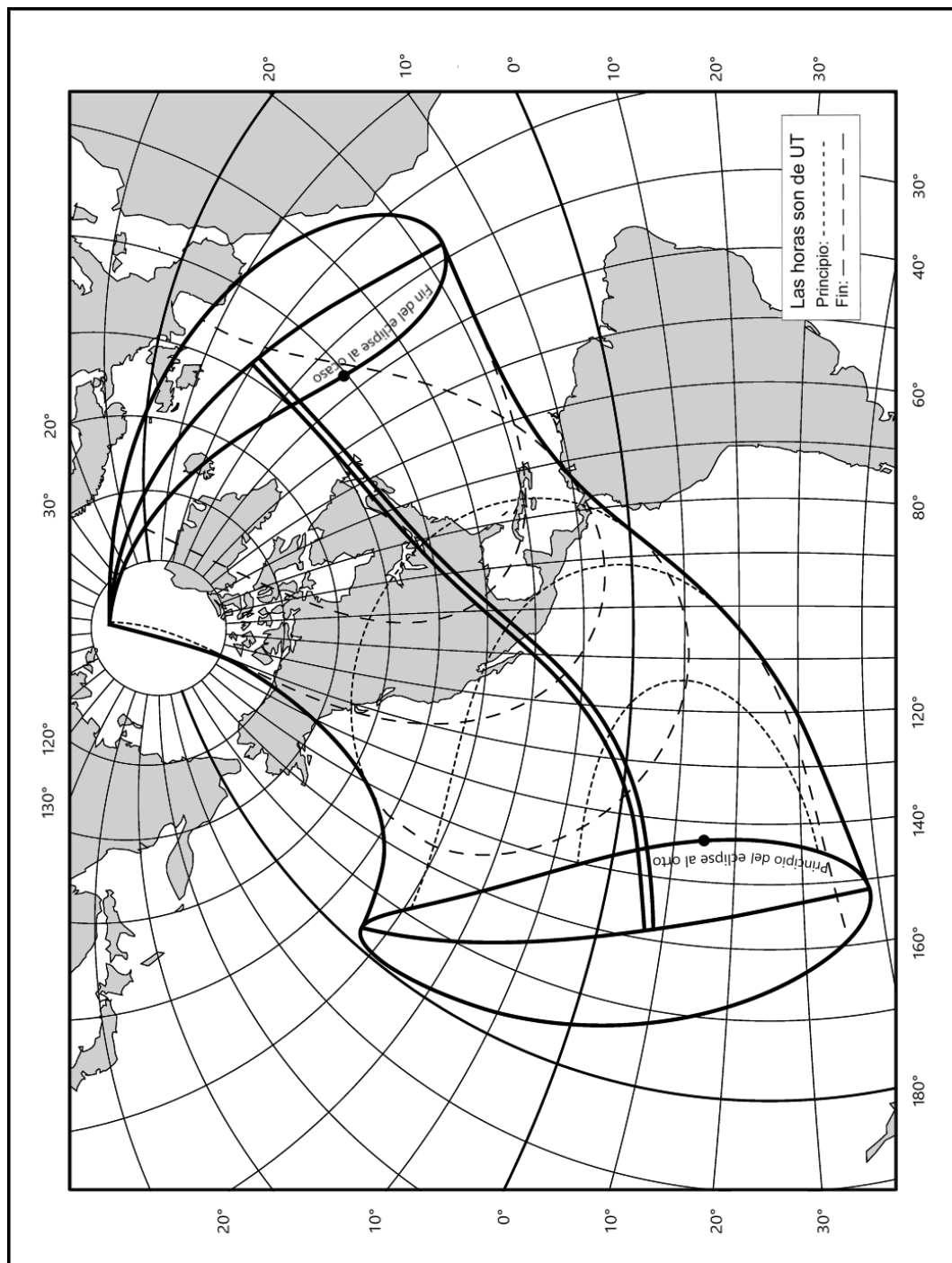
- I. **Eclipse penumbral de Luna, el 25 de marzo.** Visible en todo América, la mitad occidental de Europa y África, la mitad oriental de Australia así como el extremo más oriental de Asia. Principio del eclipse a 4<sup>h</sup> 53.2<sup>m</sup> UT. Fin del eclipse a 9<sup>h</sup> 32.3<sup>m</sup> UT.
- II. **Eclipse total de Sol, el 8 de abril.** Visible en Centroamérica, Norteamérica y la mitad occidental de Reino Unido. Principio del eclipse a 15<sup>h</sup> 42.1<sup>m</sup> UT. Fin del eclipse a 20<sup>h</sup> 52.2<sup>m</sup> UT.
- III. **Eclipse parcial de Luna, el 18 de septiembre.** Visible en la mayoría de América, África, Europa y la mitad occidental de Asia. Principio del eclipse a 0<sup>h</sup> 41.0<sup>m</sup> UT. Fin del eclipse a 4<sup>h</sup> 47.3<sup>m</sup> UT.
- IV. **Eclipse anular de Sol, el 2 de octubre.** Visible en la mitad sur de Sudamérica y parte de la Antártida. Principio del eclipse a 15<sup>h</sup> 42.8<sup>m</sup> UT. Fin del eclipse a 21<sup>h</sup> 46.8<sup>m</sup> UT.

### Eclipse penumbral de Luna, el 25 de marzo de 2024

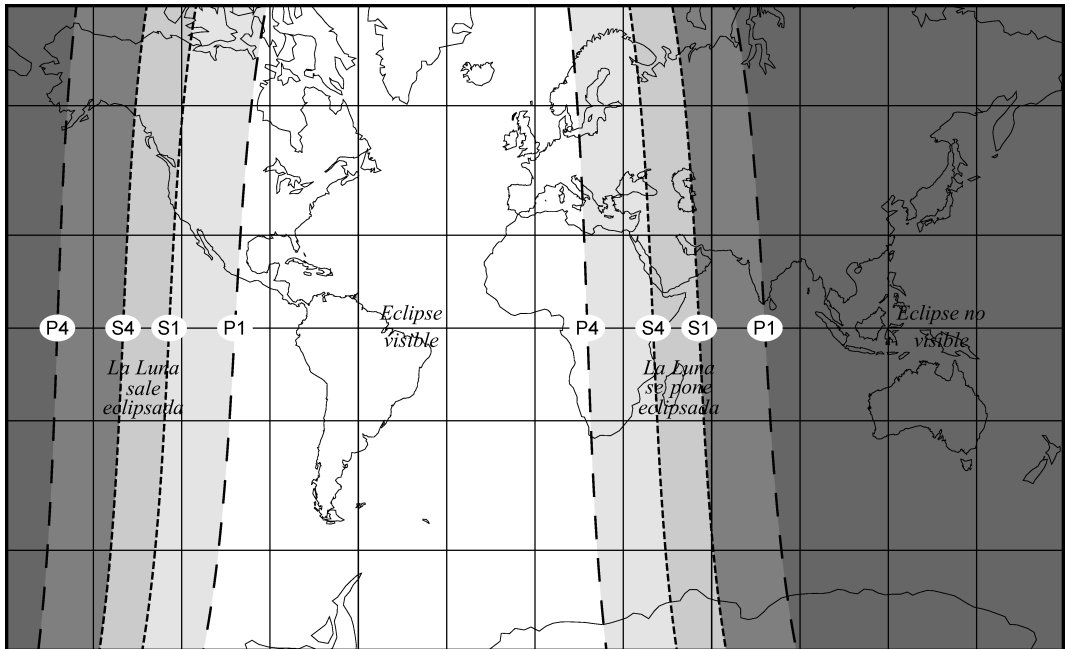
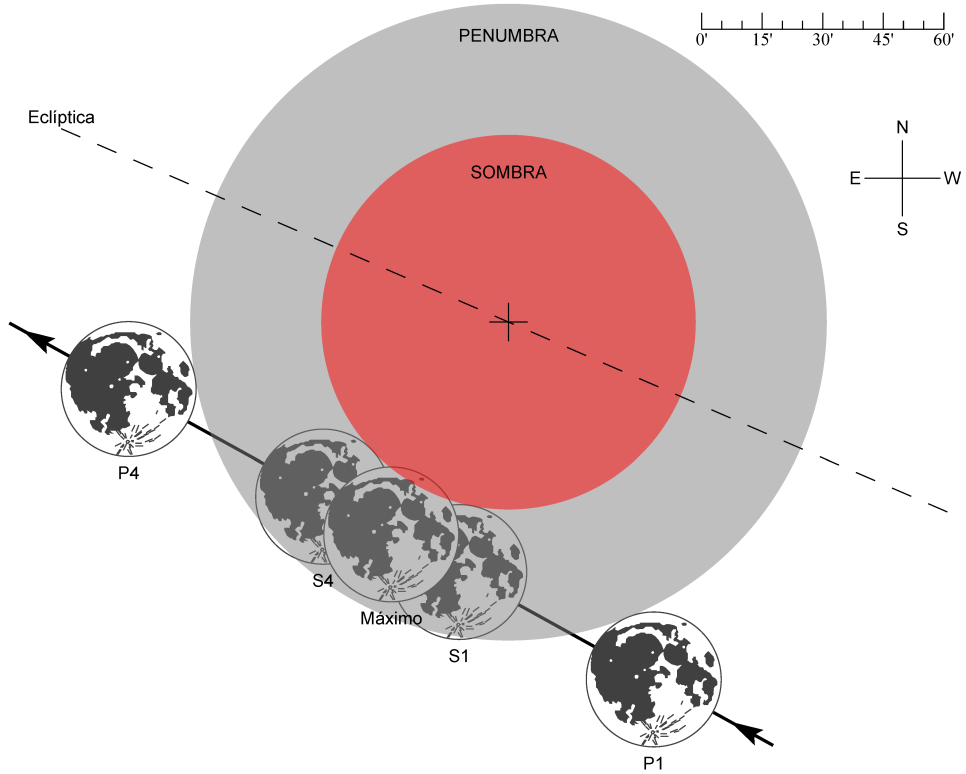


Paralelos y meridianos de 30° en 30°

## Eclipse total de Sol, el 8 de abril de 2024

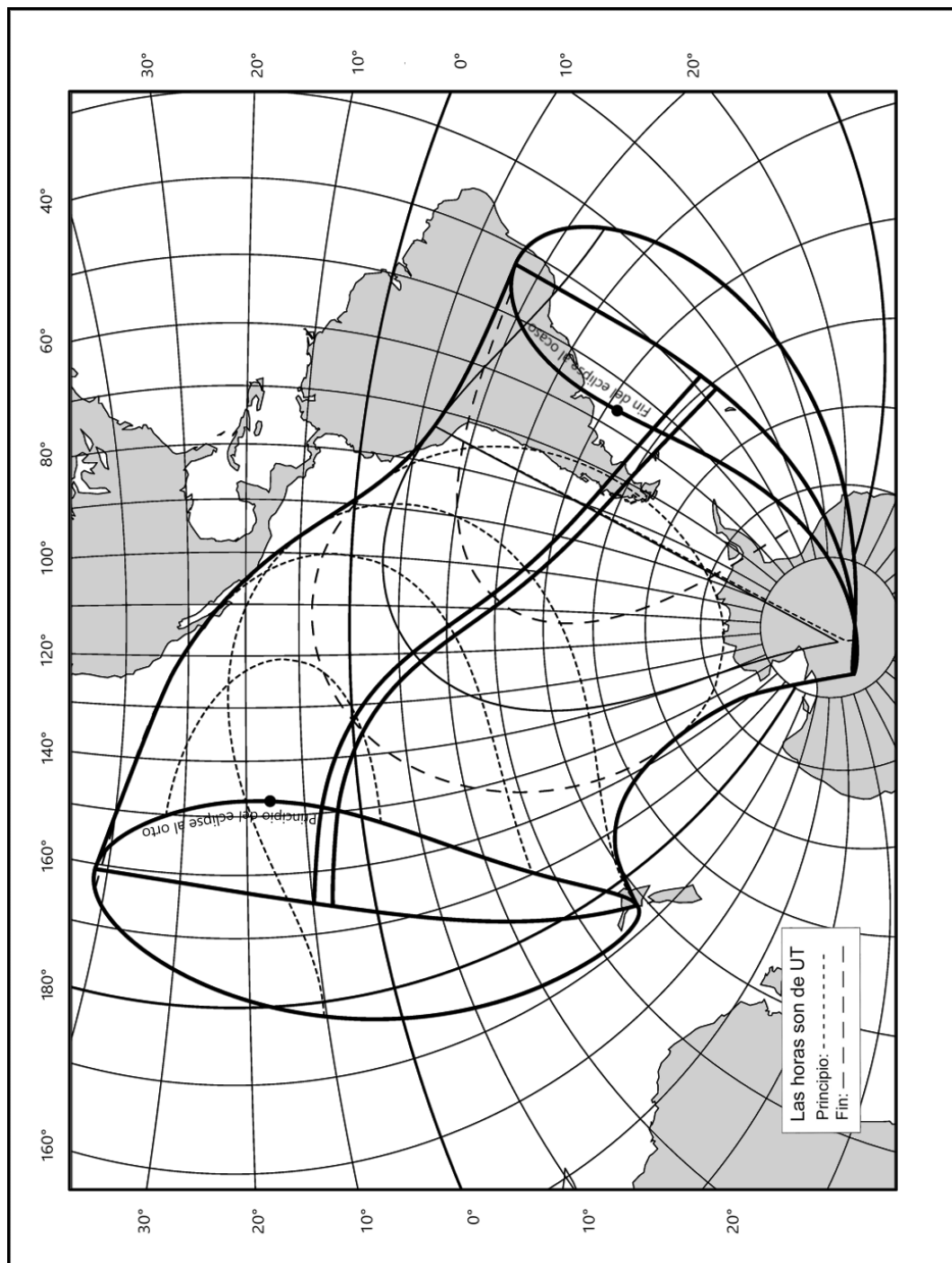


### Eclipse parcial de Luna, el 18 de septiembre de 2024



Paralelos y meridianos de 30° en 30°

## Eclipse anular de Sol, el 2 de octubre de 2024





UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 03.3 <sup>m</sup>		SD: 14.8' Edad: 19.0 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'			PMG: 4 <sup>h</sup> 03 <sup>m</sup> R°: 39 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	179 13.8	-23 03.5	301 02.0	+12 37.6	127 24.9	60 N	7 09	8 06	9 02	21 36 82	11 26 0					
1	194 13.5	03.3	315 37.0 <sup>160</sup>		128	58	7 02	7 54	8 46	41 78	21 2					
2	209 13.2	03.1	330 12.2 <sup>162</sup>	+12 12.1	128	56	6 56	44	31	45 75	16 5					
3	224 12.9	02.9	344 47.3 <sup>161</sup>	+11 59.3	128	54	50	36	19	48 73	11 8					
4	239 12.6	02.7	359 22.6 <sup>163</sup>	46.5	129	52	44	28	8 08	51 70	07 10					
5	254 12.3	-23 02.5	13 57.8 <sup>162</sup>	+11 33.6	130	50	6 39	7 20	7 59	21 54 68	11 03 12					
6	269 12.0	-23 02.3	28 33.2 <sup>164</sup>	+11 20.6	130	45	6 27	7 05	7 38	22 01 63	10 55 17					
7	284 11.8	02.1	43 08.5 <sup>163</sup>	+11 07.6	130	40	17	6 51	22	06 59	48 20					
8	299 11.5	01.9	57 43.9 <sup>164</sup>	+10 54.6	130	35	08	40	7 08	10 56	42 24					
9	314 11.2	01.7	72 19.4 <sup>165</sup>	41.6	130	30	6 00	29	6 56	14 53	37 26					
10	329 10.9	01.5	86 54.9 <sup>165</sup>	28.5	131	20	5 44	6 11	35	21 48	28 31					
11	344 10.6	-23 01.3	101 30.4 <sup>165</sup>	+10 15.4	131	10 N	5 28	5 54	6 17	22 27 44	10 20 35					
12	359 10.3	-23 01.1	116 06.0 <sup>166</sup>	+10 02.2	132	0	5 11	5 37	6 00	22 33 39	10 12 40					
13	14 10.0	00.9	130 41.6 <sup>166</sup>	+9 49.0	132	10 S	4 52	5 19	5 42	39 35	10 05 43					
14	29 09.7	00.7	145 17.3 <sup>167</sup>	35.8	132	20	30	4 59	24	45 30	9 56 48					
15	44 09.4	00.5	159 52.9 <sup>166</sup>	22.5	133	30	4 01	35	5 02	51 26	47 53					
16	59 09.1	00.3	174 28.7 <sup>168</sup>	+9 09.2	133	35	3 43	20	4 49	55 23	41 57					
17	74 08.8	-23 00.1	189 04.4 <sup>167</sup>	+8 55.9	133	40	3 20	4 02	4 34	22 59 20	9 35 60					
18	89 08.5	-22 59.9	203 40.2 <sup>168</sup>	+8 42.5	134	45	2 50	3 40	4 17	23 05 15	9 28 63					
19	104 08.2	59.7	218 16.1 <sup>169</sup>	29.1	134	50	2 06	3 11	3 55	11 11	19 68					
20	119 07.9	59.5	232 51.9 <sup>168</sup>	15.7	134	52	1 40	2 56	44	13 10	15 70					
21	134 07.6	59.3	247 27.8 <sup>169</sup>	+8 02.2	135	54	0 59	38	32	16 8	10 73					
22	149 07.3	59.1	262 03.8 <sup>170</sup>	+7 48.8	134	56	** **	2 17	18	20 4	05 76					
23	164 07.0	58.9	276 39.7 <sup>169</sup>	35.3	135	58	** **	1 49	3 02	23 2	9 00 78					
24	179 06.7	-22 58.7	291 15.7 <sup>170</sup>	+7 21.7	136	60 S	** **	1 04	2 42	23 27 0	8 53 82					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 <sup>h</sup> 16.6 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 24 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 31 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 40 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	100 09.1	219 12.0	-18 46.2	193 05.8	-23 57.7	66 28.0	+12 15.8	124 22.4	-11 50.3	
1	115 11.5	234 11.4	46.8	208 06.3	57.7	81 30.4	15.9	139 24.6	50.3	
2	130 14.0	249 10.7	47.5	223 06.7	57.8	96 32.9	15.9	154 26.9	50.2	
3	145 16.5	264 10.0	48.1	238 07.1	57.9	111 35.3	15.9	169 29.1	50.1	
4	160 18.9	279 09.4	48.8	253 07.6	57.9	126 37.8	15.9	184 31.4	50.0	
5	175 21.4	294 08.7	-18 49.4	268 08.0	-23 58.0	141 40.3	+12 15.9	199 33.7	-11 49.9	
6	190 23.9	309 08.0	-18 50.1	283 08.4	-23 58.0	156 42.7	+12 15.9	214 35.9	-11 49.8	
7	205 26.3	324 07.4	50.8	298 08.9	58.1	171 45.2	15.9	229 38.2	49.8	
8	220 28.8	339 06.7	51.4	313 09.3	58.2	186 47.6	16.0	244 40.4	49.7	
9	235 31.3	354 06.0	52.1	328 09.7	58.2	201 50.1	16.0	259 42.7	49.6	
10	250 33.7	9 05.3	52.7	343 10.2	58.3	216 52.5	16.0	274 44.9	49.5	
11	265 36.2	24 04.7	-18 53.4	358 10.6	-23 58.3	231 55.0	+12 16.0	289 47.2	-11 49.4	
12	280 38.7	39 04.0	-18 54.0	13 11.0	-23 58.4	246 57.5	+12 16.0	304 49.4	-11 49.3	
13	295 41.1	54 03.3	54.7	28 11.5	58.5	261 59.9	16.0	319 51.7	49.3	
14	310 43.6	69 02.6	55.3	43 11.9	58.5	277 02.4	16.1	334 53.9	49.2	
15	325 46.0	84 02.0	56.0	58 12.4	58.6	292 04.8	16.1	349 56.2	49.1	
16	340 48.5	99 01.3	56.6	73 12.8	58.6	307 07.3	16.1	4 58.4	49.0	
17	355 51.0	114 00.6	-18 57.3	88 13.2	-23 58.7	322 09.7	+12 16.1	20 00.7	-11 48.9	
18	10 53.4	128 59.9	-18 57.9	103 13.7	-23 58.7	337 12.2	+12 16.1	35 03.0	-11 48.8	
19	25 55.9	143 59.2	58.5	118 14.1	58.8	352 14.6	16.1	50 05.2	48.8	
20	40 58.4	158 58.6	59.2	133 14.5	58.8	7 17.1	16.2	65 07.5	48.7	
21	56 00.8	173 57.9	-18 59.8	148 15.0	58.9	22 19.6	16.2	80 09.7	48.6	
22	71 03.3	188 57.2	-19 00.5	163 15.4	58.9	37 22.0	16.2	95 12.0	48.5	
23	86 05.8	203 56.5	01.1	178 15.8	59.0	52 24.5	16.2	110 14.2	48.4	
24	101 08.2	218 55.8	-19 01.8	193 16.3	-23 59.1	67 26.9	+12 16.2	125 16.5	-11 48.3	
Dif	—	-7	-6	+4	-1	+25	0	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 03.8 <sup>m</sup>		SD: 14.8' Edad: 20.0 <sup>d</sup> PMG: 4 <sup>h</sup> 42 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.3'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	179 06.7	-22 58.7	291 15.7	+7 21.7	135	60 N	15 06	16 02	16 59	22 58 81	11 26 -1					
1	194 06.4	58.5	305 51.7 <sup>170</sup>	+7 08.2	135	58	23	14	17 06	22 59 78	23 2					
2	209 06.2	58.2	320 27.7 <sup>170</sup>	+6 54.6	136	56	37	24	12	23 00 75	21 4					
3	224 05.9	58.0	335 03.8 <sup>171</sup>	41.0	136	54	15 49	32	18	01 72	19 7					
4	239 05.6	57.8	349 39.9 <sup>171</sup>	27.3	137	52	16 00	40	24	01 71	17 9					
5	254 05.3	-22 57.6	4 16.0 <sup>171</sup>	+6 13.7	136	50	16 09	16 47	17 29	23 02 68	11 15 12					
6	269 05.0	-22 57.4	18 52.1 <sup>171</sup>	+6 00.0	137	45	16 29	17 03	17 40	23 04 63	11 12 15					
7	284 04.7	57.2	33 28.2 <sup>171</sup>	+5 46.3	137	40	16 46	16	50	05 60	08 20					
8	299 04.4	57.0	48 04.4 <sup>172</sup>	32.6	137	35	17 00	28	17 59	06 56	06 22					
9	314 04.1	56.7	62 40.6 <sup>172</sup>	18.8	138	30	12	38	18 08	07 53	11 03 26					
10	329 03.8	56.5	77 16.8 <sup>172</sup>	+5 05.0	138	20	32	17 56	24	09 48	10 59 31					
11	344 03.5	-22 56.3	91 53.0 <sup>172</sup>	+4 51.3	137	10 N	17 50	18 13	18 40	23 11 43	10 55 35					
12	359 03.2	-22 56.1	106 29.2 <sup>172</sup>	+4 37.4	139	0	18 08	18 30	18 56	23 12 39	10 52 39					
13	14 02.9	55.9	121 05.4 <sup>172</sup>	23.6	138	10 S	25	18 48	19 15	14 35	48 43					
14	29 02.6	55.6	135 41.7 <sup>173</sup>	+4 09.8	138	20	18 43	19 08	19 37	15 31	44 48					
15	44 02.4	55.4	150 18.0 <sup>173</sup>	+3 55.9	139	30	19 05	32	20 05	17 26	40 53					
16	59 02.1	55.2	164 54.2 <sup>172</sup>	42.0	139	35	17	19 47	23	18 23	38 55					
17	74 01.8	-22 55.0	179 30.5 <sup>173</sup>	+3 28.1	139	40	19 32	20 05	20 46	23 19 20	10 35 59					
18	89 01.5	-22 54.7	194 06.8 <sup>173</sup>	+3 14.2	139	45	19 50	20 27	21 15	23 20 16	10 31 63					
19	104 01.2	54.5	208 43.1 <sup>173</sup>	+3 00.3	139	50	20 11	20 55	21 59	22 11	27 68					
20	119 00.9	54.3	223 19.4 <sup>173</sup>	+2 46.4	139	52	22	21 10	22 24	23 9	25 70					
21	134 00.6	54.1	237 55.7 <sup>173</sup>	32.4	140	54	34	27	23 03	24 7	23 72					
22	149 00.3	53.8	252 32.0 <sup>173</sup>	18.5	139	56	20 47	21 48	** ** *	24 5	21 75					
23	164 00.0	53.6	267 08.3 <sup>173</sup>	+2 04.5	140	58	21 04	22 15	** ** *	25 3	18 78					
24	178 59.7	-22 53.4	281 44.6 <sup>173</sup>	+1 50.5	140	60 S	21 23	22 58	** ** *	23 27 -1	10 15 82					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 <sup>h</sup> 12.6 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 27 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 37 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	101 08.2	218 55.8	-19 01.8	193 16.3	-23 59.1	67 26.9	+12 16.2	125 16.5	-11 48.3	
1	116 10.7	233 55.2	02.4	208 16.7	59.1	82 29.4	16.2	140 18.7	48.3	
2	131 13.1	248 54.5	03.0	223 17.1	59.2	97 31.8	16.3	155 21.0	48.2	
3	146 15.6	263 53.8	03.7	238 17.6	59.2	112 34.3	16.3	170 23.2	48.1	
4	161 18.1	278 53.1	04.3	253 18.0	59.3	127 36.7	16.3	185 25.5	48.0	
5	176 20.5	293 52.4	-19 04.9	268 18.4	-23 59.3	142 39.2	+12 16.3	200 27.7	-11 47.9	
6	191 23.0	308 51.7	-19 05.6	283 18.9	-23 59.4	157 41.6	+12 16.3	215 30.0	-11 47.8	
7	206 25.5	323 51.1	06.2	298 19.3	59.4	172 44.1	16.3	230 32.2	47.8	
8	221 27.9	338 50.4	06.8	313 19.7	59.5	187 46.5	16.4	245 34.5	47.7	
9	236 30.4	353 49.7	07.5	328 20.2	59.5	202 49.0	16.4	260 36.7	47.6	
10	251 32.9	8 49.0	08.1	343 20.6	59.5	217 51.4	16.4	275 39.0	47.5	
11	266 35.3	23 48.3	-19 08.7	358 21.0	-23 59.6	232 53.9	+12 16.4	290 41.2	-11 47.4	
12	281 37.8	38 47.6	-19 09.4	13 21.5	-23 59.6	247 56.3	+12 16.4	305 43.5	-11 47.3	
13	296 40.3	53 46.9	10.0	28 21.9	59.7	262 58.8	16.5	320 45.7	47.2	
14	311 42.7	68 46.2	10.6	43 22.3	59.7	278 01.2	16.5	335 48.0	47.2	
15	326 45.2	83 45.6	11.3	58 22.8	59.8	293 03.7	16.5	350 50.2	47.1	
16	341 47.6	98 44.9	11.9	73 23.2	59.8	308 06.1	16.5	5 52.5	47.0	
17	356 50.1	113 44.2	-19 12.5	88 23.6	-23 59.9	323 08.6	+12 16.5	20 54.7	-11 46.9	
18	11 52.6	128 43.5	-19 13.1	103 24.1	-23 59.9	338 11.0	+12 16.6	35 57.0	-11 46.8	
19	26 55.0	143 42.8	13.8	118 24.5	-24 00.0	353 13.5	16.6	50 59.2	46.7	
20	41 57.5	158 42.1	14.4	133 24.9	00.0	8 15.9	16.6	66 01.5	46.7	
21	57 00.0	173 41.4	15.0	148 25.4	00.0	23 18.3	16.6	81 03.7	46.6	
22	72 02.4	188 40.7	15.6	163 25.8	00.1	38 20.8	16.6	96 06.0	46.5	
23	87 04.9	203 40.0	16.2	178 26.2	00.1	53 23.2	16.7	111 08.2	46.4	
24	102 07.4	218 39.3	-19 16.9	193 26.7	-24 00.2	68 25.7	+12 16.7	126 10.5	-11 46.3	
Dif	—	-7	-6	+4	0	+24	0	+23	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 14.8'		Edad: 21.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.6'			PMG: 5 <sup>h</sup> 21 <sup>m</sup> R <sup>o</sup> : 40 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	h m m	h m m	h m m		
0	178 59.7	-22 53.4	281 44.6	+1 50.5	140	60 N	7 09	8 05	9 01	** ** *	11 25	-1				
1	193 59.4	53.1	296 20.9	36.5	140	58	7 02	7 54	8 45	** ** *	25	2				
2	208 59.2	52.9	310 57.2	22.5	140	56	6 55	44	31	** ** *	25	5				
3	223 58.9	52.7	325 33.5	+1 08.5	140	54	49	35	19	** ** *	26	7				
4	238 58.6	52.5	340 09.8	+0 54.5	140	52	44	27	8 08	** ** *	26	10				
5	253 58.3	-22 52.2	354 46.0	+0 40.4	141	50	6 39	7 20	7 58	** ** *	11 27	11				
6	268 58.0	-22 52.0	9 22.3	+0 26.4	140	45	6 28	7 05	7 38	** ** *	11 27	16				
7	283 57.7	51.7	23 58.6	+0 12.3	141	40	18	6 52	22	** ** *	28	20				
8	298 57.4	51.5	38 34.8	-0 01.7	140	35	09	40	7 08	** ** *	28	23				
9	313 57.1	51.3	53 11.1	15.8	141	30	6 00	30	6 56	** ** *	29	26				
10	328 56.8	51.0	67 47.3	29.8	140	20	5 44	6 12	36	23 57	49	30 31				
11	343 56.5	-22 50.8	82 23.6	-0 43.9	141	10 N	5 29	5 55	6 18	23 54	45	11 30 36				
12	358 56.3	-22 50.6	96 59.8	-0 58.0	141	0	5 12	5 38	6 01	23 51	41	11 31 39				
13	13 56.0	50.3	111 36.0	-1 12.1	141	10 S	4 53	20	5 43	49	36	31 44				
14	28 55.7	50.1	126 12.1	26.1	140	20	31	5 00	25	46	31	32 48				
15	43 55.4	49.8	140 48.3	40.2	141	30	4 03	4 36	5 03	43	26	33 53				
16	58 55.1	49.6	155 24.4	-1 54.3	141	35	3 45	21	4 51	41	24	33 57				
17	73 54.8	-22 49.4	170 00.6	-2 08.4	141	40	3 22	4 04	4 36	23 39	20	11 34 60				
18	88 54.5	-22 49.1	184 36.6	-2 22.5	141	45	2 53	3 42	4 19	23 36	17	11 34 64				
19	103 54.2	48.9	199 12.7	36.5	140	50	2 09	3 13	3 57	33	13	35 69				
20	118 54.0	48.6	213 48.8	-2 50.6	141	52	1 44	2 58	46	32	10	35 71				
21	133 53.7	48.4	228 24.8	-3 04.7	141	54	1 05	41	34	31	8	35 74				
22	148 53.4	48.1	243 00.8	18.8	141	56	** ** *	2 20	21	29	6	36 76				
23	163 53.1	47.9	257 36.8	32.8	140	58	** ** *	1 53	3 05	28	2	36 79				
24	178 52.8	-22 47.6	272 12.7	-3 46.9	141	60 S	** ** *	1 11	2 45	23 26	-1	11 37 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 <sup>h</sup> 08.7 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 06 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 23 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 33 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	102 07.4	218 39.3	-19 16.9	193 26.7	-24 00.2	68 25.7	+12 16.7	126 10.5	-11 46.3	
1	117 09.8	233 38.6	17.5	208 27.1	00.2	83 28.1	16.7	141 12.7	46.2	
2	132 12.3	248 38.0	18.1	223 27.5	00.3	98 30.6	16.7	156 15.0	46.1	
3	147 14.8	263 37.3	18.7	238 27.9	00.3	113 33.0	16.7	171 17.2	46.1	
4	162 17.2	278 36.6	19.3	253 28.4	00.3	128 35.5	16.8	186 19.5	46.0	
5	177 19.7	293 35.9	-19 20.0	268 28.8	-24 00.4	143 37.9	+12 16.8	201 21.7	-11 45.9	
6	192 22.1	308 35.2	-19 20.6	283 29.2	-24 00.4	158 40.3	+12 16.8	216 24.0	-11 45.8	
7	207 24.6	323 34.5	21.2	298 29.7	00.4	173 42.8	16.8	231 26.2	45.7	
8	222 27.1	338 33.8	21.8	313 30.1	00.5	188 45.2	16.8	246 28.5	45.6	
9	237 29.5	353 33.1	22.4	328 30.5	00.5	203 47.7	16.9	261 30.7	45.5	
10	252 32.0	8 32.4	23.0	343 31.0	00.6	218 50.1	16.9	276 33.0	45.5	
11	267 34.5	23 31.7	-19 23.6	358 31.4	-24 00.6	233 52.5	+12 16.9	291 35.2	-11 45.4	
12	282 36.9	38 31.0	-19 24.2	13 31.8	-24 00.6	248 55.0	+12 16.9	306 37.5	-11 45.3	
13	297 39.4	53 30.3	24.8	28 32.2	00.7	263 57.4	17.0	321 39.7	45.2	
14	312 41.9	68 29.6	25.5	43 32.7	00.7	278 59.9	17.0	336 42.0	45.1	
15	327 44.3	83 28.9	26.1	58 33.1	00.7	294 02.3	17.0	351 44.2	45.0	
16	342 46.8	98 28.2	26.7	73 33.5	00.8	309 04.7	17.0	6 46.5	44.9	
17	357 49.2	113 27.5	-19 27.3	88 34.0	-24 00.8	324 07.2	+12 17.0	21 48.7	-11 44.9	
18	12 51.7	128 26.8	-19 27.9	103 34.4	-24 00.8	339 09.6	+12 17.1	36 51.0	-11 44.8	
19	27 54.2	143 26.1	28.5	118 34.8	00.9	354 12.1	17.1	51 53.2	44.7	
20	42 56.6	158 25.4	29.1	133 35.3	00.9	9 14.5	17.1	66 55.5	44.6	
21	57 59.1	173 24.7	29.7	148 35.7	00.9	24 16.9	17.1	81 57.7	44.5	
22	73 01.6	188 24.0	30.3	163 36.1	01.0	39 19.4	17.2	96 59.9	44.4	
23	88 04.0	203 23.3	30.9	178 36.5	01.0	54 21.8	17.2	112 02.2	44.3	
24	103 06.5	218 22.6	-19 31.5	193 37.0	-24 01.0	69 24.2	+12 17.2	127 04.4	-11 44.3	
Dif	—	-7	-6	+4	0	+24	0	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 04.7 <sup>m</sup>		SD: 14.9' Edad: 22.0 <sup>d</sup> PMG: 6 <sup>h</sup> 01 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.7' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 55.0'				R <sup>o</sup> : 41 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	178 52.8	-22 47.6	272 12.7	-3 46.9	141	60 N	15 09	16 05	17 01	0 19	84	11 24	-1			
1	193 52.5	47.4	286 48.6	-4 01.0	141	58	25	16	08	17 81	27	3				
2	208 52.2	47.1	301 24.5	15.0	140	56	39	26	15	15 78	30	6				
3	223 51.9	46.9	316 00.3	29.1	141	54	15 51	35	20	13 75	33	9				
4	238 51.7	46.6	330 36.1	43.1	140	52	16 02	42	26	12 72	36	11				
5	253 51.4	-22 46.4	345 11.9	-4 57.2	141	50	16 11	16 49	17 31	0 10	70	11 38	13			
6	268 51.1	-22 46.1	359 47.7	-5 11.2	140	45	16 31	17 05	17 42	0 07	65	11 43	18			
7	283 50.8	45.9	14 23.4	25.2	140	40	16 48	18	17 52	05 60	48	21				
8	298 50.5	45.6	28 59.0	39.2	140	35	17 01	29	18 01	02 58	51	25				
9	313 50.2	45.4	43 34.6	-5 53.2	140	30	13	39	09	0 00	55	11 55	27			
10	328 50.0	45.1	58 10.2	-6 07.2	140	20	34	17 58	25	** ** *	** ** *	12 01	32			
11	343 49.7	-22 44.8	72 45.8	-6 21.2	140	10 N	17 52	18 14	18 41	** ** *	** ** *	12 06	37			
12	358 49.4	-22 44.6	87 21.3	-6 35.1	139	0	18 08	18 31	18 57	** ** *	** ** *	12 10	42			
13	13 49.1	44.3	101 56.7	-6 49.1	140	10 S	25	18 48	19 15	** ** *	** ** *	15	46			
14	28 48.8	44.1	116 32.1	-7 03.0	139	20	18 44	19 08	19 37	** ** *	** ** *	20	51			
15	43 48.5	43.8	131 07.5	16.9	139	30	19 05	32	20 05	** ** *	** ** *	26	56			
16	58 48.2	43.5	145 42.8	30.8	139	35	18	19 47	23	** ** *	** ** *	30	58			
17	73 48.0	-22 43.3	160 18.0	-7 44.7	139	40	19 32	20 05	20 46	23 59	23	12 34	62			
18	88 47.7	-22 43.0	174 53.2	-7 58.6	139	45	19 49	20 26	21 15	23 53	19	12 38	66			
19	103 47.4	42.8	189 28.4	-8 12.4	138	50	20 11	20 55	21 57	46 14	44	71				
20	118 47.1	42.5	204 03.4	26.2	138	52	21	21 09	22 22	42 12	46	74				
21	133 46.8	42.2	218 38.5	40.0	138	54	33	26	22 59	39 9	49	76				
22	148 46.5	42.0	233 13.5	-8 53.8	138	56	20 47	21 46	** ** *	35 6	52	79				
23	163 46.3	41.7	247 48.4	-9 07.6	138	58	21 02	22 13	** ** *	30 4	55	83				
24	178 46.0	-22 41.4	262 23.2	-9 21.3	137	60 S	21 21	22 53	** ** *	23 25	0	12 59	86			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 04.8 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 27 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 05 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 29 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	103 06.5	218 22.6	-19 31.5	193 37.0	-24 01.0	69 24.2	+12 17.2	127 04.4	-11 44.3	
1	118 09.0	233 21.8	32.1	208 37.4	01.1	84 26.7	17.2	142 06.7	44.2	
2	133 11.4	248 21.1	32.7	223 37.8	01.1	99 29.1	17.2	157 08.9	44.1	
3	148 13.9	263 20.4	33.3	238 38.3	01.1	114 31.5	17.3	172 11.2	44.0	
4	163 16.4	278 19.7	33.9	253 38.7	01.2	129 34.0	17.3	187 13.4	43.9	
5	178 18.8	293 19.0	-19 34.5	268 39.1	-24 01.2	144 36.4	+12 17.3	202 15.7	-11 43.8	
6	193 21.3	308 18.3	-19 35.1	283 39.5	-24 01.2	159 38.9	+12 17.3	217 17.9	-11 43.7	
7	208 23.7	323 17.6	35.7	298 40.0	01.2	174 41.3	17.4	232 20.2	43.7	
8	223 26.2	338 16.9	36.2	313 40.4	01.3	189 43.7	17.4	247 22.4	43.6	
9	238 28.7	353 16.2	36.8	328 40.8	01.3	204 46.2	17.4	262 24.7	43.5	
10	253 31.1	8 15.5	37.4	343 41.3	01.3	219 48.6	17.4	277 26.9	43.4	
11	268 33.6	23 14.8	-19 38.0	358 41.7	-24 01.3	234 51.0	+12 17.5	292 29.1	-11 43.3	
12	283 36.1	38 14.0	-19 38.6	13 42.1	-24 01.4	249 53.4	+12 17.5	307 31.4	-11 43.2	
13	298 38.5	53 13.3	39.2	28 42.5	01.4	264 55.9	17.5	322 33.6	43.1	
14	313 41.0	68 12.6	39.8	43 43.0	01.4	279 58.3	17.5	337 35.9	43.1	
15	328 43.5	83 11.9	40.4	58 43.4	01.4	295 00.7	17.6	352 38.1	43.0	
16	343 45.9	98 11.2	40.9	73 43.8	01.5	310 03.2	17.6	7 40.4	42.9	
17	358 48.4	113 10.5	-19 41.5	88 44.2	-24 01.5	325 05.6	+12 17.6	22 42.6	-11 42.8	
18	13 50.9	128 09.8	-19 42.1	103 44.7	-24 01.5	340 08.0	+12 17.6	37 44.9	-11 42.7	
19	28 53.3	143 09.1	42.7	118 45.1	01.5	355 10.5	17.7	52 47.1	42.6	
20	43 55.8	158 08.3	43.3	133 45.5	01.6	10 12.9	17.7	67 49.4	42.5	
21	58 58.2	173 07.6	43.9	148 46.0	01.6	25 15.3	17.7	82 51.6	42.4	
22	74 00.7	188 06.9	44.4	163 46.4	01.6	40 17.7	17.7	97 53.8	42.4	
23	89 03.2	203 06.2	45.0	178 46.8	01.6	55 20.2	17.8	112 56.1	42.3	
24	104 05.6	218 05.5	-19 45.6	193 47.2	-24 01.6	70 22.6	+12 17.8	127 58.3	-11 42.2	
Dif	—	-7	-6	+4	0	+24	0	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.0'		Edad: 23.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.2' 12 <sup>h</sup> : 55.4' 20 <sup>h</sup> : 55.6'			PMG: 6 <sup>h</sup> 42 <sup>m</sup> R <sup>o</sup> : 44 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h	m	m
0	178 46.0	-22 41.4	262 23.2	158	- 9 21.3	138	<b>60 N</b>	7 08	8 04	9 00	1 43	90	11 23	0		
1	193 45.7	41.2	276 58.0	158	35.1	138	<b>58</b>	7 01	7 53	8 44	38 85	30 4				
2	208 45.4	40.9	291 32.8	158	- 9 48.8	137	<b>56</b>	6 55	43	30	33 81	36 8				
3	223 45.1	40.6	306 07.5	157	- 10 02.4	136	<b>54</b>	49	35	18	28 78	42 10				
4	238 44.8	40.3	320 42.1	156	16.1	137	<b>52</b>	44	27	8 07	24 75	47 13				
5	253 44.6	-22 40.1	335 16.6	155	- 10 29.7	136	<b>50</b>	6 39	7 20	7 58	1 20	73	11 51	16		
6	268 44.3	-22 39.8	349 51.1	155	- 10 43.3	136	<b>45</b>	6 28	7 05	7 38	1 12	68	12 01	21		
7	283 44.0	39.5	4 25.5	154	- 10 56.8	135	<b>40</b>	18	6 52	22	05 64	09 25				
8	298 43.7	39.3	18 59.8	153	- 11 10.4	136	<b>35</b>	09	41	7 08	1 00	60	16 28			
9	313 43.4	39.0	33 34.1	153	23.9	135	<b>30</b>	6 01	30	6 57	0 55	57	22 32			
10	328 43.2	38.7	48 08.3	152	37.3	134	<b>20</b>	5 45	6 12	36	46 52	33 37				
11	343 42.9	-22 38.4	62 42.4	151	- 11 50.8	135	<b>10 N</b>	5 29	5 56	6 18	0 39	47	12 43	40		
12	358 42.6	-22 38.2	77 16.5	151	- 12 04.2	134	<b>0</b>	5 13	5 39	6 01	0 32	43	12 52	45		
13	13 42.3	37.9	91 50.4	149	17.5	133	<b>10 S</b>	4 55	22	5 44	25 39	13 01	49			
14	28 42.0	37.6	106 24.3	149	30.9	134	<b>20</b>	33	5 02	26	17 35	11 53				
15	43 41.8	37.3	120 58.1	148	44.2	133	<b>30</b>	4 05	4 38	5 05	09 30	22 58				
16	58 41.5	37.0	135 31.9	148	- 12 57.4	132	<b>35</b>	3 47	23	4 52	0 05	26	28 62			
17	73 41.2	-22 36.8	150 05.5	146	- 13 10.6	132	<b>40</b>	3 24	4 05	4 38	** ** *	** ** *	13 36	65		
18	88 40.9	-22 36.5	164 39.1	146	- 13 23.8	132	<b>45</b>	2 55	3 44	4 21	** ** *	** ** *	13 44	70		
19	103 40.6	36.2	179 12.6	145	36.9	131	<b>50</b>	2 13	15	3 59	** ** *	** ** *	13 55	75		
20	118 40.4	35.9	193 46.0	144	- 13 50.0	131	<b>52</b>	1 48	3 01	49	23 54	16	14 00	77		
21	133 40.1	35.6	208 19.3	143	- 14 03.1	131	<b>54</b>	1 11	2 44	37	48 13	05 80				
22	148 39.8	35.3	222 52.5	142	16.1	130	<b>56</b>	** ** *	2 24	24	41 10	11 84				
23	163 39.5	35.1	237 25.6	141	29.1	130	<b>58</b>	** ** *	1 57	3 08	34 5	18 87				
24	178 39.2	-22 34.8	251 58.7	141	- 14 42.0	129	<b>60 S</b>	** ** *	1 17	2 49	23 25	1	14 25	93		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG 17 <sup>h</sup> 00.8 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 05 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 15 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 26 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	104 05.6	218 05.5	- 19 45.6	193 47.2	- 24 01.6	70 22.6	+ 12 17.8	127 58.3	- 11 42.2		
1	119 08.1	233 04.8	46.2	208 47.7	01.7	85 25.0	17.8	143 00.6	42.1		
2	134 10.6	248 04.0	46.7	223 48.1	01.7	100 27.5	17.8	158 02.8	42.0		
3	149 13.0	263 03.3	47.3	238 48.5	01.7	115 29.9	17.9	173 05.1	41.9		
4	164 15.5	278 02.6	47.9	253 48.9	01.7	130 32.3	17.9	188 07.3	41.8		
5	179 18.0	293 01.9	- 19 48.5	268 49.4	- 24 01.7	145 34.7	+ 12 17.9	203 09.6	- 11 41.7		
6	194 20.4	308 01.2	- 19 49.0	283 49.8	- 24 01.8	160 37.2	+ 12 17.9	218 11.8	- 11 41.7		
7	209 22.9	323 00.4	49.6	298 50.2	01.8	175 39.6	18.0	233 14.0	41.6		
8	224 25.3	337 59.7	50.2	313 50.6	01.8	190 42.0	18.0	248 16.3	41.5		
9	239 27.8	352 59.0	50.8	328 51.1	01.8	205 44.4	18.0	263 18.5	41.4		
10	254 30.3	7 58.3	51.3	343 51.5	01.8	220 46.9	18.1	278 20.8	41.3		
11	269 32.7	22 57.6	- 19 51.9	358 51.9	- 24 01.8	235 49.3	+ 12 18.1	293 23.0	- 11 41.2		
12	284 35.2	37 56.8	- 19 52.5	13 52.3	- 24 01.9	250 51.7	+ 12 18.1	308 25.3	- 11 41.1		
13	299 37.7	52 56.1	53.0	28 52.8	01.9	265 54.1	18.1	323 27.5	41.0		
14	314 40.1	67 55.4	53.6	43 53.2	01.9	280 56.6	18.2	338 29.7	41.0		
15	329 42.6	82 54.7	54.2	58 53.6	01.9	295 59.0	18.2	353 32.0	40.9		
16	344 45.1	97 53.9	54.7	73 54.0	01.9	311 01.4	18.2	8 34.2	40.8		
17	359 47.5	112 53.2	- 19 55.3	88 54.5	- 24 01.9	326 03.8	+ 12 18.3	23 36.5	- 11 40.7		
18	14 50.0	127 52.5	- 19 55.8	103 54.9	- 24 01.9	341 06.2	+ 12 18.3	38 38.7	- 11 40.6		
19	29 52.5	142 51.8	56.4	118 55.3	01.9	356 08.7	18.3	53 41.0	40.5		
20	44 54.9	157 51.0	57.0	133 55.7	02.0	11 11.1	18.3	68 43.2	40.4		
21	59 57.4	172 50.3	57.5	148 56.2	02.0	26 13.5	18.4	83 45.4	40.3		
22	74 59.8	187 49.6	58.1	163 56.6	02.0	41 15.9	18.4	98 47.7	40.3		
23	90 02.3	202 48.9	58.6	178 57.0	02.0	56 18.3	18.4	113 49.9	40.2		
24	105 04.8	217 48.1	- 19 59.2	193 57.4	- 24 02.0	71 20.8	+ 12 18.5	128 52.2	- 11 40.1		
Dif	—	-7	-6	+4	0	+24	0	+22	+1		



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 05.6 <sup>m</sup>		SD: 15.2' Edad: 24.0 <sup>d</sup> PMG: 7 <sup>h</sup> 26 <sup>m</sup>		R <sup>o</sup> : 48 <sup>m</sup>				PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 56.1' 20 <sup>h</sup> : 56.4'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 39.2	-22 34.8	251 58.7		-14 42.0	128	60 N	15 12	16 08	17 04	3 13 96	11 23 2				
1	193 39.0	34.5	266 31.7	140	-14 54.8	128	58	28	19 11	3 03 91	34 7					
2	208 38.7	34.2	281 04.5	138	-15 07.7	129	56	42	28 17	2 54 87	44 11					
3	223 38.4	33.9	295 37.3	138	20.4	127	54	15 54	37 23	46 83	11 52 15					
4	238 38.1	33.6	310 10.0	137	33.1	127	52	16 04	45 28	39 80	12 00 18					
5	253 37.9	-22 33.3	324 42.5	135	-15 45.8	127	50	16 14	16 52 17 33	2 33 77	12 07 20					
6	268 37.6	-22 33.0	339 15.0	135	-15 58.4	126	45	16 33	17 07 17 44	2 20 71	12 22 25					
7	283 37.3	32.7	353 47.4	134	-16 11.0	126	40	16 49	20 17 53	09 67	34 30					
8	298 37.0	32.5	8 19.7	133	23.5	125	35	17 03	31 18 02	2 00 63	44 34					
9	313 36.7	32.2	22 51.9	132	35.9	124	30	15 41	41 10	1 52 60	12 54 36					
10	328 36.5	31.9	37 24.0	131	-16 48.3	124	20	35	17 59 26	38 55	13 10 41					
11	343 36.2	-22 31.6	51 55.9	129	-17 00.6	123	10 N	17 53	18 15 18 42	1 26 51	13 23 46					
12	358 35.9	-22 31.3	66 27.8	129	-17 12.9	123	0	18 09	18 32 18 58	1 15 47	13 37 49					
13	13 35.6	31.0	80 59.6	128	25.1	122	10 S	26	18 49 19 16	1 04 43	13 50 53					
14	28 35.4	30.7	95 31.2	126	37.2	121	20	18 44	19 09 19 38	0 52 38	14 04 57					
15	43 35.1	30.4	110 02.8	126	-17 49.3	121	30	19 05	33 20 05	39 33	20 63					
16	58 34.8	30.1	124 34.3	125	-18 01.3	120	35	18 18	19 47 23	31 31	30 65					
17	73 34.5	-22 29.8	139 05.6	123	-18 13.2	119	40	19 32	20 04 20 45	0 22 27	14 41 68					
18	88 34.3	-22 29.5	153 36.8	122	-18 25.1	119	45	19 49	20 26 21 14	0 12 23	14 54 73					
19	103 34.0	29.2	168 07.9	121	36.9	118	50	20 10	20 54 21 56	0 00 18	15 10 78					
20	118 33.7	28.9	182 39.0	121	-18 48.6	117	52	21	21 08 22 20	** ** *	17 81					
21	133 33.4	28.6	197 09.8	118	-19 00.3	117	54	32	24 22 54	** ** *	25 85					
22	148 33.2	28.3	211 40.6	118	11.9	116	56	20 45	21 44 ** **	23 51 15	35 88					
23	163 32.9	28.0	226 11.3	117	23.4	115	58	21 01	22 10 ** **	39 11	45 94					
24	178 32.6	-22 27.7	240 41.8	115	-19 34.8	114	60 S	21 19	22 48 ** **	23 26 4	15 58 99					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 16 <sup>h</sup> 56.9 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 12 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 22 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	105 04.8	217 48.1	-19 59.2	193 57.4	-24 02.0	71 20.8	+12 18.5	128 52.2	-11 40.1							
1	120 07.2	232 47.4	-19 59.7	208 57.9	02.0	86 23.2	18.5	143 54.4	40.0							
2	135 09.7	247 46.7	-20 00.3	223 58.3	02.0	101 25.6	18.5	158 56.7	39.9							
3	150 12.2	262 45.9	00.8	238 58.7	02.0	116 28.0	18.5	173 58.9	39.8							
4	165 14.6	277 45.2	01.4	253 59.1	02.0	131 30.4	18.6	189 01.1	39.7							
5	180 17.1	292 44.5	-20 02.0	268 59.6	-24 02.0	146 32.9	+12 18.6	204 03.4	-11 39.6							
6	195 19.6	307 43.8	-20 02.5	284 00.0	-24 02.1	161 35.3	+12 18.6	219 05.6	-11 39.6							
7	210 22.0	322 43.0	03.1	299 00.4	02.1	176 37.7	18.7	234 07.9	39.5							
8	225 24.5	337 42.3	03.6	314 00.8	02.1	191 40.1	18.7	249 10.1	39.4							
9	240 27.0	352 41.6	04.1	329 01.3	02.1	206 42.5	18.7	264 12.3	39.3							
10	255 29.4	7 40.8	04.7	344 01.7	02.1	221 44.9	18.7	279 14.6	39.2							
11	270 31.9	22 40.1	-20 05.2	359 02.1	-24 02.1	236 47.4	+12 18.8	294 16.8	-11 39.1							
12	285 34.3	37 39.4	-20 05.8	14 02.5	-24 02.1	251 49.8	+12 18.8	309 19.1	-11 39.0							
13	300 36.8	52 38.6	06.3	29 02.9	02.1	266 52.2	18.8	324 21.3	38.9							
14	315 39.3	67 37.9	06.9	44 03.4	02.1	281 54.6	18.9	339 23.5	38.8							
15	330 41.7	82 37.2	07.4	59 03.8	02.1	296 57.0	18.9	354 25.8	38.8							
16	345 44.2	97 36.4	08.0	74 04.2	02.1	311 59.4	18.9	9 28.0	38.7							
17	0 46.7	112 35.7	-20 08.5	89 04.6	-24 02.1	327 01.8	+12 19.0	24 30.3	-11 38.6							
18	15 49.1	127 34.9	-20 09.0	104 05.1	-24 02.1	342 04.3	+12 19.0	39 32.5	-11 38.5							
19	30 51.6	142 34.2	09.6	119 05.5	02.1	357 06.7	19.0	54 34.7	38.4							
20	45 54.1	157 33.5	10.1	134 05.9	02.1	12 09.1	19.1	69 37.0	38.3							
21	60 56.5	172 32.7	10.6	149 06.3	02.1	27 11.5	19.1	84 39.2	38.2							
22	75 59.0	187 32.0	11.2	164 06.8	02.1	42 13.9	19.1	99 41.5	38.1							
23	91 01.4	202 31.3	11.7	179 07.2	02.1	57 16.3	19.1	114 43.7	38.0							
24	106 03.9	217 30.5	-20 12.3	194 07.6	-24 02.1	72 18.7	+12 19.2	129 45.9	-11 38.0							
Dif	—	-7	-5	+4	0	+24	0	+22	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.4'		Edad: 25.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 57.2'			R <sup>o</sup> : 53 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 06.0 <sup>m</sup>		PMG: 8 <sup>h</sup> 14 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 32.6	-22 27.7	240 41.8		-19 34.8	113	60 N	7 07	8 03	8 58	4 49	104	11 25	6		
1	193 32.3	27.4	255 12.3	115	46.1	113	58	7 01	7 52	42	34	96	41	13		
2	208 32.1	27.1	269 42.6	113	-19 57.4	113	56	6 54	43	29	21	90	11 55	19		
3	223 31.8	26.8	284 12.8	112	-20 08.6	112	54	49	34	17	4 09	87	12 07	23		
4	238 31.5	26.4	298 42.9	111	19.7	111	52	43	27	8 07	3 59	83	18	26		
5	253 31.2	-22 26.1	313 12.8	109	-20 30.7	110	50	6 39	7 20	7 57	3 50	80	12 27	29		
6	268 31.0	-22 25.8	327 42.7	109	-20 41.6	109	45	6 28	7 05	7 38	3 31	75	12 47	34		
7	283 30.7	25.5	342 12.4	107	-20 52.4	108	40	18	6 52	22	16	70	13 04	38		
8	298 30.4	25.2	356 42.0	106	-21 03.2	108	35	09	41	7 09	3 03	67	18	41		
9	313 30.2	24.9	11 11.4	104	13.8	106	30	6 01	31	6 57	2 52	64	30	43		
10	328 29.9	24.6	25 40.8	104	24.4	106	20	5 45	6 13	37	33	60	13 51	47		
11	343 29.6	-22 24.3	40 10.0	102	-21 34.8	104	10 N	5 30	5 56	6 19	2 17	55	14 09	51		
12	358 29.3	-22 24.0	54 39.1	101	-21 45.2	104	0	5 14	5 40	6 02	2 02	52	14 26	54		
13	13 29.1	23.6	69 08.1	100	-21 55.5	103	10 S	4 56	23	5 46	1 47	48	14 43	58		
14	28 28.8	23.3	83 36.9	98	-22 05.7	102	20	34	5 03	27	30	45	15 01	61		
15	43 28.5	23.0	98 05.7	98	15.7	100	30	4 06	4 39	5 06	12	40	23	65		
16	58 28.3	22.7	112 34.3	96	25.7	100	35	3 49	25	4 54	1 02	37	35	68		
17	73 28.0	-22 22.4	127 02.7	94	-22 35.5	98	40	3 27	4 07	4 40	0 49	34	15 49	71		
18	88 27.7	-22 22.1	141 31.1	94	-22 45.3	98	45	2 58	3 46	4 23	0 35	30	16 07	74		
19	103 27.4	21.7	155 59.3	92	-22 54.9	96	50	2 16	18	4 01	18	24	28	80		
20	118 27.2	21.4	170 27.4	91	-23 04.5	96	52	1 52	3 04	3 51	10	22	38	83		
21	133 26.9	21.1	184 55.3	89	13.9	94	54	1 17	2 48	4 0	0 01	19	16 50	86		
22	148 26.6	20.8	199 23.2	89	23.2	93	56	** ** *	28	27	** ** *	** ** *	17 03	90		
23	163 26.4	20.5	213 50.9	87	32.4	92	58	** ** *	2 02	3 11	23 50	19	19	95		
24	178 26.1	-22 20.1	228 18.4	85	-23 41.5	91	60 S	** ** *	1 24	2 53	23 30	12	17 37	105		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 <sup>h</sup> 53.0 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 30 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 19 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	106 03.9	217 30.5	-20 12.3	194 07.6	-24 02.1	72 18.7	+12 19.2	129 45.9	-11 38.0	
1	121 06.4	232 29.8	12.8	209 08.0	02.1	87 21.1	19.2	144 48.2	37.9	
2	136 08.8	247 29.0	13.3	224 08.4	02.1	102 23.6	19.2	159 50.4	37.8	
3	151 11.3	262 28.3	13.8	239 08.9	02.1	117 26.0	19.3	174 52.7	37.7	
4	166 13.8	277 27.6	14.4	254 09.3	02.1	132 28.4	19.3	189 54.9	37.6	
5	181 16.2	292 26.8	-20 14.9	269 09.7	-24 02.1	147 30.8	+12 19.3	204 57.1	-11 37.5	
6	196 18.7	307 26.1	-20 15.4	284 10.1	-24 02.1	162 33.2	+12 19.4	219 59.4	-11 37.4	
7	211 21.2	322 25.3	16.0	299 10.6	02.1	177 35.6	19.4	235 01.6	37.3	
8	226 23.6	337 24.6	16.5	314 11.0	02.1	192 38.0	19.4	250 03.9	37.2	
9	241 26.1	352 23.8	17.0	329 11.4	02.1	207 40.4	19.5	265 06.1	37.2	
10	256 28.6	7 23.1	17.5	344 11.8	02.1	222 42.8	19.5	280 08.3	37.1	
11	271 31.0	22 22.4	-20 18.1	359 12.2	-24 02.1	237 45.2	+12 19.5	295 10.6	-11 37.0	
12	286 33.5	37 21.6	-20 18.6	14 12.7	-24 02.1	252 47.6	+12 19.6	310 12.8	-11 36.9	
13	301 35.9	52 20.9	19.1	29 13.1	02.1	267 50.0	19.6	325 15.0	36.8	
14	316 38.4	67 20.1	19.6	44 13.5	02.0	282 52.5	19.6	340 17.3	36.7	
15	331 40.9	82 19.4	20.1	59 13.9	02.0	297 54.9	19.7	355 19.5	36.6	
16	346 43.3	97 18.6	20.7	74 14.3	02.0	312 57.3	19.7	10 21.8	36.5	
17	1 45.8	112 17.9	-20 21.2	89 14.8	-24 02.0	327 59.7	+12 19.7	25 24.0	-11 36.4	
18	16 48.3	127 17.1	-20 21.7	104 15.2	-24 02.0	343 02.1	+12 19.8	40 26.2	-11 36.4	
19	31 50.7	142 16.4	22.2	119 15.6	02.0	358 04.5	19.8	55 28.5	36.3	
20	46 53.2	157 15.6	22.7	134 16.0	02.0	13 06.9	19.8	70 30.7	36.2	
21	61 55.7	172 14.9	23.2	149 16.4	02.0	28 09.3	19.9	85 32.9	36.1	
22	76 58.1	187 14.1	23.8	164 16.9	02.0	43 11.7	19.9	100 35.2	36.0	
23	92 00.6	202 13.4	24.3	179 17.3	02.0	58 14.1	19.9	115 37.4	35.9	
24	107 03.1	217 12.6	-20 24.8	194 17.7	-24 01.9	73 16.5	+12 20.0	130 39.7	-11 35.8	
Dif	—	-7	-5	+4	0	+24	0	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 15.6' Edad: 26.0 <sup>d</sup> PMG: 9 <sup>h</sup> 07 <sup>m</sup> R <sup>o</sup> : 58 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.5' 12 <sup>h</sup> : 57.8' 20 <sup>h</sup> : 58.1'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 26.1	-22 20.1	228 18.4	85	-23 41.5	89	60 N	15 16	16 11	17 07	6 33	105	11 31	16		
1	193 25.8	19.8	242 45.9	85	50.4	89	58	32	22	13	6 10	95	11 54	27		
2	208 25.6	19.5	257 13.2	83	-23 59.3	89	56	45	31	19	5 51	89	12 14	32		
3	223 25.3	19.2	271 40.4	82	-24 08.0	87	54	15 57	39	25	36	84	30	36		
4	238 25.0	18.8	286 07.5	81	16.6	86	52	16 07	47	30	22	81	44	39		
5	253 24.8	-22 18.5	300 34.4	79	-24 25.0	84	50	16 16	16 54	17 35	5 10	79	12 56	42		
6	268 24.5	-22 18.2	315 01.2	78	-24 33.4	84	45	16 36	17 09	17 46	4 46	74	13 21	46		
7	283 24.2	17.8	329 27.9	77	41.6	82	40	16 51	21	17 55	26	71	42	48		
8	298 24.0	17.5	343 54.5	76	49.6	80	35	17 05	32	18 04	4 10	69	13 59	51		
9	313 23.7	17.2	358 20.9	74	-24 57.6	80	30	16	17 42	12	3 56	67	14 13	53		
10	328 23.4	16.9	12 47.2	73	-25 05.4	78	20	36	18 00	27	33	63	14 38	56		
11	343 23.2	-22 16.5	27 13.4	72	-25 13.1	77	10 N	17 54	18 16	18 42	3 12	60	15 00	58		
12	358 22.9	-22 16.2	41 39.4	70	-25 20.6	75	0	18 10	18 33	18 59	2 54	57	15 20	60		
13	13 22.6	15.9	56 05.4	70	28.0	74	10 S	27	18 50	19 16	3 54	54	15 41	61		
14	28 22.4	15.5	70 31.2	68	35.2	72	20	18 45	19 09	19 38	2 15	52	16 02	64		
15	43 22.1	15.2	84 56.9	67	42.3	71	30	19 05	33	20 05	1 52	48	28	66		
16	58 21.8	14.9	99 22.4	65	49.3	70	35	18	19 47	23	39	45	16 43	67		
17	73 21.6	-22 14.5	113 47.9	65	-25 56.1	68	40	19 32	20 04	20 45	1 23	43	17 00	70		
18	88 21.3	-22 14.2	128 13.2	63	-26 02.8	67	45	19 49	20 25	21 13	1 05	40	17 21	72		
19	103 21.0	13.8	142 38.4	62	09.3	65	50	20 10	20 53	21 54	0 42	36	17 48	75		
20	118 20.8	13.5	157 03.5	61	15.7	64	52	20	21 06	22 17	32	32	18 01	77		
21	133 20.5	13.2	171 28.4	59	21.9	62	54	31	22	22 50	20	29	16	79		
22	148 20.2	12.8	185 53.3	59	27.9	60	56	44	21 42	** ** *	0 06	25	33	82		
23	163 20.0	12.5	200 18.0	57	33.8	59	58	20 59	22 07	** ** *	** ** *	** ** *	18 54	87		
24	178 19.7	-22 12.1	214 42.6	56	-26 39.6	58	60 S	21 17	22 42	** ** *	23 42	31	19 22	95		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 16 <sup>h</sup> 49.0 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.6 PMG: 19 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 15 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	107 03.1	217 12.6	-20 24.8	194 17.7	-24 01.9	73 16.5	+12 20.0	130 39.7	-11 35.8							
1	122 05.5	232 11.9	25.3	209 18.1	01.9	88 18.9	20.0	145 41.9	35.7							
2	137 08.0	247 11.1	25.8	224 18.5	01.9	103 21.3	20.0	160 44.1	35.6							
3	152 10.4	262 10.4	26.3	239 19.0	01.9	118 23.7	20.1	175 46.4	35.5							
4	167 12.9	277 09.6	26.8	254 19.4	01.9	133 26.1	20.1	190 48.6	35.5							
5	182 15.4	292 08.9	-20 27.3	269 19.8	-24 01.9	148 28.5	+12 20.1	205 50.8	-11 35.4							
6	197 17.8	307 08.1	-20 27.8	284 20.2	-24 01.9	163 30.9	+12 20.2	220 53.1	-11 35.3							
7	212 20.3	322 07.4	28.3	299 20.6	01.9	178 33.3	20.2	235 55.3	35.2							
8	227 22.8	337 06.6	28.8	314 21.1	01.8	193 35.7	20.3	250 57.6	35.1							
9	242 25.2	352 05.9	29.3	329 21.5	01.8	208 38.1	20.3	265 59.8	35.0							
10	257 27.7	7 05.1	29.8	344 21.9	01.8	223 40.5	20.3	281 02.0	34.9							
11	272 30.2	22 04.4	-20 30.3	359 22.3	-24 01.8	238 42.9	+12 20.4	296 04.3	-11 34.8							
12	287 32.6	37 03.6	-20 30.8	14 22.7	-24 01.8	253 45.3	+12 20.4	311 06.5	-11 34.7							
13	302 35.1	52 02.8	31.3	29 23.2	01.8	268 47.7	20.4	326 08.7	34.6							
14	317 37.6	67 02.1	31.8	44 23.6	01.7	283 50.1	20.5	341 11.0	34.6							
15	332 40.0	82 01.3	32.3	59 24.0	01.7	298 52.5	20.5	356 13.2	34.5							
16	347 42.5	97 00.6	32.8	74 24.4	01.7	313 54.9	20.5	11 15.4	34.4							
17	2 44.9	111 59.8	-20 33.3	89 24.8	-24 01.7	328 57.3	+12 20.6	26 17.7	-11 34.3							
18	17 47.4	126 59.1	-20 33.8	104 25.3	-24 01.7	343 59.7	+12 20.6	41 19.9	-11 34.2							
19	32 49.9	141 58.3	34.3	119 25.7	01.6	359 02.1	20.6	56 22.1	34.1							
20	47 52.3	156 57.5	34.8	134 26.1	01.6	14 04.5	20.7	71 24.4	34.0							
21	62 54.8	171 56.8	35.3	149 26.5	01.6	29 06.9	20.7	86 26.6	33.9							
22	77 57.3	186 56.0	35.8	164 26.9	01.6	44 09.3	20.8	101 28.8	33.8							
23	92 59.7	201 55.3	36.3	179 27.4	01.6	59 11.7	20.8	116 31.1	33.7							
24	108 02.2	216 54.5	-20 36.8	194 27.8	-24 01.5	74 14.1	+12 20.8	131 33.3	-11 33.6							
Dif	—	-8	-5	+4	0	+24	0	+22	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.9'		Edad: 27.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.7' 20 <sup>h</sup> : 58.9'			PMG: 10 <sup>h</sup> 05 <sup>m</sup>		R°: 63 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	178 19.7	-22 12.1	214 42.6	55	-26 39.6	56	60 N	7 06	8 01	8 56	8 18	82	11 47	50		
1	193 19.4	11.8	229 07.1	54	45.2	56	58	7 00	7 51	41	7 45	76	12 21	55		
2	208 19.2	11.5	243 31.5	54	50.6	54	56	6 54	42	27	20	74	12 46	57		
3	223 18.9	11.1	257 55.8	53	-26 55.8	52	54	48	33	16	7 00	72	13 06	58		
4	238 18.7	10.8	272 20.0	52	-27 00.9	51	52	43	26	8 06	6 43	71	23	59		
5	253 18.4	-22 10.4	286 44.1	51	-27 05.8	49	50	6 38	7 19	7 57	6 29	70	13 38	59		
6	268 18.1	-22 10.1	301 08.0	49	-27 10.6	48	45	6 27	7 04	7 37	6 00	68	14 07	61		
7	283 17.9	09.7	315 31.9	49	15.2	46	40	18	6 52	22	5 37	68	30	62		
8	298 17.6	09.4	329 55.7	48	19.6	44	35	09	41	7 09	19	66	14 50	61		
9	313 17.3	09.0	344 19.3	46	23.8	42	30	6 01	31	6 57	5 03	65	15 06	62		
10	328 17.1	08.7	358 42.9	46	27.9	41	20	5 46	6 13	37	4 36	64	34	62		
11	343 16.8	-22 08.3	13 06.4	45	-27 31.8	39	10 N	5 31	5 57	6 20	4 12	63	15 58	63		
12	358 16.6	-22 08.0	27 29.7	43	-27 35.5	37	0	5 15	5 41	6 03	3 51	62	16 20	63		
13	13 16.3	07.6	41 53.0	43	39.0	35	10 S	4 57	24	5 47	29	61	16 42	63		
14	28 16.0	07.3	56 16.2	42	42.3	33	20	36	5 04	29	3 07	59	17 06	64		
15	43 15.8	06.9	70 39.3	41	45.5	32	30	4 08	4 41	5 08	2 40	58	34	63		
16	58 15.5	06.6	85 02.3	40	48.5	30	35	3 51	27	4 56	24	57	17 50	64		
17	73 15.3	-22 06.2	99 25.3	40	-27 51.3	28	40	3 29	4 10	4 42	2 06	56	18 10	63		
18	88 15.0	-22 05.9	113 48.1	38	-27 53.9	26	45	3 01	3 48	4 25	1 45	53	18 33	63		
19	103 14.7	05.5	128 10.9	38	56.3	24	50	2 20	21	4 04	18	50	19 03	63		
20	118 14.5	05.2	142 33.6	37	-27 58.6	23	52	1 57	3 07	3 54	1 04	49	18	62		
21	133 14.2	04.8	156 56.3	37	-28 00.6	20	54	1 24	2 51	43	0 49	47	35	62		
22	148 14.0	04.4	171 18.8	35	02.5	19	56	** **	32	30	31	44	19 55	62		
23	163 13.7	04.1	185 41.3	35	04.2	17	58	** **	2 07	3 15	0 09	40	20 21	61		
24	178 13.4	-22 03.7	200 03.7	34	-28 05.6	14	60 S	** **	1 31	2 57	** **	***	20 57	59		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 <sup>h</sup> 45.1 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 33 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 02 <sup>m</sup>		Mag.: -2.5 PMG: 19 <sup>h</sup> 00 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 12 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	108 02.2	216 54.5	-20 36.8	194 27.8	-24 01.5	74 14.1	+12 20.8	131 33.3	-11 33.6	
1	123 04.7	231 53.7	37.2	209 28.2	01.5	89 16.5	20.9	146 35.6	33.6	
2	138 07.1	246 53.0	37.7	224 28.6	01.5	104 18.8	20.9	161 37.8	33.5	
3	153 09.6	261 52.2	38.2	239 29.0	01.5	119 21.2	20.9	176 40.0	33.4	
4	168 12.1	276 51.5	38.7	254 29.4	01.4	134 23.6	21.0	191 42.3	33.3	
5	183 14.5	291 50.7	-20 39.2	269 29.9	-24 01.4	149 26.0	+12 21.0	206 44.5	-11 33.2	
6	198 17.0	306 49.9	-20 39.7	284 30.3	-24 01.4	164 28.4	+12 21.1	221 46.7	-11 33.1	
7	213 19.4	321 49.2	40.1	299 30.7	01.4	179 30.8	21.1	236 49.0	33.0	
8	228 21.9	336 48.4	40.6	314 31.1	01.3	194 33.2	21.1	251 51.2	32.9	
9	243 24.4	351 47.6	41.1	329 31.5	01.3	209 35.6	21.2	266 53.4	32.8	
10	258 26.8	6 46.9	41.6	344 32.0	01.3	224 38.0	21.2	281 55.7	32.7	
11	273 29.3	21 46.1	-20 42.1	359 32.4	-24 01.3	239 40.4	+12 21.3	296 57.9	-11 32.6	
12	288 31.8	36 45.3	-20 42.5	14 32.8	-24 01.2	254 42.8	+12 21.3	312 00.1	-11 32.6	
13	303 34.2	51 44.6	43.0	29 33.2	01.2	269 45.2	21.3	327 02.4	32.5	
14	318 36.7	66 43.8	43.5	44 33.6	01.2	284 47.5	21.4	342 04.6	32.4	
15	333 39.2	81 43.0	44.0	59 34.0	01.2	299 49.9	21.4	357 06.8	32.3	
16	348 41.6	96 42.3	44.4	74 34.5	01.1	314 52.3	21.4	12 09.1	32.2	
17	3 44.1	111 41.5	-20 44.9	89 34.9	-24 01.1	329 54.7	+12 21.5	27 11.3	-11 32.1	
18	18 46.6	126 40.7	-20 45.4	104 35.3	-24 01.1	344 57.1	+12 21.5	42 13.5	-11 32.0	
19	33 49.0	141 40.0	45.8	119 35.7	01.0	359 59.5	21.6	57 15.8	31.9	
20	48 51.5	156 39.2	46.3	134 36.1	01.0	15 01.9	21.6	72 18.0	31.8	
21	63 53.9	171 38.4	46.8	149 36.5	01.0	30 04.3	21.6	87 20.2	31.7	
22	78 56.4	186 37.7	47.2	164 37.0	00.9	45 06.7	21.7	102 22.5	31.6	
23	93 58.9	201 36.9	47.7	179 37.4	00.9	60 09.0	21.7	117 24.7	31.5	
24	109 01.3	216 36.1	-20 48.2	194 37.8	-24 00.9	75 11.4	+12 21.8	132 26.9	-11 31.5	
Dif	—	-8	-5	+4	0	+24	0	+22	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 16.3' PMG: 12 <sup>h</sup> 07.3 <sup>m</sup>		SD: 16.1' Edad: 28.0 <sup>d</sup> PHE { 4 <sup>h</sup> : 59.2' 12 <sup>h</sup> : 59.4' 20 <sup>h</sup> : 59.7' PMG: 11 <sup>h</sup> 08 <sup>m</sup> R°: 64 <sup>m</sup>						hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico	Hora R°	Hora R°				
	h	°	'	°	'	°													'	°	'	°
0	178	13.4	-22	03.7	200	03.7	-28	05.6	13	60 N	15	20	16	14	17	09	9	40	36	12	37	97
1	193	13.2		03.4	214	26.1	34	06.9	11	58	35	25	16	16	16	9	01	45	13	16	88	
2	208	12.9		03.0	228	48.4	33	08.0	9	56	15	48	34	22	8	34	49	13	43	84		
3	223	12.7		02.6	243	10.7	33	08.9	7	54	16	00	42	27	8	12	52	14	04	82		
4	238	12.4		02.3	257	32.9	32	09.6	5	52	10	50	32	7	54	54	22	79				
5	253	12.2	-22	01.9	271	55.0	31	-28	10.1	50	16	19	16	56	17	37	7	39	55	14	37	78
6	268	11.9	-22	01.5	286	17.1	31	-28	10.4	45	16	38	17	11	17	48	7	08	58	15	08	74
7	283	11.6		01.2	300	39.1	30	10.6	2	40	16	53	23	17	57	6	45	58	32	72		
8	298	11.4		00.8	315	01.1	30	10.5	1	35	17	06	34	18	05	25	60	15	51	71		
9	313	11.1		00.5	329	23.1	30	10.2	3	30	18	17	44	13	6	08	61	16	08	70		
10	328	10.9	-22	00.1	343	45.0	29	09.7	5	20	38	18	01	29	5	40	62	16	36	68		
11	343	10.6	-21	59.7	358	06.9	29	-28	09.0	10 N	17	55	18	17	18	43	5	15	63	17	01	65
12	358	10.4	-21	59.3	12	28.8	29	-28	08.1	0	18	11	18	33	18	59	4	53	63	17	23	64
13	13	10.1		59.0	26	50.6	28	07.0	11	10 S	27	18	50	19	17	30	65	17	45	62		
14	28	09.8		58.6	41	12.4	28	05.8	12	20	18	45	19	09	19	38	4	06	65	18	10	59
15	43	09.6		58.2	55	34.2	28	04.3	15	30	19	06	33	20	05	3	38	66	37	58		
16	58	09.3		57.9	69	56.0	28	02.6	17	35	18	19	47	22	2	21	67	18	54	56		
17	73	09.1	-21	57.5	84	17.7	27	-28	00.7	40	19	31	20	04	20	44	3	02	67	19	13	54
18	88	08.8	-21	57.1	98	39.4	27	-27	58.6	45	19	48	20	24	21	12	2	38	68	19	36	51
19	103	08.6		56.7	113	01.2	28	56.3	23	50	20	09	20	51	21	51	2	08	69	20	06	47
20	118	08.3		56.4	127	22.9	27	53.8	25	52	18	21	05	22	14	1	53	70	20	45		
21	133	08.1		56.0	141	44.6	27	51.1	27	54	30	20	22	45	36	70	37	42				
22	148	07.8		55.6	156	06.3	27	48.2	29	56	42	21	39	23	50	1	15	71	20	57	39	
23	163	07.6		55.2	170	28.0	27	45.1	31	58	20	57	22	03	** **	0	49	72	21	22	33	
24	178	07.3	-21	54.9	184	49.7	27	-27	41.8	60 S	21	15	22	37	** **	0	13	75	21	56	23	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 16 <sup>h</sup> 41.2 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 34 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 56 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 08 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	109	01.3	216	36.1	-20	48.2	194	37.8	-24	00.9	75	11.4	+12	21.8	132	26.9	-11	31.5	
1	124	03.8	231	35.3		48.6	209	38.2		00.8	90	13.8		21.8	147	29.2		31.4	
2	139	06.3	246	34.6		49.1	224	38.6		00.8	105	16.2		21.8	162	31.4		31.3	
3	154	08.7	261	33.8		49.6	239	39.0		00.8	120	18.6		21.9	177	33.6		31.2	
4	169	11.2	276	33.0		50.0	254	39.5		00.7	135	21.0		21.9	192	35.8		31.1	
5	184	13.7	291	32.3	-20	50.5	269	39.9	-24	00.7	150	23.4	+12	22.0	207	38.1	-11	31.0	
6	199	16.1	306	31.5	-20	50.9	284	40.3	-24	00.7	165	25.7	+12	22.0	222	40.3	-11	30.9	
7	214	18.6	321	30.7		51.4	299	40.7		00.6	180	28.1		22.0	237	42.5		30.8	
8	229	21.1	336	29.9		51.8	314	41.1		00.6	195	30.5		22.1	252	44.8		30.7	
9	244	23.5	351	29.2		52.3	329	41.5		00.6	210	32.9		22.1	267	47.0		30.6	
10	259	26.0	6	28.4		52.8	344	42.0		00.5	225	35.3		22.2	282	49.2		30.5	
11	274	28.4	21	27.6	-20	53.2	359	42.4	-24	00.5	240	37.7	+12	22.2	297	51.5	-11	30.4	
12	289	30.9	36	26.8	-20	53.7	14	42.8	-24	00.4	255	40.0	+12	22.3	312	53.7	-11	30.4	
13	304	33.4	51	26.1		54.1	29	43.2		00.4	270	42.4		22.3	327	55.9		30.3	
14	319	35.8	66	25.3		54.6	44	43.6		00.4	285	44.8		22.3	342	58.2		30.2	
15	334	38.3	81	24.5		55.0	59	44.0		00.3	300	47.2		22.4	358	00.4		30.1	
16	349	40.8	96	23.7		55.5	74	44.5		00.3	315	49.6		22.4	13	02.6		30.0	
17	4	43.2	111	23.0	-20	55.9	89	44.9	-24	00.2	330	51.9	+12	22.5	28	04.9	-11	29.9	
18	19	45.7	126	22.2	-20	56.4	104	45.3	-24	00.2	345	54.3	+12	22.5	43	07.1	-11	29.8	
19	34	48.2	141	21.4		56.8	119	45.7		00.2	0	56.7		22.5	58	09.3		29.7	
20	49	50.6	156	20.6		57.2	134	46.1		00.1	15	59.1		22.6	73	11.5		29.6	
21	64	53.1	171	19.8		57.7	149	46.5		00.1	31	01.5		22.6	88	13.8		29.5	
22	79	55.5	186	19.1		58.1	164	47.0		00.0	46	03.8		22.7	103	16.0		29.4	
23	94	58.0	201	18.3		58.6	179	47.4	-24	00.0	61	06.2		22.7	118	18.2		29.3	
24	110	00.5	216	17.5	-20	59.0	194	47.8	-23	59.9	76	08.6	+12	22.8	133	20.5	-11	29.2	
Dif		—		-8		-5		+4		0		+24		0		+22			+1



UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.3'		Edad: 29.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 59.9' 12 <sup>h</sup> : 60.0' 20 <sup>h</sup> : 60.2'			R <sup>o</sup> : 62 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 07.7 <sup>m</sup>		PMG: 12 <sup>h</sup> 12 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	178 07.3	-21 54.9	184 49.7	28	-27 41.8	36	60 N	7 05	8 00	8 54	10 16	13	14 14	118		
1	193 07.1	54.5	199 11.5	28	38.2	36	58	6 58	7 49	39	9 46	23	14 44	107		
2	208 06.8	54.1	213 33.2	27	34.5	37	56	52	40	26	23	29	15 07	100		
3	223 06.6	53.7	227 54.9	27	30.6	39	54	47	32	14	9 04	33	26	95		
4	238 06.3	53.3	242 16.7	28	26.5	41	52	42	25	8 05	8 48	37	41	92		
5	253 06.1	-21 53.0	256 38.5	28	-27 22.2	43	50	6 37	7 18	7 56	8 34	40	15 55	89		
6	268 05.8	-21 52.6	271 00.3	28	-27 17.6	46	45	6 27	7 04	7 37	8 06	44	16 22	83		
7	283 05.5	52.2	285 22.1	28	12.9	47	40	18	6 51	21	7 43	49	16 44	79		
8	298 05.3	51.8	299 44.0	29	08.0	49	35	09	41	7 08	7 25	51	17 02	76		
9	313 05.0	51.4	314 05.9	29	-27 02.9	51	30	6 01	31	6 57	7 09	53	18	73		
10	328 04.8	51.1	328 27.8	29	-26 57.6	53	20	5 46	6 14	37	6 42	57	17 44	68		
11	343 04.5	-21 50.7	342 49.8	30	-26 52.1	55	10 N	5 32	5 58	6 20	6 18	60	18 06	65		
12	358 04.3	-21 50.3	357 11.8	30	-26 46.4	57	0	5 16	5 42	6 04	5 56	63	18 27	61		
13	13 04.0	49.9	11 33.8	30	40.4	60	10 S	4 58	25	5 48	35	65	18 47	58		
14	28 03.8	49.5	25 55.9	31	34.3	61	20	37	5 06	30	5 11	69	19 09	54		
15	43 03.5	49.1	40 18.0	31	28.1	62	30	4 10	4 43	5 10	4 44	72	35	49		
16	58 03.3	48.7	54 40.2	32	21.6	65	35	3 53	29	4 58	28	74	19 50	46		
17	73 03.1	-21 48.3	69 02.4	32	-26 14.9	67	40	3 31	4 12	4 44	4 09	76	20 07	43		
18	88 02.8	-21 47.9	83 24.7	33	-26 08.0	69	45	3 04	3 51	4 27	3 46	80	20 27	39		
19	103 02.6	47.6	97 47.0	33	-26 01.0	70	50	2 24	24	4 07	17	84	20 53	33		
20	118 02.3	47.2	112 09.4	34	-25 53.7	73	52	2 02	3 11	3 57	3 03	86	21 05	31		
21	133 02.1	46.8	126 31.9	35	46.3	74	54	1 31	2 55	46	2 46	90	19	27		
22	148 01.8	46.4	140 54.4	35	38.6	77	56	0 25	36	33	26	94	36	22		
23	163 01.6	46.0	155 17.0	36	30.8	78	58	** ** *	2 12	18	2 01	100	21 55	17		
24	178 01.3	-21 45.6	169 39.7	37	-25 22.8	80	60 S	** ** *	1 39	3 01	1 28	110	22 19	8		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 <sup>h</sup> 37.2 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 04 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	110 00.5	216 17.5	-20 59.0	194 47.8	-23 59.9	76 08.6	+12 22.8	133 20.5	-11 29.2	
1	125 02.9	231 16.7	59.5	209 48.2	59.9	91 11.0	22.8	148 22.7	29.2	
2	140 05.4	246 15.9	-20 59.9	224 48.6	59.9	106 13.4	22.8	163 24.9	29.1	
3	155 07.9	261 15.2	-21 00.3	239 49.0	59.8	121 15.7	22.9	178 27.2	29.0	
4	170 10.3	276 14.4	00.8	254 49.4	59.8	136 18.1	22.9	193 29.4	28.9	
5	185 12.8	291 13.6	-21 01.2	269 49.9	-23 59.7	151 20.5	+12 23.0	208 31.6	-11 28.8	
6	200 15.3	306 12.8	-21 01.6	284 50.3	-23 59.7	166 22.9	+12 23.0	223 33.8	-11 28.7	
7	215 17.7	321 12.0	02.1	299 50.7	59.6	181 25.2	23.1	238 36.1	28.6	
8	230 20.2	336 11.2	02.5	314 51.1	59.6	196 27.6	23.1	253 38.3	28.5	
9	245 22.7	351 10.5	02.9	329 51.5	59.5	211 30.0	23.2	268 40.5	28.4	
10	260 25.1	6 09.7	03.4	344 51.9	59.5	226 32.4	23.2	283 42.8	28.3	
11	275 27.6	21 08.9	-21 03.8	359 52.3	-23 59.4	241 34.7	+12 23.2	298 45.0	-11 28.2	
12	290 30.0	36 08.1	-21 04.2	14 52.8	-23 59.4	256 37.1	+12 23.3	313 47.2	-11 28.1	
13	305 32.5	51 07.3	04.6	29 53.2	59.3	271 39.5	23.3	328 49.5	28.0	
14	320 35.0	66 06.5	05.1	44 53.6	59.3	286 41.9	23.4	343 51.7	27.9	
15	335 37.4	81 05.8	05.5	59 54.0	59.2	301 44.2	23.4	358 53.9	27.9	
16	350 39.9	96 05.0	05.9	74 54.4	59.2	316 46.6	23.5	13 56.1	27.8	
17	5 42.4	111 04.2	-21 06.3	89 54.8	-23 59.1	331 49.0	+12 23.5	28 58.4	-11 27.7	
18	20 44.8	126 03.4	-21 06.8	104 55.3	-23 59.1	346 51.3	+12 23.6	44 00.6	-11 27.6	
19	35 47.3	141 02.6	07.2	119 55.7	59.0	1 53.7	23.6	59 02.8	27.5	
20	50 49.8	156 01.8	07.6	134 56.1	59.0	16 56.1	23.6	74 05.0	27.4	
21	65 52.2	171 01.0	08.0	149 56.5	58.9	31 58.5	23.7	89 07.3	27.3	
22	80 54.7	186 00.2	08.4	164 56.9	58.9	47 00.8	23.7	104 09.5	27.2	
23	95 57.2	200 59.4	08.9	179 57.3	58.8	62 03.2	23.8	119 11.7	27.1	
24	110 59.6	215 58.7	-21 09.3	194 57.7	-23 58.8	77 05.6	+12 23.8	134 14.0	-11 27.0	
Dif	—	-8	-4	+4	0	+24	0	+22	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16.3' PMG: 12 <sup>h</sup> 08.1 <sup>m</sup>		SD: 16.4' Edad: 0.5 <sup>d</sup> PMG: 13 <sup>h</sup> 14 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.3' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.5'				R°: 58 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	178 01.3	-21 45.6	169 39.7	37	-25 22.8	81	60 N	15 24	16 18	17 13	10 29	4	16 12	116		
1	193 01.1	45.2	184 02.4	37	14.7	84	58	39	28	19	10 09	11	31	109		
2	208 00.8	44.8	198 25.2	38	-25 06.3	85	56	15 52	37	25	9 52	17	16 47	104		
3	223 00.6	44.4	212 48.0	38	-24 57.8	87	54	16 03	45	30	37	22	17 01	99		
4	238 00.3	44.0	227 11.0	40	49.1	89	52	13	52	35	25	25	13	95		
5	253 00.1	-21 43.6	241 34.0	40	-24 40.2	91	50	16 22	16 59	17 40	9 14	28	17 24	91		
6	267 59.8	-21 43.2	255 57.1	41	-24 31.1	93	45	16 40	17 13	17 50	8 50	35	17 45	86		
7	282 59.6	42.8	270 20.3	42	21.8	94	40	16 55	25	17 59	32	38	18 03	80		
8	297 59.4	42.4	284 43.5	42	12.4	96	35	17 08	36	18 07	16	42	18 76	76		
9	312 59.1	42.0	299 06.9	44	-24 02.8	97	30	19	17 45	15	8 02	46	31	72		
10	327 58.9	41.6	313 30.3	44	-23 53.1	99	20	39	18 03	30	7 39	51	18 52	67		
11	342 58.6	-21 41.2	327 53.8	45	-23 43.2	101	10 N	17 56	18 18	18 44	7 18	56	19 11	62		
12	357 58.4	-21 40.8	342 17.4	46	-23 33.1	103	0	18 12	18 34	19 00	6 59	60	19 28	57		
13	12 58.1	40.4	356 41.1	47	22.8	104	10 S	28	18 51	17	40	64	19 45	53		
14	27 57.9	40.0	11 04.9	48	12.4	106	20	18 45	19 09	19 38	6 20	67	20 03	48		
15	42 57.7	39.6	25 28.7	48	-23 01.8	107	30	19 05	32	20 05	5 56	73	24	42		
16	57 57.4	39.2	39 52.7	50	-22 51.1	109	35	17	19 46	22	4 42	76	36	39		
17	72 57.2	-21 38.8	54 16.8	51	-22 40.2	110	40	19 31	20 03	20 43	5 25	80	20 50	35		
18	87 56.9	-21 38.3	68 40.9	51	-22 29.2	112	45	19 47	20 23	21 10	5 06	84	21 06	31		
19	102 56.7	37.9	83 05.1	52	18.0	114	50	20 07	20 50	21 49	4 41	91	26	24		
20	117 56.4	37.5	97 29.5	54	-22 06.6	115	52	17	21 03	22 10	29	94	36	21		
21	132 56.2	37.1	111 53.9	54	-21 55.1	116	54	28	18	22 39	16	97	46	18		
22	147 56.0	36.7	126 18.4	55	43.5	118	56	40	36	23 31	4 00	102	21 58	14		
23	162 55.7	36.3	140 43.1	57	31.7	120	58	20 55	21 59	** **	3 41	109	22 12	9		
24	177 55.5	-21 35.9	155 07.8	57	-21 19.7	118	60 S	21 12	22 31	** **	3 18	117	22 27	4		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 <sup>h</sup> 33.3 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 37 <sup>m</sup>		Mag.: +1.4 PMG: 11 <sup>h</sup> 00 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 49 <sup>m</sup>		Mag.: +0.9 PMG: 15 <sup>h</sup> 01 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	110 59.6	215 58.7	-21 09.3	194 57.7	-23 58.8	77 05.6	+12 23.8	134 14.0	-11 27.0	
1	126 02.1	230 57.9	09.7	209 58.2	58.7	92 07.9	23.9	149 16.2	26.9	
2	141 04.5	245 57.1	10.1	224 58.6	58.7	107 10.3	23.9	164 18.4	26.8	
3	156 07.0	260 56.3	10.5	239 59.0	58.6	122 12.7	24.0	179 20.6	26.7	
4	171 09.5	275 55.5	10.9	254 59.4	58.5	137 15.0	24.0	194 22.9	26.6	
5	186 11.9	290 54.7	-21 11.3	269 59.8	-23 58.5	152 17.4	+12 24.1	209 25.1	-11 26.5	
6	201 14.4	305 53.9	-21 11.8	285 00.2	-23 58.4	167 19.8	+12 24.1	224 27.3	-11 26.5	
7	216 16.9	320 53.1	12.2	300 00.6	58.4	182 22.1	24.1	239 29.6	26.4	
8	231 19.3	335 52.3	12.6	315 01.1	58.3	197 24.5	24.2	254 31.8	26.3	
9	246 21.8	350 51.5	13.0	330 01.5	58.3	212 26.9	24.2	269 34.0	26.2	
10	261 24.3	5 50.7	13.4	345 01.9	58.2	227 29.2	24.3	284 36.2	26.1	
11	276 26.7	20 50.0	-21 13.8	0 02.3	-23 58.1	242 31.6	+12 24.3	299 38.5	-11 26.0	
12	291 29.2	35 49.2	-21 14.2	15 02.7	-23 58.1	257 34.0	+12 24.4	314 40.7	-11 25.9	
13	306 31.7	50 48.4	14.6	30 03.1	58.0	272 36.3	24.4	329 42.9	25.8	
14	321 34.1	65 47.6	15.0	45 03.5	58.0	287 38.7	24.5	344 45.1	25.7	
15	336 36.6	80 46.8	15.4	60 03.9	57.9	302 41.1	24.5	359 47.4	25.6	
16	351 39.0	95 46.0	15.8	75 04.4	57.8	317 43.4	24.6	14 49.6	25.5	
17	6 41.5	110 45.2	-21 16.2	90 04.8	-23 57.8	332 45.8	+12 24.6	29 51.8	-11 25.4	
18	21 44.0	125 44.4	-21 16.6	105 05.2	-23 57.7	347 48.2	+12 24.7	44 54.0	-11 25.3	
19	36 46.4	140 43.6	17.0	120 05.6	57.6	2 50.5	24.7	59 56.3	25.2	
20	51 48.9	155 42.8	17.4	135 06.0	57.6	17 52.9	24.8	74 58.5	25.1	
21	66 51.4	170 42.0	17.8	150 06.4	57.5	32 55.3	24.8	90 00.7	25.0	
22	81 53.8	185 41.2	18.2	165 06.8	57.5	47 57.6	24.9	105 03.0	25.0	
23	96 56.3	200 40.4	18.6	180 07.3	57.4	63 00.0	24.9	120 05.2	24.9	
24	111 58.8	215 39.6	-21 19.0	195 07.7	-23 57.3	78 02.3	+12 25.0	135 07.4	-11 24.8	
Dif	—	-8	-4	+4	+1	+24	0	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.5'		Edad: 1.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 60.5' 12 <sup>h</sup> : 60.5' 20 <sup>h</sup> : 60.5'			R°: 54 <sup>m</sup>		Hora R°		Hora R°	
	PMG: 12 <sup>h</sup> 08.5 <sup>m</sup>		PMG: 14 <sup>h</sup> 12 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	m	h m m	m		
0	177 55.5	-21 35.9	155 07.8	58	-21 19.7	120	60 N	7 03	7 58	8 51	10 33	1	18 08	110		
1	192 55.2	35.5	169 32.6	60	-21 07.7	123	58	6 57	48	37	20	6	20	105		
2	207 55.0	35.1	183 57.6	60	-20 55.4	123	56	51	39	24	10 09	11	31	100		
3	222 54.8	34.6	198 22.6	60	43.1	125	54	46	31	13	9 59	14	40	96		
4	237 54.5	34.2	212 47.7	61	30.6	125	52	41	24	8 03	50	18	48	92		
5	252 54.3	-21 33.8	227 12.9	62	-20 18.0	126	50	6 37	7 17	7 54	9 42	20	18 55	90		
6	267 54.0	-21 33.4	241 38.3	64	-20 05.2	128	45	6 26	7 03	7 36	9 25	26	19 11	83		
7	282 53.8	33.0	256 03.7	64	-19 52.3	129	40	17	6 51	21	9 10	32	23	78		
8	297 53.6	32.6	270 29.2	65	39.3	130	35	09	40	7 08	8 58	36	34	73		
9	312 53.3	32.1	284 54.8	66	26.2	131	30	6 02	31	6 57	48	39	43	70		
10	327 53.1	31.7	299 20.6	68	-19 12.9	133	20	5 47	6 14	38	30	45	19 59	63		
11	342 52.9	-21 31.3	313 46.4	68	-18 59.5	134	10 N	5 32	5 58	6 21	8 14	50	20 13	58		
12	357 52.6	-21 30.9	328 12.3	69	-18 46.0	135	0	5 17	5 43	6 05	7 59	55	20 25	53		
13	12 52.4	30.4	342 38.4	71	32.4	136	10 S	4 59	26	5 49	44	60	38	48		
14	27 52.1	30.0	357 04.5	71	18.6	138	20	39	5 07	31	27	66	20 51	43		
15	42 51.9	29.6	11 30.7	72	-18 04.8	138	30	4 12	4 44	11	7 09	71	21 06	37		
16	57 51.7	29.2	25 57.1	74	-17 50.8	140	35	3 55	3 31	5 00	6 58	75	15	33		
17	72 51.4	-21 28.8	40 23.5	74	-17 36.8	140	40	3 34	4 14	4 46	6 45	79	21 25	29		
18	87 51.2	-21 28.3	54 50.0	75	-17 22.6	142	45	3 07	3 54	4 30	6 30	85	21 37	24		
19	102 51.0	27.9	69 16.7	77	-17 08.3	143	50	2 28	27	10	12	91	50	19		
20	117 50.7	27.5	83 43.4	77	-16 53.9	144	52	2 07	3 14	4 00	6 03	94	21 57	16		
21	132 50.5	27.0	98 10.2	78	39.4	145	54	1 38	2 59	3 49	5 53	98	22 04	13		
22	147 50.3	26.6	112 37.2	80	24.9	145	56	0 46	41	37	42	102	12	9		
23	162 50.0	26.2	127 04.2	80	-16 10.2	147	58	** ** *	2 18	22	30	106	21	5		
24	177 49.8	-21 25.8	141 31.3	81	-15 55.4	148	60 S	** ** *	1 46	3 05	5 15	112	22 31	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 <sup>h</sup> 29.4 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 45 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	111 58.8	215 39.6	-21 19.0	195 07.7	-23 57.3	78 02.3	+12 25.0	135 07.4	-11 24.8	
1	127 01.2	230 38.8	19.4	210 08.1	57.3	93 04.7	25.0	150 09.6	24.7	
2	142 03.7	245 38.0	19.7	225 08.5	57.2	108 07.1	25.1	165 11.9	24.6	
3	157 06.2	260 37.2	20.1	240 08.9	57.1	123 09.4	25.1	180 14.1	24.5	
4	172 08.6	275 36.4	20.5	255 09.3	57.1	138 11.8	25.1	195 16.3	24.4	
5	187 11.1	290 35.6	-21 20.9	270 09.7	-23 57.0	153 14.1	+12 25.2	210 18.5	-11 24.3	
6	202 13.5	305 34.8	-21 21.3	285 10.1	-23 56.9	168 16.5	+12 25.2	225 20.8	-11 24.2	
7	217 16.0	320 34.0	21.7	300 10.6	56.9	183 18.9	25.3	240 23.0	24.1	
8	232 18.5	335 33.2	22.1	315 11.0	56.8	198 21.2	25.3	255 25.2	24.0	
9	247 20.9	350 32.4	22.4	330 11.4	56.7	213 23.6	25.4	270 27.4	23.9	
10	262 23.4	5 31.6	22.8	345 11.8	56.6	228 25.9	25.4	285 29.7	23.8	
11	277 25.9	20 30.8	-21 23.2	0 12.2	-23 56.6	243 28.3	+12 25.5	300 31.9	-11 23.7	
12	292 28.3	35 30.0	-21 23.6	15 12.6	-23 56.5	258 30.7	+12 25.5	315 34.1	-11 23.6	
13	307 30.8	50 29.2	24.0	30 13.0	56.4	273 33.0	25.6	330 36.3	23.5	
14	322 33.3	65 28.4	24.3	45 13.4	56.4	288 35.4	25.6	345 38.6	23.4	
15	337 35.7	80 27.6	24.7	60 13.9	56.3	303 37.7	25.7	0 40.8	23.3	
16	352 38.2	95 26.8	25.1	75 14.3	56.2	318 40.1	25.7	15 43.0	23.3	
17	7 40.7	110 26.0	-21 25.5	90 14.7	-23 56.1	333 42.4	+12 25.8	30 45.2	-11 23.2	
18	22 43.1	125 25.2	-21 25.8	105 15.1	-23 56.1	348 44.8	+12 25.8	45 47.4	-11 23.1	
19	37 45.6	140 24.4	26.2	120 15.5	56.0	3 47.2	25.9	60 49.7	23.0	
20	52 48.0	155 23.6	26.6	135 15.9	55.9	18 49.5	25.9	75 51.9	22.9	
21	67 50.5	170 22.8	26.9	150 16.3	55.9	33 51.9	26.0	90 54.1	22.8	
22	82 53.0	185 22.0	27.3	165 16.7	55.8	48 54.2	26.0	105 56.3	22.7	
23	97 55.4	200 21.1	27.7	180 17.2	55.7	63 56.6	26.1	120 58.6	22.6	
24	112 57.9	215 20.3	-21 28.0	195 17.6	-23 55.6	78 58.9	+12 26.1	136 00.8	-11 22.5	
Dif	—	-8	-4	+4	+1	+24	0	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.5'		Edad: 2.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 60.5' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.3'			R°: 51 <sup>m</sup>					
	PMG: 12 <sup>h</sup> 08.9 <sup>m</sup>		PMG: 15 <sup>h</sup> 06 <sup>m</sup>														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m			
0	177 49.8	-21 25.8	141 31.3	82	-15 55.4	149	60 N	15 28	16 22	17 16	10 34	0	19 58	104			
1	192 49.6	25.3	155 58.5	84	40.5	151	58	43	31	22	26	5	20 05	99			
2	207 49.3	24.9	170 25.9	84	25.6	149	56	15 55	40	28	20	7	11	95			
3	222 49.1	24.5	184 53.3	84	-15 10.5	151	54	16 06	48	33	13	11	16	92			
4	237 48.9	24.0	199 20.8	85	-14 55.4	151	52	16	16 55	38	08	14	20	89			
5	252 48.6	-21 23.6	213 48.4	86	-14 40.2	152	50	16 24	17 01	17 42	10 02	17	20 25	86			
6	267 48.4	-21 23.2	228 16.1	87	-14 24.9	153	45	16 43	17 15	17 52	9 51	23	20 34	80			
7	282 48.2	22.7	242 43.8	87	-14 09.5	154	40	16 57	27	18 01	42	27	41	75			
8	297 47.9	22.3	257 11.7	89	-13 54.1	154	35	17 10	38	09	34	31	47	71			
9	312 47.7	21.9	271 39.7	90	38.6	155	30	21	17 47	16	27	35	20 53	67			
10	327 47.5	21.4	286 07.7	90	22.9	157	20	40	18 04	31	15	41	21 02	61			
11	342 47.2	-21 21.0	300 35.9	92	-13 07.3	156	10 N	17 57	18 19	18 45	9 04	46	21 11	55			
12	357 47.0	-21 20.5	315 04.1	92	-12 51.5	158	0	18 13	18 35	19 01	8 54	51	21 18	50			
13	12 46.8	20.1	329 32.4	93	35.7	158	10 S	28	18 51	18	44	56	26	45			
14	27 46.6	19.7	344 00.8	94	19.9	158	20	18 45	19 10	19 38	33	62	34	40			
15	42 46.3	19.2	358 29.3	95	-12 03.9	160	30	19 05	32	20 04	20	68	43	33			
16	57 46.1	18.8	12 57.9	96	-11 47.9	160	35	17	19 46	21	13	72	48	30			
17	72 45.9	-21 18.3	27 26.5	96	-11 31.9	160	40	19 30	20 02	20 42	8 04	77	21 54	26			
18	87 45.6	-21 17.9	41 55.2	97	-11 15.7	162	45	19 46	20 22	21 08	7 55	81	22 01	21			
19	102 45.4	17.4	56 24.0	98	-10 59.6	161	50	20 06	20 48	21 46	43	87	09	16			
20	117 45.2	17.0	70 52.9	99	43.3	162	52	15	21 01	22 07	37	91	13	13			
21	132 45.0	16.6	85 21.9	100	27.1	163	54	26	15	22 34	31	94	17	10			
22	147 44.7	16.1	99 50.9	100	-10 10.7	164	56	38	33	23 18	24	97	21	7			
23	162 44.5	15.7	114 20.0	101	-9 54.4	163	58	20 52	21 55	** **	16	102	26	4			
24	177 44.3	-21 15.2	128 49.2	102	-9 37.9	165	60 S	21 09	22 25	** **	7 07	107	22 32	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 <sup>h</sup> 25.4 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 39 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 41 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 54 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	112 57.9	215 20.3	-21 28.0	195 17.6	-23 55.6	78 58.9	+12 26.1	136 00.8	-11 22.5	
1	128 00.4	230 19.5	28.4	210 18.0	55.5	94 01.3	26.2	151 03.0	22.4	
2	143 02.8	245 18.7	28.8	225 18.4	55.5	109 03.6	26.2	166 05.2	22.3	
3	158 05.3	260 17.9	29.1	240 18.8	55.4	124 06.0	26.3	181 07.5	22.2	
4	173 07.8	275 17.1	29.5	255 19.2	55.3	139 08.3	26.4	196 09.7	22.1	
5	188 10.2	290 16.3	-21 29.9	270 19.6	-23 55.2	154 10.7	+12 26.4	211 11.9	-11 22.0	
6	203 12.7	305 15.5	-21 30.2	285 20.0	-23 55.2	169 13.0	+12 26.5	226 14.1	-11 21.9	
7	218 15.1	320 14.7	30.6	300 20.5	55.1	184 15.4	26.5	241 16.4	21.8	
8	233 17.6	335 13.9	30.9	315 20.9	55.0	199 17.7	26.6	256 18.6	21.7	
9	248 20.1	350 13.1	31.3	330 21.3	54.9	214 20.1	26.6	271 20.8	21.6	
10	263 22.5	5 12.3	31.7	345 21.7	54.8	229 22.4	26.7	286 23.0	21.5	
11	278 25.0	20 11.4	-21 32.0	0 22.1	-23 54.8	244 24.8	+12 26.7	301 25.2	-11 21.4	
12	293 27.5	35 10.6	-21 32.4	15 22.5	-23 54.7	259 27.1	+12 26.8	316 27.5	-11 21.4	
13	308 29.9	50 09.8	32.7	30 22.9	54.6	274 29.5	26.8	331 29.7	21.3	
14	323 32.4	65 09.0	33.1	45 23.3	54.5	289 31.8	26.9	346 31.9	21.2	
15	338 34.9	80 08.2	33.4	60 23.8	54.4	304 34.2	26.9	1 34.1	21.1	
16	353 37.3	95 07.4	33.8	75 24.2	54.3	319 36.5	27.0	16 36.4	21.0	
17	8 39.8	110 06.6	-21 34.1	90 24.6	-23 54.3	334 38.9	+12 27.0	31 38.6	-11 20.9	
18	23 42.3	125 05.8	-21 34.5	105 25.0	-23 54.2	349 41.2	+12 27.1	46 40.8	-11 20.8	
19	38 44.7	140 04.9	34.8	120 25.4	54.1	4 43.6	27.1	61 43.0	20.7	
20	53 47.2	155 04.1	35.2	135 25.8	54.0	19 45.9	27.2	76 45.2	20.6	
21	68 49.6	170 03.3	35.5	150 26.2	53.9	34 48.3	27.2	91 47.5	20.5	
22	83 52.1	185 02.5	35.8	165 26.6	53.8	49 50.6	27.3	106 49.7	20.4	
23	98 54.6	200 01.7	36.2	180 27.0	53.8	64 53.0	27.4	121 51.9	20.3	
24	113 57.0	215 00.9	-21 36.5	195 27.5	-23 53.7	79 55.3	+12 27.4	136 54.1	-11 20.2	
Dif	—	-8	-4	+4	+1	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.4'		Edad: 3.5 <sup>d</sup>			R <sup>o</sup> : 48 <sup>m</sup>			PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.0' 20 <sup>h</sup> : 59.9'		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 09.2 <sup>m</sup>		PMG: 15 <sup>h</sup> 57 <sup>m</sup>		R <sup>o</sup> : 48 <sup>m</sup>								Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m		
0	177 44.3	-21 15.2	128 49.2	103	-9 37.9	164	60 N	7 01	7 55	8 48	10 34	0	21 42	100		
1	192 44.1	14.8	143 18.5	103	21.5	164	58	6 55	46	34	31	3	44	96		
2	207 43.8	14.3	157 47.8	103	-9 05.0	165	56	50	37	22	27	7	46	92		
3	222 43.6	13.9	172 17.2	104	-8 48.4	166	54	45	29	11	24	10	48	89		
4	237 43.4	13.4	186 46.7	105	31.8	166	52	40	22	8 02	22	12	49	86		
5	252 43.1	-21 13.0	201 16.2	105	-8 15.2	166	50	6 36	7 16	7 53	10 19	15	21 51	83		
6	267 42.9	-21 12.5	215 45.9	107	-7 58.5	167	45	6 26	7 02	7 35	10 14	20	21 54	77		
7	282 42.7	12.1	230 15.5	106	41.8	167	40	17	6 50	20	09	25	56	73		
8	297 42.5	11.6	244 45.3	108	25.1	167	35	09	40	7 08	05	29	21 58	69		
9	312 42.3	11.2	259 15.1	108	-7 08.4	167	30	6 01	31	6 57	10 02	32	22 00	65		
10	327 42.0	10.7	273 44.9	108	-6 51.6	168	20	5 47	6 14	38	9 56	38	03	59		
11	342 41.8	-21 10.3	288 14.8	109	-6 34.8	168	10 N	5 33	5 59	6 21	9 50	44	22 06	53		
12	357 41.6	-21 09.8	302 44.8	110	-6 18.0	168	0	5 18	5 43	6 06	9 45	49	22 08	49		
13	12 41.4	09.3	317 14.9	111	-6 01.1	169	10 S	5 01	27	5 50	40	54	11	43		
14	27 41.1	08.9	331 44.9	110	-5 44.2	169	20	4 40	5 09	33	35	59	14	37		
15	42 40.9	08.4	346 15.1	112	27.3	169	30	4 14	4 46	13	28	66	16	32		
16	57 40.7	08.0	0 45.3	112	-5 10.4	169	35	3 57	3 33	5 01	25	69	18	28		
17	72 40.5	-21 07.5	15 15.5	112	-4 53.5	169	40	3 37	4 16	4 48	9 21	73	22 20	24		
18	87 40.2	-21 07.0	29 45.8	113	-4 36.6	169	45	3 10	3 56	4 32	9 16	78	22 22	20		
19	102 40.0	06.6	44 16.2	114	19.6	170	50	2 33	31	13	10	85	25	14		
20	117 39.8	06.1	58 46.6	114	-4 02.7	170	52	2 12	18	4 03	08	87	26	12		
21	132 39.6	05.7	73 17.0	114	-3 45.7	169	54	1 45	3 03	3 53	05	90	27	9		
22	147 39.4	05.2	87 47.5	115	28.7	170	56	1 00	2 45	41	9 01	94	28	7		
23	162 39.1	04.7	102 18.1	116	-3 11.7	170	58	** **	2 23	27	8 58	97	30	3		
24	177 38.9	-21 04.3	116 48.6	115	-2 54.8	169	60 S	** **	1 54	3 10	8 54	101	22 32	-1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -4.0		Mag.: +1.4		Mag.: -2.5		Mag.: +0.9	
	16 <sup>h</sup> 21.5 <sup>m</sup>		PMG: 9 <sup>h</sup> 40 <sup>m</sup>		PMG: 10 <sup>h</sup> 58 <sup>m</sup>		PMG: 18 <sup>h</sup> 37 <sup>m</sup>		PMG: 14 <sup>h</sup> 50 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	113 57.0	215 00.9	-21 36.5	195 27.5	-23 53.7	79 55.3	+12 27.4	136 54.1	-11 20.2	
1	128 59.5	230 00.1	36.9	210 27.9	53.6	94 57.7	27.5	151 56.4	20.1	
2	144 02.0	244 59.2	37.2	225 28.3	53.5	110 00.0	27.5	166 58.6	20.0	
3	159 04.4	259 58.4	37.5	240 28.7	53.4	125 02.3	27.6	182 00.8	19.9	
4	174 06.9	274 57.6	37.9	255 29.1	53.3	140 04.7	27.6	197 03.0	19.8	
5	189 09.4	289 56.8	-21 38.2	270 29.5	-23 53.2	155 07.0	+12 27.7	212 05.2	-11 19.7	
6	204 11.8	304 56.0	-21 38.6	285 29.9	-23 53.1	170 09.4	+12 27.7	227 07.5	-11 19.6	
7	219 14.3	319 55.2	38.9	300 30.3	53.0	185 11.7	27.8	242 09.7	19.5	
8	234 16.8	334 54.4	39.2	315 30.8	53.0	200 14.1	27.8	257 11.9	19.4	
9	249 19.2	349 53.5	39.5	330 31.2	52.9	215 16.4	27.9	272 14.1	19.3	
10	264 21.7	4 52.7	39.9	345 31.6	52.8	230 18.8	27.9	287 16.3	19.2	
11	279 24.1	19 51.9	-21 40.2	0 32.0	-23 52.7	245 21.1	+12 28.0	302 18.6	-11 19.2	
12	294 26.6	34 51.1	-21 40.5	15 32.4	-23 52.6	260 23.4	+12 28.1	317 20.8	-11 19.1	
13	309 29.1	49 50.3	40.9	30 32.8	52.5	275 25.8	28.1	332 23.0	19.0	
14	324 31.5	64 49.4	41.2	45 33.2	52.4	290 28.1	28.2	347 25.2	18.9	
15	339 34.0	79 48.6	41.5	60 33.6	52.3	305 30.5	28.2	2 27.4	18.8	
16	354 36.5	94 47.8	41.8	75 34.0	52.2	320 32.8	28.3	17 29.7	18.7	
17	9 38.9	109 47.0	-21 42.2	90 34.5	-23 52.1	335 35.1	+12 28.3	32 31.9	-11 18.6	
18	24 41.4	124 46.2	-21 42.5	105 34.9	-23 52.0	350 37.5	+12 28.4	47 34.1	-11 18.5	
19	39 43.9	139 45.3	42.8	120 35.3	51.9	5 39.8	28.4	62 36.3	18.4	
20	54 46.3	154 44.5	43.1	135 35.7	51.8	20 42.2	28.5	77 38.5	18.3	
21	69 48.8	169 43.7	43.4	150 36.1	51.7	35 44.5	28.6	92 40.8	18.2	
22	84 51.2	184 42.9	43.8	165 36.5	51.6	50 46.8	28.6	107 43.0	18.1	
23	99 53.7	199 42.1	44.1	180 36.9	51.5	65 49.2	28.7	122 45.2	18.0	
24	114 56.2	214 41.2	-21 44.4	195 37.3	-23 51.5	80 51.5	+12 28.7	137 47.4	-11 17.9	
Dif	—	-8	-3	+4	+1	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 09.6 <sup>m</sup>		SD: 16.3' Edad: 4.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 59.7' 12 <sup>h</sup> : 59.5' 20 <sup>h</sup> : 59.3' PMG: 16 <sup>h</sup> 45 <sup>m</sup> R°: 48 <sup>m</sup>						Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	177 38.9	-21 04.3	116 48.6		-2 54.8	170	60 N	15 33	16 25	17 19	10 34 0	23 22 99				
1	192 38.7	03.8	131 19.3	117	37.8	170	58	47	35	25	34 3	20 95				
2	207 38.5	03.3	145 49.9	116	20.8	170	56	15 59	43	31	34 6	18 91				
3	222 38.3	02.9	160 20.6	117	-2 03.8	170	54	16 10	51	36	34 9	17 88				
4	237 38.1	02.4	174 51.3	117	-1 46.8	170	52	19	16 58	40	34 12	15 85				
5	252 37.8	-21 01.9	189 22.1	118	-1 29.8	170	50	16 27	17 04	17 45	10 34 14	23 14 82				
6	267 37.6	-21 01.5	203 52.9	118	-1 12.9	169	45	16 45	17 18	17 54	10 34 20	23 11 77				
7	282 37.4	01.0	218 23.7	118	-0 55.9	170	40	17 00	29	18 03	34 24	09 72				
8	297 37.2	00.5	232 54.6	119	38.9	170	35	12	39	11	34 28	07 67				
9	312 37.0	-21 00.1	247 25.5	119	22.0	169	30	23	17 49	18	34 31	05 64				
10	327 36.7	-20 59.6	261 56.4	119	-0 05.1	169	20	41	18 05	32	34 37	23 02 58				
11	342 36.5	-20 59.1	276 27.3	119	+0 11.9	170	10 N	17 58	18 20	18 46	10 34 43	22 59 53				
12	357 36.3	-20 58.7	290 58.3	120	+0 28.8	169	0	18 13	18 35	19 01	10 34 48	22 57 47				
13	12 36.1	58.2	305 29.3	120	+0 45.7	169	10 S	29	18 51	18	34 53	54 43				
14	27 35.9	57.7	320 00.3	120	+1 02.5	168	20	18 46	19 10	19 38	34 58	51 38				
15	42 35.7	57.2	334 31.3	120	19.4	169	30	19 05	32	20 04	34 65	48 32				
16	57 35.5	56.8	349 02.4	121	36.2	168	35	16	19 45	20	34 68	46 29				
17	72 35.2	-20 56.3	3 33.5	121	+1 53.0	168	40	19 29	20 01	20 40	10 34 72	22 44 25				
18	87 35.0	-20 55.8	18 04.6	121	+2 09.8	168	45	19 45	20 21	21 06	10 34 77	22 42 20				
19	102 34.8	55.3	32 35.7	121	26.6	168	50	20 04	46	21 43	35 82	39 15				
20	117 34.6	54.8	47 06.8	121	+2 43.3	167	52	14	20 58	22 03	35 85	38 12				
21	132 34.4	54.4	61 37.9	121	+3 00.0	167	54	24	21 13	22 29	35 88	36 10				
22	147 34.2	53.9	76 09.1	122	16.7	167	56	36	30	23 08	35 91	35 7				
23	162 34.0	53.4	90 40.2	121	33.3	166	58	20 49	21 51	** **	35 95	33 4				
24	177 33.7	-20 52.9	105 11.4	122	+3 49.9	166	60 S	21 05	22 19	** **	10 35 99	22 31 0				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 <sup>h</sup> 17.6 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 42 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 57 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 34 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 47 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	114 56.2	214 41.2	-21 44.4	195 37.3	-23 51.5	80 51.5	+12 28.7	137 47.4	-11 17.9	
1	129 58.6	229 40.4	44.7	210 37.7	51.4	95 53.8	28.8	152 49.6	17.8	
2	145 01.1	244 39.6	45.0	225 38.2	51.3	110 56.2	28.8	167 51.9	17.7	
3	160 03.6	259 38.8	45.3	240 38.6	51.2	125 58.5	28.9	182 54.1	17.6	
4	175 06.0	274 37.9	45.6	255 39.0	51.1	141 00.9	29.0	197 56.3	17.5	
5	190 08.5	289 37.1	-21 46.0	270 39.4	-23 51.0	156 03.2	+12 29.0	212 58.5	-11 17.4	
6	205 11.0	304 36.3	-21 46.3	285 39.8	-23 50.9	171 05.5	+12 29.1	228 00.7	-11 17.3	
7	220 13.4	319 35.5	46.6	300 40.2	50.8	186 07.9	29.1	243 03.0	17.2	
8	235 15.9	334 34.6	46.9	315 40.6	50.7	201 10.2	29.2	258 05.2	17.1	
9	250 18.4	349 33.8	47.2	330 41.0	50.6	216 12.5	29.2	273 07.4	17.0	
10	265 20.8	4 33.0	47.5	345 41.4	50.4	231 14.9	29.3	288 09.6	16.9	
11	280 23.3	19 32.2	-21 47.8	0 41.9	-23 50.3	246 17.2	+12 29.4	303 11.8	-11 16.8	
12	295 25.7	34 31.3	-21 48.1	15 42.3	-23 50.2	261 19.5	+12 29.4	318 14.1	-11 16.7	
13	310 28.2	49 30.5	48.4	30 42.7	50.1	276 21.9	29.5	333 16.3	16.6	
14	325 30.7	64 29.7	48.7	45 43.1	50.0	291 24.2	29.5	348 18.5	16.5	
15	340 33.1	79 28.9	49.0	60 43.5	49.9	306 26.5	29.6	3 20.7	16.4	
16	355 35.6	94 28.0	49.3	75 43.9	49.8	321 28.9	29.6	18 22.9	16.4	
17	10 38.1	109 27.2	-21 49.6	90 44.3	-23 49.7	336 31.2	+12 29.7	33 25.1	-11 16.3	
18	25 40.5	124 26.4	-21 49.9	105 44.7	-23 49.6	351 33.5	+12 29.8	48 27.4	-11 16.2	
19	40 43.0	139 25.6	50.2	120 45.1	49.5	6 35.9	29.8	63 29.6	16.1	
20	55 45.5	154 24.7	50.5	135 45.6	49.4	21 38.2	29.9	78 31.8	16.0	
21	70 47.9	169 23.9	50.8	150 46.0	49.3	36 40.5	29.9	93 34.0	15.9	
22	85 50.4	184 23.1	51.1	165 46.4	49.2	51 42.9	30.0	108 36.2	15.8	
23	100 52.8	199 22.2	51.3	180 46.8	49.1	66 45.2	30.1	123 38.4	15.7	
24	115 55.3	214 21.4	-21 51.6	195 47.2	-23 49.0	81 47.5	+12 30.1	138 40.7	-11 15.6	
Dif	—	-8	-3	+4	+1	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.1'		Edad: 5.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 58.9' 20 <sup>h</sup> : 58.7'			PMG: 17 <sup>h</sup> 33 <sup>m</sup>		R°: 48 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	177 33.7	-20 52.9	105 11.4	+ 3 49.9	166 166	60 N	6 59	7 53	8 45	10 34	0	** ** *	** ** *			
1	192 33.5	52.4	119 42.6	+ 4 06.5	166 166	58	53	44	31	37	4	** ** *	** ** *			
2	207 33.3	52.0	134 13.8	23.1	166 165	56	48	35	19	40	8	** ** *	** ** *			
3	222 33.1	51.5	148 44.9	39.6	165 165	54	43	28	09	43	11	** ** *	** ** *			
4	237 32.9	51.0	163 16.1	+ 4 56.1	165 165	52	39	21	8 00	46	13	** ** *	** ** *			
5	252 32.7	-20 50.5	177 47.3	+ 5 12.5	164 164	50	6 34	7 15	7 51	10 48	16	** ** *	** ** *			
6	267 32.5	-20 50.0	192 18.5	+ 5 28.9	164 164	45	6 25	7 01	7 34	10 54	20	** ** *	** ** *			
7	282 32.3	49.5	206 49.7	+ 5 45.2	163 163	40	16	6 50	19	10 58	25	** ** *	** ** *			
8	297 32.1	49.1	221 20.9	+ 6 01.5	163 163	35	09	40	7 07	11 02	29	** ** *	** ** *			
9	312 31.9	48.6	235 52.1	17.8	163 163	30	6 01	31	6 56	05	33	** ** *	** ** *			
10	327 31.6	48.1	250 23.2	34.0	162 162	20	5 47	6 14	38	11	38	** ** *	** ** *			
11	342 31.4	-20 47.6	264 54.4	+ 6 50.2	162 162	10 N	5 33	5 59	6 22	11 17	43	23 52	53			
12	357 31.2	-20 47.1	279 25.6	+ 7 06.3	161 161	0	5 18	5 44	6 06	11 22	48	23 44	49			
13	12 31.0	46.6	293 56.7	22.4	161 161	10 S	5 02	28	5 51	27	53	37	44			
14	27 30.8	46.1	308 27.9	38.4	160 160	20	4 42	5 10	34	32	58	29	39			
15	42 30.6	45.6	322 59.0	+ 7 54.4	160 160	30	16	4 48	15	39	63	20	33			
16	57 30.4	45.1	337 30.1	+ 8 10.3	159 159	35	4 00	35	5 03	42	68	15	30			
17	72 30.2	-20 44.6	352 01.3	+ 8 26.2	159 159	40	3 39	4 19	4 50	11 46	72	23 09	26			
18	87 30.0	-20 44.2	6 32.4	+ 8 42.0	158 158	45	3 13	3 59	4 35	11 51	76	23 02	22			
19	102 29.8	43.7	21 03.4	+ 8 57.7	157 157	50	2 37	34	16	11 57	82	22 54	17			
20	117 29.6	43.2	35 34.5	+ 9 13.4	157 157	52	2 17	22	4 06	12 00	85	50	14			
21	132 29.4	42.7	50 05.6	29.0	156 156	54	1 51	3 07	3 56	03	88	46	11			
22	147 29.2	42.2	64 36.6	+ 9 44.6	156 156	56	1 12	2 50	44	06	91	42	8			
23	162 29.0	41.7	79 07.6	+10 00.1	155 155	58	** ** *	29	31	10	95	37	4			
24	177 28.7	-20 41.2	93 38.6	+10 15.6	155 155	60 S	** ** *	2 01	3 15	12 14	100	22 31	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 <sup>h</sup> 13.6 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 57 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 30 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 43 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	115 55.3	214 21.4	-21 51.6	195 47.2	-23 49.0	81 47.5	+12 30.1	138 40.7	-11 15.6	
1	130 57.8	229 20.6	51.9	210 47.6	48.9	96 49.8	30.2	153 42.9	15.5	
2	146 00.2	244 19.8	52.2	225 48.0	48.8	111 52.2	30.2	168 45.1	15.4	
3	161 02.7	259 18.9	52.5	240 48.4	48.6	126 54.5	30.3	183 47.3	15.3	
4	176 05.2	274 18.1	52.8	255 48.8	48.5	141 56.8	30.3	198 49.5	15.2	
5	191 07.6	289 17.3	-21 53.1	270 49.2	-23 48.4	156 59.2	+12 30.4	213 51.8	-11 15.1	
6	206 10.1	304 16.4	-21 53.4	285 49.7	-23 48.3	172 01.5	+12 30.5	228 54.0	-11 15.0	
7	221 12.6	319 15.6	53.6	300 50.1	48.2	187 03.8	30.5	243 56.2	14.9	
8	236 15.0	334 14.8	53.9	315 50.5	48.1	202 06.1	30.6	258 58.4	14.8	
9	251 17.5	349 13.9	54.2	330 50.9	48.0	217 08.5	30.6	274 00.6	14.7	
10	266 20.0	4 13.1	54.5	345 51.3	47.9	232 10.8	30.7	289 02.8	14.6	
11	281 22.4	19 12.3	-21 54.8	0 51.7	-23 47.8	247 13.1	+12 30.8	304 05.1	-11 14.5	
12	296 24.9	34 11.5	-21 55.0	15 52.1	-23 47.6	262 15.4	+12 30.8	319 07.3	-11 14.4	
13	311 27.3	49 10.6	55.3	30 52.5	47.5	277 17.8	30.9	334 09.5	14.3	
14	326 29.8	64 09.8	55.6	45 52.9	47.4	292 20.1	30.9	349 11.7	14.2	
15	341 32.3	79 09.0	55.9	60 53.4	47.3	307 22.4	31.0	4 13.9	14.1	
16	356 34.7	94 08.1	56.1	75 53.8	47.2	322 24.7	31.1	19 16.1	14.0	
17	11 37.2	109 07.3	-21 56.4	90 54.2	-23 47.1	337 27.1	+12 31.1	34 18.4	-11 13.9	
18	26 39.7	124 06.5	-21 56.7	105 54.6	-23 46.9	352 29.4	+12 31.2	49 20.6	-11 13.8	
19	41 42.1	139 05.6	56.9	120 55.0	46.8	7 31.7	31.2	64 22.8	13.7	
20	56 44.6	154 04.8	57.2	135 55.4	46.7	22 34.0	31.3	79 25.0	13.6	
21	71 47.1	169 03.9	57.5	150 55.8	46.6	37 36.4	31.4	94 27.2	13.5	
22	86 49.5	184 03.1	57.7	165 56.2	46.5	52 38.7	31.4	109 29.4	13.4	
23	101 52.0	199 02.3	58.0	180 56.6	46.4	67 41.0	31.5	124 31.6	13.3	
24	116 54.5	214 01.4	-21 58.3	195 57.0	-23 46.2	82 43.3	+12 31.6	139 33.9	-11 13.2	
Dif	—	-8	-3	+4	+1	+23	+1	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 16.0'		Edad: 6.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 58.5' 12 <sup>h</sup> : 58.3' 20 <sup>h</sup> : 58.1'			R°: 50 <sup>m</sup>					
	PMG: 12 <sup>h</sup> 10.2 <sup>m</sup>		PMG: 18 <sup>h</sup> 21 <sup>m</sup>														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	m	h m	m			
0	177 28.7	-20 41.2	93 38.6	+10 15.6	120 30.9	153 58	60 N	15 37	16 29	17 23	10 34	1	1 01	100			
1	192 28.5	40.7	108 09.6	119 40.7	122 40.5	154 58	58	15 51	16 39	17 29	10 34	1	1 01	100			
2	207 28.3	40.2	122 40.5	+10 46.3	137 11.4	152 54	56	16 03	16 54	17 43	10 34	1	1 01	100			
3	222 28.1	39.7	137 11.4	+11 01.5	151 42.3	149 54	54	16 17	17 01	17 47	10 34	1	1 01	100			
4	237 27.9	39.2	151 42.3	16.7	166 13.2	148 52	52	16 30	17 07	17 47	10 34	1	1 01	100			
5	252 27.7	-20 38.7	166 13.2	+11 31.8	180 44.0	146 50	50	16 48	17 20	17 56	10 34	1	1 01	100			
6	267 27.5	-20 38.2	180 44.0	+11 46.8	195 14.8	144 45	45	17 02	17 31	18 05	10 34	1	1 01	100			
7	282 27.3	37.7	195 14.8	+12 01.8	209 45.6	142 35	40	17 15	17 41	18 12	10 34	1	1 01	100			
8	297 27.1	37.2	209 45.6	16.7	224 16.3	140 30	35	17 28	17 54	18 23	10 34	1	1 01	100			
9	312 26.9	36.7	224 16.3	31.5	238 47.1	138 20	30	17 41	18 06	18 33	10 34	1	1 01	100			
10	327 26.7	36.2	238 47.1	+12 46.3	253 17.7	136 10	20	17 54	18 21	18 47	10 34	1	1 01	100			
11	342 26.5	-20 35.7	253 17.7	+13 00.9	267 48.4	134 0	10 N	18 07	18 32	19 02	10 34	1	1 01	100			
12	357 26.3	-20 35.2	267 48.4	+13 15.5	282 19.0	132 58	0	18 20	18 45	19 15	10 34	1	1 01	100			
13	12 26.1	34.7	282 19.0	30.0	296 49.6	130 45	10 S	18 33	19 08	19 38	10 34	1	1 01	100			
14	27 25.9	34.1	296 49.6	44.5	311 20.1	128 30	20	18 46	19 21	19 51	10 34	1	1 01	100			
15	42 25.7	33.6	311 20.1	+13 58.8	325 50.6	126 15	30	19 00	19 25	20 03	10 34	1	1 01	100			
16	57 25.5	33.1	325 50.6	+14 13.1	340 21.1	124 0	35	19 13	19 38	20 16	10 34	1	1 01	100			
17	72 25.3	-20 32.6	340 21.1	+14 27.3	354 51.5	121 45	40	19 26	19 51	20 29	10 34	1	1 01	100			
18	87 25.1	-20 32.1	354 51.5	+14 41.4	9 21.9	119 35	45	19 39	20 04	20 39	10 34	1	1 01	100			
19	102 24.9	31.6	9 21.9	+14 55.4	23 52.3	117 20	50	20 02	20 27	21 04	10 34	1	1 01	100			
20	117 24.7	31.1	23 52.3	+15 09.3	38 22.6	115 5	52	20 15	20 40	21 17	10 34	1	1 01	100			
21	132 24.5	30.6	38 22.6	23.2	52 52.8	113 5	54	20 28	20 53	21 30	10 34	1	1 01	100			
22	147 24.3	30.1	52 52.8	36.9	67 23.0	111 5	56	20 41	21 06	21 41	10 34	1	1 01	100			
23	162 24.1	29.6	67 23.0	+15 50.6	81 53.2	109 5	58	20 54	21 19	21 54	10 34	1	1 01	100			
24	177 23.9	-20 29.0	81 53.2	+16 04.1		107 5	60 S	21 07	21 32	22 07	10 34	1	1 01	100			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -4.0		Mag.: +1.4		Mag.: -2.5		Mag.: +0.9	
	16 <sup>h</sup> 09.7 <sup>m</sup>		PMG: 9 <sup>h</sup> 44 <sup>m</sup>		PMG: 10 <sup>h</sup> 56 <sup>m</sup>		PMG: 18 <sup>h</sup> 26 <sup>m</sup>		PMG: 14 <sup>h</sup> 40 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	116 54.5	214 01.4	-21 58.3	195 57.0	-23 46.2	82 43.3	+12 31.6	139 33.9	-11 13.2	
1	131 56.9	229 00.6	58.5	210 57.5	46.1	97 45.6	31.6	154 36.1	13.1	
2	146 59.4	243 59.8	58.8	225 57.9	46.0	112 48.0	31.7	169 38.3	13.0	
3	162 01.8	258 58.9	59.0	240 58.3	45.9	127 50.3	31.7	184 40.5	12.9	
4	177 04.3	273 58.1	59.3	255 58.7	45.8	142 52.6	31.8	199 42.7	12.8	
5	192 06.8	288 57.3	-21 59.6	270 59.1	-23 45.6	157 54.9	+12 31.9	214 44.9	-11 12.7	
6	207 09.2	303 56.4	-21 59.8	285 59.5	-23 45.5	172 57.3	+12 31.9	229 47.2	-11 12.6	
7	222 11.7	318 55.6	-22 00.1	300 59.9	45.4	187 59.6	32.0	244 49.4	12.5	
8	237 14.2	333 54.8	00.3	316 00.3	45.3	203 01.9	32.1	259 51.6	12.4	
9	252 16.6	348 53.9	00.6	331 00.7	45.1	218 04.2	32.1	274 53.8	12.3	
10	267 19.1	3 53.1	00.8	346 01.2	45.0	233 06.5	32.2	289 56.0	12.2	
11	282 21.6	18 52.2	-22 01.1	1 01.6	-23 44.9	248 08.8	+12 32.2	304 58.2	-11 12.1	
12	297 24.0	33 51.4	-22 01.3	16 02.0	-23 44.8	263 11.2	+12 32.3	320 00.4	-11 12.0	
13	312 26.5	48 50.6	01.6	31 02.4	44.7	278 13.5	32.4	335 02.7	11.9	
14	327 28.9	63 49.7	01.8	46 02.8	44.5	293 15.8	32.4	350 04.9	11.9	
15	342 31.4	78 48.9	02.1	61 03.2	44.4	308 18.1	32.5	5 07.1	11.8	
16	357 33.9	93 48.0	02.3	76 03.6	44.3	323 20.4	32.6	20 09.3	11.7	
17	12 36.3	108 47.2	-22 02.6	91 04.0	-23 44.1	338 22.7	+12 32.6	35 11.5	-11 11.6	
18	27 38.8	123 46.4	-22 02.8	106 04.4	-23 44.0	353 25.1	+12 32.7	50 13.7	-11 11.5	
19	42 41.3	138 45.5	03.1	121 04.8	43.9	8 27.4	32.7	65 15.9	11.4	
20	57 43.7	153 44.7	03.3	136 05.3	43.8	23 29.7	32.8	80 18.2	11.3	
21	72 46.2	168 43.8	03.5	151 05.7	43.6	38 32.0	32.9	95 20.4	11.2	
22	87 48.7	183 43.0	03.8	166 06.1	43.5	53 34.3	32.9	110 22.6	11.1	
23	102 51.1	198 42.2	04.0	181 06.5	43.4	68 36.6	33.0	125 24.8	11.0	
24	117 53.6	213 41.3	-22 04.2	196 06.9	-23 43.2	83 39.0	+12 33.1	140 27.0	-11 10.9	

Dif	—	-8	-2	+4	+1	+23	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.8'		Edad: 7.5 <sup>d</sup>			R <sup>o</sup> : 52 <sup>m</sup>			PHE {		Hora		R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 10.6 <sup>m</sup>		PMG: 19 <sup>h</sup> 11 <sup>m</sup>		R <sup>o</sup> : 52 <sup>m</sup>			4 <sup>h</sup> : 57.9'			12 <sup>h</sup> : 57.7'		20 <sup>h</sup> : 57.5'			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	m	h m m	m		
0	177 23.9	-20 29.0	81 53.2		+16 04.1	135	60 N	6 57	7 50	8 42	10 35 3		2 41 103			
1	192 23.7	28.5	96 23.3	111	17.6	134	58	51	41	28	47 9		30 97			
2	207 23.5	28.0	110 53.4	111	31.0	133	56	46	33	17	10 57 14		21 91			
3	222 23.3	27.5	125 23.5	111	44.3	132	54	42	26	8 07	11 06 18		12 88			
4	237 23.1	27.0	139 53.5	110	+16 57.5	131	52	37	19	7 58	15 20		2 05 84			
5	252 23.0	-20 26.5	154 23.4	109	+17 10.6	129	50	6 33	7 13	7 50	11 22 23		1 58 82			
6	267 22.8	-20 25.9	168 53.3	109	+17 23.5	128	45	6 24	7 00	7 33	11 38 29		1 44 75			
7	282 22.6	25.4	183 23.1	108	36.4	127	40	16	6 49	18	11 51 33		32 71			
8	297 22.4	24.9	197 52.9	108	+17 49.2	126	35	08	39	7 06	12 03 36		22 67			
9	312 22.2	24.4	212 22.7	108	+18 01.9	125	30	6 01	30	6 56	13 38		1 13 65			
10	327 22.0	23.9	226 52.4	107	14.5	124	20	5 47	14	38	30 43		0 58 59			
11	342 21.8	-20 23.4	241 22.0	106	+18 27.0	123	10 N	5 34	6 00	6 22	12 45 48		0 45 55			
12	357 21.6	-20 22.8	255 51.6	106	+18 39.4	122	0	5 19	5 45	6 07	12 59 52		0 33 50			
13	12 21.4	22.3	270 21.2	106	+18 51.7	121	10 S	5 03	29	5 52	13 13 56		21 46			
14	27 21.2	21.8	284 50.7	105	+19 03.8	120	20	4 43	5 12	35	29 59		0 08 42			
15	42 21.0	21.3	299 20.1	104	15.9	119	30	18	4 50	17	47 64		** ** *			
16	57 20.8	20.7	313 49.5	104	27.8	118	35	4 02	37	5 05	13 57 67		** ** *			
17	72 20.6	-20 20.2	328 18.8	103	+19 39.7	117	40	3 42	4 21	4 53	14 09 71		** ** *			
18	87 20.4	-20 19.7	342 48.1	103	+19 51.4	116	45	3 17	4 02	4 37	14 23 75		23 50 32			
19	102 20.3	19.2	357 17.3	102	+20 03.0	115	50	2 42	3 38	19	41 81		31 26			
20	117 20.1	18.6	11 46.5	102	14.5	114	52	2 23	26	10	49 84		22 24			
21	132 19.9	18.1	26 15.6	101	25.9	113	54	1 58	3 12	4 00	14 59 87		12 20			
22	147 19.7	17.6	40 44.7	101	37.2	112	56	1 23	2 55	3 48	15 09 91		23 01 16			
23	162 19.5	17.0	55 13.7	100	48.3	111	58	** ** *	35	35	21 97		22 48 11			
24	177 19.3	-20 16.5	69 42.6	99	+20 59.4	110	60 S	** ** *	2 09	3 20	15 35 104		22 33 4			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -4.0		Mag.: +1.4		Mag.: -2.5		Mag.: +0.9	
	16 <sup>h</sup> 05.8 <sup>m</sup>		PMG: 9 <sup>h</sup> 46 <sup>m</sup>		PMG: 10 <sup>h</sup> 55 <sup>m</sup>		PMG: 18 <sup>h</sup> 23 <sup>m</sup>		PMG: 14 <sup>h</sup> 36 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	117 53.6	213 41.3	-22 04.2	196 06.9	-23 43.2	83 39.0	+12 33.1	140 27.0	-11 10.9	
1	132 56.1	228 40.5	04.5	211 07.3	43.1	98 41.3	33.1	155 29.2	10.8	
2	147 58.5	243 39.6	04.7	226 07.7	43.0	113 43.6	33.2	170 31.4	10.7	
3	163 01.0	258 38.8	05.0	241 08.1	42.9	128 45.9	33.3	185 33.7	10.6	
4	178 03.4	273 37.9	05.2	256 08.5	42.7	143 48.2	33.3	200 35.9	10.5	
5	193 05.9	288 37.1	-22 05.4	271 08.9	-23 42.6	158 50.5	+12 33.4	215 38.1	-11 10.4	
6	208 08.4	303 36.3	-22 05.6	286 09.4	-23 42.5	173 52.8	+12 33.4	230 40.3	-11 10.3	
7	223 10.8	318 35.4	05.9	301 09.8	42.3	188 55.1	33.5	245 42.5	10.2	
8	238 13.3	333 34.6	06.1	316 10.2	42.2	203 57.5	33.6	260 44.7	10.1	
9	253 15.8	348 33.7	06.3	331 10.6	42.1	218 59.8	33.6	275 46.9	10.0	
10	268 18.2	3 32.9	06.6	346 11.0	41.9	234 02.1	33.7	290 49.1	09.9	
11	283 20.7	18 32.0	-22 06.8	1 11.4	-23 41.8	249 04.4	+12 33.8	305 51.4	-11 09.8	
12	298 23.2	33 31.2	-22 07.0	16 11.8	-23 41.7	264 06.7	+12 33.8	320 53.6	-11 09.7	
13	313 25.6	48 30.4	07.2	31 12.2	41.5	279 09.0	33.9	335 55.8	09.6	
14	328 28.1	63 29.5	07.4	46 12.6	41.4	294 11.3	34.0	350 58.0	09.5	
15	343 30.6	78 28.7	07.7	61 13.1	41.2	309 13.6	34.0	6 00.2	09.4	
16	358 33.0	93 27.8	07.9	76 13.5	41.1	324 15.9	34.1	21 02.4	09.3	
17	13 35.5	108 27.0	-22 08.1	91 13.9	-23 41.0	339 18.2	+12 34.2	36 04.6	-11 09.2	
18	28 37.9	123 26.1	-22 08.3	106 14.3	-23 40.8	354 20.6	+12 34.2	51 06.8	-11 09.1	
19	43 40.4	138 25.3	08.5	121 14.7	40.7	9 22.9	34.3	66 09.1	09.0	
20	58 42.9	153 24.4	08.8	136 15.1	40.6	24 25.2	34.4	81 11.3	08.9	
21	73 45.3	168 23.6	09.0	151 15.5	40.4	39 27.5	34.4	96 13.5	08.8	
22	88 47.8	183 22.7	09.2	166 15.9	40.3	54 29.8	34.5	111 15.7	08.7	
23	103 50.3	198 21.9	09.4	181 16.3	40.1	69 32.1	34.6	126 17.9	08.6	
24	118 52.7	213 21.1	-22 09.6	196 16.7	-23 40.0	84 34.4	+12 34.6	141 20.1	-11 08.5	
Dif	—	-8	-2	+4	+1	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 10.9 <sup>m</sup>		SD: 15.6' Edad: 8.5 <sup>d</sup> PMG: 20 <sup>h</sup> 03 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.3' 12 <sup>h</sup> : 57.1' 20 <sup>h</sup> : 56.9'				R°: 55 <sup>m</sup>		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m			
0	177 19.3	-20 16.5	69 42.6	99	+20 59.4	109	60 N	15 42	16 34	17 27	10 38	8	4 24 102			
1	192 19.1	16.0	84 11.5	99	+21 10.3	108	58	15 55	16 42	17 32	10 56	15	4 07 94			
2	207 18.9	15.5	98 40.4	99	21.1	107	56	16 07	16 50	17 37	11 11	21	3 52 90			
3	222 18.7	14.9	113 09.1	97	31.8	105	54	17	16 57	17 42	11 24	25	40 85			
4	237 18.5	14.4	127 37.9	98	42.3	105	52	25	17 04	17 46	12 35	28	29 82			
5	252 18.4	-20 13.9	142 06.6	97	+21 52.8	105	50	16 33	17 10	17 50	11 45	31	3 20 78			
6	267 18.2	-20 13.3	156 35.2	96	+22 03.1	103	45	16 50	17 23	17 59	12 07	35	2 59 74			
7	282 18.0	12.8	171 03.7	95	13.3	102	40	17 04	17 34	18 07	12 24	39	43 70			
8	297 17.8	12.3	185 32.3	96	23.3	100	35	16	17 43	18 14	13 39	42	29 67			
9	312 17.6	11.7	200 00.7	94	33.3	100	30	26	17 52	21	14 12	51	45 2 18 64			
10	327 17.4	11.2	214 29.1	94	43.1	98	20	17 44	18 08	34	13 13	48	1 57 60			
11	342 17.2	-20 10.7	228 57.5	94	+22 52.8	97	10 N	18 00	18 22	18 48	13 33	51	1 40 56			
12	357 17.1	-20 10.1	243 25.8	93	+23 02.3	95	0	18 14	18 37	19 02	13 51	54	1 23 53			
13	12 16.9	09.6	257 54.0	92	11.7	94	10 S	29	18 52	18	14 09	56	1 07 50			
14	27 16.7	09.0	272 22.2	92	21.0	93	20	18 45	19 09	19 38	14 28	60	0 50 46			
15	42 16.5	08.5	286 50.3	91	30.2	92	30	19 04	19 30	20 02	14 51	63	30 42			
16	57 16.3	08.0	301 18.4	91	39.2	90	35	15	43	18	15 04	66	19 38			
17	72 16.1	-20 07.4	315 46.4	90	+23 48.1	89	40	19 27	19 59	20 37	15 20	68	0 05 36			
18	87 16.0	-20 06.9	330 14.4	90	+23 56.8	87	45	19 42	20 17	21 02	15 38	72	** ** *			
19	102 15.8	06.3	344 42.3	89	+24 05.5	87	50	20 01	20 41	36	16 02	76	23 57 36			
20	117 15.6	05.8	359 10.2	89	14.0	85	52	09	20 53	21 54	13 79	79	46 33			
21	132 15.4	05.2	13 38.0	88	22.3	83	54	19	21 06	22 17	14 26	81	32 31			
22	147 15.2	04.7	28 05.8	88	30.5	82	56	30	22	22 50	14 40	86	23 17 27			
23	162 15.0	04.2	42 33.5	87	38.6	81	58	43	21 42	** ** *	16 58	91	22 59 21			
24	177 14.9	-20 03.6	57 01.2	87	+24 46.5	79	60 S	20 58	22 06	** ** *	17 19	101	22 37 12			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 <sup>h</sup> 01.9 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 55 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 33 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	118 52.7	213 21.1	-22 09.6	196 16.7	-23 40.0	84 34.4	+12 34.6	141 20.1	-11 08.5	
1	133 55.2	228 20.2	09.8	211 17.2	39.9	99 36.7	34.7	156 22.3	08.4	
2	148 57.7	243 19.4	10.0	226 17.6	39.7	114 39.0	34.8	171 24.5	08.3	
3	164 00.1	258 18.5	10.2	241 18.0	39.6	129 41.3	34.8	186 26.8	08.2	
4	179 02.6	273 17.7	10.4	256 18.4	39.4	144 43.6	34.9	201 29.0	08.1	
5	194 05.1	288 16.8	-22 10.6	271 18.8	-23 39.3	159 45.9	+12 35.0	216 31.2	-11 08.0	
6	209 07.5	303 16.0	-22 10.8	286 19.2	-23 39.1	174 48.2	+12 35.0	231 33.4	-11 07.9	
7	224 10.0	318 15.1	11.0	301 19.6	39.0	189 50.5	35.1	246 35.6	07.8	
8	239 12.4	333 14.3	11.2	316 20.0	38.9	204 52.8	35.2	261 37.8	07.7	
9	254 14.9	348 13.4	11.4	331 20.4	38.7	219 55.1	35.2	276 40.0	07.6	
10	269 17.4	3 12.6	11.6	346 20.8	38.6	234 57.4	35.3	291 42.2	07.5	
11	284 19.8	18 11.7	-22 11.8	1 21.3	-23 38.4	249 59.7	+12 35.4	306 44.4	-11 07.4	
12	299 22.3	33 10.9	-22 12.0	16 21.7	-23 38.3	265 02.0	+12 35.4	321 46.7	-11 07.3	
13	314 24.8	48 10.0	12.2	31 22.1	38.1	280 04.3	35.5	336 48.9	07.2	
14	329 27.2	63 09.2	12.4	46 22.5	38.0	295 06.6	35.6	351 51.1	07.1	
15	344 29.7	78 08.3	12.6	61 22.9	37.8	310 08.9	35.6	6 53.3	07.0	
16	359 32.2	93 07.5	12.8	76 23.3	37.7	325 11.3	35.7	21 55.5	06.9	
17	14 34.6	108 06.6	-22 13.0	91 23.7	-23 37.5	340 13.6	+12 35.8	36 57.7	-11 06.8	
18	29 37.1	123 05.8	-22 13.2	106 24.1	-23 37.4	355 15.9	+12 35.8	51 59.9	-11 06.7	
19	44 39.5	138 04.9	13.4	121 24.5	37.2	10 18.2	35.9	67 02.1	06.6	
20	59 42.0	153 04.1	13.6	136 25.0	37.1	25 20.5	36.0	82 04.3	06.5	
21	74 44.5	168 03.2	13.8	151 25.4	36.9	40 22.8	36.1	97 06.6	06.4	
22	89 46.9	183 02.4	13.9	166 25.8	36.8	55 25.1	36.1	112 08.8	06.3	
23	104 49.4	198 01.5	14.1	181 26.2	36.6	70 27.4	36.2	127 11.0	06.2	
24	119 51.9	213 00.7	-22 14.3	196 26.6	-23 36.5	85 29.6	+12 36.3	142 13.2	-11 06.1	

Dif	—	-8	-2	+4	+1	+23	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.5'		Edad: 9.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.5' 20 <sup>h</sup> : 56.3'			PMG: 20 <sup>h</sup> 58 <sup>m</sup>		R°: 55 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	177 14.9	-20 03.6	57 01.2	87	+24 46.5	78	60 N	6 54	7 47	8 38	10 46 20	6 06 95				
1	192 14.7	03.1	71 28.9	85	+24 54.3	77	58	49	39	25	11 11 30	5 41 86				
2	207 14.5	02.5	85 56.4	86	+25 02.0	75	56	44	31	14	32 34	22 80				
3	222 14.3	02.0	100 24.0	85	09.5	73	54	40	24	8 04	11 49 37	5 05 77				
4	237 14.1	01.4	114 51.5	85	16.8	73	52	36	17	7 56	12 03 40	4 51 74				
5	252 14.0	-20 00.9	129 18.9	84	+25 24.1	73	50	6 32	7 12	7 48	12 16 41	4 38 72				
6	267 13.8	-20 00.3	143 46.3	84	+25 31.1	70	45	6 23	6 59	7 31	12 42 45	4 13 68				
7	282 13.6	-19 59.8	158 13.7	84	38.1	70	40	15	48	17	13 03 47	3 53 66				
8	297 13.4	59.2	172 41.0	83	44.9	68	35	08	38	7 06	21 48	36 64				
9	312 13.2	58.7	187 08.3	83	51.5	66	30	6 01	30	6 55	13 36 50	3 22 62				
10	327 13.1	58.1	201 35.5	82	+25 58.0	65	20	5 47	14	38	14 01 52	2 57 59				
11	342 12.9	-19 57.6	216 02.7	82	+26 04.4	64	10 N	5 34	6 00	6 22	14 24 53	2 36 57				
12	357 12.7	-19 57.0	230 29.9	82	+26 10.6	62	0	5 20	5 46	6 08	14 45 55	2 16 55				
13	12 12.5	56.5	244 57.0	81	16.6	60	10 S	5 04	30	5 53	15 05 57	1 57 52				
14	27 12.4	55.9	259 24.1	81	22.5	59	20	4 45	5 13	37	28 58	36 50				
15	42 12.2	55.4	273 51.1	80	28.3	58	30	20	4 52	18	15 54 60	1 12 47				
16	57 12.0	54.8	288 18.2	81	33.9	56	35	4 04	39	5 07	16 10 61	0 57 46				
17	72 11.8	-19 54.2	302 45.1	79	+26 39.3	54	40	3 45	4 24	4 55	16 28 62	0 41 43				
18	87 11.7	-19 53.7	317 12.1	80	+26 44.7	54	45	3 20	4 05	4 40	16 50 64	0 22 40				
19	102 11.5	53.1	331 39.0	79	49.8	51	50	2 46	3 41	22	17 18 66	** ** *				
20	117 11.3	52.6	346 05.9	79	54.8	50	52	28	30	13	32 68	** ** *				
21	132 11.1	52.0	0 32.8	79	+26 59.7	49	54	2 05	16	4 04	17 47 70	** ** *				
22	147 11.0	51.5	14 59.6	78	+27 04.4	47	56	1 33	3 00	3 53	18 06 72	23 44 43				
23	162 10.8	50.9	29 26.4	78	08.9	45	58	** ** *	2 41	40	18 29 77	23 20 39				
24	177 10.6	-19 50.3	43 53.2	78	+27 13.3	44	60 S	** ** *	2 16	3 25	19 00 84	22 49 32				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 <sup>h</sup> 57.9 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.5 PMG: 18 <sup>h</sup> 15 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 29 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	119 51.9	213 00.7	-22 14.3	196 26.6	-23 36.5	85 29.6	+12 36.3	142 13.2	-11 06.1	
1	134 54.3	227 59.8	14.5	211 27.0	36.3	100 31.9	36.3	157 15.4	06.0	
2	149 56.8	242 59.0	14.7	226 27.4	36.2	115 34.2	36.4	172 17.6	05.9	
3	164 59.3	257 58.1	14.9	241 27.8	36.0	130 36.5	36.5	187 19.8	05.8	
4	180 01.7	272 57.2	15.0	256 28.2	35.9	145 38.8	36.5	202 22.0	05.7	
5	195 04.2	287 56.4	-22 15.2	271 28.6	-23 35.7	160 41.1	+12 36.6	217 24.2	-11 05.6	
6	210 06.7	302 55.5	-22 15.4	286 29.1	-23 35.6	175 43.4	+12 36.7	232 26.4	-11 05.5	
7	225 09.1	317 54.7	15.6	301 29.5	35.4	190 45.7	36.7	247 28.7	05.4	
8	240 11.6	332 53.8	15.7	316 29.9	35.3	205 48.0	36.8	262 30.9	05.3	
9	255 14.0	347 53.0	15.9	331 30.3	35.1	220 50.3	36.9	277 33.1	05.2	
10	270 16.5	2 52.1	16.1	346 30.7	34.9	235 52.6	37.0	292 35.3	05.1	
11	285 19.0	17 51.3	-22 16.2	1 31.1	-23 34.8	250 54.9	+12 37.0	307 37.5	-11 05.0	
12	300 21.4	32 50.4	-22 16.4	16 31.5	-23 34.6	265 57.2	+12 37.1	322 39.7	-11 04.9	
13	315 23.9	47 49.6	16.6	31 31.9	34.5	280 59.5	37.2	337 41.9	04.8	
14	330 26.4	62 48.7	16.8	46 32.3	34.3	296 01.8	37.2	352 44.1	04.7	
15	345 28.8	77 47.9	16.9	61 32.8	34.2	311 04.1	37.3	7 46.3	04.6	
16	0 31.3	92 47.0	17.1	76 33.2	34.0	326 06.4	37.4	22 48.5	04.5	
17	15 33.8	107 46.1	-22 17.3	91 33.6	-23 33.8	341 08.7	+12 37.5	37 50.7	-11 04.4	
18	30 36.2	122 45.3	-22 17.4	106 34.0	-23 33.7	356 11.0	+12 37.5	52 53.0	-11 04.3	
19	45 38.7	137 44.4	17.6	121 34.4	33.5	11 13.3	37.6	67 55.2	04.2	
20	60 41.2	152 43.6	17.7	136 34.8	33.4	26 15.6	37.7	82 57.4	04.1	
21	75 43.6	167 42.7	17.9	151 35.2	33.2	41 17.8	37.7	97 59.6	04.0	
22	90 46.1	182 41.9	18.1	166 35.6	33.0	56 20.1	37.8	113 01.8	03.9	
23	105 48.5	197 41.0	18.2	181 36.0	32.9	71 22.4	37.9	128 04.0	03.8	
24	120 51.0	212 40.2	-22 18.4	196 36.5	-23 32.7	86 24.7	+12 37.9	143 06.2	-11 03.7	
Dif	—	-9	-2	+4	+2	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 11.4 <sup>m</sup>		SD: 15.3' Edad: 10.5 <sup>d</sup> PMG: 21 <sup>h</sup> 53 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.2' 12 <sup>h</sup> : 56.0' 20 <sup>h</sup> : 55.8'				R°: 55 <sup>m</sup>		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	177 10.6	-19 50.3	43 53.2	78	+27 13.3	42	60 N	15 47	16 38	17 31	11 06 49	7 41 66				
1	192 10.4	49.8	58 20.0	77	17.5	41	58	16 00	46	36	11 41 51	7 07 63				
2	207 10.3	49.2	72 46.8	78	21.6	41	56	11	16 54	40	12 06 52	6 42 62				
3	222 10.1	48.7	87 13.5	77	25.5	39	54	20	17 01	45	26 53	22 61				
4	237 09.9	48.1	101 40.2	77	29.3	38	52	29	07 49	49	43 54	6 05 61				
5	252 09.7	-19 47.5	116 06.9	77	+27 32.9	36	50	16 37	17 13	17 53	12 57 54	5 50 61				
6	267 09.6	-19 47.0	130 33.6	77	+27 36.4	35	45	16 53	17 25	18 01	13 27 54	5 21 60				
7	282 09.4	46.4	145 00.3	77	39.7	33	40	17 06	36	09	13 50 55	4 59 58				
8	297 09.2	45.8	159 26.9	76	42.8	31	35	18	45	16	14 09 55	40 58				
9	312 09.1	45.3	173 53.6	77	45.8	30	30	28	17 54	23	26 55	4 24 57				
10	327 08.9	44.7	188 20.2	76	48.7	29	20	17 45	18 09	36	14 53 55	3 56 57				
11	342 08.7	-19 44.1	202 46.8	76	+27 51.4	27	10 N	18 01	18 23	18 49	15 17 55	3 33 56				
12	357 08.6	-19 43.6	217 13.5	77	+27 53.9	25	0	18 15	18 37	19 03	15 40 55	3 11 55				
13	12 08.4	43.0	231 40.1	76	56.3	24	10 S	30	18 52	18	16 02 55	2 49 55				
14	27 08.2	42.4	246 06.7	76	+27 58.5	22	20	18 45	19 09	19 37	26 55	2 26 54				
15	42 08.1	41.9	260 33.3	76	+28 00.5	20	30	19 03	30	20 01	16 54 55	1 59 52				
16	57 07.9	41.3	274 59.9	76	02.4	19	35	14	42	17	17 11 55	43 52				
17	72 07.7	-19 40.7	289 26.6	77	+28 04.2	18	40	19 26	19 57	20 35	17 30 55	1 24 51				
18	87 07.5	-19 40.1	303 53.2	76	+28 05.8	16	45	19 41	20 15	21 00	17 54 54	1 02 49				
19	102 07.4	39.6	318 19.8	76	07.2	14	50	19 58	38	32	18 24 54	0 33 48				
20	117 07.2	39.0	332 46.4	76	08.5	13	52	20 07	20 50	21 50	40 52	19 47				
21	132 07.0	38.4	347 13.1	77	09.6	11	54	16	21 03	22 12	18 57 53	0 03 45				
22	147 06.9	37.8	1 39.7	76	10.5	9	56	27	18	22 41	19 18 52	** * **				
23	162 06.7	37.3	16 06.4	77	11.3	8	58	39	21 37	23 34	19 46 50	23 59 64				
24	177 06.6	-19 36.7	30 33.1	77	+28 12.0	7	60 S	20 53	22 00	** **	20 24 47	23 21 67				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 15 <sup>h</sup> 54.0 <sup>m</sup>		Mag.: -4.0 PMG: 9 <sup>h</sup> 50 <sup>m</sup>		Mag.: +1.4 PMG: 10 <sup>h</sup> 53 <sup>m</sup>		Mag.: -2.4 PMG: 18 <sup>h</sup> 12 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 25 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	120 51.0	212 40.2	-22 18.4	196 36.5	-23 32.7	86 24.7	+12 37.9	143 06.2	-11 03.7							
1	135 53.5	227 39.3	18.5	211 36.9	32.6	101 27.0	38.0	158 08.4	03.6							
2	150 55.9	242 38.4	18.7	226 37.3	32.4	116 29.3	38.1	173 10.6	03.5							
3	165 58.4	257 37.6	18.8	241 37.7	32.2	131 31.6	38.2	188 12.8	03.4							
4	181 00.9	272 36.7	19.0	256 38.1	32.1	146 33.9	38.2	203 15.0	03.3							
5	196 03.3	287 35.9	-22 19.1	271 38.5	-23 31.9	161 36.2	+12 38.3	218 17.3	-11 03.2							
6	211 05.8	302 35.0	-22 19.3	286 38.9	-23 31.7	176 38.5	+12 38.4	233 19.5	-11 03.1							
7	226 08.3	317 34.1	19.4	301 39.3	31.6	191 40.8	38.5	248 21.7	03.0							
8	241 10.7	332 33.3	19.6	316 39.7	31.4	206 43.0	38.5	263 23.9	02.9							
9	256 13.2	347 32.4	19.7	331 40.1	31.2	221 45.3	38.6	278 26.1	02.8							
10	271 15.7	2 31.6	19.9	346 40.6	31.1	236 47.6	38.7	293 28.3	02.7							
11	286 18.1	17 30.7	-22 20.0	1 41.0	-23 30.9	251 49.9	+12 38.7	308 30.5	-11 02.6							
12	301 20.6	32 29.9	-22 20.2	16 41.4	-23 30.7	266 52.2	+12 38.8	323 32.7	-11 02.5							
13	316 23.0	47 29.0	20.3	31 41.8	30.6	281 54.5	38.9	338 34.9	02.4							
14	331 25.5	62 28.1	20.4	46 42.2	30.4	296 56.8	39.0	353 37.1	02.3							
15	346 28.0	77 27.3	20.6	61 42.6	30.2	311 59.0	39.0	8 39.3	02.2							
16	1 30.4	92 26.4	20.7	76 43.0	30.1	327 01.3	39.1	23 41.5	02.1							
17	16 32.9	107 25.6	-22 20.8	91 43.4	-23 29.9	342 03.6	+12 39.2	38 43.7	-11 02.0							
18	31 35.4	122 24.7	-22 21.0	106 43.8	-23 29.7	357 05.9	+12 39.3	53 45.9	-11 01.9							
19	46 37.8	137 23.8	21.1	121 44.3	29.6	12 08.2	39.3	68 48.2	01.8							
20	61 40.3	152 23.0	21.3	136 44.7	29.4	27 10.5	39.4	83 50.4	01.6							
21	76 42.8	167 22.1	21.4	151 45.1	29.2	42 12.8	39.5	98 52.6	01.5							
22	91 45.2	182 21.3	21.5	166 45.5	29.0	57 15.0	39.5	113 54.8	01.4							
23	106 47.7	197 20.4	21.6	181 45.9	28.9	72 17.3	39.6	128 57.0	01.3							
24	121 50.2	212 19.5	-22 21.8	196 46.3	-23 28.7	87 19.6	+12 39.7	143 59.2	-11 01.2							
Dif	—	-9	-1	+4	+2	+23	+1	+22	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.3' PMG: 12 <sup>h</sup> 11.7 <sup>m</sup>		SD: 15.2' Edad: 11.5 <sup>d</sup> PMG: 22 <sup>h</sup> 48 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.4'			R°: 53 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m		
0	177 06.6	-19 36.7	30 33.1	77	+28 12.0	5	6 52	7 44	8 34	11 55 81	8 47 31			
1	192 06.4	36.1	44 59.8	77	12.5	5	58	47	36	22	12 32 74	8 10 39		
2	207 06.2	35.5	59 26.5	77	12.8	3	56	42	28	11	12 58 71	7 44 42		
3	222 06.1	35.0	73 53.3	78	13.0	2	54	38	21	8 02	13 19 68	23 44		
4	237 05.9	34.4	88 20.0	77	13.0	0	52	34	15	7 53	37 66	7 06 45		
5	252 05.7	-19 33.8	102 46.8	78	+28 12.9	1	50	6 30	7 10	7 46	13 51 65	6 51 46		
6	267 05.6	-19 33.2	117 13.6	78	+28 12.6	3	45	6 22	6 57	7 29	14 21 63	6 21 48		
7	282 05.4	32.6	131 40.4	78	12.2	4	40	14	47	16	14 45 60	5 57 50		
8	297 05.2	32.1	146 07.3	79	11.6	6	35	07	38	7 05	15 04 59	38 51		
9	312 05.1	31.5	160 34.2	79	10.9	7	30	6 00	29	6 55	21 58	5 21 52		
10	327 04.9	30.9	175 01.1	79	10.0	9	20	5 47	14	38	15 48 57	4 53 53		
11	342 04.8	-19 30.3	189 28.0	79	+28 08.9	11	10 N	5 34	6 00	6 22	16 12 55	4 29 54		
12	357 04.6	-19 29.7	203 55.0	80	+28 07.7	12	0	5 21	5 46	6 08	16 35 53	4 06 55		
13	12 04.4	29.1	218 22.0	80	06.4	13	10 S	5 05	31	5 54	16 57 52	3 44 55		
14	27 04.3	28.6	232 49.1	81	04.8	16	20	4 46	5 14	38	17 21 50	3 20 56		
15	42 04.1	28.0	247 16.1	80	03.2	16	30	22	4 54	20	17 49 48	2 51 57		
16	57 04.0	27.4	261 43.3	82	+28 01.4	18	35	4 07	41	5 10	18 06 46	35 57		
17	72 03.8	-19 26.8	276 10.4	81	+27 59.4	20	40	3 48	4 26	4 57	18 25 45	2 15 58		
18	87 03.6	-19 26.2	290 37.7	83	+27 57.3	21	45	3 24	4 08	4 43	18 48 43	1 51 59		
19	102 03.5	25.6	305 04.9	82	55.1	22	50	2 51	3 45	25	19 18 39	21 60		
20	117 03.3	25.0	319 32.2	83	52.7	24	52	34	34	17	32 38	1 06 60		
21	132 03.2	24.5	333 59.6	84	50.1	26	54	2 12	21	4 07	19 50 35	0 48 61		
22	147 03.0	23.9	348 27.0	84	47.4	27	56	1 42	3 05	3 57	20 10 32	0 27 62		
23	162 02.8	23.3	2 54.4	84	44.6	28	58	0 49	2 47	45	20 36 27	** ** *		
24	177 02.7	-19 22.7	17 21.9	85	+27 41.6	30	60 S	** ** *	2 24	3 30	21 11 18	** ** *		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 15 <sup>h</sup> 50.1 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 51 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 53 <sup>m</sup>		Mag.: -2.4 PMG: 18 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 22 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "				
0	121 50.2	212 19.5	-22 21.8	196 46.3	-23 28.7	87 19.6	+12 39.7	143 59.2	-11 01.2					
1	136 52.6	227 18.7	21.9	211 46.7	28.5	102 21.9	39.8	159 01.4	01.1					
2	151 55.1	242 17.8	22.0	226 47.1	28.4	117 24.2	39.8	174 03.6	01.0					
3	166 57.5	257 17.0	22.2	241 47.5	28.2	132 26.5	39.9	189 05.8	00.9					
4	182 00.0	272 16.1	22.3	256 48.0	28.0	147 28.7	40.0	204 08.0	00.8					
5	197 02.5	287 15.2	-22 22.4	271 48.4	-23 27.8	162 31.0	+12 40.1	219 10.2	-11 00.7					
6	212 04.9	302 14.4	-22 22.5	286 48.8	-23 27.7	177 33.3	+12 40.1	234 12.4	-11 00.6					
7	227 07.4	317 13.5	22.6	301 49.2	27.5	192 35.6	40.2	249 14.6	00.5					
8	242 09.9	332 12.7	22.8	316 49.6	27.3	207 37.9	40.3	264 16.8	00.4					
9	257 12.3	347 11.8	22.9	331 50.0	27.1	222 40.2	40.4	279 19.0	00.3					
10	272 14.8	2 10.9	23.0	346 50.4	26.9	237 42.4	40.4	294 21.3	00.2					
11	287 17.3	17 10.1	-22 23.1	1 50.8	-23 26.8	252 44.7	+12 40.5	309 23.5	-11 00.1					
12	302 19.7	32 09.2	-22 23.2	16 51.2	-23 26.6	267 47.0	+12 40.6	324 25.7	-11 00.0					
13	317 22.2	47 08.3	23.3	31 51.7	26.4	282 49.3	40.7	339 27.9	-10 59.9					
14	332 24.7	62 07.5	23.5	46 52.1	26.2	297 51.5	40.7	354 30.1	59.8					
15	347 27.1	77 06.6	23.6	61 52.5	26.1	312 53.8	40.8	9 32.3	59.7					
16	2 29.6	92 05.8	23.7	76 52.9	25.9	327 56.1	40.9	24 34.5	59.6					
17	17 32.0	107 04.9	-22 23.8	91 53.3	-23 25.7	342 58.4	+12 41.0	39 36.7	-10 59.5					
18	32 34.5	122 04.0	-22 23.9	106 53.7	-23 25.5	358 00.7	+12 41.0	54 38.9	-10 59.4					
19	47 37.0	137 03.2	24.0	121 54.1	25.3	13 02.9	41.1	69 41.1	59.3					
20	62 39.4	152 02.3	24.1	136 54.5	25.2	28 05.2	41.2	84 43.3	59.2					
21	77 41.9	167 01.4	24.2	151 55.0	25.0	43 07.5	41.3	99 45.5	59.1					
22	92 44.4	182 00.6	24.3	166 55.4	24.8	58 09.8	41.3	114 47.7	59.0					
23	107 46.8	196 59.7	24.4	181 55.8	24.6	73 12.0	41.4	129 49.9	58.9					
24	122 49.3	211 58.8	-22 24.5	196 56.2	-23 24.4	88 14.3	+12 41.5	144 52.1	-10 58.8					
Dif	—	-9	-1	+4	+2	+23	+1	+22	+1					

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 11.9 <sup>m</sup>		SD: 15.1' Edad: 12.5 <sup>d</sup> PMG: 23 <sup>h</sup> 41 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 55.0'				R°: 49 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	177 02.7	-19 22.7	17 21.9	86	+27 41.6	31	60 N	15 52	16 42	17 34	13 16 94	9 18 13				
1	192 02.5	22.1	31 49.5	86	38.5	34	58	16 04	50	39	13 46 86	8 49 20				
2	207 02.4	21.5	46 17.1	86	35.2	33	56	15	16 58	44	14 09 80	26 25				
3	222 02.2	20.9	60 44.7	87	31.8	34	54	24	17 04	48	27 76	8 07 29				
4	237 02.1	20.3	75 12.4	87	28.2	36	52	32	10	52	43 73	7 51 32				
5	252 01.9	-19 19.7	89 40.2	88	+27 24.5	37	50	16 40	17 16	17 55	14 56 71	7 37 34				
6	267 01.8	-19 19.1	104 08.1	89	+27 20.7	38	45	16 56	17 28	18 04	15 24 66	7 09 38				
7	282 01.6	18.5	118 35.9	88	16.7	40	40	17 09	38	11	15 45 64	6 47 41				
8	297 01.4	17.9	133 03.9	90	12.5	42	35	20	47	18	16 03 62	29 43				
9	312 01.3	17.3	147 31.9	90	08.3	42	30	30	17 55	24	19 59	6 13 45				
10	327 01.1	16.7	162 00.0	91	+27 03.9	44	20	17 47	18 10	37	16 45 56	5 46 47				
11	342 01.0	-19 16.1	176 28.1	91	+26 59.3	46	10 N	18 02	18 24	18 49	17 07 53	5 23 49				
12	357 00.8	-19 15.5	190 56.4	93	+26 54.7	46	0	18 16	18 37	19 03	17 28 51	5 01 52				
13	12 00.7	14.9	205 24.6	92	49.8	49	10 S	16 30	18 52	18	17 49 48	4 39 54				
14	27 00.5	14.3	219 53.0	94	44.9	49	20	18 45	19 09	19 37	18 11 45	4 16 56				
15	42 00.4	13.7	234 21.4	94	39.8	51	30	19 03	29	20 00	37 41	3 48 59				
16	57 00.2	13.1	248 49.9	95	34.6	52	35	13	41	15	18 52 39	32 61				
17	72 00.1	-19 12.5	263 18.4	95	+26 29.3	53	40	19 25	19 56	20 34	19 10 36	3 13 63				
18	86 59.9	-19 11.9	277 47.1	97	+26 23.8	55	45	19 39	20 13	20 57	19 31 33	2 50 65				
19	101 59.8	11.3	292 15.8	97	18.2	56	50	19 56	36	21 29	19 57 29	21 69				
20	116 59.6	10.7	306 44.5	97	12.5	57	52	20 04	47	21 45	20 10 27	2 06 71				
21	131 59.5	10.1	321 13.4	99	06.6	59	54	13	20 59	22 06	25 23	1 49 74				
22	146 59.3	09.5	335 42.3	99	+26 00.6	60	56	24	21 14	22 33	20 42 20	29 77				
23	161 59.2	08.9	350 11.3	100	+25 54.5	61	58	35	32	23 17	21 03 14	1 03 82				
24	176 59.0	-19 08.3	4 40.4	101	+25 48.3	62	60 S	20 49	21 54	*** **	21 29 7	0 28 92				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 46.1 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.4 PMG: 18 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	122 49.3	211 58.8	-22 24.5	196 56.2	-23 24.4	88 14.3	+12 41.5	144 52.1	-10 58.8	
1	137 51.8	226 58.0	24.6	211 56.6	24.2	103 16.6	41.6	159 54.3	58.7	
2	152 54.2	241 57.1	24.7	226 57.0	24.1	118 18.9	41.7	174 56.5	58.6	
3	167 56.7	256 56.2	24.8	241 57.4	23.9	133 21.2	41.7	189 58.7	58.5	
4	182 59.2	271 55.4	24.9	256 57.8	23.7	148 23.4	41.8	205 01.0	58.4	
5	198 01.6	286 54.5	-22 25.0	271 58.2	-23 23.5	163 25.7	+12 41.9	220 03.2	-10 58.3	
6	213 04.1	301 53.7	-22 25.1	286 58.7	-23 23.3	178 28.0	+12 42.0	235 05.4	-10 58.2	
7	228 06.5	316 52.8	25.2	301 59.1	23.1	193 30.2	42.0	250 07.6	58.1	
8	243 09.0	331 51.9	25.3	316 59.5	22.9	208 32.5	42.1	265 09.8	58.0	
9	258 11.5	346 51.1	25.4	331 59.9	22.8	223 34.8	42.2	280 12.0	57.9	
10	273 13.9	1 50.2	25.5	347 00.3	22.6	238 37.1	42.3	295 14.2	57.8	
11	288 16.4	16 49.3	-22 25.6	2 00.7	-23 22.4	253 39.3	+12 42.3	310 16.4	-10 57.7	
12	303 18.9	31 48.5	-22 25.7	17 01.1	-23 22.2	268 41.6	+12 42.4	325 18.6	-10 57.6	
13	318 21.3	46 47.6	25.7	32 01.5	22.0	283 43.9	42.5	340 20.8	57.5	
14	333 23.8	61 46.7	25.8	47 02.0	21.8	298 46.2	42.6	355 23.0	57.4	
15	348 26.3	76 45.9	25.9	62 02.4	21.6	313 48.4	42.7	10 25.2	57.3	
16	3 28.7	91 45.0	26.0	77 02.8	21.4	328 50.7	42.7	25 27.4	57.2	
17	18 31.2	106 44.1	-22 26.1	92 03.2	-23 21.2	343 53.0	+12 42.8	40 29.6	-10 57.1	
18	33 33.6	121 43.3	-22 26.2	107 03.6	-23 21.0	358 55.2	+12 42.9	55 31.8	-10 57.0	
19	48 36.1	136 42.4	26.2	122 04.0	20.9	13 57.5	43.0	70 34.0	56.9	
20	63 38.6	151 41.5	26.3	137 04.4	20.7	28 59.8	43.0	85 36.2	56.7	
21	78 41.0	166 40.7	26.4	152 04.8	20.5	44 02.0	43.1	100 38.4	56.6	
22	93 43.5	181 39.8	26.5	167 05.3	20.3	59 04.3	43.2	115 40.6	56.5	
23	108 46.0	196 38.9	26.5	182 05.7	20.1	74 06.6	43.3	130 42.8	56.4	
24	123 48.4	211 38.1	-22 26.6	197 06.1	-23 19.9	89 08.9	+12 43.4	145 45.0	-10 56.3	
Dif	—	-9	-1	+4	+2	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.0'		Edad: 13.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 54.7'			R <sup>o</sup> : ***m		PMG: **h ***m		R <sup>o</sup> : ***m	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	R <sup>o</sup>	h m	R <sup>o</sup>		
0	176 59.0	-19 08.3	4 40.4	+25 48.3	64	60 N	6 49	7 41	8 30	14 50 94	9 31 4					
1	191 58.9	07.7	19 09.5 <sup>101</sup>	41.9	64	58	44	33	18	15 12 87	9 09 11					
2	206 58.7	07.1	33 38.7 <sup>102</sup>	35.4	65	56	39	25	8 08	29 82	8 51 16					
3	221 58.6	06.5	48 08.0 <sup>103</sup>	28.8	66	54	35	19	7 59	43 79	36 19					
4	236 58.4	05.9	62 37.4 <sup>104</sup>	22.1	67	52	32	13	51	15 56 76	23 22					
5	251 58.3	-19 05.3	77 06.9 <sup>105</sup>	+25 15.2	69	50	6 28	7 08	7 43	16 07 73	8 11 25					
6	266 58.1	-19 04.7	91 36.4 <sup>105</sup>	+25 08.3	69	45	6 20	6 56	7 28	16 30 68	7 47 30					
7	281 58.0	04.1	106 06.0 <sup>106</sup>	+25 01.2	71	40	13	46	15	16 49 64	28 33					
8	296 57.8	03.5	120 35.7 <sup>107</sup>	+24 54.0	72	35	06	37	7 04	17 05 60	7 12 36					
9	311 57.7	02.8	135 05.5 <sup>108</sup>	46.7	73	30	6 00	29	6 54	18 58	6 58 38					
10	326 57.6	02.2	149 35.4 <sup>109</sup>	39.2	75	20	5 47	14	37	17 41 54	33 43					
11	341 57.4	-19 01.6	164 05.3 <sup>109</sup>	+24 31.7	75	10 N	5 35	6 00	6 23	18 00 50	6 12 46					
12	356 57.3	-19 01.0	178 35.4 <sup>111</sup>	+24 24.0	77	0	5 21	5 47	6 09	18 19 46	5 53 49					
13	11 57.1	-19 00.4	193 05.5 <sup>111</sup>	16.3	77	10 S	5 06	32	5 55	37 43	33 52					
14	26 57.0	-18 59.8	207 35.7 <sup>112</sup>	08.4	79	20	4 48	5 16	39	18 56 40	5 12 55					
15	41 56.8	59.2	222 05.9 <sup>112</sup>	+24 00.4	80	30	24	4 56	22	19 18 36	4 47 59					
16	56 56.7	58.5	236 36.3 <sup>114</sup>	+23 52.3	81	35	4 09	4 3	12	31 33	33 61					
17	71 56.6	-18 57.9	251 06.7 <sup>114</sup>	+23 44.1	82	40	3 51	4 29	5 00	19 46 30	4 16 64					
18	86 56.4	-18 57.3	265 37.3 <sup>116</sup>	+23 35.8	83	45	3 28	4 11	4 46	20 04 26	3 55 68					
19	101 56.3	56.7	280 07.9 <sup>116</sup>	27.4	84	50	2 56	3 49	29	26 21	30 72					
20	116 56.1	56.1	294 38.5 <sup>116</sup>	18.8	86	52	39	38	20	37 18	17 75					
21	131 56.0	55.5	309 09.3 <sup>118</sup>	10.2	86	54	2 19	25	11	20 48 16	3 03 78					
22	146 55.8	54.8	323 40.2 <sup>119</sup>	+23 01.5	87	56	1 51	3 11	4 01	21 02 12	2 46 82					
23	161 55.7	54.2	338 11.1 <sup>119</sup>	+22 52.7	88	58	1 08	2 53	3 49	17 8	2 25 88					
24	176 55.6	-18 53.6	352 42.2 <sup>121</sup>	+22 43.7	90	60 S	** **	2 31	3 36	21 36 2	2 00 95					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 42.2 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 54 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.4 PMG: 18 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 15 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	123 48.4	211 38.1	-22 26.6	197 06.1	-23 19.9	89 08.9	+12 43.4	145 45.0	-10 56.3	
1	138 50.9	226 37.2	26.7	212 06.5	19.7	104 11.1	43.4	160 47.2	56.2	
2	153 53.4	241 36.3	26.8	227 06.9	19.5	119 13.4	43.5	175 49.4	56.1	
3	168 55.8	256 35.5	26.8	242 07.3	19.3	134 15.7	43.6	190 51.6	56.0	
4	183 58.3	271 34.6	26.9	257 07.7	19.1	149 17.9	43.7	205 53.9	55.9	
5	199 00.8	286 33.7	-22 27.0	272 08.1	-23 18.9	164 20.2	+12 43.8	220 56.1	-10 55.8	
6	214 03.2	301 32.9	-22 27.0	287 08.6	-23 18.7	179 22.5	+12 43.8	235 58.3	-10 55.7	
7	229 05.7	316 32.0	27.1	302 09.0	18.5	194 24.7	43.9	251 00.5	55.6	
8	244 08.1	331 31.1	27.2	317 09.4	18.3	209 27.0	44.0	266 02.7	55.5	
9	259 10.6	346 30.3	27.2	332 09.8	18.1	224 29.3	44.1	281 04.9	55.4	
10	274 13.1	1 29.4	27.3	347 10.2	17.9	239 31.5	44.2	296 07.1	55.3	
11	289 15.5	16 28.5	-22 27.4	2 10.6	-23 17.7	254 33.8	+12 44.2	311 09.3	-10 55.2	
12	304 18.0	31 27.7	-22 27.4	17 11.0	-23 17.5	269 36.1	+12 44.3	326 11.5	-10 55.1	
13	319 20.5	46 26.8	27.5	32 11.4	17.3	284 38.3	44.4	341 13.7	55.0	
14	334 22.9	61 25.9	27.5	47 11.9	17.1	299 40.6	44.5	356 15.9	54.9	
15	349 25.4	76 25.1	27.6	62 12.3	16.9	314 42.8	44.6	11 18.1	54.8	
16	4 27.9	91 24.2	27.6	77 12.7	16.7	329 45.1	44.6	26 20.3	54.7	
17	19 30.3	106 23.3	-22 27.7	92 13.1	-23 16.5	344 47.4	+12 44.7	41 22.5	-10 54.6	
18	34 32.8	121 22.4	-22 27.8	107 13.5	-23 16.3	359 49.6	+12 44.8	56 24.7	-10 54.5	
19	49 35.3	136 21.6	27.8	122 13.9	16.1	14 51.9	44.9	71 26.9	54.4	
20	64 37.7	151 20.7	27.9	137 14.3	15.9	29 54.2	45.0	86 29.1	54.3	
21	79 40.2	166 19.8	27.9	152 14.7	15.7	44 56.4	45.0	101 31.3	54.2	
22	94 42.6	181 19.0	28.0	167 15.2	15.5	59 58.7	45.1	116 33.5	54.1	
23	109 45.1	196 18.1	28.0	182 15.6	15.3	75 01.0	45.2	131 35.7	54.0	
24	124 47.6	211 17.2	-22 28.1	197 16.0	-23 15.1	90 03.2	+12 45.3	146 37.9	-10 53.9	
Dif	—	-9	-1	+4	+2	+23	+1	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 12.4 <sup>m</sup>		SD: 14.9' Edad: 14.5 <sup>d</sup> PMG: 0 <sup>h</sup> 30 <sup>m</sup>		R <sup>o</sup> : 46 <sup>m</sup>				PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.4'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	176 55.6	-18 53.6	352 42.2	121	+22 43.7	90	60 N	15 57	16 47	17 39	16 24 89	9 35 2				
1	191 55.4	53.0	7 13.3		34.7		58	16 09	16 54	43	39 84	20 6				
2	206 55.3	52.4	21 44.5	122	25.6	91	56	19	17 01	47	16 51 81	9 07 10				
3	221 55.1	51.7	36 15.7	122	16.4	92	54	28	08	51	17 02 77	8 55 14				
4	236 55.0	51.1	50 47.1	124	+22 07.1	93	52	36	14	55	12 74	45 16				
5	251 54.9	-18 50.5	65 18.5	124	+21 57.7	94	50	16 43	17 19	17 58	17 20 72	8 36 19				
6	266 54.7	-18 49.9	79 50.1	126	+21 48.2	95	45	16 59	17 30	18 06	17 38 67	8 17 23				
7	281 54.6	49.2	94 21.7	126	38.6	96	40	17 11	40	13	17 53 62	8 01 27				
8	296 54.4	48.6	108 53.4	127	28.9	97	35	22	49	20	18 05 60	7 48 30				
9	311 54.3	48.0	123 25.1	127	19.1	98	30	31	17 57	26	16 56 36	36 33				
10	326 54.2	47.4	137 57.0	129	+21 09.3	98	20	17 48	18 11	38	35 51	7 16 37				
11	341 54.0	-18 46.7	152 28.9	129	+20 59.3	100	10 N	18 02	18 24	18 50	18 50 48	6 58 42				
12	356 53.9	-18 46.1	167 01.0	131	+20 49.3	100	0	18 16	18 38	19 03	19 05 44	6 42 45				
13	11 53.8	45.5	181 33.1	131	39.2	101	10 S	18 30	18 52	18	20 40	25 49				
14	26 53.6	44.9	196 05.2	131	29.0	102	20	18 45	19 08	36	36 36	6 07 53				
15	41 53.5	44.2	210 37.5	133	18.7	103	30	19 02	28	19 59	19 54 31	5 46 58				
16	56 53.4	43.6	225 09.8	133	+20 08.3	104	35	12	40	20 14	20 04 29	34 60				
17	71 53.2	-18 43.0	239 42.3	135	+19 57.9	104	40	19 23	19 54	20 32	20 16 25	5 20 63				
18	86 53.1	-18 42.3	254 14.8	135	+19 47.4	105	45	19 37	20 11	20 54	20 30 21	5 03 68				
19	101 53.0	41.7	268 47.4	136	36.7	107	50	19 54	33	21 25	47 17	4 42 73				
20	116 52.8	41.1	283 20.0	136	26.1	106	52	20 01	43	21 41	20 55 14	32 76				
21	131 52.7	40.4	297 52.8	138	15.3	108	54	20 10	20 56	22 00	21 04 12	21 78				
22	146 52.6	39.8	312 25.6	138	+19 04.5	108	56	20	21 10	22 26	14 8	4 08 82				
23	161 52.4	39.2	326 58.5	139	+18 53.6	109	58	31	26	23 03	25 5	3 53 87				
24	176 52.3	-18 38.5	341 31.4	139	+18 42.6	110	60 S	20 45	21 47	*** **	21 38 1	3 35 92				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 38.3 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 55 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 57 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 11 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	124 47.6	211 17.2	-22 28.1	197 16.0	-23 15.1	90 03.2	+12 45.3	146 37.9	-10 53.9	
1	139 50.0	226 16.4	28.1	212 16.4	14.9	105 05.5	45.4	161 40.1	53.8	
2	154 52.5	241 15.5	28.1	227 16.8	14.7	120 07.7	45.4	176 42.3	53.7	
3	169 55.0	256 14.6	28.2	242 17.2	14.5	135 10.0	45.5	191 44.5	53.6	
4	184 57.4	271 13.8	28.2	257 17.6	14.3	150 12.3	45.6	206 46.7	53.4	
5	199 59.9	286 12.9	-22 28.3	272 18.1	-23 14.1	165 14.5	+12 45.7	221 48.9	-10 53.3	
6	215 02.4	301 12.0	-22 28.3	287 18.5	-23 13.9	180 16.8	+12 45.8	236 51.1	-10 53.2	
7	230 04.8	316 11.1	28.3	302 18.9	13.7	195 19.0	45.8	251 53.3	53.1	
8	245 07.3	331 10.3	28.4	317 19.3	13.4	210 21.3	45.9	266 55.5	53.0	
9	260 09.8	346 09.4	28.4	332 19.7	13.2	225 23.6	46.0	281 57.7	52.9	
10	275 12.2	1 08.5	28.5	347 20.1	13.0	240 25.8	46.1	296 59.9	52.8	
11	290 14.7	16 07.7	-22 28.5	2 20.5	-23 12.8	255 28.1	+12 46.2	312 02.1	-10 52.7	
12	305 17.1	31 06.8	-22 28.5	17 20.9	-23 12.6	270 30.3	+12 46.3	327 04.3	-10 52.6	
13	320 19.6	46 05.9	28.5	32 21.4	12.4	285 32.6	46.3	342 06.5	52.5	
14	335 22.1	61 05.1	28.6	47 21.8	12.2	300 34.8	46.4	357 08.7	52.4	
15	350 24.5	76 04.2	28.6	62 22.2	12.0	315 37.1	46.5	12 10.9	52.3	
16	5 27.0	91 03.3	28.6	77 22.6	11.8	330 39.4	46.6	27 13.1	52.2	
17	20 29.5	106 02.4	-22 28.7	92 23.0	-23 11.6	345 41.6	+12 46.7	42 15.3	-10 52.1	
18	35 31.9	121 01.6	-22 28.7	107 23.4	-23 11.3	0 43.9	+12 46.8	57 17.5	-10 52.0	
19	50 34.4	136 00.7	28.7	122 23.8	11.1	15 46.1	46.8	72 19.7	51.9	
20	65 36.9	150 59.8	28.7	137 24.3	10.9	30 48.4	46.9	87 21.9	51.8	
21	80 39.3	165 59.0	28.8	152 24.7	10.7	45 50.6	47.0	102 24.1	51.7	
22	95 41.8	180 58.1	28.8	167 25.1	10.5	60 52.9	47.1	117 26.3	51.6	
23	110 44.2	195 57.2	28.8	182 25.5	10.3	75 55.1	47.2	132 28.5	51.5	
24	125 46.7	210 56.3	-22 28.8	197 25.9	-23 10.1	90 57.4	+12 47.3	147 30.7	-10 51.4	
Dif	—	-9	0	+4	+2	+23	+1	+22	+1	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 14.8'		Edad: 15.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'			PMG: 1 <sup>h</sup> 16 <sup>m</sup>		R°: 43 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	176 52.3	-18 38.5	341 31.4		+18 42.6	111	60 N	6 46	7 37	8 26	17 53 86	9 37 0				
1	191 52.2	37.9	356 04.5	141	31.5	111	58	41	29	15	18 03 81	26 4				
2	206 52.0	37.3	10 37.6	141	20.4	111	56	37	23	8 05	12 77	17 7				
3	221 51.9	36.6	25 10.8	142	+18 09.2	112	54	33	16	7 56	19 75	09 10				
4	236 51.8	36.0	39 44.1	143	+17 57.9	113	52	30	11	48	26 72	9 01 13				
5	251 51.6	-18 35.4	54 17.4	143	+17 46.6	113	50	6 26	7 05	7 41	18 32 70	8 55 14				
6	266 51.5	-18 34.7	68 50.8	144	+17 35.2	114	45	6 18	6 54	7 26	18 45 65	8 40 20				
7	281 51.4	34.1	83 24.3	145	23.7	115	40	12	44	13	18 55 61	28 24				
8	296 51.2	33.4	97 57.9	146	12.2	115	35	6 05	36	7 03	19 05 57	18 27				
9	311 51.1	32.8	112 31.5	146	+17 00.5	117	30	5 59	28	6 53	12 55	8 09 29				
10	326 51.0	32.2	127 05.2	147	+16 48.9	116	20	47	14	37	26 49	7 53 35				
11	341 50.9	-18 31.5	141 39.0	148	+16 37.2	117	10 N	5 35	6 00	6 23	19 38 45	7 40 38				
12	356 50.7	-18 30.9	156 12.8	148	+16 25.4	118	0	5 22	5 47	6 09	19 49 41	7 27 42				
13	11 50.6	30.2	170 46.7	149	13.5	119	10 S	5 07	33	5 55	20 00 37	14 46				
14	26 50.5	29.6	185 20.7	150	+16 01.6	119	20	4 49	5 17	41	12 32	7 00 50				
15	41 50.4	29.0	199 54.8	151	+15 49.6	120	30	26	4 58	24	25 28	6 44 55				
16	56 50.2	28.3	214 28.9	151	37.6	120	35	4 12	46	14	33 25	34 58				
17	71 50.1	-18 27.7	229 03.0	151	+15 25.5	121	40	3 54	4 32	5 02	20 41 22	6 23 62				
18	86 50.0	-18 27.0	243 37.3	153	+15 13.4	121	45	3 31	4 15	4 49	20 51 18	6 11 65				
19	101 49.8	26.4	258 11.6	153	+15 01.2	122	50	3 01	3 53	32	21 04 13	5 55 71				
20	116 49.7	25.7	272 45.9	153	+14 48.9	123	52	2 45	42	24	09 11	48 73				
21	131 49.6	25.1	287 20.4	155	36.6	123	54	25	30	15	16 8	39 76				
22	146 49.5	24.4	301 54.9	155	24.3	123	56	2 00	3 16	4 06	22 6	30 79				
23	161 49.3	23.8	316 29.4	155	+14 11.9	124	58	1 23	2 59	3 54	30 3	20 83				
24	176 49.2	-18 23.1	331 04.0	156	+13 59.4	125	60 S	** **	2 38	3 41	21 39 -1	5 07 88				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 34.3 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 57 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 53 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 08 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	125 46.7	210 56.3	-22 28.8	197 25.9	-23 10.1	90 57.4	+12 47.3	147 30.7	-10 51.4	
1	140 49.2	225 55.5	28.8	212 26.3	09.8	105 59.6	47.3	162 32.9	51.3	
2	155 51.6	240 54.6	28.9	227 26.7	09.6	121 01.9	47.4	177 35.1	51.2	
3	170 54.1	255 53.7	28.9	242 27.2	09.4	136 04.2	47.5	192 37.3	51.1	
4	185 56.6	270 52.9	28.9	257 27.6	09.2	151 06.4	47.6	207 39.5	51.0	
5	200 59.0	285 52.0	-22 28.9	272 28.0	-23 09.0	166 08.7	+12 47.7	222 41.7	-10 50.9	
6	216 01.5	300 51.1	-22 28.9	287 28.4	-23 08.8	181 10.9	+12 47.8	237 43.9	-10 50.8	
7	231 04.0	315 50.2	28.9	302 28.8	08.5	196 13.2	47.8	252 46.1	50.6	
8	246 06.4	330 49.4	28.9	317 29.2	08.3	211 15.4	47.9	267 48.3	50.5	
9	261 08.9	345 48.5	28.9	332 29.6	08.1	226 17.7	48.0	282 50.5	50.4	
10	276 11.4	0 47.6	28.9	347 30.1	07.9	241 19.9	48.1	297 52.7	50.3	
11	291 13.8	15 46.8	-22 28.9	2 30.5	-23 07.7	256 22.2	+12 48.2	312 54.9	-10 50.2	
12	306 16.3	30 45.9	-22 29.0	17 30.9	-23 07.4	271 24.4	+12 48.3	327 57.1	-10 50.1	
13	321 18.7	45 45.0	29.0	32 31.3	07.2	286 26.7	48.3	342 59.3	50.0	
14	336 21.2	60 44.1	29.0	47 31.7	07.0	301 28.9	48.4	358 01.5	49.9	
15	351 23.7	75 43.3	29.0	62 32.1	06.8	316 31.2	48.5	13 03.7	49.8	
16	6 26.1	90 42.4	29.0	77 32.5	06.6	331 33.4	48.6	28 05.9	49.7	
17	21 28.6	105 41.5	-22 29.0	92 33.0	-23 06.3	346 35.7	+12 48.7	43 08.1	-10 49.6	
18	36 31.1	120 40.7	-22 29.0	107 33.4	-23 06.1	1 37.9	+12 48.8	58 10.3	-10 49.5	
19	51 33.5	135 39.8	29.0	122 33.8	05.9	16 40.2	48.9	73 12.5	49.4	
20	66 36.0	150 38.9	28.9	137 34.2	05.7	31 42.4	48.9	88 14.7	49.3	
21	81 38.5	165 38.0	28.9	152 34.6	05.4	46 44.7	49.0	103 16.9	49.2	
22	96 40.9	180 37.2	28.9	167 35.0	05.2	61 46.9	49.1	118 19.1	49.1	
23	111 43.4	195 36.3	28.9	182 35.4	05.0	76 49.2	49.2	133 21.3	49.0	
24	126 45.9	210 35.4	-22 28.9	197 35.9	-23 04.8	91 51.4	+12 49.3	148 23.5	-10 48.9	
Dif	—	-9	0	+4	+2	+23	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 16.2' PMG: 12 <sup>h</sup> 12.8 <sup>m</sup>		SD: 14.8' Edad: 16.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1' PMG: 1 <sup>h</sup> 59 <sup>m</sup> R°: 41 <sup>m</sup>						hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil		Náutico		Hora R°	Hora R°			
	h	m	°	'	°	'									°	'	°	'			h	m	h
0	176	49.2	-18	23.1	331	04.0	+13	59.4	125	60 N	16	02	16	51	17	43	19	19	82	9	37	-1	
1	191	49.1		22.5	345	38.7 <sup>157</sup>		46.9	126	58	13	16	59	47			24	79		30	3		
2	206	49.0		21.8	0	13.4 <sup>157</sup>		34.3	126	56	23	17	05	51			29	76		24	6		
3	221	48.9		21.2	14	48.2 <sup>158</sup>		21.7	126	54	32	11	55	34	73			34	73		19	8	
4	236	48.7		20.5	29	23.0 <sup>158</sup>		+13	09.1	52	40	17	17	58	38	70			14	10			
5	251	48.6	-18	19.9	43	57.9 <sup>159</sup>		+12	56.4	50	16	46	17	22	18	01	19	42	68	9	09	13	
6	266	48.5	-18	19.2	58	32.9 <sup>160</sup>		+12	43.6	45	17	01	17	33	18	08	19	50	63	9	00	17	
7	281	48.4		18.6	73	07.9 <sup>160</sup>		30.9	127	40	14	42	15			19	56	60	8	52	20		
8	296	48.2		17.9	87	42.9 <sup>160</sup>		18.0	129	35	24	51	21			20	02	56	45	23			
9	311	48.1		17.3	102	18.0 <sup>161</sup>		+12	05.2	30	33	17	58	27			07	53	38	27			
10	326	48.0		16.6	116	53.2 <sup>162</sup>		+11	52.3	20	17	49	18	12	39			15	48	28	31		
11	341	47.9	-18	16.0	131	28.4 <sup>162</sup>		+11	39.3	10 N	18	03	18	25	18	51	20	23	43	8	18	36	
12	356	47.8	-18	15.3	146	03.7 <sup>163</sup>		+11	26.3	0	18	16	18	38	19	03	20	30	39	8	09	40	
13	11	47.6		14.7	160	39.0 <sup>163</sup>		13.3	130	10 S	16	30	18	52	18			37	35	8	00	44	
14	26	47.5		14.0	175	14.3 <sup>163</sup>		+11	00.2	20	18	44	19	08	35			44	31	7	50	49	
15	41	47.4		13.4	189	49.7 <sup>164</sup>		+10	47.1	30	19	01	27	19	58			53	26	39	54		
16	56	47.3		12.7	204	25.1 <sup>164</sup>		33.9	132	35	10	38	20	12	20	58			20	58	23	32	57
17	71	47.2	-18	12.0	219	00.6 <sup>165</sup>		+10	20.8	40	19	22	19	52	20	29	21	03	20	7	25	60	
18	86	47.1	-18	11.4	233	36.2 <sup>166</sup>		+10	07.5	45	19	35	20	09	20	51	21	09	17	7	16	64	
19	101	46.9		10.7	248	11.7 <sup>165</sup>		+9	54.3	50	51	30	21	21	21			17	12	06	69		
20	116	46.8		10.1	262	47.4 <sup>167</sup>		41.0	133	52	19	59	40	36			20	10	7	01	71		
21	131	46.7		09.4	277	23.0 <sup>166</sup>		27.7	133	54	20	07	20	52	21	55	24	8	6	55	74		
22	146	46.6		08.7	291	58.7 <sup>167</sup>		14.3	134	56	17	21	05	22	18			28	5	49	77		
23	161	46.5		08.1	306	34.4 <sup>167</sup>		+9	01.0	58	27	21	22	51			33	2	43	79			
24	176	46.4	-18	07.4	321	10.2 <sup>168</sup>		+8	47.6	60 S	20	40	21	41	*** **		21	38	-1	6	35	83	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 15 <sup>h</sup> 30.4 <sup>m</sup>		Mag.: -3.9 PMG: 9 <sup>h</sup> 58 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 49 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 04 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	126	45.9	210	35.4	-22	28.9	197	35.9	-23	04.8	91	51.4	+12	49.3	148	23.5	-10	48.9	
1	141	48.3	225	34.5		28.9	212	36.3		04.5	106	53.6		49.4	163	25.7		48.8	
2	156	50.8	240	33.7		28.9	227	36.7		04.3	121	55.9		49.4	178	27.9		48.7	
3	171	53.2	255	32.8		28.9	242	37.1		04.1	136	58.1		49.5	193	30.1		48.6	
4	186	55.7	270	31.9		28.9	257	37.5		03.9	152	00.4		49.6	208	32.3		48.5	
5	201	58.2	285	31.1	-22	28.9	272	37.9	-23	03.6	167	02.6	+12	49.7	223	34.5	-10	48.3	
6	217	00.6	300	30.2	-22	28.8	287	38.4	-23	03.4	182	04.9	+12	49.8	238	36.7	-10	48.2	
7	232	03.1	315	29.3		28.8	302	38.8		03.2	197	07.1		49.9	253	38.9		48.1	
8	247	05.6	330	28.4		28.8	317	39.2		02.9	212	09.4		50.0	268	41.1		48.0	
9	262	08.0	345	27.6		28.8	332	39.6		02.7	227	11.6		50.1	283	43.3		47.9	
10	277	10.5	0	26.7		28.8	347	40.0		02.5	242	13.9		50.1	298	45.5		47.8	
11	292	13.0	15	25.8	-22	28.7	2	40.4	-23	02.3	257	16.1	+12	50.2	313	47.7	-10	47.7	
12	307	15.4	30	24.9	-22	28.7	17	40.8	-23	02.0	272	18.3	+12	50.3	328	49.9	-10	47.6	
13	322	17.9	45	24.1		28.7	32	41.3		01.8	287	20.6		50.4	343	52.1		47.5	
14	337	20.3	60	23.2		28.7	47	41.7		01.6	302	22.8		50.5	358	54.3		47.4	
15	352	22.8	75	22.3		28.6	62	42.1		01.3	317	25.1		50.6	373	56.5		47.3	
16	7	25.3	90	21.5		28.6	77	42.5		01.1	332	27.3		50.7	388	58.7		47.2	
17	22	27.7	105	20.6	-22	28.6	92	42.9	-23	00.9	347	29.6	+12	50.7	44	00.9	-10	47.1	
18	37	30.2	120	19.7	-22	28.5	107	43.3	-23	00.6	2	31.8	+12	50.8	59	03.1	-10	47.0	
19	52	32.7	135	18.8		28.5	122	43.8		00.4	17	34.0		50.9	74	05.3		46.9	
20	67	35.1	150	18.0		28.5	137	44.2	-23	00.2	32	36.3		51.0	89	07.5		46.8	
21	82	37.6	165	17.1		28.5	152	44.6	-22	59.9	47	38.5		51.1	104	09.7		46.7	
22	97	40.1	180	16.2		28.4	167	45.0		59.7	62	40.8		51.2	119	11.9		46.6	
23	112	42.5	195	15.3		28.4	182	45.4		59.5	77	43.0		51.3	134	14.1		46.5	
24	127	45.0	210	14.5	-22	28.3	197	45.8	-22	59.2	92	45.2	+12	51.4	149	16.3	-10	46.4	
Dif		-		-9		0		+4		+2		+22		+1		+22			+1

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.0 <sup>m</sup>		SD: 14.7' Edad: 17.5 <sup>d</sup> PMG: 2 <sup>h</sup> 40 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.1'R°: 39 <sup>m</sup>								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	176 46.4	-18 07.4	321 10.2	168	+8 47.6	135	60 N	6 42	7 34	8 22	20 41 81	9 36 -1				
1	191 46.2	06.8	335 46.0	168	34.1	135	58	38	26	11	43 77	33 2				
2	206 46.1	06.1	350 21.8	168	20.6	135	56	34	20	8 01	45 75	30 4				
3	221 46.0	05.4	4 57.7	169	+8 07.2	134	54	31	14	7 53	47 72	27 7				
4	236 45.9	04.8	19 33.6	169	+7 53.6	136	52	27	08	45	48 70	24 10				
5	251 45.8	-18 04.1	34 09.6	170	+7 40.1	135	50	6 24	7 03	7 38	20 50 67	9 22 11				
6	266 45.7	-18 03.4	48 45.5	169	+7 26.5	136	45	6 17	6 52	7 24	20 53 63	9 17 15				
7	281 45.6	02.8	63 21.5	170	+7 12.9	136	40	10	43	12	56 58	12 20				
8	296 45.4	02.1	77 57.6	171	+6 59.3	136	35	6 04	35	7 01	20 58 55	08 23				
9	311 45.3	01.4	92 33.6	170	45.6	137	30	5 58	27	6 52	21 00 52	9 05 26				
10	326 45.2	00.8	107 09.7	171	32.0	136	20	47	13	36	03 48	8 59 31				
11	341 45.1	-18 00.1	121 45.8	171	+6 18.3	137	10 N	5 35	6 01	6 23	21 06 43	8 54 35				
12	356 45.0	-17 59.4	136 22.0	172	+6 04.5	138	0	5 22	5 48	6 09	21 09 39	8 49 39				
13	11 44.9	58.8	150 58.1	171	+5 50.8	137	10 S	5 08	34	5 56	12 35	44 43				
14	26 44.8	58.1	165 34.3	172	37.1	137	20	4 51	5 18	42	15 31	39 47				
15	41 44.7	57.4	180 10.5	172	23.3	138	30	28	4 59	25	19 25	33 52				
16	56 44.6	56.7	194 46.8	173	+5 09.5	138	35	4 14	48	16	21 22	29 56				
17	71 44.4	-17 56.1	209 23.0	172	+4 55.7	138	40	3 57	4 34	5 05	21 23 19	8 25 59				
18	86 44.3	-17 55.4	223 59.3	173	+4 41.8	139	45	3 35	4 18	4 52	21 26 15	8 20 63				
19	101 44.2	54.7	238 35.6	173	28.0	138	50	3 06	3 57	35	29 11	15 67				
20	116 44.1	54.1	253 11.9	173	14.1	139	52	2 50	46	28	30 9	12 70				
21	131 44.0	53.4	267 48.2	173	+4 00.3	138	54	32	35	19	32 7	09 72				
22	146 43.9	52.7	282 24.5	173	+3 46.4	139	56	2 08	21	4 10	33 5	06 75				
23	161 43.8	52.0	297 00.9	174	32.5	139	58	1 35	3 05	3 59	35 2	8 02 78				
24	176 43.7	-17 51.4	311 37.2	173	+3 18.6	139	60 S	** **	2 46	3 47	21 37 -1	7 58 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 26.5 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 00 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 49 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.9 PMG: 14 <sup>h</sup> 01 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	127 45.0	210 14.5	-22 28.3	197 45.8	-22 59.2	92 45.2	+12 51.4	149 16.3	-10 46.4	
1	142 47.5	225 13.6	28.3	212 46.3	59.0	107 47.5	51.4	164 18.5	46.3	
2	157 49.9	240 12.7	28.3	227 46.7	58.7	122 49.7	51.5	179 20.7	46.1	
3	172 52.4	255 11.9	28.2	242 47.1	58.5	137 52.0	51.6	194 22.9	46.0	
4	187 54.8	270 11.0	28.2	257 47.5	58.3	152 54.2	51.7	209 25.1	45.9	
5	202 57.3	285 10.1	-22 28.1	272 47.9	-22 58.0	167 56.4	+12 51.8	224 27.3	-10 45.8	
6	217 59.8	300 09.2	-22 28.1	287 48.3	-22 57.8	182 58.7	+12 51.9	239 29.5	-10 45.7	
7	233 02.2	315 08.4	28.1	302 48.8	57.6	198 00.9	52.0	254 31.7	45.6	
8	248 04.7	330 07.5	28.0	317 49.2	57.3	213 03.1	52.1	269 33.9	45.5	
9	263 07.2	345 06.6	28.0	332 49.6	57.1	228 05.4	52.2	284 36.1	45.4	
10	278 09.6	0 05.7	27.9	347 50.0	56.8	243 07.6	52.2	299 38.3	45.3	
11	293 12.1	15 04.9	-22 27.9	2 50.4	-22 56.6	258 09.9	+12 52.3	314 40.5	-10 45.2	
12	308 14.6	30 04.0	-22 27.8	17 50.8	-22 56.3	273 12.1	+12 52.4	329 42.7	-10 45.1	
13	323 17.0	45 03.1	27.8	32 51.3	56.1	288 14.3	52.5	344 44.9	45.0	
14	338 19.5	60 02.2	27.7	47 51.7	55.9	303 16.6	52.6	359 47.0	44.9	
15	353 22.0	75 01.4	27.6	62 52.1	55.6	318 18.8	52.7	14 49.2	44.8	
16	8 24.4	90 00.5	27.6	77 52.5	55.4	333 21.0	52.8	29 51.4	44.7	
17	23 26.9	104 59.6	-22 27.5	92 52.9	-22 55.1	348 23.3	+12 52.9	44 53.6	-10 44.6	
18	38 29.3	119 58.8	-22 27.5	107 53.3	-22 54.9	3 25.5	+12 53.0	59 55.8	-10 44.5	
19	53 31.8	134 57.9	27.4	122 53.8	54.6	18 27.7	53.0	74 58.0	44.4	
20	68 34.3	149 57.0	27.4	137 54.2	54.4	33 30.0	53.1	90 00.2	44.3	
21	83 36.7	164 56.1	27.3	152 54.6	54.2	48 32.2	53.2	105 02.4	44.1	
22	98 39.2	179 55.3	27.2	167 55.0	53.9	63 34.4	53.3	120 04.6	44.0	
23	113 41.7	194 54.4	27.2	182 55.4	53.7	78 36.7	53.4	135 06.8	43.9	
24	128 44.1	209 53.5	-22 27.1	197 55.8	-22 53.4	93 38.9	+12 53.5	150 09.0	-10 43.8	
Dif	—	-9	+1	+4	+2	+22	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.2 <sup>m</sup>		SD: 14.7' Edad: 18.5 <sup>d</sup> PMG: 3 <sup>h</sup> 19 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.2'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	176 43.7	-17 51.4	311 37.2	+3 18.6	140	60 N	16 08	16 56	17 47	22 02	82	9 35	-1			
1	191 43.6	50.7	326 13.6	+3 04.6	140	58	18	17 03	51	00 79	35	35	2			
2	206 43.5	50.0	340 50.0	+2 50.7	139	56	28	09	54	22 00	75	34	5			
3	221 43.4	49.3	355 26.4	36.7	140	54	36	15	17 58	21 59	73	34	7			
4	236 43.3	48.7	10 02.8	22.8	139	52	43	20	18 01	58 70	34	9				
5	251 43.2	-17 48.0	24 39.2	+2 08.8	140	50	16 50	17 25	18 04	21 57	69	9 33	11			
6	266 43.1	-17 47.3	39 15.6	+1 54.8	140	45	17 04	17 36	18 11	21 56	63	9 32	16			
7	281 42.9	46.6	53 52.0	40.8	140	40	16	45	17	54 60	32	32	19			
8	296 42.8	45.9	68 28.4	26.8	140	35	26	17 53	23	53 57	31	23				
9	311 42.7	45.3	83 04.9	+1 12.8	140	30	35	18 00	29	52 54	31	25				
10	326 42.6	44.6	97 41.3	+0 58.8	140	20	17 50	13	40	51 48	30	30				
11	341 42.5	-17 43.9	112 17.7	+0 44.8	140	10 N	18 04	18 26	18 51	21 49	44	9 29	35			
12	356 42.4	-17 43.2	126 54.1	+0 30.8	140	0	18 17	18 38	19 04	21 48	39	9 28	39			
13	11 42.3	42.5	141 30.6	16.8	140	10 S	18 30	18 52	18	47 35	27	43				
14	26 42.2	41.8	156 07.0	+0 02.7	141	20	18 44	19 07	35	46 30	26	48				
15	41 42.1	41.2	170 43.4	-0 11.3	140	30	19 00	26	19 56	44 26	25	53				
16	56 42.0	40.5	185 19.8	25.3	140	35	09	37	20 10	43 23	25	55				
17	71 41.9	-17 39.8	199 56.2	-0 39.3	140	40	19 20	19 50	20 27	21 42	20	9 24	59			
18	86 41.8	-17 39.1	214 32.6	-0 53.4	141	45	19 33	20 06	20 48	21 41	16	9 23	63			
19	101 41.7	38.4	229 09.0	-1 07.4	140	50	48	26	21 17	40 11	22	68				
20	116 41.6	37.7	243 45.4	21.4	140	52	19 55	36	31	39 10	22	70				
21	131 41.5	37.0	258 21.7	35.5	141	54	20 04	20 48	21 49	39 7	21	73				
22	146 41.4	36.4	272 58.1	-1 49.5	140	56	13	21 01	22 11	38 5	21	75				
23	161 41.3	35.7	287 34.4	-2 03.5	140	58	23	16	22 40	37 2	20	78				
24	176 41.2	-17 35.0	302 10.8	-2 17.5	140	60 S	20 35	21 34	23 34	21 36	-1	9 20	81			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 <sup>h</sup> 22.5 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 43 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	128 44.1	209 53.5	-22 27.1	197 55.8	-22 53.4	93 38.9	+12 53.5	150 09.0	-10 43.8	
1	143 46.6	224 52.6	27.0	212 56.3	53.2	108 41.1	53.6	165 11.2	43.7	
2	158 49.1	239 51.8	27.0	227 56.7	52.9	123 43.4	53.7	180 13.4	43.6	
3	173 51.5	254 50.9	26.9	242 57.1	52.7	138 45.6	53.8	195 15.6	43.5	
4	188 54.0	269 50.0	26.8	257 57.5	52.4	153 47.8	53.9	210 17.8	43.4	
5	203 56.4	284 49.2	-22 26.8	272 57.9	-22 52.2	168 50.1	+12 53.9	225 20.0	-10 43.3	
6	218 58.9	299 48.3	-22 26.7	287 58.4	-22 51.9	183 52.3	+12 54.0	240 22.2	-10 43.2	
7	234 01.4	314 47.4	26.6	302 58.8	51.7	198 54.5	54.1	255 24.4	43.1	
8	249 03.8	329 46.5	26.5	317 59.2	51.4	213 56.8	54.2	270 26.6	43.0	
9	264 06.3	344 45.7	26.5	332 59.6	51.2	228 59.0	54.3	285 28.8	42.9	
10	279 08.8	359 44.8	26.4	348 00.0	50.9	244 01.2	54.4	300 31.0	42.8	
11	294 11.2	14 43.9	-22 26.3	3 00.4	-22 50.7	259 03.4	+12 54.5	315 33.2	-10 42.7	
12	309 13.7	29 43.0	-22 26.2	18 00.9	-22 50.4	274 05.7	+12 54.6	330 35.4	-10 42.6	
13	324 16.2	44 42.2	26.1	33 01.3	50.2	289 07.9	54.7	345 37.6	42.5	
14	339 18.6	59 41.3	26.1	48 01.7	49.9	304 10.1	54.8	0 39.8	42.3	
15	354 21.1	74 40.4	26.0	63 02.1	49.7	319 12.4	54.8	15 42.0	42.2	
16	9 23.6	89 39.6	25.9	78 02.5	49.4	334 14.6	54.9	30 44.1	42.1	
17	24 26.0	104 38.7	-22 25.8	93 03.0	-22 49.2	349 16.8	+12 55.0	45 46.3	-10 42.0	
18	39 28.5	119 37.8	-22 25.7	108 03.4	-22 48.9	4 19.0	+12 55.1	60 48.5	-10 41.9	
19	54 30.9	134 36.9	25.6	123 03.8	48.6	19 21.3	55.2	75 50.7	41.8	
20	69 33.4	149 36.1	25.6	138 04.2	48.4	34 23.5	55.3	90 52.9	41.7	
21	84 35.9	164 35.2	25.5	153 04.6	48.1	49 25.7	55.4	105 55.1	41.6	
22	99 38.3	179 34.3	25.4	168 05.0	47.9	64 27.9	55.5	120 57.3	41.5	
23	114 40.8	194 33.4	25.3	183 05.5	47.6	79 30.2	55.6	135 59.5	41.4	
24	129 43.3	209 32.6	-22 25.2	198 05.9	-22 47.4	94 32.4	+12 55.7	151 01.7	-10 41.3	
Dif	—	-9	+1	+4	+3	+22	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.3 <sup>m</sup>		SD: 14.8' Edad: 19.5 <sup>d</sup> PMG: 3 <sup>h</sup> 58 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.5'R°: 39 <sup>m</sup>								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R°	Hora	R°	Hora
0	176 41.2	-17 35.0	302 10.8		-2 17.5	141	60 N	6 39	7 30	8 17	23 24	85	9 34	-1		
1	191 41.1	34.3	316 47.1	173	31.6	140	58	35	23	8 07	19 82	37	2			
2	206 41.0	33.6	331 23.4	173	45.6	140	56	31	16	7 58	15 79	39	5			
3	221 40.9	32.9	345 59.6	172	-2 59.6	140	54	28	11	50	12 75	41	7			
4	236 40.8	32.2	0 35.9	173	-3 13.6	140	52	25	05	42	08 73	43	9			
5	251 40.7	-17 31.5	15 12.1	172	-3 27.6	140	50	6 22	7 01	7 36	23 06	70	9 44	12		
6	266 40.6	-17 30.8	29 48.4	173	-3 41.6	140	45	6 15	6 50	7 22	22 59	66	9 48	16		
7	281 40.5	30.1	44 24.6	172	-3 55.6	140	40	09	41	10	54 61	51	20			
8	296 40.4	29.5	59 00.7	171	-4 09.5	139	35	6 03	33	7 00	50 57	54	23			
9	311 40.3	28.8	73 36.9	172	23.5	140	30	5 57	26	6 51	46 55	9 56	26			
10	326 40.2	28.1	88 13.0	171	37.4	139	20	46	13	36	39 50	10 00	31			
11	341 40.2	-17 27.4	102 49.1	171	-4 51.4	140	10 N	5 35	6 01	6 22	22 33	45	10 04	35		
12	356 40.1	-17 26.7	117 25.2	171	-5 05.3	139	0	5 23	5 48	6 10	22 27	42	10 07	40		
13	11 40.0	26.0	132 01.2	170	19.2	139	10 S	5 09	35	5 57	22 37	10	44			
14	26 39.9	25.3	146 37.2	170	33.1	139	20	4 52	20	43	16 33	14	49			
15	41 39.8	24.6	161 13.2	170	-5 47.0	139	30	30	5 01	27	10 27	18	54			
16	56 39.7	23.9	175 49.1	169	-6 00.9	139	35	17	4 50	18	06 25	20	57			
17	71 39.6	-17 23.2	190 25.1	170	-6 14.8	139	40	4 00	4 37	5 07	22 02	21	10 23	60		
18	86 39.5	-17 22.5	205 00.9	168	-6 28.6	138	45	3 39	4 21	4 54	21 57	18	10 26	64		
19	101 39.4	21.8	219 36.8	169	42.4	138	50	3 10	4 01	39	51 13	30	69			
20	116 39.3	21.1	234 12.6	168	-6 56.2	138	52	2 56	3 51	32	49 10	32	71			
21	131 39.2	20.4	248 48.3	167	-7 10.0	138	54	38	40	24	46 8	34	74			
22	146 39.1	19.7	263 24.1	167	23.8	138	56	2 16	27	14	43 5	36	76			
23	161 39.0	19.0	277 59.7	167	37.6	138	58	1 47	3 11	4 04	39 3	38	80			
24	176 38.9	-17 18.3	292 35.4	167	-7 51.3	137	60 S	0 53	2 53	3 52	21 35	0	10 41	83		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 <sup>h</sup> 18.6 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 54 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	129 43.3	209 32.6	-22 25.2	198 05.9	-22 47.4	94 32.4	+12 55.7	151 01.7	-10 41.3	
1	144 45.7	224 31.7	25.1	213 06.3	47.1	109 34.6	55.8	166 03.9	41.2	
2	159 48.2	239 30.8	25.0	228 06.7	46.8	124 36.8	55.9	181 06.1	41.1	
3	174 50.7	254 30.0	24.9	243 07.1	46.6	139 39.1	56.0	196 08.3	41.0	
4	189 53.1	269 29.1	24.8	258 07.6	46.3	154 41.3	56.0	211 10.5	40.9	
5	204 55.6	284 28.2	-22 24.7	273 08.0	-22 46.1	169 43.5	+12 56.1	226 12.7	-10 40.8	
6	219 58.0	299 27.3	-22 24.6	288 08.4	-22 45.8	184 45.7	+12 56.2	241 14.9	-10 40.6	
7	235 00.5	314 26.5	24.5	303 08.8	45.6	199 48.0	56.3	256 17.1	40.5	
8	250 03.0	329 25.6	24.4	318 09.2	45.3	214 50.2	56.4	271 19.3	40.4	
9	265 05.4	344 24.7	24.3	333 09.7	45.0	229 52.4	56.5	286 21.5	40.3	
10	280 07.9	359 23.8	24.2	348 10.1	44.8	244 54.6	56.6	301 23.7	40.2	
11	295 10.4	14 23.0	-22 24.1	3 10.5	-22 44.5	259 56.9	+12 56.7	316 25.9	-10 40.1	
12	310 12.8	29 22.1	-22 24.0	18 10.9	-22 44.2	274 59.1	+12 56.8	331 28.0	-10 40.0	
13	325 15.3	44 21.2	23.9	33 11.3	44.0	290 01.3	56.9	346 30.2	39.9	
14	340 17.8	59 20.4	23.8	48 11.8	43.7	305 03.5	57.0	1 32.4	39.8	
15	355 20.2	74 19.5	23.7	63 12.2	43.5	320 05.7	57.1	16 34.6	39.7	
16	10 22.7	89 18.6	23.5	78 12.6	43.2	335 08.0	57.2	31 36.8	39.6	
17	25 25.2	104 17.7	-22 23.4	93 13.0	-22 42.9	350 10.2	+12 57.3	46 39.0	-10 39.5	
18	40 27.6	119 16.9	-22 23.3	108 13.4	-22 42.7	5 12.4	+12 57.3	61 41.2	-10 39.4	
19	55 30.1	134 16.0	23.2	123 13.9	42.4	20 14.6	57.4	76 43.4	39.3	
20	70 32.5	149 15.1	23.1	138 14.3	42.1	35 16.8	57.5	91 45.6	39.2	
21	85 35.0	164 14.3	23.0	153 14.7	41.9	50 19.1	57.6	106 47.8	39.1	
22	100 37.5	179 13.4	22.8	168 15.1	41.6	65 21.3	57.7	121 50.0	38.9	
23	115 39.9	194 12.5	22.7	183 15.5	41.3	80 23.5	57.8	136 52.2	38.8	
24	130 42.4	209 11.6	-22 22.6	198 16.0	-22 41.1	95 25.7	+12 57.9	151 54.4	-10 38.7	
Dif	—	-9	+1	+4	+3	+22	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.2' PMG: 12 <sup>h</sup> 13.5 <sup>m</sup>		SD: 14.9' Edad: 20.5 <sup>d</sup> PMG: 4 <sup>h</sup> 37 <sup>m</sup> R <sup>o</sup> : 42 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.9'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m			
0	176 38.9	-17 18.3	292 35.4	- 7 51.3	137	60 N	16 13	17 00	17 51	** ** *	9 33 0				
1	191 38.9	17.6	307 11.0 <sup>166</sup>	- 8 05.0	137	58	23	07	55	** ** *	39 3				
2	206 38.8	16.9	321 46.5 <sup>165</sup>	18.7	137	56	32	13	17 58	** ** *	44 6				
3	221 38.7	16.2	336 22.0 <sup>165</sup>	32.4	136	54	40	19	18 01	** ** *	48 10				
4	236 38.6	15.5	350 57.5 <sup>165</sup>	46.0	136	52	47	24	04	** ** *	52 12				
5	251 38.5	-17 14.8	5 32.9 <sup>164</sup>	- 8 59.6	136	50	16 53	17 28	18 07	** ** *	9 56 14				
6	266 38.4	-17 14.1	20 08.2 <sup>163</sup>	- 9 13.2	136	45	17 07	17 38	18 14	** ** *	10 04 19				
7	281 38.3	13.4	34 43.6 <sup>164</sup>	26.8	136	40	18	47	19	23 55 65	11 23				
8	296 38.2	12.7	49 18.8 <sup>162</sup>	40.3	135	35	28	17 55	25	47 61	17 26				
9	311 38.2	12.0	63 54.0 <sup>162</sup>	- 9 53.9	136	30	37	18 02	30	41 57	22 29				
10	326 38.1	11.2	78 29.2 <sup>162</sup>	-10 07.3	134	20	17 52	15	41	29 52	31 34				
11	341 38.0	-17 10.5	93 04.3 <sup>161</sup>	-10 20.8	135	10 N	18 05	18 27	18 52	23 18 48	10 39 39				
12	356 37.9	-17 09.8	107 39.3 <sup>160</sup>	-10 34.2	134	0	18 17	18 39	19 04	23 09 44	10 47 42				
13	11 37.8	09.1	122 14.3 <sup>160</sup>	-10 47.6	134	10 S	29	18 52	17	22 59 40	10 54 47				
14	26 37.7	08.4	136 49.2 <sup>159</sup>	-11 01.0	134	20	43	19 06	34	49 36	11 03 51				
15	41 37.6	07.7	151 24.1 <sup>159</sup>	14.3	133	30	18 58	24	19 55	37 31	12 56				
16	56 37.5	07.0	165 58.9 <sup>158</sup>	27.6	133	35	19 08	35	20 08	31 28	17 59				
17	71 37.5	-17 06.3	180 33.6 <sup>157</sup>	-11 40.9	133	40	19 18	19 48	20 25	22 23 25	11 23 63				
18	86 37.4	-17 05.6	195 08.3 <sup>157</sup>	-11 54.1	132	45	19 30	20 03	20 45	22 15 20	11 30 67				
19	101 37.3	04.9	209 42.9 <sup>156</sup>	-12 07.3	132	50	45	23	21 12	22 04 16	39 72				
20	116 37.2	04.1	224 17.4 <sup>155</sup>	20.5	132	52	19 52	33	26	21 59 14	43 74				
21	131 37.1	03.4	238 51.9 <sup>155</sup>	33.6	131	54	20 00	43	21 43	54 11	48 77				
22	146 37.0	02.7	253 26.3 <sup>154</sup>	46.7	131	56	09	20 56	22 04	48 8	52 81				
23	161 37.0	02.0	268 00.6 <sup>153</sup>	-12 59.7	130	58	19	21 10	22 31	42 4	11 58 84				
24	176 36.9	-17 01.3	282 34.9 <sup>153</sup>	-13 12.7	130	60 S	20 30	21 28	23 13	21 35 0	12 04 88				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 <sup>h</sup> 14.7 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 50 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	130 42.4	209 11.6	- 22 22.6	198 16.0	- 22 41.1	95 25.7	+ 12 57.9	151 54.4	- 10 38.7	
1	145 44.9	224 10.8	22.5	213 16.4	40.8	110 27.9	58.0	166 56.6	38.6	
2	160 47.3	239 09.9	22.4	228 16.8	40.5	125 30.2	58.1	181 58.8	38.5	
3	175 49.8	254 09.0	22.2	243 17.2	40.3	140 32.4	58.2	197 01.0	38.4	
4	190 52.3	269 08.2	22.1	258 17.6	40.0	155 34.6	58.3	212 03.1	38.3	
5	205 54.7	284 07.3	- 22 22.0	273 18.1	- 22 39.7	170 36.8	+ 12 58.4	227 05.3	- 10 38.2	
6	220 57.2	299 06.4	- 22 21.9	288 18.5	- 22 39.4	185 39.0	+ 12 58.5	242 07.5	- 10 38.1	
7	235 59.7	314 05.5	21.7	303 18.9	39.2	200 41.2	58.6	257 09.7	38.0	
8	251 02.1	329 04.7	21.6	318 19.3	38.9	215 43.5	58.7	272 11.9	37.9	
9	266 04.6	344 03.8	21.5	333 19.7	38.6	230 45.7	58.8	287 14.1	37.8	
10	281 07.0	359 02.9	21.3	348 20.2	38.4	245 47.9	58.9	302 16.3	37.7	
11	296 09.5	14 02.1	- 22 21.2	3 20.6	- 22 38.1	260 50.1	+ 12 59.0	317 18.5	- 10 37.6	
12	311 12.0	29 01.2	- 22 21.1	18 21.0	- 22 37.8	275 52.3	+ 12 59.0	332 20.7	- 10 37.4	
13	326 14.4	44 00.3	20.9	33 21.4	37.5	290 54.5	59.1	347 22.9	37.3	
14	341 16.9	58 59.4	20.8	48 21.9	37.3	305 56.8	59.2	2 25.1	37.2	
15	356 19.4	73 58.6	20.7	63 22.3	37.0	320 59.0	59.3	17 27.3	37.1	
16	11 21.8	88 57.7	20.5	78 22.7	36.7	336 01.2	59.4	32 29.5	37.0	
17	26 24.3	103 56.8	- 22 20.4	93 23.1	- 22 36.5	351 03.4	+ 12 59.5	47 31.7	- 10 36.9	
18	41 26.8	118 56.0	- 22 20.2	108 23.5	- 22 36.2	6 05.6	+ 12 59.6	62 33.9	- 10 36.8	
19	56 29.2	133 55.1	20.1	123 24.0	35.9	21 07.8	59.7	77 36.0	36.7	
20	71 31.7	148 54.2	19.9	138 24.4	35.6	36 10.0	59.8	92 38.2	36.6	
21	86 34.1	163 53.4	19.8	153 24.8	35.3	51 12.3	+ 12 59.9	107 40.4	36.5	
22	101 36.6	178 52.5	19.6	168 25.2	35.1	66 14.5	+ 13 00.0	122 42.6	36.4	
23	116 39.1	193 51.6	19.5	183 25.6	34.8	81 16.7	00.1	137 44.8	36.3	
24	131 41.5	208 50.7	- 22 19.4	198 26.1	- 22 34.5	96 18.9	+ 13 00.2	152 47.0	- 10 36.2	

Dif	—	-9	+1	+4	+3	+22	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.0'		Edad: 21.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.1' 12 <sup>h</sup> : 55.3' 20 <sup>h</sup> : 55.5'			PMG: 5 <sup>h</sup> 19 <sup>m</sup> R°: 45 <sup>m</sup>		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	h m m	h m m	h m m	h m m	h m m
0	176 36.9	-17 01.3	282 34.9		-13 12.7	130	60 N	6 35	7 26	8 13	0 49 92	9 33 0				
1	191 36.8	-17 00.6	297 09.1	152	25.7	130	58	31	19	8 03	41 87	42 5				
2	206 36.7	-16 59.9	311 43.2	151	38.6	129	56	28	13	7 54	34 82	50 9				
3	221 36.6	59.1	326 17.2	150	-13 51.5	129	54	25	08	46	27 79	9 58 12				
4	236 36.6	58.4	340 51.2	150	-14 04.3	128	52	22	7 03	39	21 77	10 04 15				
5	251 36.5	-16 57.7	355 25.1	149	-14 17.1	128	50	6 19	6 58	7 33	0 16 74	10 10 18				
6	266 36.4	-16 57.0	9 58.9	148	-14 29.9	128	45	6 13	6 48	7 19	0 05 68	10 23 23				
7	281 36.3	56.3	24 32.6	147	42.6	127	40	07	40	7 08	** ** *	34 27				
8	296 36.2	55.6	39 06.3	147	-14 55.2	126	35	6 02	32	6 58	** ** *	43 30				
9	311 36.2	54.8	53 39.9	146	-15 07.8	126	30	5 56	25	50	** ** *	10 51 33				
10	326 36.1	54.1	68 13.3	144	20.4	126	20	46	12	35	** ** *	11 05 38				
11	341 36.0	-16 53.4	82 46.7	144	-15 32.9	125	10 N	5 35	6 00	6 22	** ** *	11 18 42				
12	356 35.9	-16 52.7	97 20.1	144	-15 45.3	124	0	5 23	5 48	6 10	23 53 48	11 29 46				
13	11 35.8	52.0	111 53.3	142	-15 57.7	124	10 S	5 10	36	5 58	39 45	41 50				
14	26 35.8	51.2	126 26.4	141	-16 10.0	123	20	4 53	21	44	25 40	11 54 54				
15	41 35.7	50.5	140 59.5	141	22.3	123	30	32	5 03	29	23 08 36	12 08 59				
16	56 35.6	49.8	155 32.4	139	34.5	122	35	19	4 52	20	22 59 33	16 62				
17	71 35.5	-16 49.1	170 05.3	139	-16 46.7	122	40	4 03	4 40	5 10	22 48 30	12 26 65				
18	86 35.5	-16 48.3	184 38.1	138	-16 58.8	121	45	3 42	4 24	4 57	22 35 26	12 37 70				
19	101 35.4	47.6	199 10.8	137	-17 10.9	121	50	15	4 05	42	20 20	51 75				
20	116 35.3	46.9	213 43.4	136	22.9	120	52	3 01	3 55	35	13 18	12 57 78				
21	131 35.2	46.2	228 15.9	135	34.8	119	54	2 45	44	28	22 05 15	13 05 80				
22	146 35.2	45.4	242 48.3	134	46.6	118	56	2 24	32	19	21 56 12	13 84				
23	161 35.1	44.7	257 20.6	133	-17 58.4	118	58	1 57	17	4 09	46 8	22 89				
24	176 35.0	-16 44.0	271 52.8	132	-18 10.2	118	60 S	1 15	3 00	3 58	21 35 2	13 32 94				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG 15 <sup>h</sup> 10.7 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 05 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 46 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 32 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 47 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	131 41.5	208 50.7	-22 19.4	198 26.1	-22 34.5	96 18.9	+13 00.2	152 47.0	-10 36.2		
1	146 44.0	223 49.9	19.2	213 26.5	34.2	111 21.1	00.3	167 49.2	36.1		
2	161 46.5	238 49.0	19.1	228 26.9	34.0	126 23.3	00.4	182 51.4	36.0		
3	176 48.9	253 48.1	18.9	243 27.3	33.7	141 25.5	00.5	197 53.6	35.8		
4	191 51.4	268 47.3	18.7	258 27.8	33.4	156 27.7	00.6	212 55.8	35.7		
5	206 53.9	283 46.4	-22 18.6	273 28.2	-22 33.1	171 29.9	+13 00.7	227 58.0	-10 35.6		
6	221 56.3	298 45.5	-22 18.4	288 28.6	-22 32.8	186 32.2	+13 00.8	243 00.2	-10 35.5		
7	236 58.8	313 44.7	18.3	303 29.0	32.6	201 34.4	00.9	258 02.4	35.4		
8	252 01.3	328 43.8	18.1	318 29.5	32.3	216 36.6	01.0	273 04.5	35.3		
9	267 03.7	343 42.9	18.0	333 29.9	32.0	231 38.8	01.1	288 06.7	35.2		
10	282 06.2	358 42.0	17.8	348 30.3	31.7	246 41.0	01.2	303 08.9	35.1		
11	297 08.6	13 41.2	-22 17.6	3 30.7	-22 31.4	261 43.2	+13 01.3	318 11.1	-10 35.0		
12	312 11.1	28 40.3	-22 17.5	18 31.1	-22 31.1	276 45.4	+13 01.4	333 13.3	-10 34.9		
13	327 13.6	43 39.4	17.3	33 31.6	30.9	291 47.6	01.5	348 15.5	34.8		
14	342 16.0	58 38.6	17.1	48 32.0	30.6	306 49.8	01.6	3 17.7	34.7		
15	357 18.5	73 37.7	17.0	63 32.4	30.3	321 52.0	01.6	18 19.9	34.6		
16	12 21.0	88 37.8	16.8	78 32.8	30.0	336 54.2	01.7	33 22.1	34.4		
17	27 23.4	103 36.0	-22 16.6	93 33.3	-22 29.7	351 56.4	+13 01.8	48 24.3	-10 34.3		
18	42 25.9	118 35.1	-22 16.5	108 33.7	-22 29.4	6 58.7	+13 01.9	63 26.5	-10 34.2		
19	57 28.4	133 34.2	16.3	123 34.1	29.2	22 00.9	02.0	78 28.7	34.1		
20	72 30.8	148 33.4	16.1	138 34.5	28.9	37 03.1	02.1	93 30.8	34.0		
21	87 33.3	163 32.5	16.0	153 35.0	28.6	52 05.3	02.2	108 33.0	33.9		
22	102 35.7	178 31.6	15.8	168 35.4	28.3	67 07.5	02.3	123 35.2	33.8		
23	117 38.2	193 30.8	15.6	183 35.8	28.0	82 09.7	02.4	138 37.4	33.7		
24	132 40.7	208 29.9	-22 15.4	198 36.2	-22 27.7	97 11.9	+13 02.5	153 39.6	-10 33.6		
Dif	—	-9	+2	+4	+3	+22	+1	+22	+1		



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16.2' PMG: 12 <sup>h</sup> 13.7 <sup>m</sup>		SD: 15.2' Edad: 22.5 <sup>d</sup> PMG: 6 <sup>h</sup> 04 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 56.0' 20 <sup>h</sup> : 56.2'				R°: 49 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	176 35.0	-16 44.0	271 52.8	131	-18 10.2	116	60 N 16 18	17 05	17 55	2 21 98	9 33 3					
1	191 34.9	43.3	286 24.9	130	21.8	116	58 28	11 17 59	2 08 92	2 08 92	47 9					
2	206 34.9	42.5	300 56.9	129	33.4	116	56 36	17 18 02	1 56 87	9 59 14						
3	221 34.8	41.8	315 28.8	128	45.0	114	54 44	22 05	46 83	10 10 18						
4	236 34.7	41.1	330 00.6	127	-18 56.4	114	52 51	27 08	38 79	19 21 21						
5	251 34.6	-16 40.4	344 32.3	126	-19 07.8	113	50 16 57	17 31 18 10	1 30 77	10 28 24						
6	266 34.6	-16 39.6	359 03.9	125	-19 19.1	113	45 17 10	17 41 18 16	1 13 72	10 46 29						
7	281 34.5	38.9	13 35.4	124	30.4	111	40 21	49 22	1 00 67	11 01 33						
8	296 34.4	38.2	28 06.8	122	41.5	111	35 30	17 57 27	0 48 64	13 36						
9	311 34.4	37.4	42 38.0	122	-19 52.6	110	30 38	18 03 32	38 61	24 39						
10	326 34.3	36.7	57 09.2	121	-20 03.6	109	20 17 53	16 42	21 56	11 43 43						
11	341 34.2	-16 36.0	71 40.3	119	-20 14.5	109	10 N 18 05	18 27 18 52	0 06 52	12 00 47						
12	356 34.2	-16 35.2	86 11.2	108	-20 25.4	108	0 18 17	18 39 19 04	** ** *	12 15 51						
13	11 34.1	34.5	100 42.0	106	36.2	106	10 S 29	18 51 17	** ** *	31 54						
14	26 34.0	33.8	115 12.8	105	46.8	105	20 42	19 05 33	** ** *	12 48 57						
15	41 33.9	33.0	129 43.4	105	-20 57.4	105	30 18 57	23 19 53	23 44 43	13 07 62						
16	56 33.9	32.3	144 13.9	105	-21 07.9	105	35 19 06	33 20 06	32 40	18 65						
17	71 33.8	-16 31.6	158 44.3	103	-21 18.4	103	40 19 16	19 46 22	23 18 37	13 31 69						
18	86 33.7	-16 30.8	173 14.5	102	-21 28.7	102	45 19 28	20 01 20 42	23 01 34	13 47 72						
19	101 33.7	30.1	187 44.7	102	38.9	102	50 42	20 21 08	22 40 29	14 06 78						
20	116 33.6	29.4	202 14.7	101	49.1	101	52 49	29 22	31 26	15 81						
21	131 33.5	28.6	216 44.6	100	-21 59.2	99	54 19 56	39 37	20 23	25 84						
22	146 33.5	27.9	231 14.4	99	-22 09.1	99	56 20 05	20 51 21 56	22 08 19	37 88						
23	161 33.4	27.1	245 44.1	97	19.0	97	58 14	21 05 22 21	21 54 13	14 51 93						
24	176 33.3	-16 26.4	260 13.7	96	-22 28.7	96	60 S 20 25	21 21 22 57	21 37 6	15 06 101						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 <sup>h</sup> 06.8 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 07 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 45 <sup>m</sup>		Mag.: -2.4 PMG: 17 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 43 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	132 40.7	208 29.9	-22 15.4	198 36.2	-22 27.7	97 11.9	+13 02.5	153 39.6	-10 33.6	
1	147 43.1	223 29.0	15.3	213 36.6	27.4	112 14.1	02.6	168 41.8	33.5	
2	162 45.6	238 28.2	15.1	228 37.1	27.1	127 16.3	02.7	183 44.0	33.4	
3	177 48.1	253 27.3	14.9	243 37.5	26.8	142 18.5	02.8	198 46.2	33.3	
4	192 50.5	268 26.4	14.7	258 37.9	26.6	157 20.7	02.9	213 48.4	33.2	
5	207 53.0	283 25.6	-22 14.5	273 38.3	-22 26.3	172 22.9	+13 03.0	228 50.6	-10 33.0	
6	222 55.5	298 24.7	-22 14.3	288 38.8	-22 26.0	187 25.1	+13 03.1	243 52.8	-10 32.9	
7	237 57.9	313 23.8	14.2	303 39.2	25.7	202 27.3	03.2	258 54.9	32.8	
8	253 00.4	328 23.0	14.0	318 39.6	25.4	217 29.5	03.3	273 57.1	32.7	
9	268 02.9	343 22.1	13.8	333 40.0	25.1	232 31.7	03.4	288 59.3	32.6	
10	283 05.3	358 21.2	13.6	348 40.5	24.8	247 33.9	03.5	304 01.5	32.5	
11	298 07.8	13 20.4	-22 13.4	3 40.9	-22 24.5	262 36.1	+13 03.6	319 03.7	-10 32.4	
12	313 10.2	28 19.5	-22 13.2	18 41.3	-22 24.2	277 38.3	+13 03.7	334 05.9	-10 32.3	
13	328 12.7	43 18.6	13.0	33 41.7	23.9	292 40.5	03.8	349 08.1	32.2	
14	343 15.2	58 17.8	12.8	48 42.2	23.6	307 42.7	03.9	4 10.3	32.1	
15	358 17.6	73 16.9	12.6	63 42.6	23.3	322 44.9	04.0	19 12.5	32.0	
16	13 20.1	88 16.0	12.4	78 43.0	23.0	337 47.1	04.1	34 14.7	31.9	
17	28 22.6	103 15.2	-22 12.2	93 43.4	-22 22.8	352 49.3	+13 04.2	49 16.9	-10 31.8	
18	43 25.0	118 14.3	-22 12.0	108 43.9	-22 22.5	7 51.5	+13 04.3	64 19.0	-10 31.6	
19	58 27.5	133 13.4	11.8	123 44.3	22.2	22 53.7	04.4	79 21.2	31.5	
20	73 30.0	148 12.6	11.7	138 44.7	21.9	37 55.9	04.5	94 23.4	31.4	
21	88 32.4	163 11.7	11.4	153 45.1	21.6	52 58.1	04.6	109 25.6	31.3	
22	103 34.9	178 10.8	11.2	168 45.6	21.3	68 00.3	04.7	124 27.8	31.2	
23	118 37.4	193 10.0	11.0	183 46.0	21.0	83 02.5	04.8	139 30.0	31.1	
24	133 39.8	208 09.1	-22 10.8	198 46.4	-22 20.7	98 04.7	+13 04.9	154 32.2	-10 31.0	

Dif	—	-9	+2	+4	+3	+22	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.4'		Edad: 23.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.5' 12 <sup>h</sup> : 56.8' 20 <sup>h</sup> : 57.1'			R <sup>o</sup> : 55 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 13.8 <sup>m</sup>		PMG: 6 <sup>h</sup> 53 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	176 33.3	-16 26.4	260 13.7		-22 28.7	97	60 N	6 31	7 21	8 08	3 59 104	9 36 9	9 36 9			
1	191 33.3	25.7	274 43.1	104	38.4	96	58	28	15	7 58	40 94	9 56 19	9 56 19			
2	206 33.2	24.9	289 12.5	104	48.0	94	56	25	09	50	23 89	10 13 24	10 13 24			
3	221 33.1	24.2	303 41.7	102	-22 57.4	94	54	22	04	43	3 09 84	28 28	28 28			
4	236 33.1	23.4	318 10.8	101	-23 06.8	93	52	19	7 00	36	2 57 81	40 32	40 32			
5	251 33.0	-16 22.7	332 39.7	99	-23 16.1	91	50	6 17	6 55	7 30	2 47 78	10 52 34	10 52 34			
6	266 33.0	-16 22.0	347 08.6	99	-23 25.2	91	45	6 11	6 46	7 17	2 25 72	11 15 39	11 15 39			
7	281 32.9	21.2	1 37.3	97	34.3	89	40	05	38	7 06	2 07 69	34 42	34 42			
8	296 32.8	20.5	16 05.9	96	43.2	88	35	6 00	30	6 57	1 52 66	11 49 45	11 49 45			
9	311 32.8	19.7	30 34.4	95	-23 52.0	87	30	5 55	24	49	39 64	12 03 47	12 03 47			
10	326 32.7	19.0	45 02.8	94	-24 00.7	86	20	45	12	35	1 17 60	26 51	26 51			
11	341 32.6	-16 18.2	59 31.0	92	-24 09.3	85	10 N	5 35	6 00	6 22	0 58 57	12 47 53	12 47 53			
12	356 32.6	-16 17.5	73 59.1	91	-24 17.8	83	0	5 24	5 49	6 10	0 41 53	13 06 56	13 06 56			
13	11 32.5	16.8	88 27.1	90	26.1	83	10 S	5 11	36	5 58	24 50	25 58	25 58			
14	26 32.5	16.0	102 55.0	89	34.4	81	20	4 55	22	46	0 05 47	13 45 62	13 45 62			
15	41 32.4	15.3	117 22.7	87	42.5	80	30	34	5 05	31	** ** *	14 09 65	14 09 65			
16	56 32.3	14.5	131 50.3	86	50.5	79	35	22	4 55	22	** ** *	23 67	23 67			
17	71 32.3	-16 13.8	146 17.8	85	-24 58.4	77	40	4 06	4 42	5 12	23 55 48	14 40 68	14 40 68			
18	86 32.2	-16 13.0	160 45.2	84	-25 06.1	76	45	3 46	4 27	5 00	23 35 45	14 59 72	14 59 72			
19	101 32.2	12.3	175 12.5	83	13.7	75	50	20	4 08	4 46	23 09 42	15 24 76	15 24 76			
20	116 32.1	11.5	189 39.6	81	21.2	74	52	3 07	3 59	39	22 57 39	36 78	36 78			
21	131 32.0	10.8	204 06.6	80	28.6	72	54	2 51	49	32	43 36	15 49 82	15 49 82			
22	146 32.0	10.0	218 33.5	79	35.8	71	56	32	37	23	27 32	16 05 85	16 05 85			
23	161 31.9	09.3	233 00.3	78	42.9	69	58	2 07	23	14	22 07 28	24 91	24 91			
24	176 31.9	-16 08.5	247 26.9	76	-25 49.8		60 S	1 31	3 07	4 03	21 43 18	16 47 101	16 47 101			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG		Mag.: -3.9		Mag.: +1.3		Mag.: -2.4		Mag.: +0.9							
	15 <sup>h</sup> 02.9 <sup>m</sup>		PMG: 10 <sup>h</sup> 08 <sup>m</sup>		PMG: 10 <sup>h</sup> 45 <sup>m</sup>		PMG: 17 <sup>h</sup> 25 <sup>m</sup>		PMG: 13 <sup>h</sup> 40 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	133 39.8	208 09.1	-22 10.8	198 46.4	-22 20.7	98 04.7	+13 04.9	154 32.2	-10 31.0							
1	148 42.3	223 08.2	10.6	213 46.8	20.4	113 06.9	05.0	169 34.4	30.9							
2	163 44.7	238 07.4	10.4	228 47.3	20.1	128 09.1	05.1	184 36.6	30.8							
3	178 47.2	253 06.5	10.2	243 47.7	19.8	143 11.3	05.2	199 38.8	30.7							
4	193 49.7	268 05.6	10.0	258 48.1	19.5	158 13.5	05.3	214 40.9	30.6							
5	208 52.1	283 04.8	-22 09.8	273 48.5	-22 19.2	173 15.7	+13 05.4	229 43.1	-10 30.5							
6	223 54.6	298 03.9	-22 09.6	288 49.0	-22 18.9	188 17.9	+13 05.5	244 45.3	-10 30.3							
7	238 57.1	313 03.1	09.4	303 49.4	18.6	203 20.1	05.6	259 47.5	30.2							
8	253 59.5	328 02.2	09.2	318 49.8	18.3	218 22.3	05.7	274 49.7	30.1							
9	269 02.0	343 01.3	08.9	333 50.3	18.0	233 24.5	05.8	289 51.9	30.0							
10	284 04.5	358 00.5	08.7	348 50.7	17.7	248 26.7	05.9	304 54.1	29.9							
11	299 06.9	12 59.6	-22 08.5	3 51.1	-22 17.4	263 28.9	+13 06.0	319 56.3	-10 29.8							
12	314 09.4	27 58.7	-22 08.3	18 51.5	-22 17.1	278 31.1	+13 06.1	334 58.5	-10 29.7							
13	329 11.9	42 57.9	08.1	33 52.0	16.8	293 33.3	06.2	350 00.7	29.6							
14	344 14.3	57 57.0	07.9	48 52.4	16.5	308 35.5	06.3	5 02.8	29.5							
15	359 16.8	72 56.1	07.6	63 52.8	16.1	323 37.7	06.4	20 05.0	29.4							
16	14 19.2	87 55.3	07.4	78 53.2	15.8	338 39.9	06.5	35 07.2	29.3							
17	29 21.7	102 54.4	-22 07.2	93 53.7	-22 15.5	353 42.0	+13 06.6	50 09.4	-10 29.2							
18	44 24.2	117 53.6	-22 07.0	108 54.1	-22 15.2	8 44.2	+13 06.7	65 11.6	-10 29.0							
19	59 26.6	132 52.7	06.7	123 54.5	14.9	23 46.4	06.8	80 13.8	28.9							
20	74 29.1	147 51.8	06.5	138 55.0	14.6	38 48.6	06.9	95 16.0	28.8							
21	89 31.6	162 51.0	06.3	153 55.4	14.3	53 50.8	07.0	110 18.2	28.7							
22	104 34.0	177 50.1	06.0	168 55.8	14.0	68 53.0	07.1	125 20.4	28.6							
23	119 36.5	192 49.3	05.8	183 56.2	13.7	83 55.2	07.2	140 22.5	28.5							
24	134 39.0	207 48.4	-22 05.6	198 56.7	-22 13.4	98 57.4	+13 07.4	155 24.7	-10 28.4							
Dif	—	-9	+2	+4	+3	+22	+1	+22	+1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.9 <sup>m</sup>		SD: 15.6' Edad: 24.5 <sup>d</sup> PMG: 7 <sup>h</sup> 48 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.4' 12 <sup>h</sup> : 57.7' 20 <sup>h</sup> : 58.1'				R <sup>o</sup> : 59 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m	m	h m	m			
0	176 31.9	-16 08.5	247 26.9	75	-25 49.8	68	60 N	16 23	17 10	18 00	5 43	96	9 45	28		
1	191 31.8	07.8	261 53.4	74	-25 56.6	67	58	32	16	03	5 14	86	10 15	37		
2	206 31.8	07.0	276 19.8	73	-26 03.3	66	56	41	21	06	4 52	80	37	43		
3	221 31.7	06.3	290 46.1	72	09.9	65	54	48	26	08	33	78	10 56	46		
4	236 31.6	05.5	305 12.3	71	16.2	64	52	54	30	11	18	75	11 12	48		
5	251 31.6	-16 04.8	319 38.3	70	-26 22.5	63	50	17 00	17 35	18 13	4 05	73	11 26	49		
6	266 31.5	-16 04.0	334 04.3	69	-26 28.6	62	45	17 13	17 44	18 19	3 37	70	11 54	52		
7	281 31.5	03.3	348 30.1	68	34.6	61	40	23	52	24	3 16	68	12 16	54		
8	296 31.4	02.5	2 55.8	67	40.4	60	35	32	17 59	29	2 58	66	34	55		
9	311 31.4	01.7	17 21.4	66	46.0	59	30	40	18 05	33	43	64	12 50	56		
10	326 31.3	01.0	31 46.8	65	51.5	58	20	17 54	17	43	2 17	62	13 17	58		
11	341 31.3	-16 00.2	46 12.2	64	-26 56.9	57	10 N	18 06	18 28	18 53	1 55	60	13 40	59		
12	356 31.2	-15 59.5	60 37.4	63	-27 02.1	56	0	18 17	18 39	19 04	1 34	59	14 02	60		
13	11 31.2	58.7	75 02.6	62	07.1	55	10 S	29	18 51	17	1 14	56	23	62		
14	26 31.1	58.0	89 27.6	61	12.0	54	20	41	19 05	32	0 52	54	14 47	62		
15	41 31.1	57.2	103 52.5	60	16.8	53	30	18 56	21	19 52	0 27	51	15 14	63		
16	56 31.0	56.4	118 17.3	59	21.3	52	35	19 04	32	20 04	0 12	50	30	64		
17	71 30.9	-15 55.7	132 42.0	58	-27 25.7	51	40	19 14	19 43	20 20	** ** *	** ** *	15 48	66		
18	86 30.9	-15 54.9	147 06.6	57	-27 30.0	50	45	19 25	19 58	20 39	** ** *	** ** *	16 11	66		
19	101 30.8	54.2	161 31.1	56	34.0	49	50	39	20 16	21 04	23 51	58	40	68		
20	116 30.8	53.4	175 55.5	55	38.0	48	52	46	25	17	36	58	16 54	69		
21	131 30.7	52.6	190 19.8	54	41.7	47	54	19 53	35	31	23 19	58	17 11	70		
22	146 30.7	51.9	204 44.0	53	45.3	46	56	20 01	46	21 50	22 59	57	30	72		
23	161 30.6	51.1	219 08.1	52	48.7	45	58	10	20 59	22 12	35	54	17 55	74		
24	176 30.6	-15 50.4	233 32.1	51	-27 51.9	44	60 S	20 20	21 15	22 44	22 01	50	18 28	78		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 58.9 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 09 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 44 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 36 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	134 39.0	207 48.4	-22 05.6	198 56.7	-22 13.4	98 57.4	+13 07.4	155 24.7	-10 28.4	28.4
1	149 41.4	222 47.5	05.3	213 57.1	13.1	113 59.6	07.5	170 26.9	28.3	28.3
2	164 43.9	237 46.7	05.1	228 57.5	12.8	129 01.8	07.6	185 29.1	28.2	28.2
3	179 46.4	252 45.8	04.9	243 57.9	12.5	144 04.0	07.7	200 31.3	28.1	28.1
4	194 48.8	267 44.9	04.6	258 58.4	12.1	159 06.2	07.8	215 33.5	28.0	28.0
5	209 51.3	282 44.1	-22 04.4	273 58.8	-22 11.8	174 08.3	+13 07.9	230 35.7	-10 27.9	27.9
6	224 53.7	297 43.2	-22 04.2	288 59.2	-22 11.5	189 10.5	+13 08.0	245 37.9	-10 27.7	27.7
7	239 56.2	312 42.4	03.9	303 59.7	11.2	204 12.7	08.1	260 40.1	27.6	27.6
8	254 58.7	327 41.5	03.7	319 00.1	10.9	219 14.9	08.2	275 42.2	27.5	27.5
9	270 01.1	342 40.6	03.4	334 00.5	10.6	234 17.1	08.3	290 44.4	27.4	27.4
10	285 03.6	357 39.8	03.2	349 00.9	10.3	249 19.3	08.4	305 46.6	27.3	27.3
11	300 06.1	12 38.9	-22 03.0	4 01.4	-22 10.0	264 21.5	+13 08.5	320 48.8	-10 27.2	27.2
12	315 08.5	27 38.1	-22 02.7	19 01.8	-22 09.6	279 23.7	+13 08.6	335 51.0	-10 27.1	27.1
13	330 11.0	42 37.2	02.5	34 02.2	09.3	294 25.9	08.7	350 53.2	27.0	27.0
14	345 13.5	57 36.3	02.2	49 02.7	09.0	309 28.0	08.8	5 55.4	26.9	26.9
15	0 15.9	72 35.5	02.0	64 03.1	08.7	324 30.2	08.9	20 57.6	26.8	26.8
16	15 18.4	87 34.6	01.7	79 03.5	08.4	339 32.4	09.0	35 59.8	26.7	26.7
17	30 20.8	102 33.8	-22 01.5	94 03.9	-22 08.1	354 34.6	+13 09.1	51 01.9	-10 26.5	26.5
18	45 23.3	117 32.9	-22 01.2	109 04.4	-22 07.8	9 36.8	+13 09.2	66 04.1	-10 26.4	26.4
19	60 25.8	132 32.1	01.0	124 04.8	07.4	24 39.0	09.3	81 06.3	26.3	26.3
20	75 28.2	147 31.2	00.7	139 05.2	07.1	39 41.2	09.4	96 08.5	26.2	26.2
21	90 30.7	162 30.3	00.4	154 05.7	06.8	54 43.4	09.5	111 10.7	26.1	26.1
22	105 33.2	177 29.5	-22 00.2	169 06.1	06.5	69 45.5	09.6	126 12.9	26.0	26.0
23	120 35.6	192 28.6	-21 59.9	184 06.5	06.2	84 47.7	09.7	141 15.1	25.9	25.9
24	135 38.1	207 27.8	-21 59.7	199 07.0	-22 05.9	99 49.9	+13 09.8	156 17.3	-10 25.8	25.8
Dif	—	-9	+2	+4	+3	+22	+1	+22	+1	+1

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.9'		Edad: 25.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.4'			Náutico	Civil	Hora	R°	Hora	R°
	PMG: 12 <sup>h</sup> 14.0 <sup>m</sup>		PMG: 8 <sup>h</sup> 47 <sup>m</sup>		R°: 63 <sup>m</sup>			12 <sup>h</sup> : 58.7'								
hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m	h m	h m	h m	m	h m	m				
0	176 30.6	-15 50.4	233 32.1	49	-27 51.9	30	6 27	7 17	8 03	7 19	57	10 13	74			
1	191 30.5	49.6	247 56.0	48	54.9	29	58	24	11	7 54	6 40	60	10 52	72		
2	206 30.5	48.8	262 19.8	47	-27 57.8	27	56	21	06	46	6 12	61	11 20	70		
3	221 30.5	48.1	276 43.5	47	-28 00.5	25	54	19	7 01	39	5 51	61	11 42	69		
4	236 30.4	47.3	291 07.2	47	03.0	24	52	16	6 57	33	33	62	12 00	68		
5	251 30.4	-15 46.5	305 30.7	45	-28 05.4	21	50	6 14	6 52	7 27	5 18	62	12 15	68		
6	266 30.3	-15 45.8	319 54.2	44	-28 07.5	20	45	6 09	6 44	7 14	4 47	63	12 46	67		
7	281 30.3	45.0	334 17.6	43	09.5	18	40	6 04	36	7 04	24	62	13 10	66		
8	296 30.2	44.2	348 40.9	42	11.3	16	35	5 59	29	6 55	4 04	62	29	66		
9	311 30.2	43.5	3 04.1	42	12.9	15	30	5 54	23	47	3 47	63	13 46	66		
10	326 30.1	42.7	17 27.2	41	14.4	14	20	45	11	34	3 19	63	14 15	64		
11	341 30.1	-15 41.9	31 50.3	41	-28 15.6	12	10 N	5 35	6 00	6 22	2 55	62	14 39	64		
12	356 30.0	-15 41.2	46 13.3	40	-28 16.7	11	0	5 24	5 49	6 11	2 33	62	15 02	63		
13	11 30.0	40.4	60 36.3	40	17.5	8	10 S	5 12	37	5 59	2 10	62	25	62		
14	26 29.9	39.6	74 59.1	38	18.2	7	20	4 56	24	47	1 46	62	15 49	61		
15	41 29.9	38.9	89 22.0	39	18.7	5	30	36	5 07	32	18	62	16 17	60		
16	56 29.9	38.1	103 44.7	37	19.0	3	35	24	4 57	24	1 02	61	34	59		
17	71 29.8	-15 37.3	118 07.4	37	-28 19.1	1	40	4 09	4 45	5 14	0 43	60	16 54	58		
18	86 29.8	-15 36.6	132 30.0	36	-28 19.0	1	45	3 50	4 31	5 03	0 20	60	17 17	57		
19	101 29.7	35.8	146 52.6	36	18.7	3	50	25	12	4 50	** ** *	** ** *	17 48	54		
20	116 29.7	35.0	161 15.1	35	18.3	4	52	3 12	4 04	43	** ** *	** ** *	18 03	53		
21	131 29.6	34.2	175 37.6	35	17.6	7	54	2 57	3 54	36	** ** *	** ** *	21	51		
22	146 29.6	33.5	190 00.0	34	16.7	9	56	39	43	28	23 56	83	18 42	48		
23	161 29.6	32.7	204 22.4	34	15.7	10	58	2 16	29	19	23 29	88	19 09	44		
24	176 29.5	-15 31.9	218 44.8	34	-28 14.4	13	60 S	1 45	3 14	4 09	22 51	96	19 46	37		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 55.0 <sup>m</sup>		Mag.: -3.9		Mag.: +1.3		Mag.: -2.3		Mag.: +0.9	
	PMG: 10 <sup>h</sup> 11 <sup>m</sup>		PMG: 10 <sup>h</sup> 43 <sup>m</sup>		PMG: 17 <sup>h</sup> 18 <sup>m</sup>		PMG: 13 <sup>h</sup> 33 <sup>m</sup>			
hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	135 38.1	207 27.8	-21 59.7	199 07.0	-22 05.9	99 49.9	+13 09.8	156 17.3	-10 25.8	
1	150 40.6	222 26.9	59.4	214 07.4	05.5	114 52.1	09.9	171 19.4	25.7	
2	165 43.0	237 26.1	59.1	229 07.8	05.2	129 54.3	10.0	186 21.6	25.6	
3	180 45.5	252 25.2	58.9	244 08.2	04.9	144 56.5	10.1	201 23.8	25.5	
4	195 48.0	267 24.3	58.6	259 08.7	04.6	159 58.6	10.3	216 26.0	25.3	
5	210 50.4	282 23.5	-21 58.3	274 09.1	-22 04.3	175 00.8	+13 10.4	231 28.2	-10 25.2	
6	225 52.9	297 22.6	-21 58.1	289 09.5	-22 03.9	190 03.0	+13 10.5	246 30.4	-10 25.1	
7	240 55.3	312 21.8	57.8	304 10.0	03.6	205 05.2	10.6	261 32.6	25.0	
8	255 57.8	327 20.9	57.5	319 10.4	03.3	220 07.4	10.7	276 34.8	24.9	
9	271 00.3	342 20.1	57.3	334 10.8	03.0	235 09.6	10.8	291 37.0	24.8	
10	286 02.7	357 19.2	57.0	349 11.3	02.6	250 11.7	10.9	306 39.1	24.7	
11	301 05.2	12 18.3	-21 56.7	4 11.7	-22 02.3	265 13.9	+13 11.0	321 41.3	-10 24.6	
12	316 07.7	27 17.5	-21 56.5	19 12.1	-22 02.0	280 16.1	+13 11.1	336 43.5	-10 24.5	
13	331 10.1	42 16.6	56.2	34 12.6	01.7	295 18.3	11.2	351 45.7	24.4	
14	346 12.6	57 15.8	55.9	49 13.0	01.3	310 20.5	11.3	6 47.9	24.3	
15	1 15.1	72 14.9	55.6	64 13.4	01.0	325 22.6	11.4	21 50.1	24.1	
16	16 17.5	87 14.1	55.4	79 13.8	00.7	340 24.8	11.5	36 52.3	24.0	
17	31 20.0	102 13.2	-21 55.1	94 14.3	-22 00.4	355 27.0	+13 11.6	51 54.4	-10 23.9	
18	46 22.5	117 12.4	-21 54.8	109 14.7	-22 00.0	10 29.2	+13 11.7	66 56.6	-10 23.8	
19	61 24.9	132 11.5	54.5	124 15.1	-21 59.7	25 31.4	11.8	81 58.8	23.7	
20	76 27.4	147 10.7	54.2	139 15.6	59.4	40 33.5	11.9	97 01.0	23.6	
21	91 29.8	162 09.8	53.9	154 16.0	59.1	55 35.7	12.0	112 03.2	23.5	
22	106 32.3	177 08.9	53.7	169 16.4	58.7	70 37.9	12.1	127 05.4	23.4	
23	121 34.8	192 08.1	53.4	184 16.9	58.4	85 40.1	12.3	142 07.6	23.3	
24	136 37.2	207 07.2	-21 53.1	199 17.3	-21 58.1	100 42.3	+13 12.4	157 09.8	-10 23.2	
Dif	—	-9	+3	+4	+3	+22	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna										
	SD: 16.2' PMG: 12 <sup>h</sup> 14.1 <sup>m</sup>		SD: 16.1' Edad: 26.5 <sup>d</sup> PMG: 9 <sup>h</sup> 50 <sup>m</sup> R°: 63 <sup>m</sup>						PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.9'	Civil		Náutico		Hora R°		Hora R°								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h	m	h	m	h	m	h	m	h	m					
0	176	29.5	-15	31.9	218	44.8	-28	14.4	15	60 N	16	29	17	14	18	04	8	16	20	11	27	113		
1	191	29.5		31.2	233	07.1		12.9	15	58	37	20	07				7	40	31		12	04	100	
2	206	29.4		30.4	247	29.3		11.3	16	56	45	25	09				7	13	38		30	94		
3	221	29.4		29.6	261	51.6		09.4	19	54	52	30	12				6	52	42		12	51	90	
4	236	29.4		28.8	276	13.8		07.4	20	52	16	58	34	14				35	44		13	08	87	
5	251	29.3	-15	28.1	290	36.0	-28	05.1	23	50	17	04	17	38	18	16	6	20	46		13	23	84	
6	266	29.3	-15	27.3	304	58.1	-28	02.7	24	45	17	16	17	46	18	21	5	50	50		13	53	79	
7	281	29.2		26.5	319	20.3	-28	00.0	27	40	26	17	54	26				26	53		14	16	76	
8	296	29.2		25.7	333	42.4	-27	57.2	28	35	34	18	00	31				5	06	56		35	74	
9	311	29.2		24.9	348	04.5		54.1	31	30	42	07	35	40				4	50	57		14	52	71
10	326	29.1		24.2	2	26.6		50.9	32	20	17	55	18	44				4	22	59		15	19	68
11	341	29.1	-15	23.4	16	48.6	-27	47.4	35	10 N	18	07	18	28	18	53	3	57	62		15	43	65	
12	356	29.1	-15	22.6	31	10.7	-27	43.8	36	0	18	18	18	39	19	04	3	35	63		16	05	63	
13	11	29.0		21.8	45	32.8		39.9	39	10 S	29	18	50	16	3	12	65		27	60		27	60	
14	26	29.0		21.1	59	54.8		35.9	40	20	41	19	04	31	2	48	67		16	50		57		
15	41	28.9		20.3	74	16.9		31.6	43	30	18	54	20	19	50	20	69		17	17		54		
16	56	28.9		19.5	88	38.9		27.1	45	35	19	03	30	20	02	2	03	70		33		51		
17	71	28.9	-15	18.7	103	01.0	-27	22.5	46	40	19	12	19	41	20	17	1	43	72		17	52	48	
18	86	28.8	-15	17.9	117	23.1	-27	17.6	49	45	19	23	19	55	20	35	1	20	74		18	14	45	
19	101	28.8		17.1	131	45.2		12.6	50	50	36	20	12	20	59	0	49	77		42		40		
20	116	28.8		16.4	146	07.3		07.3	53	52	42	21	21	12			34	79		18	56	37		
21	131	28.7		15.6	160	29.4	-27	01.9	54	54	49	30	26	0	17	80		17	80		19	12	33	
22	146	28.7		14.8	174	51.5	-26	56.2	57	56	19	56	41	21	43	**	**	**	**	**	**	30	29	
23	161	28.7		14.0	189	13.7		50.4	58	58	20	05	20	54	22	04	**	**	**	**	**	19	53	23
24	176	28.6	-15	13.2	203	35.9	-26	44.3	61	60 S	20	15	21	08	22	32	**	**	**	**	**	20	23	13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 <sup>h</sup> 51.1 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 12 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 43 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 15 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 29 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	136	37.2	207	07.2	-21	53.1	199	17.3	-21	58.1	100	42.3	+13	12.4	157	09.8	-10	23.2
1	151	39.7	222	06.4		52.8	214	17.7		57.8	115	44.4		12.5	172	11.9		23.1
2	166	42.2	237	05.5		52.5	229	18.2		57.4	130	46.6		12.6	187	14.1		22.9
3	181	44.6	252	04.7		52.2	244	18.6		57.1	145	48.8		12.7	202	16.3		22.8
4	196	47.1	267	03.8		51.9	259	19.0		56.8	160	51.0		12.8	217	18.5		22.7
5	211	49.6	282	03.0	-21	51.6	274	19.5	-21	56.4	175	53.1	+13	12.9	232	20.7	-10	22.6
6	226	52.0	297	02.1	-21	51.3	289	19.9	-21	56.1	190	55.3	+13	13.0	247	22.9	-10	22.5
7	241	54.5	312	01.3		51.0	304	20.3		55.8	205	57.5		13.1	262	25.1		22.4
8	256	57.0	327	00.4		50.7	319	20.8		55.4	220	59.7		13.2	277	27.3		22.3
9	271	59.4	341	59.6		50.4	334	21.2		55.1	236	01.9		13.3	292	29.4		22.2
10	287	01.9	356	58.7		50.2	349	21.6		54.8	251	04.0		13.4	307	31.6		22.1
11	302	04.3	11	57.9	-21	49.9	4	22.1	-21	54.4	266	06.2	+13	13.5	322	33.8	-10	22.0
12	317	06.8	26	57.0	-21	49.6	19	22.5	-21	54.1	281	08.4	+13	13.6	337	36.0	-10	21.8
13	332	09.3	41	56.2		49.2	34	22.9		53.8	296	10.6		13.8	352	38.2		21.7
14	347	11.7	56	55.3		48.9	49	23.4		53.4	311	12.7		13.9	7	40.4		21.6
15	2	14.2	71	54.5		48.6	64	23.8		53.1	326	14.9		14.0	22	42.6		21.5
16	17	16.7	86	53.6		48.3	79	24.2		52.8	341	17.1		14.1	37	44.7		21.4
17	32	19.1	101	52.8	-21	48.0	94	24.7	-21	52.4	356	19.2	+13	14.2	52	46.9	-10	21.3
18	47	21.6	116	51.9	-21	47.7	109	25.1	-21	52.1	11	21.4	+13	14.3	67	49.1	-10	21.2
19	62	24.1	131	51.1		47.4	124	25.5		51.8	26	23.6		14.4	82	51.3		21.1
20	77	26.5	146	50.2		47.1	139	26.0		51.4	41	25.8		14.5	97	53.5		21.0
21	92	29.0	161	49.4		46.8	154	26.4		51.1	56	27.9		14.6	112	55.7		20.9
22	107	31.5	176	48.5		46.5	169	26.8		50.7	71	30.1		14.7	127	57.9		20.7
23	122	33.9	191	47.7		46.2	184	27.3		50.4	86	32.3		14.8	143	00.0		20.6
24	137	36.4	206	46.8	-21	45.9	199	27.7	-21	50.1	101	34.5	+13	14.9	158	02.2	-10	20.5
Dif	—		-9		+3		+4		+3		+22		+1		+22		+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.2' PMG: 12 <sup>h</sup> 14.1 <sup>m</sup>		SD: 16.4' Edad: 27.5 <sup>d</sup> PMG: 10 <sup>h</sup> 53 <sup>m</sup> R°: 61 <sup>m</sup>					PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.6'			Hora R°		Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	176 28.6	-15 13.2	203 35.9	32	-26 44.3	62	60 N	6 23	7 12	7 58	8 36 7	13 20 120			
1	191 28.6	12.4	217 58.1	32	38.1	62	58	20	07	49	8 11 15	13 44 112			
2	206 28.6	11.7	232 20.3	32	31.6	65	56	18	7 02	42	7 51 21	14 04 105			
3	221 28.5	10.9	246 42.6	33	25.0	66	54	15	6 57	35	34 26	21 99			
4	236 28.5	10.1	261 04.9	33	18.2	68	52	13	53	29	19 30	35 95			
5	251 28.5	-15 09.3	275 27.2	33	-26 11.1	71	50	6 11	6 49	7 24	7 06 34	14 47 92			
6	266 28.5	-15 08.5	289 49.6	34	-26 03.9	72	45	6 06	6 41	7 12	6 40 39	15 12 86			
7	281 28.4	07.7	304 12.0	34	-25 56.5	74	40	6 02	34	7 02	19 44	32 81			
8	296 28.4	06.9	318 34.4	34	48.9	76	35	5 57	27	6 53	6 02 47	15 49 77			
9	311 28.4	06.1	332 56.9	35	41.1	78	30	53	21	46	5 47 49	16 03 74			
10	326 28.3	05.4	347 19.5	36	33.1	80	20	44	10	33	5 21 54	27 69			
11	341 28.3	-15 04.6	1 42.1	36	-25 24.9	82	10 N	5 35	6 00	6 22	4 59 58	16 48 65			
12	356 28.3	-15 03.8	16 04.7	36	-25 16.6	83	0	5 24	5 49	6 11	4 38 62	17 08 60			
13	11 28.2	03.0	30 27.4	37	-25 08.0	86	10 S	5 12	38	6 00	4 17 65	27 56			
14	26 28.2	02.2	44 50.2	38	-24 59.3	87	20	4 58	25	5 48	3 55 69	17 47 52			
15	41 28.2	01.4	59 13.0	38	50.4	89	30	38	5 09	34	29 73	18 11 46			
16	56 28.2	-15 00.6	73 35.9	39	41.3	91	35	26	4 59	26	3 13 76	24 43			
17	71 28.1	-14 59.8	87 58.8	39	-24 32.0	93	40	4 12	4 48	5 17	2 55 80	18 40 39			
18	86 28.1	-14 59.0	102 21.8	40	-24 22.5	95	45	3 53	4 34	5 06	2 34 83	18 59 34			
19	101 28.1	58.2	116 44.9	41	12.9	96	50	29	16	4 53	2 06 90	19 22 28			
20	116 28.1	57.4	131 08.0	41	-24 03.1	98	52	17	4 08	47	1 53 92	33 25			
21	131 28.0	56.7	145 31.2	42	-23 53.1	100	54	3 03	3 59	40	3 37 96	45 22			
22	146 28.0	55.9	159 54.5	43	42.9	102	56	2 46	48	33	1 19 101	19 59 18			
23	161 28.0	55.1	174 17.8	43	32.6	103	58	2 25	35	24	0 57 107	20 16 12			
24	176 28.0	-14 54.3	188 41.2	44	-23 22.0	106	60 S	1 57	3 21	4 14	0 27 118	20 36 5			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 47.1 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 13 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 42 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 11 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 26 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	137 36.4	206 46.8	-21 45.9	199 27.7	-21 50.1	101 34.5	+13 14.9	158 02.2	-10 20.5	
1	152 38.8	221 46.0	45.5	214 28.1	49.7	116 36.6	15.0	173 04.4	20.4	
2	167 41.3	236 45.1	45.2	229 28.6	49.4	131 38.8	15.2	188 06.6	20.3	
3	182 43.8	251 44.3	44.9	244 29.0	49.0	146 41.0	15.3	203 08.8	20.2	
4	197 46.2	266 43.4	44.6	259 29.4	48.7	161 43.1	15.4	218 11.0	20.1	
5	212 48.7	281 42.6	-21 44.3	274 29.9	-21 48.4	176 45.3	+13 15.5	233 13.2	-10 20.0	
6	227 51.2	296 41.8	-21 43.9	289 30.3	-21 48.0	191 47.5	+13 15.6	248 15.3	-10 19.9	
7	242 53.6	311 40.9	43.6	304 30.7	47.7	206 49.7	15.7	263 17.5	19.8	
8	257 56.1	326 40.1	43.3	319 31.2	47.3	221 51.8	15.8	278 19.7	19.6	
9	272 58.6	341 39.2	43.0	334 31.6	47.0	236 54.0	15.9	293 21.9	19.5	
10	288 01.0	356 38.4	42.6	349 32.1	46.7	251 56.2	16.0	308 24.1	19.4	
11	303 03.5	11 37.5	-21 42.3	4 32.5	-21 46.3	266 58.3	+13 16.1	323 26.3	-10 19.3	
12	318 06.0	26 36.7	-21 42.0	19 32.9	-21 46.0	282 00.5	+13 16.2	338 28.5	-10 19.2	
13	333 08.4	41 35.8	41.7	34 33.4	45.6	297 02.7	16.4	353 30.6	19.1	
14	348 10.9	56 35.0	41.3	49 33.8	45.3	312 04.8	16.5	8 32.8	19.0	
15	3 13.3	71 34.1	41.0	64 34.2	44.9	327 07.0	16.6	23 35.0	18.9	
16	18 15.8	86 33.3	40.7	79 34.7	44.6	342 09.2	16.7	38 37.2	18.8	
17	33 18.3	101 32.5	-21 40.3	94 35.1	-21 44.2	357 11.3	+13 16.8	53 39.4	-10 18.7	
18	48 20.7	116 31.6	-21 40.0	109 35.5	-21 43.9	12 13.5	+13 16.9	68 41.6	-10 18.5	
19	63 23.2	131 30.8	39.7	124 36.0	43.6	27 15.7	17.0	83 43.8	18.4	
20	78 25.7	146 29.9	39.3	139 36.4	43.2	42 17.8	17.1	98 45.9	18.3	
21	93 28.1	161 29.1	39.0	154 36.9	42.9	57 20.0	17.2	113 48.1	18.2	
22	108 30.6	176 28.2	38.6	169 37.3	42.5	72 22.2	17.3	128 50.3	18.1	
23	123 33.1	191 27.4	38.3	184 37.7	42.2	87 24.3	17.4	143 52.5	18.0	
24	138 35.5	206 26.6	-21 38.0	199 38.2	-21 41.8	102 26.5	+13 17.6	158 54.7	-10 17.9	
Dif	—	-8	+3	+4	+3	+22	+1	+22	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.5' Edad: 28.5 <sup>d</sup> PMG: 11 <sup>h</sup> 54 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.8' 12 <sup>h</sup> : 61.0' 20 <sup>h</sup> : 61.1'				R°: 57 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	176 28.0	-14 54.3	188 41.2	45	-23 22.0	106	60 N	16 34	17 19	18 09	8 43	2	15 20	117		
1	191 27.9	53.5	203 04.7	45	11.4	106	58	42	24	11	26	9	36	110		
2	206 27.9	52.7	217 28.2	45	-23 00.5	109	56	49	29	13	12	14	15 49	105		
3	221 27.9	51.9	231 51.8	46	-22 49.5	110	54	16 56	33	15	8 00	18	16 00	101		
4	236 27.9	51.1	246 15.6	48	38.3	112	52	17 02	37	17	7 49	22	10 97			
5	251 27.8	-14 50.3	260 39.3	47	-22 27.0	113	50	17 07	17 41	18 19	7 40	24	16 19	94		
6	266 27.8	-14 49.5	275 03.2	49	-22 15.4	116	45	17 18	17 49	18 24	7 19	31	16 38	87		
7	281 27.8	48.7	289 27.1	49	-22 03.8	116	40	28	17 56	28	7 03	35	16 53	82		
8	296 27.8	47.9	303 51.2	51	-21 51.9	119	35	36	18 02	32	6 49	39	17 06	77		
9	311 27.8	47.1	318 15.3	51	40.0	119	30	43	08	36	36	43	17	74		
10	326 27.7	46.3	332 39.4	51	27.8	122	20	17 56	19	45	6 15	49	36	67		
11	341 27.7	-14 45.5	347 03.7	53	-21 15.5	123	10 N	18 07	18 29	18 54	5 57	54	17 53	61		
12	356 27.7	-14 44.7	1 28.1	54	-21 03.1	124	0	18 18	18 39	19 04	5 40	58	18 08	56		
13	11 27.7	43.9	15 52.5	54	-20 50.5	126	10 S	28	18 50	15	22	63	23	51		
14	26 27.7	43.1	30 17.0	55	37.7	128	20	40	19 03	30	5 04	68	39	46		
15	41 27.6	42.3	44 41.6	56	24.9	128	30	18 53	18	19 48	4 42	74	18 57	40		
16	56 27.6	41.5	59 06.3	57	-20 11.8	131	35	19 01	28	20 00	29	78	19 07	37		
17	71 27.6	-14 40.7	73 31.1	58	-19 58.7	131	40	19 09	19 39	20 14	4 15	81	19 19	33		
18	86 27.6	-14 39.9	87 56.0	59	-19 45.4	133	45	19 20	19 52	20 32	3 57	87	19 33	28		
19	101 27.6	39.1	102 20.9	59	31.9	135	50	32	20 09	20 55	36	93	50	21		
20	116 27.5	38.3	116 46.0	61	18.3	136	52	38	17	21 06	25	97	19 58	18		
21	131 27.5	37.5	131 11.1	61	-19 04.6	137	54	45	26	20	13	101	20 07	15		
22	146 27.5	36.7	145 36.3	62	-18 50.8	138	56	19 52	36	36	3 00	105	17	11		
23	161 27.5	35.9	160 01.7	64	36.8	140	58	20 00	20 48	21 56	2 44	111	28	7		
24	176 27.5	-14 35.1	174 27.1	64	-18 22.7	141	60 S	20 10	21 02	22 21	2 25	118	20 41	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 43.2 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 15 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 41 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 22 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	138 35.5	206 26.6	-21 38.0	199 38.2	-21 41.8	102 26.5	+13 17.6	158 54.7	-10 17.9	
1	153 38.0	221 25.7	37.6	214 38.6	41.5	117 28.7	17.7	173 56.9	17.8	
2	168 40.5	236 24.9	37.3	229 39.0	41.1	132 30.8	17.8	188 59.1	17.7	
3	183 42.9	251 24.0	36.9	244 39.5	40.8	147 33.0	17.9	204 01.2	17.6	
4	198 45.4	266 23.2	36.6	259 39.9	40.4	162 35.2	18.0	219 03.4	17.4	
5	213 47.8	281 22.3	-21 36.2	274 40.4	-21 40.1	177 37.3	+13 18.1	234 05.6	-10 17.3	
6	228 50.3	296 21.5	-21 35.9	289 40.8	-21 39.7	192 39.5	+13 18.2	249 07.8	-10 17.2	
7	243 52.8	311 20.7	35.5	304 41.2	39.4	207 41.7	18.3	264 10.0	17.1	
8	258 55.2	326 19.8	35.2	319 41.7	39.0	222 43.8	18.4	279 12.2	17.0	
9	273 57.7	341 19.0	34.8	334 42.1	38.7	237 46.0	18.6	294 14.4	16.9	
10	289 00.2	356 18.1	34.5	349 42.5	38.3	252 48.1	18.7	309 16.5	16.8	
11	304 02.6	11 17.3	-21 34.1	4 43.0	-21 38.0	267 50.3	+13 18.8	324 18.7	-10 16.7	
12	319 05.1	26 16.5	-21 33.8	19 43.4	-21 37.6	282 52.5	+13 18.9	339 20.9	-10 16.6	
13	334 07.6	41 15.6	33.4	34 43.9	37.3	297 54.6	19.0	354 23.1	16.5	
14	349 10.0	56 14.8	33.1	49 44.3	36.9	312 56.8	19.1	9 25.3	16.3	
15	4 12.5	71 14.0	32.7	64 44.7	36.5	327 58.9	19.2	24 27.5	16.2	
16	19 14.9	86 13.1	32.4	79 45.2	36.2	343 01.1	19.3	39 29.6	16.1	
17	34 17.4	101 12.3	-21 32.0	94 45.6	-21 35.8	358 03.3	+13 19.4	54 31.8	-10 16.0	
18	49 19.9	116 11.4	-21 31.6	109 46.0	-21 35.5	13 05.4	+13 19.6	69 34.0	-10 15.9	
19	64 22.3	131 10.6	31.3	124 46.5	35.1	28 07.6	19.7	84 36.2	15.8	
20	79 24.8	146 09.8	30.9	139 46.9	34.8	43 09.8	19.8	99 38.4	15.7	
21	94 27.3	161 08.9	30.5	154 47.4	34.4	58 11.9	19.9	114 40.6	15.6	
22	109 29.7	176 08.1	30.2	169 47.8	34.0	73 14.1	20.0	129 42.7	15.5	
23	124 32.2	191 07.3	29.8	184 48.2	33.7	88 16.2	20.1	144 44.9	15.4	
24	139 34.7	206 06.4	-21 29.4	199 48.7	-21 33.3	103 18.4	+13 20.2	159 47.1	-10 15.2	
Dif	—	-8	+4	+4	+4	+22	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.7' Edad: 0.0 <sup>d</sup> PMG: 12 <sup>h</sup> 51 <sup>m</sup> R°: 54 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m		
<b>0</b>	176 27.5	-14 35.1	174 27.1	64	-18 22.7	142	<b>60 N</b>	6 18	7 08	7 53	8 45 0	17 17 111		
<b>1</b>	191 27.5	34.3	188 52.5	64	-18 08.5	144	<b>58</b>	16	7 03	45	35 5	26 106		
<b>2</b>	206 27.4	33.4	203 18.1	66	-17 54.1	144	<b>56</b>	14	6 58	38	26 9	34 101		
<b>3</b>	221 27.4	32.6	217 43.8	67	39.7	144	<b>54</b>	12	54	31	18 12	41 97		
<b>4</b>	236 27.4	31.8	232 09.5	67	25.1	146	<b>52</b>	10	50	26	11 15	47 94		
<b>5</b>	251 27.4	-14 31.0	246 35.4	69	-17 10.4	147	<b>50</b>	6 08	6 46	7 20	8 04 19	17 53 91		
<b>6</b>	266 27.4	-14 30.2	261 01.3	69	-16 55.6	148	<b>45</b>	6 04	6 38	7 09	7 50 25	18 05 84		
<b>7</b>	281 27.4	29.4	275 27.3	70	40.6	150	<b>40</b>	6 00	32	7 00	38 30	15 79		
<b>8</b>	296 27.4	28.6	289 53.4	71	25.6	150	<b>35</b>	5 56	25	6 52	28 34	23 75		
<b>9</b>	311 27.3	27.8	304 19.6	72	-16 10.5	151	<b>30</b>	52	20	44	19 38	31 70		
<b>10</b>	326 27.3	27.0	318 45.9	73	-15 55.2	153	<b>20</b>	43	6 09	32	7 04 44	43 64		
<b>11</b>	341 27.3	-14 26.2	333 12.3	74	-15 39.8	154	<b>10 N</b>	5 34	5 59	6 21	6 51 49	18 54 59		
<b>12</b>	356 27.3	-14 25.4	347 38.7	74	-15 24.4	154	<b>0</b>	5 25	5 49	6 11	6 38 55	19 04 53		
<b>13</b>	11 27.3	24.5	2 05.3	76	-15 08.8	156	<b>10 S</b>	5 13	38	6 00	25 60	14 48		
<b>14</b>	26 27.3	23.7	16 31.9	76	-14 53.2	156	<b>20</b>	4 59	26	5 49	6 12 65	25 42		
<b>15</b>	41 27.3	22.9	30 58.6	77	37.5	157	<b>30</b>	40	11	36	5 56 72	37 36		
<b>16</b>	56 27.3	22.1	45 25.4	78	21.6	159	<b>35</b>	29	5 01	28	47 76	44 32		
<b>17</b>	71 27.2	-14 21.3	59 52.2	78	-14 05.7	159	<b>40</b>	4 15	4 50	5 19	5 36 81	19 52 28		
<b>18</b>	86 27.2	-14 20.5	74 19.2	80	-13 49.7	160	<b>45</b>	3 57	4 37	5 09	5 24 86	20 01 23		
<b>19</b>	101 27.2	19.7	88 46.2	80	33.6	161	<b>50</b>	34	20	4 57	09 92	11 18		
<b>20</b>	116 27.2	18.9	103 13.4	82	17.4	162	<b>52</b>	23	12	51	5 02 95	16 15		
<b>21</b>	131 27.2	18.0	117 40.6	82	-13 01.2	162	<b>54</b>	3 09	4 03	44	4 54 99	22 11		
<b>22</b>	146 27.2	17.2	132 07.8	82	-12 44.8	164	<b>56</b>	2 53	3 53	37	45 103	28 8		
<b>23</b>	161 27.2	16.4	146 35.2	84	28.4	164	<b>58</b>	34	41	29	35 107	35 4		
<b>24</b>	176 27.2	-14 15.6	161 02.6	84	-12 11.9	165	<b>60 S</b>	2 08	3 27	4 20	4 23 113	20 42 0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 39.3 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 16 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 40 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 19 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
<b>0</b>	139 34.7	206 06.4	-21 29.4	199 48.7	-21 33.3	103 18.4	+13 20.2	159 47.1	-10 15.2	
<b>1</b>	154 37.1	221 05.6	29.1	214 49.1	33.0	118 20.5	20.3	174 49.3	15.1	
<b>2</b>	169 39.6	236 04.7	28.7	229 49.6	32.6	133 22.7	20.4	189 51.5	15.0	
<b>3</b>	184 42.1	251 03.9	28.3	244 50.0	32.3	148 24.9	20.6	204 53.7	14.9	
<b>4</b>	199 44.5	266 03.1	28.0	259 50.4	31.9	163 27.0	20.7	219 55.9	14.8	
<b>5</b>	214 47.0	281 02.2	-21 27.6	274 50.9	-21 31.5	178 29.2	+13 20.8	234 58.0	-10 14.7	
<b>6</b>	229 49.4	296 01.4	-21 27.2	289 51.3	-21 31.2	193 31.3	+13 20.9	250 00.2	-10 14.6	
<b>7</b>	244 51.9	311 00.6	26.8	304 51.8	30.8	208 33.5	21.0	265 02.4	14.5	
<b>8</b>	259 54.4	325 59.7	26.5	319 52.2	30.5	223 35.7	21.1	280 04.6	14.4	
<b>9</b>	274 56.8	340 58.9	26.1	334 52.6	30.1	238 37.8	21.2	295 06.8	14.2	
<b>10</b>	289 59.3	355 58.1	25.7	349 53.1	29.7	253 40.0	21.3	310 09.0	14.1	
<b>11</b>	305 01.8	10 57.2	-21 25.3	4 53.5	-21 29.4	268 42.1	+13 21.5	325 11.1	-10 14.0	
<b>12</b>	320 04.2	25 56.4	-21 24.9	19 54.0	-21 29.0	283 44.3	+13 21.6	340 13.3	-10 13.9	
<b>13</b>	335 06.7	40 55.6	24.5	34 54.4	28.6	298 46.4	21.7	355 15.5	13.8	
<b>14</b>	350 09.2	55 54.7	24.2	49 54.9	28.3	313 48.6	21.8	10 17.7	13.7	
<b>15</b>	5 11.6	70 53.9	23.8	64 55.3	27.9	328 50.7	21.9	25 19.9	13.6	
<b>16</b>	20 14.1	85 53.1	23.4	79 55.7	27.5	343 52.9	22.0	40 22.1	13.5	
<b>17</b>	35 16.6	100 52.2	-21 23.0	94 56.2	-21 27.2	358 55.1	+13 22.1	55 24.2	-10 13.4	
<b>18</b>	50 19.0	115 51.4	-21 22.6	109 56.6	-21 26.8	13 57.2	+13 22.2	70 26.4	-10 13.2	
<b>19</b>	65 21.5	130 50.6	22.2	124 57.1	26.4	28 59.4	22.4	85 28.6	13.1	
<b>20</b>	80 23.9	145 49.8	21.8	139 57.5	26.1	44 01.5	22.5	100 30.8	13.0	
<b>21</b>	95 26.4	160 48.9	21.4	154 57.9	25.7	59 03.7	22.6	115 33.0	12.9	
<b>22</b>	110 28.9	175 48.1	21.1	169 58.4	25.3	74 05.8	22.7	130 35.2	12.8	
<b>23</b>	125 31.3	190 47.3	20.7	184 58.8	25.0	89 08.0	22.8	145 37.3	12.7	
<b>24</b>	140 33.8	205 46.4	-21 20.3	199 59.3	-21 24.6	104 10.1	+13 22.9	160 39.5	-10 12.6	

Dif	—	-8	+4	+4	+4	+22	+1	+22	+1
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UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.7' Edad: 1.0 <sup>d</sup> PMG: 13 <sup>h</sup> 45 <sup>m</sup> R°: 51 <sup>m</sup>						PHE { 4 <sup>h</sup> : 61.2' 12 <sup>h</sup> : 61.2' 20 <sup>h</sup> : 61.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	176 27.2	-14 15.6	161 02.6	86	-12 11.9	165	60 N	16 39	17 24	18 13	8 45	0	19 08	105		
1	191 27.2	14.8	175 30.2	86	-11 55.4	165	58	47	29	15	40	3	12 10	1		
2	206 27.2	14.0	189 57.8	86	38.7	167	56	16 54	33	17	35	7	15 98			
3	221 27.2	13.2	204 25.4	86	22.0	167	54	17 00	37	19	30	11	18 94			
4	236 27.2	12.3	218 53.2	88	-11 05.3	167	52	05	41	21	26	14	21 91			
5	251 27.1	-14 11.5	233 21.0	88	-10 48.5	168	50	17 10	17 44	18 22	8 23	16	19 24	88		
6	266 27.1	-14 10.7	247 48.9	89	-10 31.6	169	45	17 21	17 52	18 26	8 15	21	19 29	82		
7	281 27.1	09.9	262 16.8	89	-10 14.6	170	40	30	17 58	30	08	26	34	77		
8	296 27.1	09.1	276 44.9	91	-9 57.6	170	35	38	18 04	34	8 02	31	38	72		
9	311 27.1	08.2	291 13.0	91	40.6	170	30	45	10	38	7 57	34	41	69		
10	326 27.1	07.4	305 41.1	91	23.5	171	20	17 57	20	46	48	41	47	62		
11	341 27.1	-14 06.6	320 09.4	93	-9 06.3	172	10 N	18 08	18 29	18 54	7 40	46	19 53	56		
12	356 27.1	-14 05.8	334 37.7	93	-8 49.1	172	0	18 18	18 39	19 04	7 33	51	19 57	51		
13	11 27.1	05.0	349 06.1	94	31.9	172	10 S	28	18 49	15	25	57	20 02	46		
14	26 27.1	04.1	3 34.5	94	-8 14.6	173	20	39	19 02	29	17	63	07	40		
15	41 27.1	03.3	18 03.0	95	-7 57.2	174	30	51	16	46	08	70	13	33		
16	56 27.1	02.5	32 31.5	95	39.9	173	35	18 59	25	19 58	7 03	73	16	30		
17	71 27.1	-14 01.7	47 00.2	97	-7 22.5	174	40	19 07	19 36	20 11	6 57	78	20 20	25		
18	86 27.1	-14 00.9	61 28.8	96	-7 05.0	175	45	19 17	19 49	20 28	6 50	83	20 24	21		
19	101 27.1	-14 00.0	75 57.6	98	-6 47.5	175	50	29	20 05	20 50	41	89	29	15		
20	116 27.1	-13 59.2	90 26.4	98	30.0	175	52	35	13	21 01	37	92	31	13		
21	131 27.1	58.4	104 55.2	98	-6 12.5	175	54	41	21	14	33	95	33	10		
22	146 27.1	57.6	119 24.1	99	-5 54.9	176	56	48	31	29	28	99	36	7		
23	161 27.1	56.7	133 53.1	100	37.4	175	58	19 55	42	21 48	22	103	39	3		
24	176 27.1	-13 55.9	148 22.1	100	-5 19.7	177	60 S	20 04	20 55	22 11	6 16	108	20 42	0		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 14 <sup>h</sup> 35.4 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 17 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 40 <sup>m</sup>		Mag.: -2.3 PMG: 17 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 15 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	140 33.8	205 46.4	-21 20.3	199 59.3	-21 24.6	104 10.1	+13 22.9	160 39.5	-10 12.6							
1	155 36.3	220 45.6	19.9	214 59.7	24.2	119 12.3	23.0	175 41.7	12.5							
2	170 38.7	235 44.8	19.5	230 00.2	23.9	134 14.4	23.2	190 43.9	12.4							
3	185 41.2	250 43.9	19.1	245 00.6	23.5	149 16.6	23.3	205 46.1	12.3							
4	200 43.7	265 43.1	18.7	260 01.0	23.1	164 18.7	23.4	220 48.3	12.1							
5	215 46.1	280 42.3	-21 18.3	275 01.5	-21 22.8	179 20.9	+13 23.5	235 50.4	-10 12.0							
6	230 48.6	295 41.5	-21 17.9	290 01.9	-21 22.4	194 23.0	+13 23.6	250 52.6	-10 11.9							
7	245 51.0	310 40.6	17.5	305 02.4	22.0	209 25.2	23.7	265 54.8	11.8							
8	260 53.5	325 39.8	17.1	320 02.8	21.7	224 27.3	23.8	280 57.0	11.7							
9	275 56.0	340 39.0	16.7	335 03.3	21.3	239 29.5	24.0	295 59.2	11.6							
10	290 58.4	355 38.2	16.3	350 03.7	20.9	254 31.6	24.1	311 01.4	11.5							
11	306 00.9	10 37.3	-21 15.8	5 04.2	-21 20.5	269 33.8	+13 24.2	326 03.5	-10 11.4							
12	321 03.4	25 36.5	-21 15.4	20 04.6	-21 20.2	284 35.9	+13 24.3	341 05.7	-10 11.3							
13	336 05.8	40 35.7	15.0	35 05.0	19.8	299 38.1	24.4	356 07.9	11.1							
14	351 08.3	55 34.8	14.6	50 05.5	19.4	314 40.2	24.5	11 10.1	11.0							
15	6 10.8	70 34.0	14.2	65 05.9	19.0	329 42.4	24.6	26 12.3	10.9							
16	21 13.2	85 33.2	13.8	80 06.4	18.7	344 44.5	24.8	41 14.5	10.8							
17	36 15.7	100 32.4	-21 13.4	95 06.8	-21 18.3	359 46.7	+13 24.9	56 16.6	-10 10.7							
18	51 18.2	115 31.6	-21 13.0	110 07.3	-21 17.9	14 48.8	+13 25.0	71 18.8	-10 10.6							
19	66 20.6	130 30.7	12.6	125 07.7	17.5	29 51.0	25.1	86 21.0	10.5							
20	81 23.1	145 29.9	12.1	140 08.2	17.2	44 53.1	25.2	101 23.2	10.4							
21	96 25.5	160 29.1	11.7	155 08.6	16.8	59 55.3	25.3	116 25.4	10.3							
22	111 28.0	175 28.3	11.3	170 09.0	16.4	74 57.4	25.4	131 27.6	10.1							
23	126 30.5	190 27.4	10.9	185 09.5	16.0	89 59.6	25.6	146 29.7	10.0							
24	141 32.9	205 26.6	-21 10.5	200 09.9	-21 15.7	105 01.7	+13 25.7	161 31.9	-10 09.9							
Dif	—	-8	+4	+4	+4	+21	+1	+22	+1							



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna										
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.6' Edad: 2.0 <sup>d</sup> PMG: 14 <sup>h</sup> 36 <sup>m</sup> R°: 50 <sup>m</sup>					PHE $\left\{ \begin{array}{l} 4^h: 60.9' \\ 12^h: 60.8' \\ 20^h: 60.6' \end{array} \right.$	Náutico		Civil	Hora	R°	Hora	R°								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif										h	m	h	m	h	m	h	m
0	176	27.1	-13	55.9	148	22.1	-5	19.7	176	60 N	6	14	7	03	7	48	8	45	-1	20	53	104	
1	191	27.1		55.1	162	51.2	-5	02.1	176	58	12	6	58	40	43	4		43			53	99	
2	206	27.1		54.3	177	20.3	-4	44.5	176	56	10		54	33	42	7		42			53	95	
3	221	27.1		53.4	191	49.5		26.8	177	54	08		50	27	41	9		41			52	92	
4	236	27.1		52.6	206	18.7	-4	09.1	177	52	07		46	22	40	12		40			52	89	
5	251	27.1	-13	51.8	220	47.9	-3	51.4	177	50	6	05	6	43	7	17	8	39	14		20	52	86
6	266	27.1	-13	51.0	235	17.2	-3	33.7	177	45	6	01	6	36	7	06	8	36	21		20	51	80
7	281	27.1		50.1	249	46.6	-3	16.0	177	40	5	58	29	6	57		34	25			51	75	
8	296	27.1		49.3	264	16.0	-2	58.3	177	35	5	4	24	50	33	29		33	29		50	71	
9	311	27.1		48.5	278	45.4		40.6	177	30	5	0	18	43	31	33		31	33		50	67	
10	326	27.1		47.6	293	14.9		22.9	177	20	4	2	6	08	31	29	39		29	39		49	61
11	341	27.1	-13	46.8	307	44.4	-2	05.2	177	10 N	5	34	5	59	6	21	8	26	45		20	49	55
12	356	27.1	-13	46.0	322	13.9	-1	47.4	178	0	5	25	5	49	6	11	8	24	50		20	48	50
13	11	27.1		45.1	336	43.5		29.7	177	10 S	14		39	6	01	22	56		22	56		48	44
14	26	27.1		44.3	351	13.1	-1	12.0	177	20	5	00	27	5	50	20	61		20	61		47	39
15	41	27.1		43.5	5	42.8	-0	54.3	177	30	4	42	12	37	18	67		18	67		46	33	
16	56	27.1		42.7	20	12.4		36.6	177	35	3	1	5	03	30	16	72		16	72		46	29
17	71	27.1	-13	41.8	34	42.2	-0	18.9	177	40	4	18	4	53	5	22	8	15	75		20	45	25
18	86	27.1	-13	41.0	49	11.9	-0	01.3	176	45	4	01	4	40	5	12	8	13	80		20	45	20
19	101	27.1		40.2	63	41.7	+0	16.4	177	50	3	39	24	5	00	10	87		10	87		44	15
20	116	27.2		39.3	78	11.5		34.0	177	52	28		17	4	55	09	90		09	90		44	12
21	131	27.2		38.5	92	41.3	+0	51.7	176	54	15		4	08	49	08	93		08	93		43	10
22	146	27.2		37.7	107	11.1	+1	09.3	176	56	3	00	3	58	42	07	96		07	96		43	6
23	161	27.2		36.8	121	41.0		26.9	176	58	2	42	47	34	05	100		05	100		42	4	
24	176	27.2	-13	36.0	136	10.9	+1	44.4	175	60 S	2	18	3	34	4	25	8	04	104		20	42	-1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 14 <sup>h</sup> 31.4 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 19 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 57 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 12 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	141	32.9	205	26.6	-21	10.5	200	09.9	-21	15.7	105	01.7	+13	25.7	161	31.9	-10	09.9	
1	156	35.4	220	25.8		10.0	215	10.4		15.3	120	03.9		25.8	176	34.1		09.8	
2	171	37.9	235	25.0		09.6	230	10.8		14.9	135	06.0		25.9	191	36.3		09.7	
3	186	40.3	250	24.1		09.2	245	11.3		14.5	150	08.2		26.0	206	38.5		09.6	
4	201	42.8	265	23.3		08.8	260	11.7		14.1	165	10.3		26.1	221	40.7		09.5	
5	216	45.3	280	22.5	-21	08.3	275	12.2	-21	13.8	180	12.4	+13	26.3	236	42.8	-10	09.4	
6	231	47.7	295	21.7	-21	07.9	290	12.6	-21	13.4	195	14.6	+13	26.4	251	45.0	-10	09.3	
7	246	50.2	310	20.9		07.5	305	13.1		13.0	210	16.7		26.5	266	47.2		09.1	
8	261	52.6	325	20.0		07.0	320	13.5		12.6	225	18.9		26.6	281	49.4		09.0	
9	276	55.1	340	19.2		06.6	335	13.9		12.2	240	21.0		26.7	296	51.6		08.9	
10	291	57.6	355	18.4		06.2	350	14.4		11.9	255	23.2		26.8	311	53.7		08.8	
11	307	00.0	10	17.6	-21	05.8	5	14.8	-21	11.5	270	25.3	+13	27.0	326	55.9	-10	08.7	
12	322	02.5	25	16.8	-21	05.3	20	15.3	-21	11.1	285	27.5	+13	27.1	341	58.1	-10	08.6	
13	337	05.0	40	15.9		04.9	35	15.7		10.7	300	29.6		27.2	357	00.3		08.5	
14	352	07.4	55	15.1		04.4	50	16.2		10.3	315	31.7		27.3	12	02.5		08.4	
15	7	09.9	70	14.3		04.0	65	16.6		09.9	330	33.9		27.4	27	04.7		08.3	
16	22	12.4	85	13.5		03.6	80	17.1		09.6	345	36.0		27.5	42	06.8		08.1	
17	37	14.8	100	12.7	-21	03.1	95	17.5	-21	09.2	0	38.2	+13	27.6	57	09.0	-10	08.0	
18	52	17.3	115	11.9	-21	02.7	110	18.0	-21	08.8	15	40.3	+13	27.8	72	11.2	-10	07.9	
19	67	19.8	130	11.0		02.2	125	18.4		08.4	30	42.4		27.9	87	13.4		07.8	
20	82	22.2	145	10.2		01.8	140	18.9		08.0	45	44.6		28.0	102	15.6		07.7	
21	97	24.7	160	09.4		01.4	155	19.3		07.6	60	46.7		28.1	117	17.8		07.6	
22	112	27.1	175	08.6		00.9	170	19.8		07.3	75	48.9		28.2	132	19.9		07.5	
23	127	29.6	190	07.8		00.5	185	20.2		06.9	90	51.0		28.4	147	22.1		07.4	
24	142	32.1	205	07.0	-21	00.0	200	20.7	-21	06.5	105	53.2	+13	28.5	162	24.3	-10	07.2	
Dif		-		-8		+4		+4		+4		+21		+1		+22			+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.5' Edad: 3.0 <sup>d</sup> PMG: 15 <sup>h</sup> 26 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.4' 12 <sup>h</sup> : 60.2' 20 <sup>h</sup> : 59.9'				R°: 50 <sup>m</sup>									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m	h m	m			
0	176 27.2	-13 36.0	136 10.9	+1 44.4	175 58	60 N	16 44	17 29	18 18	8 44	0	22 37	103					
1	191 27.2	35.2	150 40.8	+2 01.9	175 58	58	52	33	20	47	3	32	99					
2	206 27.2	34.3	165 10.7	19.4	175 56	56	16 58	37	21	49	6	28	95					
3	221 27.2	33.5	179 40.7	36.9	175 54	54	17 04	41	23	50	10	24	91					
4	236 27.2	32.6	194 10.6	+2 54.4	175 52	52	09	44	24	52	13	21	88					
5	251 27.2	-13 31.8	208 40.6	+3 11.8	174 50	50	17 14	17 48	18 26	8 53	16	22 18	85					
6	266 27.2	-13 31.0	223 10.6	+3 29.2	174 45	45	17 24	17 55	18 29	8 57	21	22 11	79					
7	281 27.2	30.1	237 40.6	+3 46.5	173 40	40	33	18 01	33	8 59	26	06	74					
8	296 27.3	29.3	252 10.6	+4 03.8	173 35	35	40	06	36	9 02	29	22 01	70					
9	311 27.3	28.5	266 40.6	21.1	173 30	30	47	11	39	04	33	21 57	66					
10	326 27.3	27.6	281 10.7	38.3	172 20	20	17 58	21	47	08	39	50	60					
11	341 27.3	-13 26.8	295 40.7	+4 55.5	172 10 N	10 N	18 08	18 30	18 55	9 11	45	21 44	55					
12	356 27.3	-13 25.9	310 10.8	+5 12.6	171 0	0	18 18	18 39	19 04	9 14	50	21 38	50					
13	11 27.3	25.1	324 40.8	29.7	171 10 S	10 S	27	18 49	14	18	54	32	45					
14	26 27.3	24.3	339 10.9	+5 46.8	171 20	20	38	19 00	27	21	60	26	40					
15	41 27.3	23.4	353 40.9	+6 03.8	170 30	30	50	15	44	25	67	19	34					
16	56 27.4	22.6	8 11.0	20.7	169 35	35	18 57	23	19 55	28	70	15	30					
17	71 27.4	-13 21.7	22 41.0	+6 37.6	169 40	40	19 05	19 33	20 08	9 30	75	21 10	27					
18	86 27.4	-13 20.9	37 11.1	+6 54.5	169 45	45	19 14	19 46	20 25	9 33	80	21 05	22					
19	101 27.4	20.1	51 41.1	+7 11.2	167 50	50	25	20 01	46	37	86	20 59	16					
20	116 27.4	19.2	66 11.2	28.0	168 52	52	31	08	20 56	39	88	56	14					
21	131 27.4	18.4	80 41.2	+7 44.7	167 54	54	36	16	21 08	41	91	53	11					
22	146 27.4	17.5	95 11.3	+8 01.3	166 56	56	43	26	23	43	95	49	8					
23	161 27.5	16.7	109 41.3	17.8	165 58	58	50	36	21 40	45	99	46	4					
24	176 27.5	-13 15.8	124 11.3	+8 34.3	165 60 S	60 S	19 59	20 49	22 01	9 48	103	20 41	0					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 27.5 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 20 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 38 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 08 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	142 32.1	205 07.0	-21 00.0	200 20.7	-21 06.5	105 53.2	+13 28.5	162 24.3	-10 07.2	
1	157 34.5	220 06.2	-20 59.6	215 21.1	06.1	120 55.3	28.6	177 26.5	07.1	
2	172 37.0	235 05.3	59.1	230 21.6	05.7	135 57.4	28.7	192 28.7	07.0	
3	187 39.5	250 04.5	58.7	245 22.0	05.3	150 59.6	28.8	207 30.8	06.9	
4	202 41.9	265 03.7	58.2	260 22.5	04.9	166 01.7	28.9	222 33.0	06.8	
5	217 44.4	280 02.9	-20 57.8	275 22.9	-21 04.5	181 03.9	+13 29.1	237 35.2	-10 06.7	
6	232 46.9	295 02.1	-20 57.3	290 23.4	-21 04.1	196 06.0	+13 29.2	252 37.4	-10 06.6	
7	247 49.3	310 01.3	56.9	305 23.8	03.8	211 08.1	29.3	267 39.6	06.5	
8	262 51.8	325 00.5	56.4	320 24.3	03.4	226 10.3	29.4	282 41.8	06.4	
9	277 54.3	339 59.7	55.9	335 24.7	03.0	241 12.4	29.5	297 43.9	06.2	
10	292 56.7	354 58.8	55.5	350 25.2	02.6	256 14.5	29.6	312 46.1	06.1	
11	307 59.2	9 58.0	-20 55.0	5 25.6	-21 02.2	271 16.7	+13 29.8	327 48.3	-10 06.0	
12	323 01.6	24 57.2	-20 54.6	20 26.1	-21 01.8	286 18.8	+13 29.9	342 50.5	-10 05.9	
13	338 04.1	39 56.4	54.1	35 26.5	01.4	301 21.0	30.0	357 52.7	05.8	
14	353 06.6	54 55.6	53.6	50 27.0	01.0	316 23.1	30.1	12 54.8	05.7	
15	8 09.0	69 54.8	53.2	65 27.4	00.6	331 25.2	30.2	27 57.0	05.6	
16	23 11.5	84 54.0	52.7	80 27.9	-21 00.2	346 27.4	30.3	42 59.2	05.5	
17	38 14.0	99 53.2	-20 52.2	95 28.3	-20 59.8	1 29.5	+13 30.5	58 01.4	-10 05.4	
18	53 16.4	114 52.4	-20 51.8	110 28.8	-20 59.4	16 31.6	+13 30.6	73 03.6	-10 05.2	
19	68 18.9	129 51.5	51.3	125 29.2	59.0	31 33.8	30.7	88 05.7	05.1	
20	83 21.4	144 50.7	50.8	140 29.7	58.6	46 35.9	30.8	103 07.9	05.0	
21	98 23.8	159 49.9	50.4	155 30.1	58.3	61 38.0	30.9	118 10.1	04.9	
22	113 26.3	174 49.1	49.9	170 30.6	57.9	76 40.2	31.1	133 12.3	04.8	
23	128 28.7	189 48.3	49.4	185 31.0	57.5	91 42.3	31.2	148 14.5	04.7	
24	143 31.2	204 47.5	-20 49.0	200 31.5	-20 57.1	106 44.4	+13 31.3	163 16.7	-10 04.6	
Dif	—	-8	+5	+5	+4	+21	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 12 <sup>h</sup> 14.2 <sup>m</sup>		SD: 16.3' Edad: 4.0 <sup>d</sup> PMG: 16 <sup>h</sup> 16 <sup>m</sup> R°: 51 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m	
0	176 27.5	-13 15.8	124 11.3	+ 8 34.3	164	60 N	6 09	6 58	7 42	8 44	0	** ** *	** ** *	
1	191 27.5	15.0	138 41.3 <sup>110</sup>	+ 8 50.7	164	58	08	54	35	50	5	** ** *	** ** *	
2	206 27.5	14.2	153 11.4 <sup>111</sup>	+ 9 07.1	164	56	06	50	29	8 55	9	** ** *	** ** *	
3	221 27.5	13.3	167 41.3 <sup>109</sup>	23.4	162	54	05	46	23	9 00	12	23 55	91	
4	236 27.5	12.5	182 11.3 <sup>110</sup>	39.6	162	52	03	43	18	05	15	49	87	
5	251 27.6	-13 11.6	196 41.3 <sup>110</sup>	+ 9 55.8	162	50	6 02	6 40	7 13	9 09	17	23 43	84	
6	266 27.6	-13 10.8	211 11.2 <sup>109</sup>	+10 11.9	161	45	5 59	6 33	7 03	9 18	23	23 30	78	
7	281 27.6	09.9	225 41.2 <sup>110</sup>	27.9	160	40	55	27	6 55	25	28	20	73	
8	296 27.6	09.1	240 11.1 <sup>109</sup>	43.8	159	35	52	22	48	31	32	11	70	
9	311 27.6	08.2	254 41.0 <sup>109</sup>	+10 59.7	159	30	49	17	41	37	35	23	67	
10	326 27.6	07.4	269 10.9 <sup>109</sup>	+11 15.5	158	20	42	6 08	30	47	41	22	61	
11	341 27.7	-13 06.5	283 40.7 <sup>108</sup>	+11 31.2	157	10 N	5 34	5 59	6 20	9 56	45	22 39	55	
12	356 27.7	-13 05.7	298 10.6 <sup>109</sup>	+11 46.8	156	0	5 25	5 50	6 11	10 04	50	22 28	51	
13	11 27.7	04.8	312 40.4 <sup>108</sup>	+12 02.4	156	10 S	14	40	6 01	12	56	17	47	
14	26 27.7	04.0	327 10.2 <sup>108</sup>	17.8	154	20	5 01	28	5 51	21	61	22	42	
15	41 27.7	03.1	341 40.0 <sup>108</sup>	33.2	154	30	4 44	14	39	32	66	21	36	
16	56 27.8	02.3	356 09.7 <sup>107</sup>	+12 48.5	153	35	34	5 05	32	38	70	45	33	
17	71 27.8	-13 01.4	10 39.4 <sup>107</sup>	+13 03.7	152	40	4 21	4 55	5 24	10 45	73	21	29	
18	86 27.8	-13 00.6	25 09.1 <sup>107</sup>	+13 18.9	152	45	4 04	4 43	5 15	10 53	78	21	25	
19	101 27.8	-12 59.7	39 38.8 <sup>107</sup>	33.9	150	50	3 43	28	5 04	11 03	84	15	19	
20	116 27.9	58.9	54 08.4 <sup>106</sup>	+13 48.9	150	52	33	21	4 58	07	88	10	16	
21	131 27.9	58.0	68 38.1 <sup>107</sup>	+14 03.7	148	54	21	13	53	12	91	21	13	
22	146 27.9	57.2	83 07.6 <sup>105</sup>	18.5	148	56	3 07	4 03	46	18	95	20	10	
23	161 27.9	56.3	97 37.2 <sup>106</sup>	33.1	146	58	2 49	3 53	39	24	99	50	5	
24	176 28.0	-12 55.5	112 06.7 <sup>105</sup>	+14 47.7	146	60 S	2 28	3 40	4 31	11 31	105	20	1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 23.6 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 21 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 38 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 51 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 05 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	143 31.2	204 47.5	-20 49.0	200 31.5	-20 57.1	106 44.4	+13 31.3	163 16.7	-10 04.6	
1	158 33.7	219 46.7	48.5	215 31.9	56.7	121 46.6	31.4	178 18.8	04.5	
2	173 36.1	234 45.9	48.0	230 32.4	56.3	136 48.7	31.5	193 21.0	04.3	
3	188 38.6	249 45.1	47.5	245 32.8	55.9	151 50.8	31.7	208 23.2	04.2	
4	203 41.1	264 44.3	47.1	260 33.3	55.5	166 53.0	31.8	223 25.4	04.1	
5	218 43.5	279 43.5	-20 46.6	275 33.7	-20 55.1	181 55.1	+13 31.9	238 27.6	-10 04.0	
6	233 46.0	294 42.7	-20 46.1	290 34.2	-20 54.7	196 57.2	+13 32.0	253 29.7	-10 03.9	
7	248 48.5	309 41.9	45.6	305 34.6	54.3	211 59.4	32.1	268 31.9	03.8	
8	263 50.9	324 41.1	45.1	320 35.1	53.9	227 01.5	32.2	283 34.1	03.7	
9	278 53.4	339 40.3	44.7	335 35.5	53.5	242 03.6	32.4	298 36.3	03.6	
10	293 55.9	354 39.5	44.2	350 36.0	53.1	257 05.8	32.5	313 38.5	03.5	
11	308 58.3	9 38.7	-20 43.7	5 36.4	-20 52.7	272 07.9	+13 32.6	328 40.6	-10 03.3	
12	324 00.8	24 37.9	-20 43.2	20 36.9	-20 52.3	287 10.0	+13 32.7	343 42.8	-10 03.2	
13	339 03.2	39 37.1	42.7	35 37.3	51.9	302 12.2	32.8	358 45.0	03.1	
14	354 05.7	54 36.3	42.2	50 37.8	51.5	317 14.3	33.0	13 47.2	03.0	
15	9 08.2	69 35.5	41.7	65 38.3	51.1	332 16.4	33.1	28 49.4	02.9	
16	24 10.6	84 34.6	41.2	80 38.7	50.7	347 18.6	33.2	43 51.6	02.8	
17	39 13.1	99 33.8	-20 40.8	95 39.2	-20 50.3	2 20.7	+13 33.3	58 53.7	-10 02.7	
18	54 15.6	114 33.0	-20 40.3	110 39.6	-20 49.9	17 22.8	+13 33.4	73 55.9	-10 02.6	
19	69 18.0	129 32.2	39.8	125 40.1	49.5	32 25.0	33.6	88 58.1	02.4	
20	84 20.5	144 31.4	39.3	140 40.5	49.0	47 27.1	33.7	104 00.3	02.3	
21	99 23.0	159 30.6	38.8	155 41.0	48.6	62 29.2	33.8	119 02.5	02.2	
22	114 25.4	174 29.8	38.3	170 41.4	48.2	77 31.3	33.9	134 04.6	02.1	
23	129 27.9	189 29.0	37.8	185 41.9	47.8	92 33.5	34.0	149 06.8	02.0	
24	144 30.3	204 28.3	-20 37.3	200 42.3	-20 47.4	107 35.6	+13 34.2	164 09.0	-10 01.9	

Dif	—	-8	+5	+5	+4	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 14.1 <sup>m</sup>		SD: 16.1' Edad: 5.0 <sup>d</sup> PMG: 17 <sup>h</sup> 07 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.8' 12 <sup>h</sup> : 58.5' 20 <sup>h</sup> : 58.3'				R°: 52 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	176 28.0	-12 55.5	112 06.7	+14 47.7	145 145	60 N	16 50	17 34	18 23	8 44	2	0 20	105			
1	191 28.0	54.6	126 36.2	+15 02.2	145 144	58	16 57	38	24	8 55	7	11	99			
2	206 28.0	53.8	141 05.6	16.6	144 143	56	17 03	42	25	9 04	12	0 03	94			
3	221 28.0	52.9	155 35.1	30.9	142 142	54	08	45	26	12	16	** ** *	** ** *			
4	236 28.1	52.0	170 04.4	45.1	140 140	52	13	48	28	20	19	** ** *	** ** *			
5	251 28.1	-12 51.2	184 33.8	+15 59.1	140 140	50	17 17	17 51	18 29	9 26	22	** ** *	** ** *			
6	266 28.1	-12 50.4	199 03.1	+16 13.1	139 139	45	17 27	17 57	18 32	9 41	27	** ** *	** ** *			
7	281 28.1	49.5	213 32.4	27.0	138 138	40	35	18 03	35	9 53	31	** ** *	** ** *			
8	296 28.2	48.6	228 01.6	40.8	136 136	35	42	08	38	10 03	35	** ** *	** ** *			
9	311 28.2	47.8	242 30.8	+16 54.4	135 135	30	48	13	41	12	38	** ** *	** ** *			
10	326 28.2	46.9	257 00.0	+17 08.0	133 133	20	17 59	21	47	28	43	23 51	60			
11	341 28.2	-12 46.1	271 29.1	+17 21.5	132 132	10 N	18 08	18 30	18 55	10 41	48	23 34	57			
12	356 28.3	-12 45.2	285 58.2	+17 34.8	131 131	0	18 18	18 39	19 03	10 54	52	23 19	53			
13	11 28.3	44.4	300 27.3	+17 48.0	130 130	10 S	27	48	13	11 08	56	23 04	49			
14	26 28.3	43.5	314 56.3	+18 01.2	129 129	20	37	18 59	26	22	60	22 48	45			
15	41 28.3	42.6	329 25.2	14.2	128 128	30	48	19 13	42	38	66	29	41			
16	56 28.4	41.8	343 54.2	27.1	127 127	35	18 55	21	19 53	48	69	18	38			
17	71 28.4	-12 40.9	358 23.0	+18 39.9	126 126	40	19 02	19 31	20 05	11 58	73	22 06	35			
18	86 28.4	-12 40.1	12 51.9	+18 52.5	125 125	45	19 11	19 42	20 21	12 11	78	21 52	30			
19	101 28.5	39.2	27 20.7	+19 05.1	124 124	50	22	19 57	41	27	84	34	25			
20	116 28.5	38.4	41 49.4	17.5	123 123	52	27	20 04	20 51	35	86	26	22			
21	131 28.5	37.5	56 18.2	29.8	122 122	54	32	12	21 03	43	90	17	19			
22	146 28.6	36.6	70 46.8	42.0	121 121	56	38	20	16	12 53	94	21 07	14			
23	161 28.6	35.8	85 15.4	+19 54.1	120 120	58	45	31	32	13 03	100	20 55	10			
24	176 28.6	-12 34.9	99 44.0	+20 06.0	119 119	60 S	19 53	20 42	21 52	13 16	106	20 42	3			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 19.6 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 23 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 37 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 47 <sup>m</sup>		Mag.: +0.9 PMG: 13 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	144 30.3	204 28.3	-20 37.3	200 42.3	-20 47.4	107 35.6	+13 34.2	164 09.0	-10 01.9	
1	159 32.8	219 27.5	36.8	215 42.8	47.0	122 37.7	34.3	179 11.2	01.8	
2	174 35.3	234 26.7	36.3	230 43.3	46.6	137 39.9	34.4	194 13.4	01.7	
3	189 37.7	249 25.9	35.8	245 43.7	46.2	152 42.0	34.5	209 15.5	01.6	
4	204 40.2	264 25.1	35.3	260 44.2	45.8	167 44.1	34.6	224 17.7	01.4	
5	219 42.7	279 24.3	-20 34.8	275 44.6	-20 45.4	182 46.2	+13 34.8	239 19.9	-10 01.3	
6	234 45.1	294 23.5	-20 34.3	290 45.1	-20 45.0	197 48.4	+13 34.9	254 22.1	-10 01.2	
7	249 47.6	309 22.7	33.8	305 45.5	44.6	212 50.5	35.0	269 24.3	01.1	
8	264 50.1	324 21.9	33.3	320 46.0	44.2	227 52.6	35.1	284 26.4	01.0	
9	279 52.5	339 21.1	32.7	335 46.4	43.8	242 54.7	35.3	299 28.6	00.9	
10	294 55.0	354 20.3	32.2	350 46.9	43.3	257 56.9	35.4	314 30.8	00.8	
11	309 57.5	9 19.5	-20 31.7	5 47.4	-20 42.9	272 59.0	+13 35.5	329 33.0	-10 00.7	
12	324 59.9	24 18.7	-20 31.2	20 47.8	-20 42.5	288 01.1	+13 35.6	344 35.2	-10 00.5	
13	340 02.4	39 17.9	30.7	35 48.3	42.1	303 03.2	35.7	359 37.3	00.4	
14	355 04.8	54 17.1	30.2	50 48.7	41.7	318 05.4	35.9	14 39.5	00.3	
15	10 07.3	69 16.3	29.7	65 49.2	41.3	333 07.5	36.0	29 41.7	00.2	
16	25 09.8	84 15.5	29.2	80 49.6	40.9	348 09.6	36.1	44 43.9	00.1	
17	40 12.2	99 14.7	-20 28.6	95 50.1	-20 40.5	3 11.7	+13 36.2	59 46.1	-10 00.0	
18	55 14.7	114 13.9	-20 28.1	110 50.5	-20 40.1	18 13.9	+13 36.3	74 48.2	- 9 59.9	
19	70 17.2	129 13.1	27.6	125 51.0	39.6	33 16.0	36.5	89 50.4	59.8	
20	85 19.6	144 12.4	27.1	140 51.5	39.2	48 18.1	36.6	104 52.6	59.6	
21	100 22.1	159 11.6	26.6	155 51.9	38.8	63 20.2	36.7	119 54.8	59.5	
22	115 24.6	174 10.8	26.0	170 52.4	38.4	78 22.4	36.8	134 57.0	59.4	
23	130 27.0	189 10.0	25.5	185 52.8	38.0	93 24.5	37.0	149 59.1	59.3	
24	145 29.5	204 09.2	-20 25.0	200 53.3	-20 37.6	108 26.6	+13 37.1	165 01.3	- 9 59.2	

Dif	—	-8	+5	+5	+4	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.8'		Edad: 6.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.0'			R°: 55 <sup>m</sup>		Hora R°		Hora R°	
	PMG: 12 <sup>h</sup> 14.1 <sup>m</sup>		PMG: 17 <sup>h</sup> 59 <sup>m</sup>		R°: 55 <sup>m</sup>			Náutico Civil			Hora R°		Hora R°			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif										
0	176 28.6	-12 34.9	99 44.0	96	+20 06.0	119	60 N	6 04	6 53	7 37	8 46	6	2 05	106		
1	191 28.7	34.0	114 12.6	96	17.9	116	58	03	49	30	9 02	13	1 50	98		
2	206 28.7	33.2	128 41.1	95	29.6	117	56	02	46	24	16 18		37	92		
3	221 28.7	32.3	143 09.5	94	41.2	114	54	01	42	19	28 22		26	88		
4	236 28.7	31.5	157 37.9	94	+20 52.6	114	52	6 00	39	14	39 25		16	84		
5	251 28.8	-12 30.6	172 06.3	94	+21 04.0	114	50	5 59	6 36	7 10	9 48	28	1 07	82		
6	266 28.8	-12 29.7	186 34.6	93	+21 15.2	112	45	5 56	6 30	7 00	10 08	34	0 48	76		
7	281 28.8	28.9	201 02.9	93	26.2	110	40	53	25	6 52	24 38		33	72		
8	296 28.9	28.0	215 31.1	92	37.2	110	35	50	20	46	38 41		21	68		
9	311 28.9	27.1	229 59.3	92	48.0	108	30	47	15	39	10 50	43	0 10	65		
10	326 29.0	26.3	244 27.4	91	+21 58.7	107	20	41	6 06	29	11 11	47	** ** *	** ** *		
11	341 29.0	-12 25.4	258 55.5	91	+22 09.2	105	10 N	5 33	5 58	6 20	11 29	51	** ** *	** ** *		
12	356 29.0	-12 24.6	273 23.6	91	+22 19.7	105	0	5 25	5 49	6 11	11 46	54	** ** *	** ** *		
13	11 29.1	23.7	287 51.6	90	29.9	102	10 S	15	40	6 02	12 04	57	23 53	52		
14	26 29.1	22.8	302 19.6	90	40.1	102	20	5 02	29	5 52	22 61		33	49		
15	41 29.1	22.0	316 47.5	89	+22 50.1	100	30	4 46	16	41	44 64		23 10	46		
16	56 29.2	21.1	331 15.4	89	+23 00.0	99	35	36	5 08	34	12 57	67	22 56	44		
17	71 29.2	-12 20.2	345 43.2	88	+23 09.7	97	40	4 23	4 58	5 27	13 11	70	22 41	41		
18	86 29.2	-12 19.4	0 11.0	88	+23 19.4	97	45	4 08	4 46	5 18	13 29	73	22 22	38		
19	101 29.3	18.5	14 38.8	88	28.8	94	50	3 48	32	07	13 51	79	21 59	33		
20	116 29.3	17.6	29 06.5	87	38.1	93	52	38	25	5 02	14 01	82	48	30		
21	131 29.4	16.7	43 34.1	86	47.3	92	54	26	17	4 57	13 85		36	27		
22	146 29.4	15.9	58 01.8	87	+23 56.4	91	56	3 13	4 09	51	27 89		21	23		
23	161 29.4	15.0	72 29.3	85	+24 05.3	89	58	2 57	3 59	44	14 43	95	21 05	17		
24	176 29.5	-12 14.1	86 56.9	86	+24 14.1	88	60 S	2 37	3 47	4 36	15 02	105	20 45	8		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 15.7 <sup>m</sup>		Mag.: -3.9		Mag.: +1.3		Mag.: -2.3		Mag.: +0.9	
	PMG: 10 <sup>h</sup> 24 <sup>m</sup>		PMG: 10 <sup>h</sup> 36 <sup>m</sup>		PMG: 16 <sup>h</sup> 44 <sup>m</sup>		PMG: 12 <sup>h</sup> 58 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	145 29.5	204 09.2	-20 25.0	200 53.3	-20 37.6	108 26.6	+13 37.1	165 01.3	-9 59.2	
1	160 32.0	219 08.4	24.5	215 53.8	37.2	123 28.7	37.2	180 03.5	59.1	
2	175 34.4	234 07.6	23.9	230 54.2	36.7	138 30.8	37.3	195 05.7	59.0	
3	190 36.9	249 06.8	23.4	245 54.7	36.3	153 33.0	37.4	210 07.9	58.9	
4	205 39.3	264 06.0	22.9	260 55.1	35.9	168 35.1	37.6	225 10.1	58.7	
5	220 41.8	279 05.3	-20 22.4	275 55.6	-20 35.5	183 37.2	+13 37.7	240 12.2	-9 58.6	
6	235 44.3	294 04.5	-20 21.8	290 56.0	-20 35.1	198 39.3	+13 37.8	255 14.4	-9 58.5	
7	250 46.7	309 03.7	21.3	305 56.5	34.6	213 41.5	37.9	270 16.6	58.4	
8	265 49.2	324 02.9	20.8	320 57.0	34.2	228 43.6	38.1	285 18.8	58.3	
9	280 51.7	339 02.1	20.2	335 57.4	33.8	243 45.7	38.2	300 20.9	58.2	
10	295 54.1	354 01.3	19.7	350 57.9	33.4	258 47.8	38.3	315 23.1	58.1	
11	310 56.6	9 00.5	-20 19.2	5 58.3	-20 33.0	273 49.9	+13 38.4	330 25.3	-9 58.0	
12	325 59.1	23 59.7	-20 18.6	20 58.8	-20 32.6	288 52.1	+13 38.5	345 27.5	-9 57.8	
13	341 01.5	38 59.0	18.1	35 59.3	32.1	303 54.2	38.7	0 29.7	57.7	
14	356 04.0	53 58.2	17.6	50 59.7	31.7	318 56.3	38.8	15 31.8	57.6	
15	11 06.4	68 57.4	17.0	66 00.2	31.3	333 58.4	38.9	30 34.0	57.5	
16	26 08.9	83 56.6	16.5	81 00.6	30.9	349 00.5	39.0	45 36.2	57.4	
17	41 11.4	98 55.8	-20 15.9	96 01.1	-20 30.4	4 02.6	+13 39.2	60 38.4	-9 57.3	
18	56 13.8	113 55.0	-20 15.4	111 01.6	-20 30.0	19 04.8	+13 39.3	75 40.6	-9 57.2	
19	71 16.3	128 54.3	14.8	126 02.0	29.6	34 06.9	39.4	90 42.7	57.1	
20	86 18.8	143 53.5	14.3	141 02.5	29.2	49 09.0	39.5	105 44.9	57.0	
21	101 21.2	158 52.7	13.8	156 02.9	28.8	64 11.1	39.6	120 47.1	56.8	
22	116 23.7	173 51.9	13.2	171 03.4	28.3	79 13.2	39.8	135 49.3	56.7	
23	131 26.2	188 51.1	12.7	186 03.9	27.9	94 15.4	39.9	150 51.5	56.6	
24	146 28.6	203 50.4	-20 12.1	201 04.3	-20 27.5	109 17.5	+13 40.0	165 53.6	-9 56.5	
Dif	—	-8	+5	+5	+4	+21	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 14.0 <sup>m</sup>		SD: 15.6' Edad: 7.0 <sup>d</sup> PMG: 18 <sup>h</sup> 54 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 56.7'				R°: 55 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /		° /		h m	h m	h m	h m m	h m m	h m m	h m m			
0	176 29.5	-12 14.1	86 56.9	85	+24 14.1	86	60 N 16 55	17 39	18 27	8 52 14	3 51 100					
1	191 29.5	13.3	101 24.4	85	22.7	86	58 17 01	42 28	9 15 24	28 90						
2	206 29.6	12.4	115 51.9	85	31.2	85	56 07	46 29	34 30	3 09 85						
3	221 29.6	11.5	130 19.3	84	39.5	83	54 12	49 30	9 50 34	2 54 80						
4	236 29.6	10.7	144 46.7	84	47.7	82	52 17	51 31	10 04 36	40 78						
5	251 29.7	-12 09.8	159 14.0	83	+24 55.7	80	50 17 21	17 54 18 32	10 16 38	2 29 75						
6	266 29.7	-12 08.9	173 41.4	84	+25 03.6	79	45 17 30	18 00 18 34	10 42 42	2 04 71						
7	281 29.8	08.0	188 08.6	82	11.4	78	40 37	05 37	11 02 45	1 45 68						
8	296 29.8	07.2	202 35.9	83	19.0	76	35 44	10 39	19 46	29 65						
9	311 29.8	06.3	217 03.1	82	26.4	74	30 17 50	14 42	33 49	1 15 63						
10	326 29.9	05.4	231 30.3	82	33.7	73	20 18 00	22 48	11 58 51	0 51 60						
11	341 29.9	-12 04.6	245 57.4	81	+25 40.9	72	10 N 18 09	18 30 18 55	12 20 53	0 31 57						
12	356 30.0	-12 03.7	260 24.6	82	+25 47.9	70	0 18 17	18 39 19 03	12 40 55	0 12 55						
13	11 30.0	02.8	274 51.6	80	+25 54.8	69	10 S 26	48 13	13 01 57	** ** *						
14	26 30.1	01.9	289 18.7	81	+26 01.5	67	20 35	18 58 25	23 59	** ** *						
15	41 30.1	01.1	303 45.7	80	08.0	65	30 46	19 11 40	13 48 62	23 56 51						
16	56 30.1	-12 00.2	318 12.7	80	14.4	64	35 52	19 50 19 50	14 04 62	40 50						
17	71 30.2	-11 59.3	332 39.7	80	+26 20.7	63	40 18 59	19 28 20 02	14 21 65	23 22 48						
18	86 30.2	-11 58.4	347 06.6	79	+26 26.8	61	45 19 08	19 39 20 17	14 42 67	23 00 46						
19	101 30.3	57.6	1 33.5	79	32.7	59	50 18	53 36	15 10 70	22 32 44						
20	116 30.3	56.7	16 00.4	79	38.5	58	52 23	19 59 46	23 72	18 43						
21	131 30.4	55.8	30 27.3	79	44.2	57	54 28	20 07 20 57	38 74	22 03 40						
22	146 30.4	54.9	44 54.2	79	49.6	54	56 34	15 21 10	15 56 78	21 44 38						
23	161 30.5	54.1	59 21.0	78	+26 55.0	54	58 40	25 25	16 18 83	21 22 32						
24	176 30.5	-11 53.2	73 47.8	78	+27 00.2	52	60 S 19 47	20 36 21 43	16 47 92	20 53 23						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 11.8 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 40 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	146 28.6	203 50.4	-20 12.1	201 04.3	-20 27.5	109 17.5	+13 40.0	165 53.6	-9 56.5	
1	161 31.1	218 49.6	11.6	216 04.8	27.1	124 19.6	40.1	180 55.8	56.4	
2	176 33.6	233 48.8	11.0	231 05.3	26.6	139 21.7	40.3	195 58.0	56.3	
3	191 36.0	248 48.0	10.5	246 05.7	26.2	154 23.8	40.4	211 00.2	56.2	
4	206 38.5	263 47.2	09.9	261 06.2	25.8	169 25.9	40.5	226 02.4	56.1	
5	221 40.9	278 46.5	-20 09.4	276 06.6	-20 25.4	184 28.0	+13 40.6	241 04.5	-9 55.9	
6	236 43.4	293 45.7	-20 08.8	291 07.1	-20 24.9	199 30.2	+13 40.8	256 06.7	-9 55.8	
7	251 45.9	308 44.9	08.2	306 07.6	24.5	214 32.3	40.9	271 08.9	55.7	
8	266 48.3	323 44.1	07.7	321 08.0	24.1	229 34.4	41.0	286 11.1	55.6	
9	281 50.8	338 43.3	07.1	336 08.5	23.6	244 36.5	41.1	301 13.3	55.5	
10	296 53.3	353 42.6	06.6	351 09.0	23.2	259 38.6	41.3	316 15.4	55.4	
11	311 55.7	8 41.8	-20 06.0	6 09.4	-20 22.8	274 40.7	+13 41.4	331 17.6	-9 55.3	
12	326 58.2	23 41.0	-20 05.4	21 09.9	-20 22.4	289 42.9	+13 41.5	346 19.8	-9 55.2	
13	342 00.7	38 40.2	04.9	36 10.3	21.9	304 45.0	41.6	1 22.0	55.0	
14	357 03.1	53 39.5	04.3	51 10.8	21.5	319 47.1	41.8	16 24.2	54.9	
15	12 05.6	68 38.7	03.8	66 11.3	21.1	334 49.2	41.9	31 26.3	54.8	
16	27 08.1	83 37.9	03.2	81 11.7	20.6	349 51.3	42.0	46 28.5	54.7	
17	42 10.5	98 37.1	-20 02.6	96 12.2	-20 20.2	4 53.4	+13 42.1	61 30.7	-9 54.6	
18	57 13.0	113 36.4	-20 02.1	111 12.7	-20 19.8	19 55.5	+13 42.3	76 32.9	-9 54.5	
19	72 15.4	128 35.6	01.5	126 13.1	19.3	34 57.6	42.4	91 35.1	54.4	
20	87 17.9	143 34.8	00.9	141 13.6	18.9	49 59.8	42.5	106 37.2	54.3	
21	102 20.4	158 34.0	-20 00.3	156 14.0	18.5	65 01.9	42.6	121 39.4	54.1	
22	117 22.8	173 33.3	-19 59.8	171 14.5	18.0	80 04.0	42.8	136 41.6	54.0	
23	132 25.3	188 32.5	59.2	186 15.0	17.6	95 06.1	42.9	151 43.8	53.9	
24	147 27.8	203 31.7	-19 58.6	201 15.4	-20 17.2	110 08.2	+13 43.0	166 46.0	-9 53.8	

Dif	—	-8	+6	+5	+4	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.9 <sup>m</sup>		SD: 15.4' Edad: 8.0 <sup>d</sup> PMG: 19 <sup>h</sup> 49 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.4' 12 <sup>h</sup> : 56.2' 20 <sup>h</sup> : 56.0'			R°: 55 <sup>m</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	Hora	R°	Hora
0	176 30.5	-11 53.2	73 47.8	78	+27 00.2	50	60 N	5 59	6 48	7 31	9 06 39	5 31 77				
1	191 30.6	52.3	88 14.6	78	05.2	50	58	59	44	25	9 39 44	4 58 71				
2	206 30.6	51.4	102 41.4	78	10.1	49	56	58	41	20	10 04 47	34 68				
3	221 30.6	50.5	117 08.1	77	14.8	47	54	57	38	15	24 48	4 14 67				
4	236 30.7	49.7	131 34.9	78	19.3	45	52	56	35	10	40 50	3 58 65				
5	251 30.7	-11 48.8	146 01.6	77	+27 23.7	44	50	5 55	6 33	7 06	10 54 51	3 44 64				
6	266 30.8	-11 47.9	160 28.3	77	+27 28.0	43	45	5 53	6 27	6 57	11 24 51	3 15 62				
7	281 30.8	47.0	174 55.0	77	32.1	41	40	51	22	50	11 47 52	2 53 61				
8	296 30.9	46.1	189 21.7	77	36.0	39	35	48	18	43	12 05 53	34 60				
9	311 30.9	45.3	203 48.4	77	39.8	38	30	45	13	38	22 53	2 18 59				
10	326 31.0	44.4	218 15.1	77	43.4	36	20	39	6 05	28	12 49 55	1 51 58				
11	341 31.0	-11 43.5	232 41.8	77	+27 46.8	34	10 N	5 33	5 58	6 19	13 13 55	1 28 57				
12	356 31.1	-11 42.6	247 08.5	77	+27 50.2	34	0	5 25	5 49	6 11	13 35 56	1 07 55				
13	11 31.1	41.7	261 35.1	76	53.3	31	10 S	15	41	6 02	13 58 55	0 45 54				
14	26 31.2	40.9	276 01.8	77	56.3	30	20	5 04	30	5 53	14 22 56	0 22 53				
15	41 31.2	40.0	290 28.5	77	+27 59.1	28	30	4 48	17	42	14 50 56	** ** *	** ** *			
16	56 31.3	39.1	304 55.2	77	+28 01.8	27	35	38	10	36	15 06 57	** ** *	** ** *			
17	71 31.3	-11 38.2	319 21.8	76	+28 04.3	25	40	4 26	5 01	5 29	15 26 56	** ** *	** ** *			
18	86 31.4	-11 37.3	333 48.5	77	+28 06.7	24	45	4 11	4 49	5 21	15 49 57	23 46 57				
19	101 31.4	36.4	348 15.2	77	08.9	22	50	3 52	36	11	16 20 57	16 56				
20	116 31.5	35.6	2 41.9	77	10.9	20	52	43	29	06	35 57	23 01 56				
21	131 31.6	34.7	17 08.6	77	12.8	19	54	32	22	5 01	16 52 58	22 43 57				
22	146 31.6	33.8	31 35.3	77	14.6	18	56	19	14	4 55	17 14 57	22 22 56				
23	161 31.7	32.9	46 02.0	77	16.2	16	58	3 04	4 04	49	17 41 57	21 54 57				
24	176 31.7	-11 32.0	60 28.8	78	+28 17.6	14	60 S	2 46	3 53	4 42	18 19 58	21 16 56				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 <sup>h</sup> 07.8 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 37 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 51 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	147 27.8	203 31.7	-19 58.6	201 15.4	-20 17.2	110 08.2	+13 43.0	166 46.0	-9 53.8	
1	162 30.2	218 31.0	58.1	216 15.9	16.7	125 10.3	43.1	181 48.1	53.7	
2	177 32.7	233 30.2	57.5	231 16.4	16.3	140 12.4	43.3	196 50.3	53.6	
3	192 35.2	248 29.4	56.9	246 16.8	15.9	155 14.5	43.4	211 52.5	53.5	
4	207 37.6	263 28.6	56.3	261 17.3	15.4	170 16.6	43.5	226 54.7	53.3	
5	222 40.1	278 27.9	-19 55.7	276 17.8	-20 15.0	185 18.7	+13 43.6	241 56.8	-9 53.2	
6	237 42.6	293 27.1	-19 55.2	291 18.2	-20 14.6	200 20.9	+13 43.8	256 59.0	-9 53.1	
7	252 45.0	308 26.3	54.6	306 18.7	14.1	215 23.0	43.9	272 01.2	53.0	
8	267 47.5	323 25.6	54.0	321 19.2	13.7	230 25.1	44.0	287 03.4	52.9	
9	282 49.9	338 24.8	53.4	336 19.6	13.3	245 27.2	44.1	302 05.6	52.8	
10	297 52.4	353 24.0	52.8	351 20.1	12.8	260 29.3	44.3	317 07.7	52.7	
11	312 54.9	8 23.3	-19 52.3	6 20.6	-20 12.4	275 31.4	+13 44.4	332 09.9	-9 52.6	
12	327 57.3	23 22.5	-19 51.7	21 21.0	-20 11.9	290 33.5	+13 44.5	347 12.1	-9 52.4	
13	342 59.8	38 21.7	51.1	36 21.5	11.5	305 35.6	44.6	2 14.3	52.3	
14	358 02.3	53 21.0	50.5	51 22.0	11.1	320 37.7	44.8	17 16.5	52.2	
15	13 04.7	68 20.2	49.9	66 22.4	10.6	335 39.8	44.9	32 18.6	52.1	
16	28 07.2	83 19.4	49.3	81 22.9	10.2	350 41.9	45.0	47 20.8	52.0	
17	43 09.7	98 18.7	-19 48.7	96 23.4	-20 09.8	5 44.0	+13 45.1	62 23.0	-9 51.9	
18	58 12.1	113 17.9	-19 48.1	111 23.8	-20 09.3	20 46.2	+13 45.3	77 25.2	-9 51.8	
19	73 14.6	128 17.1	47.5	126 24.3	08.9	35 48.3	45.4	92 27.4	51.7	
20	88 17.1	143 16.4	47.0	141 24.8	08.4	50 50.4	45.5	107 29.5	51.5	
21	103 19.5	158 15.6	46.4	156 25.2	08.0	65 52.5	45.6	122 31.7	51.4	
22	118 22.0	173 14.9	45.8	171 25.7	07.5	80 54.6	45.8	137 33.9	51.3	
23	133 24.4	188 14.1	45.2	186 26.2	07.1	95 56.7	45.9	152 36.1	51.2	
24	148 26.9	203 13.3	-19 44.6	201 26.6	-20 06.7	110 58.8	+13 46.0	167 38.2	-9 51.1	
Dif	—	-8	+6	+5	+4	+21	+1	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.8 <sup>m</sup>		SD: 15.2' Edad: 9.0 <sup>d</sup> PMG: 20 <sup>h</sup> 44 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.8' 12 <sup>h</sup> : 55.6' 20 <sup>h</sup> : 55.4'				R°: 53 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h m	h m	h m	m	h m	m	h m	m
0	176 31.7	-11 32.0	60 28.8	77	+28 17.6	12	60 N	17 00	17 43	18 32	9 45	73	6 48	39		
1	191 31.8	31.1	74 55.5	77	18.8	12	58	06	47	32	10 23	68	6 09	45		
2	206 31.8	30.3	89 22.3	78	20.0	12	56	11	50	33	10 51	65	5 42	47		
3	221 31.9	29.4	103 49.1	78	20.9	9	54	16	52	34	11 12	64	21	48		
4	236 31.9	28.5	118 15.9	78	21.7	8	52	20	55	34	30 62	5 03	49			
5	251 32.0	-11 27.6	132 42.7	78	+28 22.4	7	50	17 24	17 57	18 35	11 45	61	4 48	50		
6	266 32.0	-11 26.7	147 09.6	79	+28 22.8	4	45	17 33	18 03	18 37	12 15	60	4 17	52		
7	281 32.1	25.8	161 36.4	78	23.2	4	40	40	07	39	39 59	3 54	52			
8	296 32.2	24.9	176 03.3	79	23.4	2	35	46	12	41	12 58	58	34	53		
9	311 32.2	24.1	190 30.2	79	23.4	0	30	17 51	16	44	13 15	57	3 17	53		
10	326 32.3	23.2	204 57.2	80	23.3	1	20	18 01	23	49	13 44	55	2 49	54		
11	341 32.3	-11 22.3	219 24.2	80	+28 23.0	3	10 N	18 09	18 31	18 55	14 08	55	2 25	54		
12	356 32.4	-11 21.4	233 51.2	80	+28 22.5	5	0	18 17	18 38	19 03	14 31	53	2 02	55		
13	11 32.4	20.5	248 18.2	80	22.0	5	10 S	25	47	12	14 53	53	1 39	55		
14	26 32.5	19.6	262 45.3	81	21.2	8	20	34	18 57	23	15 18	51	1 15	55		
15	41 32.6	18.7	277 12.4	81	20.3	9	30	44	19 09	38	15 46	50	0 47	55		
16	56 32.6	17.8	291 39.6	82	19.3	10	35	50	16	48	16 03	48	30	56		
17	71 32.7	-11 16.9	306 06.8	82	+28 18.1	12	40	18 57	19 25	19 59	16 22	48	0 10	56		
18	86 32.7	-11 16.0	320 34.0	82	+28 16.8	13	45	19 05	19 36	20 13	16 46	46	** ** *	** ** *		
19	101 32.8	15.2	335 01.3	83	15.3	15	50	14	49	32	17 17	43	** ** *	** ** *		
20	116 32.9	14.3	349 28.6	83	13.6	17	52	19	19 55	41	32 41	23 57	68			
21	131 32.9	13.4	3 55.9	83	11.8	18	54	23	20 02	20 51	17 50	39	40	70		
22	146 33.0	12.5	18 23.3	84	09.9	19	56	29	10	21 03	18 11	37	23 18	73		
23	161 33.0	11.6	32 50.8	85	07.8	21	58	35	19	17	18 38	32	22 51	78		
24	176 33.1	-11 10.7	47 18.2	84	+28 05.6	22	60 S	19 42	20 29	21 34	19 17	23	22 12	88		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 <sup>h</sup> 03.9 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 34 <sup>m</sup>		Mag.: -2.3 PMG: 16 <sup>h</sup> 34 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 48 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	148 26.9	203 13.3	-19 44.6	201 26.6	-20 06.7	110 58.8	+13 46.0	167 38.2	-9 51.1	
1	163 29.4	218 12.6	44.0	216 27.1	06.2	126 00.9	46.1	182 40.4	51.0	
2	178 31.8	233 11.8	43.4	231 27.6	05.8	141 03.0	46.3	197 42.6	50.9	
3	193 34.3	248 11.0	42.8	246 28.0	05.3	156 05.1	46.4	212 44.8	50.8	
4	208 36.8	263 10.3	42.2	261 28.5	04.9	171 07.2	46.5	227 47.0	50.6	
5	223 39.2	278 09.5	-19 41.6	276 29.0	-20 04.4	186 09.3	+13 46.7	242 49.1	-9 50.5	
6	238 41.7	293 08.8	-19 41.0	291 29.5	-20 04.0	201 11.4	+13 46.8	257 51.3	-9 50.4	
7	253 44.2	308 08.0	40.4	306 29.9	03.6	216 13.5	46.9	272 53.5	50.3	
8	268 46.6	323 07.3	39.7	321 30.4	03.1	231 15.6	47.0	287 55.7	50.2	
9	283 49.1	338 06.5	39.1	336 30.9	02.7	246 17.7	47.2	302 57.9	50.1	
10	298 51.5	353 05.7	38.5	351 31.3	02.2	261 19.8	47.3	318 00.0	50.0	
11	313 54.0	8 05.0	-19 37.9	6 31.8	-20 01.8	276 21.9	+13 47.4	333 02.2	-9 49.9	
12	328 56.5	23 04.2	-19 37.3	21 32.3	-20 01.3	291 24.0	+13 47.5	348 04.4	-9 49.7	
13	343 58.9	38 03.5	36.7	36 32.7	00.9	306 26.1	47.7	3 06.6	49.6	
14	359 01.4	53 02.7	36.1	51 33.2	00.4	321 28.2	47.8	18 08.7	49.5	
15	14 03.9	68 02.0	35.5	66 33.7	-20 00.0	336 30.3	47.9	33 10.9	49.4	
16	29 06.3	83 01.2	34.9	81 34.1	-19 59.5	351 32.4	48.0	48 13.1	49.3	
17	44 08.8	98 00.4	-19 34.3	96 34.6	-19 59.1	6 34.5	+13 48.2	63 15.3	-9 49.2	
18	59 11.3	112 59.7	-19 33.6	111 35.1	-19 58.6	21 36.6	+13 48.3	78 17.5	-9 49.1	
19	74 13.7	127 58.9	33.0	126 35.6	58.2	36 38.7	48.4	93 19.6	49.0	
20	89 16.2	142 58.2	32.4	141 36.0	57.7	51 40.8	48.6	108 21.8	48.8	
21	104 18.7	157 57.4	31.8	156 36.5	57.3	66 42.9	48.7	123 24.0	48.7	
22	119 21.1	172 56.7	31.2	171 37.0	56.8	81 45.0	48.8	138 26.2	48.6	
23	134 23.6	187 55.9	30.5	186 37.4	56.4	96 47.1	48.9	153 28.4	48.5	
24	149 26.0	202 55.2	-19 29.9	201 37.9	-19 55.9	111 49.2	+13 49.1	168 30.5	-9 48.4	

Dif	—	-8	+6	+5	+4	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.7 <sup>m</sup>		SD: 15.1' Edad: 10.0 <sup>d</sup> PMG: 21 <sup>h</sup> 37 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.2' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 54.9'			R°: 50 <sup>m</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	h	R°	h	R°
0	176 33.1	-11 10.7	47 18.2	86	+28 05.6	24	60 N	5 54	6 43	7 26	10 58 93	7 27 15				
1	191 33.2	09.8	61 45.8	86	03.2	25	58	54	40	20	11 31 84	6 54 24				
2	206 33.2	08.9	76 13.4	86	+28 00.7	27	56	54	37	15	11 56 78	29 29				
3	221 33.3	08.0	90 41.0	86	+27 58.0	28	54	53	34	10	12 16 74	6 09 32				
4	236 33.3	07.1	105 08.7	87	55.2	28	52	52	32	06	32 72	5 52 35				
5	251 33.4	-11 06.2	119 36.5	88	+27 52.2	30	50	5 52	6 29	7 02	12 46 70	5 38 37				
6	266 33.5	-11 05.3	134 04.3	88	+27 49.1	31	45	5 50	6 24	6 54	13 15 66	5 09 40				
7	281 33.5	04.4	148 32.1	88	45.9	32	40	48	20	47	38 62	4 46 43				
8	296 33.6	03.6	163 00.0	89	42.5	34	35	46	15	41	13 56 61	27 45				
9	311 33.7	02.7	177 28.0	90	39.0	35	30	44	12	36	14 12 59	4 10 47				
10	326 33.7	01.8	191 56.0	90	35.3	37	20	38	6 04	26	14 39 56	3 43 48				
11	341 33.8	-11 00.9	206 24.1	91	+27 31.5	38	10 N	5 32	5 57	6 18	15 03 53	3 19 51				
12	356 33.9	-11 00.0	220 52.3	92	+27 27.6	39	0	5 25	5 49	6 10	15 24 51	2 57 52				
13	11 33.9	-10 59.1	235 20.5	92	23.5	41	10 S	16	41	6 02	15 46 48	34 54				
14	26 34.0	58.2	249 48.7	92	19.3	42	20	5 05	31	5 54	16 09 46	2 10 56				
15	41 34.1	57.3	264 17.1	94	14.9	44	30	4 50	19	44	36 42	1 42 58				
16	56 34.1	56.4	278 45.5	94	10.4	45	35	4 40	12	38	16 51 41	26 59				
17	71 34.2	-10 55.5	293 13.9	94	+27 05.8	46	40	4 29	5 03	5 31	17 10 38	1 06 61				
18	86 34.3	-10 54.6	307 42.5	96	+27 01.1	47	45	4 15	4 53	5 24	17 32 35	0 43 63				
19	101 34.3	53.7	322 11.1	96	+26 56.2	49	50	3 56	40	14	18 00 31	0 12 67				
20	116 34.4	52.8	336 39.8	97	51.1	51	52	47	33	10	13 29	** ** *				
21	131 34.5	51.9	351 08.5	97	46.0	51	54	37	26	05	29 26	** ** *				
22	146 34.5	51.0	5 37.3	98	40.7	53	56	25	19	5 00	18 48 22	** ** *				
23	161 34.6	50.1	20 06.2	99	35.3	54	58	3 11	4 10	4 54	19 10 17	** ** *				
24	176 34.7	-10 49.2	34 35.1	99	+26 29.8	55	60 S	2 54	3 59	4 47	19 40 8	23 40 95				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 <sup>h</sup> 60.0 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 33 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 30 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 44 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	149 26.0	202 55.2	-19 29.9	201 37.9	-19 55.9	111 49.2	+13 49.1	168 30.5	-9 48.4	
1	164 28.5	217 54.4	29.3	216 38.4	55.5	126 51.3	49.2	183 32.7	48.3	
2	179 31.0	232 53.7	28.7	231 38.9	55.0	141 53.4	49.3	198 34.9	48.2	
3	194 33.4	247 52.9	28.1	246 39.3	54.6	156 55.5	49.5	213 37.1	48.0	
4	209 35.9	262 52.2	27.4	261 39.8	54.1	171 57.6	49.6	228 39.2	47.9	
5	224 38.4	277 51.4	-19 26.8	276 40.3	-19 53.7	186 59.7	+13 49.7	243 41.4	-9 47.8	
6	239 40.8	292 50.7	-19 26.2	291 40.8	-19 53.2	202 01.8	+13 49.8	258 43.6	-9 47.7	
7	254 43.3	307 49.9	25.5	306 41.2	52.8	217 03.9	50.0	273 45.8	47.6	
8	269 45.8	322 49.2	24.9	321 41.7	52.3	232 06.0	50.1	288 48.0	47.5	
9	284 48.2	337 48.4	24.3	336 42.2	51.8	247 08.1	50.2	303 50.1	47.4	
10	299 50.7	352 47.7	23.7	351 42.6	51.4	262 10.2	50.4	318 52.3	47.3	
11	314 53.2	7 46.9	-19 23.0	6 43.1	-19 50.9	277 12.3	+13 50.5	333 54.5	-9 47.1	
12	329 55.6	22 46.2	-19 22.4	21 43.6	-19 50.5	292 14.4	+13 50.6	348 56.7	-9 47.0	
13	344 58.1	37 45.4	21.8	36 44.1	50.0	307 16.5	50.7	3 58.8	46.9	
14	0 00.5	52 44.7	21.1	51 44.5	49.6	322 18.6	50.9	19 01.0	46.8	
15	15 03.0	67 43.9	20.5	66 45.0	49.1	337 20.7	51.0	34 03.2	46.7	
16	30 05.5	82 43.2	19.9	81 45.5	48.7	352 22.8	51.1	49 05.4	46.6	
17	45 07.9	97 42.4	-19 19.2	96 46.0	-19 48.2	7 24.9	+13 51.3	64 07.6	-9 46.5	
18	60 10.4	112 41.7	-19 18.6	111 46.4	-19 47.7	22 27.0	+13 51.4	79 09.7	-9 46.4	
19	75 12.9	127 41.0	17.9	126 46.9	47.3	37 29.1	51.5	94 11.9	46.2	
20	90 15.3	142 40.2	17.3	141 47.4	46.8	52 31.2	51.6	109 14.1	46.1	
21	105 17.8	157 39.5	16.7	156 47.9	46.4	67 33.3	51.8	124 16.3	46.0	
22	120 20.3	172 38.7	16.0	171 48.3	45.9	82 35.4	51.9	139 18.5	45.9	
23	135 22.7	187 38.0	15.4	186 48.8	45.4	97 37.5	52.0	154 20.6	45.8	
24	150 25.2	202 37.2	-19 14.7	201 49.3	-19 45.0	112 39.6	+13 52.2	169 22.8	-9 45.7	

Dif	—	-7	+6	+5	+5	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.6 <sup>m</sup>		SD: 15.0' Edad: 11.0 <sup>d</sup> PMG: 22 <sup>h</sup> 27 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.6'				R°: 47 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	176 34.7	-10 49.2	34 35.1		+26 29.8	57	60 N	17 05	17 48	18 37	12 31 94	7 42 5				
1	191 34.7	48.3	49 04.2	101	24.1	58	58	11	51	37	12 55 87	7 18 12				
2	206 34.8	47.4	63 33.3	101	18.3	58	56	16	54	37	13 14 82	6 58 17				
3	221 34.9	46.5	78 02.4	101	12.4	59	54	20	56	37	30 78	41 22				
4	236 34.9	45.6	92 31.7	103	06.3	61	52	24	17 59	38	44 75	27 25				
5	251 35.0	-10 44.7	107 01.0	103	+26 00.2	61	50	17 28	18 01	18 38	13 56 72	6 15 27				
6	266 35.1	-10 43.8	121 30.4	104	+25 53.9	63	45	17 36	18 05	18 40	14 21 67	5 49 32				
7	281 35.1	42.9	135 59.8	104	47.5	64	40	42	10	41	40 64	29 35				
8	296 35.2	42.0	150 29.4	106	40.9	66	35	48	13	43	14 57 60	5 12 37				
9	311 35.3	41.1	164 59.0	106	34.3	66	30	17 53	17	45	15 11 58	4 57 39				
10	326 35.4	40.2	179 28.7	107	27.5	68	20	18 02	24	50	35 54	31 44				
11	341 35.4	-10 39.3	193 58.5	108	+25 20.6	69	10 N	18 10	18 31	18 56	15 56 50	4 10 46				
12	356 35.5	-10 38.4	208 28.3	108	+25 13.6	70	0	18 17	18 38	19 02	16 15 48	3 49 49				
13	11 35.6	37.5	222 58.3	110	+25 06.5	71	10 S	25	46	11	34 45	28 53				
14	26 35.6	36.6	237 28.3	110	+24 59.2	73	20	33	18 55	22	16 55 41	3 06 55				
15	41 35.7	35.7	251 58.4	111	51.9	73	30	42	19 07	36	17 18 37	2 40 59				
16	56 35.8	34.8	266 28.5	111	44.4	75	35	48	14	45	32 35	25 61				
17	71 35.9	-10 33.9	280 58.8	113	+24 36.8	76	40	18 54	19 22	19 56	17 48 32	2 07 64				
18	86 35.9	-10 33.0	295 29.1	113	+24 29.1	77	45	19 01	19 32	20 10	18 07 28	1 46 67				
19	101 36.0	32.1	309 59.5	114	21.3	78	50	10	45	27	31 23	19 71				
20	116 36.1	31.2	324 30.0	115	13.4	79	52	14	51	36	42 20	1 05 74				
21	131 36.2	30.2	339 00.5	115	+24 05.4	80	54	19	19 57	45	18 55 17	0 50 77				
22	146 36.2	29.3	353 31.2	117	+23 57.3	81	56	24	20 05	20 57	19 10 13	31 82				
23	161 36.3	28.4	8 01.9	117	49.0	83	58	30	13	21 10	27 9	0 09 87				
24	176 36.4	-10 27.5	22 32.7	118	+23 40.7	83	60 S	19 36	20 23	21 26	19 48 3	** ** *				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 56.0 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 30 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 27 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 41 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	150 25.2	202 37.2	-19 14.7	201 49.3	-19 45.0	112 39.6	+13 52.2	169 22.8	-9 45.7	
1	165 27.7	217 36.5	14.1	216 49.8	44.5	127 41.7	52.3	184 25.0	45.6	
2	180 30.1	232 35.8	13.4	231 50.2	44.1	142 43.8	52.4	199 27.2	45.4	
3	195 32.6	247 35.0	12.8	246 50.7	43.6	157 45.9	52.5	214 29.3	45.3	
4	210 35.0	262 34.3	12.1	261 51.2	43.1	172 48.0	52.7	229 31.5	45.2	
5	225 37.5	277 33.5	-19 11.5	276 51.7	-19 42.7	187 50.0	+13 52.8	244 33.7	-9 45.1	
6	240 40.0	292 32.8	-19 10.8	291 52.1	-19 42.2	202 52.1	+13 52.9	259 35.9	-9 45.0	
7	255 42.4	307 32.1	10.2	306 52.6	41.8	217 54.2	53.1	274 38.1	44.9	
8	270 44.9	322 31.3	09.5	321 53.1	41.3	232 56.3	53.2	289 40.2	44.8	
9	285 47.4	337 30.6	08.9	336 53.6	40.8	247 58.4	53.3	304 42.4	44.7	
10	300 49.8	352 29.8	08.2	351 54.0	40.4	263 00.5	53.5	319 44.6	44.5	
11	315 52.3	7 29.1	-19 07.6	6 54.5	-19 39.9	278 02.6	+13 53.6	334 46.8	-9 44.4	
12	330 54.8	22 28.4	-19 06.9	21 55.0	-19 39.4	293 04.7	+13 53.7	349 48.9	-9 44.3	
13	345 57.2	37 27.6	06.2	36 55.5	39.0	308 06.8	53.8	4 51.1	44.2	
14	0 59.7	52 26.9	05.6	51 56.0	38.5	323 08.9	54.0	19 53.3	44.1	
15	16 02.1	67 26.2	04.9	66 56.4	38.0	338 11.0	54.1	34 55.5	44.0	
16	31 04.6	82 25.4	04.3	81 56.9	37.6	353 13.1	54.2	49 57.7	43.9	
17	46 07.1	97 24.7	-19 03.6	96 57.4	-19 37.1	8 15.1	+13 54.4	64 59.8	-9 43.8	
18	61 09.5	112 24.0	-19 02.9	111 57.9	-19 36.6	23 17.2	+13 54.5	80 02.0	-9 43.6	
19	76 12.0	127 23.2	02.3	126 58.3	36.2	38 19.3	54.6	95 04.2	43.5	
20	91 14.5	142 22.5	01.6	141 58.8	35.7	53 21.4	54.8	110 06.4	43.4	
21	106 16.9	157 21.8	01.0	156 59.3	35.2	68 23.5	54.9	125 08.5	43.3	
22	121 19.4	172 21.0	-19 00.3	171 59.8	34.8	83 25.6	55.0	140 10.7	43.2	
23	136 21.9	187 20.3	-18 59.6	187 00.3	34.3	98 27.7	55.1	155 12.9	43.1	
24	151 24.3	202 19.6	-18 59.0	202 00.7	-19 33.8	113 29.8	+13 55.3	170 15.1	-9 43.0	

Dif	—	-7	+7	+5	+5	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 14.9'		Edad: 12.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.3'			R <sup>o</sup> : 43 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 13.5 <sup>m</sup>		PMG: 23 <sup>h</sup> 14 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil							
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	176 36.4	-10 27.5	22 32.7		+23 40.7	84	60 N	5 49	6 37	7 20	14 05 91	7 47 2				
1	191 36.5	26.6	37 03.6	119	32.3	86	58	49	35	15	22 85	30 7				
2	206 36.5	25.7	51 34.6	120	23.7	86	56	49	32	10	36 81	15 12				
3	221 36.6	24.8	66 05.6	120	15.1	88	54	49	30	06	48 78	7 03 14				
4	236 36.7	23.9	80 36.7	121	+23 06.3	88	52	48	28	7 02	14 59 74	6 52 17				
5	251 36.8	-10 23.0	95 07.9	122	+22 57.5	88	50	5 48	6 26	6 58	15 08 72	6 42 19				
6	266 36.8	-10 22.1	109 39.2	123	+22 48.6	89	45	5 47	6 21	6 51	15 28 67	6 21 24				
7	281 36.9	21.2	124 10.6	124	39.5	91	40	45	17	44	44 63	6 04 28				
8	296 37.0	20.3	138 42.0	124	30.4	91	35	44	13	39	15 57 60	5 49 32				
9	311 37.1	19.4	153 13.6	126	21.1	93	30	42	10	34	16 09 57	36 35				
10	326 37.1	18.5	167 45.2	126	11.8	93	20	37	6 03	25	29 52	5 15 39				
11	341 37.2	-10 17.5	182 16.9	127	+22 02.4	94	10 N	5 32	5 56	6 17	16 46 48	4 56 43				
12	356 37.3	-10 16.6	196 48.6	127	+21 52.9	95	0	5 25	5 49	6 10	17 03 44	4 38 46				
13	11 37.4	15.7	211 20.5	129	43.3	96	0 S	16	41	6 03	19 40	21 49				
14	26 37.5	14.8	225 52.4	129	33.6	97	20	5 06	32	5 55	36 36	4 01 54				
15	41 37.5	13.9	240 24.4	130	23.8	98	30	4 52	21	45	17 55 32	3 39 58				
16	56 37.6	13.0	254 56.5	131	13.9	99	35	43	14	40	18 07 29	26 60				
17	71 37.7	-10 12.1	269 28.6	131	+21 03.9	100	40	4 32	5 06	5 34	18 20 26	3 11 63				
18	86 37.8	-10 11.2	284 00.8	132	+20 53.9	100	45	4 18	4 56	5 26	18 35 22	2 53 67				
19	101 37.9	10.3	298 33.2	134	43.8	101	50	4 01	43	18	18 54 17	30 73				
20	116 37.9	09.3	313 05.5	133	33.5	103	52	3 52	37	14	19 02 15	19 76				
21	131 38.0	08.4	327 38.0	135	23.2	103	54	43	31	09	12 12	2 07 78				
22	146 38.1	07.5	342 10.5	135	12.9	103	56	31	23	5 04	23 9	1 53 82				
23	161 38.2	06.6	356 43.2	137	+20 02.4	105	58	18	15	4 59	36 5	36 87				
24	176 38.3	-10 05.7	11 15.8	136	+19 51.8	106	60 S	3 02	4 05	4 52	19 51 0	1 15 94				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 13 <sup>h</sup> 52.1 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 24 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 37 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	151 24.3	202 19.6	-18 59.0		202 00.7	-19 33.8	113 29.8	+13 55.3	170 15.1	-9 43.0						
1	166 26.8	217 18.8	58.3		217 01.2	33.4	128 31.9	55.4	185 17.3	42.8						
2	181 29.3	232 18.1	57.6		232 01.7	32.9	143 34.0	55.5	200 19.4	42.7						
3	196 31.7	247 17.4	56.9		247 02.2	32.4	158 36.0	55.7	215 21.6	42.6						
4	211 34.2	262 16.6	56.3		262 02.6	31.9	173 38.1	55.8	230 23.8	42.5						
5	226 36.6	277 15.9	-18 55.6		277 03.1	-19 31.5	188 40.2	+13 55.9	245 26.0	-9 42.4						
6	241 39.1	292 15.2	-18 54.9		292 03.6	-19 31.0	203 42.3	+13 56.1	260 28.1	-9 42.3						
7	256 41.6	307 14.5	54.3		307 04.1	30.5	218 44.4	56.2	275 30.3	42.2						
8	271 44.0	322 13.7	53.6		322 04.6	30.1	233 46.5	56.3	290 32.5	42.1						
9	286 46.5	337 13.0	52.9		337 05.0	29.6	248 48.6	56.5	305 34.7	41.9						
10	301 49.0	352 12.3	52.2		352 05.5	29.1	263 50.7	56.6	320 36.9	41.8						
11	316 51.4	7 11.5	-18 51.5		7 06.0	-19 28.6	278 52.7	+13 56.7	335 39.0	-9 41.7						
12	331 53.9	22 10.8	-18 50.9		22 06.5	-19 28.2	293 54.8	+13 56.8	350 41.2	-9 41.6						
13	346 56.4	37 10.1	50.2		37 07.0	27.7	308 56.9	57.0	5 43.4	41.5						
14	1 58.8	52 09.4	49.5		52 07.4	27.2	323 59.0	57.1	20 45.6	41.4						
15	17 01.3	67 08.6	48.8		67 07.9	26.8	339 01.1	57.2	35 47.7	41.3						
16	32 03.8	82 07.9	48.1		82 08.4	26.3	354 03.2	57.4	50 49.9	41.1						
17	47 06.2	97 07.2	-18 47.5		97 08.9	-19 25.8	9 05.3	+13 57.5	65 52.1	-9 41.0						
18	62 08.7	112 06.5	-18 46.8		112 09.4	-19 25.3	24 07.3	+13 57.6	80 54.3	-9 40.9						
19	77 11.1	127 05.7	46.1		127 09.9	24.8	39 09.4	57.8	95 56.5	40.8						
20	92 13.6	142 05.0	45.4		142 10.3	24.4	54 11.5	57.9	110 58.6	40.7						
21	107 16.1	157 04.3	44.7		157 10.8	23.9	69 13.6	58.0	126 00.8	40.6						
22	122 18.5	172 03.6	44.0		172 11.3	23.4	84 15.7	58.2	141 03.0	40.5						
23	137 21.0	187 02.9	43.3		187 11.8	22.9	99 17.8	58.3	156 05.2	40.4						
24	152 23.5	202 02.1	-18 42.6		202 12.3	-19 22.5	114 19.8	+13 58.4	171 07.3	-9 40.2						
Dif	—	-7	+7		+5	+5	+21	+1	+22	+1						

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.4 <sup>m</sup>		SD: 14.8' Edad: 13.0 <sup>d</sup> PMG: 23 <sup>h</sup> 57 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.1'				R°: 41 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	176 38.3	-10 05.7	11 15.8	+19 51.8	106	60 N	17 11	17 53	18 41	15 36 86	7 49 0					
1	191 38.3	04.8	25 48.6 <sup>138</sup>	41.2	106	58	16	56	41	47 82	37 4					
2	206 38.4	03.9	40 21.5 <sup>139</sup>	30.5	107	56	20	17 58	41	15 57 79	27 7					
3	221 38.5	03.0	54 54.4 <sup>139</sup>	19.7	108	54	24	18 00	41	16 06 75	17 11					
4	236 38.6	02.0	69 27.4 <sup>140</sup>	+19 08.9	108	52	28	02	41	13 73	09 13					
5	251 38.7	-10 01.1	84 00.4 <sup>140</sup>	+18 57.9	110	50	17 31	18 04	18 41	16 20 71	7 01 16					
6	266 38.8	-10 00.2	98 33.5 <sup>141</sup>	+18 46.9	110	45	17 38	18 08	18 42	16 35 65	6 45 21					
7	281 38.8	-9 59.3	113 06.8 <sup>143</sup>	35.8	111	40	44	12	43	47 61	32 24					
8	296 38.9	58.4	127 40.0 <sup>142</sup>	24.7	111	35	50	15	45	16 57 58	21 27					
9	311 39.0	57.5	142 13.4 <sup>144</sup>	13.5	112	30	17 54	19	46	17 06 55	6 11 30					
10	326 39.1	56.6	156 46.8 <sup>144</sup>	+18 02.2	113	20	18 03	25	51	21 50	5 54 35					
11	341 39.2	-9 55.6	171 20.3 <sup>145</sup>	+17 50.8	114	10 N	18 10	18 31	18 56	17 34 46	5 39 39					
12	356 39.3	-9 54.7	185 53.8 <sup>145</sup>	+17 39.4	114	0	18 17	18 38	19 02	17 47 41	5 24 43					
13	11 39.3	53.8	200 27.5 <sup>147</sup>	27.9	115	10 S	24	45	10	17 59 38	5 10 47					
14	26 39.4	52.9	215 01.1 <sup>146</sup>	16.3	116	20	31	18 54	20	18 12 34	4 55 51					
15	41 39.5	52.0	229 34.9 <sup>148</sup>	+17 04.7	116	30	40	19 05	34	27 29	37 56					
16	56 39.6	51.1	244 08.7 <sup>148</sup>	+16 53.0	117	35	45	11	42	36 26	26 59					
17	71 39.7	-9 50.1	258 42.6 <sup>149</sup>	+16 41.2	118	40	18 51	19 19	19 53	18 46 22	4 14 63					
18	86 39.8	-9 49.2	273 16.6 <sup>150</sup>	+16 29.4	118	45	18 58	19 29	20 06	18 57 19	4 00 67					
19	101 39.9	48.3	287 50.6 <sup>150</sup>	17.5	119	50	19 06	40	22	19 11 14	3 43 71					
20	116 39.9	47.4	302 24.7 <sup>151</sup>	+16 05.5	120	52	10	46	30	17 12	35 74					
21	131 40.0	46.5	316 58.8 <sup>151</sup>	+15 53.5	120	54	14	52	40	24 10	25 77					
22	146 40.1	45.6	331 33.0 <sup>152</sup>	41.5	120	56	19	19 59	20 50	32 7	15 80					
23	161 40.2	44.6	346 07.3 <sup>153</sup>	29.3	122	58	24	20 07	21 03	41 3	3 03 84					
24	176 40.3	-9 43.7	0 41.6 <sup>153</sup>	+15 17.1	122	60 S	19 30	20 16	21 18	19 51 -1	2 49 89					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 48.2 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 31 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 20 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 34 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	152 23.5	202 02.1	-18 42.6	202 12.3	-19 22.5	114 19.8	+13 58.4	171 07.3	-9 40.2	
1	167 25.9	217 01.4	41.9	217 12.7	22.0	129 21.9	58.6	186 09.5	40.1	
2	182 28.4	232 00.7	41.3	232 13.2	21.5	144 24.0	58.7	201 11.7	40.0	
3	197 30.9	247 00.0	40.6	247 13.7	21.0	159 26.1	58.8	216 13.9	39.9	
4	212 33.3	261 59.2	39.9	262 14.2	20.6	174 28.2	59.0	231 16.1	39.8	
5	227 35.8	276 58.5	-18 39.2	277 14.7	-19 20.1	189 30.3	+13 59.1	246 18.2	-9 39.7	
6	242 38.3	291 57.8	-18 38.5	292 15.2	-19 19.6	204 32.3	+13 59.2	261 20.4	-9 39.6	
7	257 40.7	306 57.1	37.8	307 15.6	19.1	219 34.4	59.3	276 22.6	39.4	
8	272 43.2	321 56.4	37.1	322 16.1	18.6	234 36.5	59.5	291 24.8	39.3	
9	287 45.6	336 55.7	36.4	337 16.6	18.2	249 38.6	59.6	306 26.9	39.2	
10	302 48.1	351 54.9	35.7	352 17.1	17.7	264 40.7	59.7	321 29.1	39.1	
11	317 50.6	6 54.2	-18 35.0	7 17.6	-19 17.2	279 42.7	+13 59.9	336 31.3	-9 39.0	
12	332 53.0	21 53.5	-18 34.3	22 18.1	-19 16.7	294 44.8	+14 00.0	351 33.5	-9 38.9	
13	347 55.5	36 52.8	33.6	37 18.6	16.2	309 46.9	00.1	6 35.6	38.8	
14	2 58.0	51 52.1	32.9	52 19.0	15.7	324 49.0	00.3	21 37.8	38.7	
15	18 00.4	66 51.4	32.2	67 19.5	15.3	339 51.1	00.4	36 40.0	38.5	
16	33 02.9	81 50.6	31.5	82 20.0	14.8	354 53.1	00.5	51 42.2	38.4	
17	48 05.4	96 49.9	-18 30.8	97 20.5	-19 14.3	9 55.2	+14 00.7	66 44.4	-9 38.3	
18	63 07.8	111 49.2	-18 30.0	112 21.0	-19 13.8	24 57.3	+14 00.8	81 46.5	-9 38.2	
19	78 10.3	126 48.5	29.3	127 21.5	13.3	39 59.4	00.9	96 48.7	38.1	
20	93 12.7	141 47.8	28.6	142 21.9	12.8	55 01.5	01.1	111 50.9	38.0	
21	108 15.2	156 47.1	27.9	157 22.4	12.4	70 03.5	01.2	126 53.1	37.9	
22	123 17.7	171 46.4	27.2	172 22.9	11.9	85 05.6	01.3	141 55.2	37.7	
23	138 20.1	186 45.7	26.5	187 23.4	11.4	100 07.7	01.5	156 57.4	37.6	
24	153 22.6	201 44.9	-18 25.8	202 23.9	-19 10.9	115 09.8	+14 01.6	171 59.6	-9 37.5	

Dif	—	-7	+7	+5	+5	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.2' PMG: 12 <sup>h</sup> 13.2 <sup>m</sup>		SD: 14.7' Edad: 14.0 <sup>d</sup> PMG: **h **m R°: ***m					PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'			Hora R°		Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	h m	m	h m	m
0	176 40.3	-9 43.7	0 41.6		+15 17.1	122	60 N	5 44	6 32	7 14	17 02	84	7 49	0	
1	191 40.4	42.8	15 16.0	154	+15 04.9	123	58	44	30	10	09 80	41	3	3	
2	206 40.5	41.9	29 50.5	155	+14 52.6	123	56	44	27	05	16 76	34	6	6	
3	221 40.6	41.0	44 25.0	155	40.3	123	54	45	25	7 01	21 74	28	8	8	
4	236 40.7	40.0	58 59.6	156	27.8	125	52	45	24	6 58	26 71	22	11	11	
5	251 40.7	-9 39.1	73 34.2	156	+14 15.4	124	50	5 44	6 22	6 55	17 31	68	7 17	13	
6	266 40.8	-9 38.2	88 08.9	157	+14 02.9	125	45	5 44	6 18	6 47	17 40	64	7 06	17	
7	281 40.9	37.3	102 43.6	157	+13 50.3	126	40	43	14	42	48 60	6 56	21	21	
8	296 41.0	36.4	117 18.4	158	37.7	126	35	41	11	36	17 55	56	48	25	
9	311 41.1	35.4	131 53.2	158	25.1	126	30	40	08	32	18 01	53	41	27	
10	326 41.2	34.5	146 28.1	159	+13 12.3	128	20	36	6 02	24	11 49	29	32	32	
11	341 41.3	-9 33.6	161 03.1	160	+12 59.6	127	10 N	5 31	5 55	6 17	18 20	44	6 18	36	
12	356 41.4	-9 32.7	175 38.1	160	+12 46.8	128	0	5 25	5 49	6 10	18 28	40	6 07	41	
13	11 41.5	31.7	190 13.1	160	33.9	129	10 S	5 17	42	6 03	37 36	5 57	44	44	
14	26 41.6	30.8	204 48.2	161	21.1	128	20	5 07	33	5 55	46 31	46	49	49	
15	41 41.6	29.9	219 23.4	162	+12 08.1	130	30	4 53	22	47	18 56	26	33	54	
16	56 41.7	29.0	233 58.6	162	+11 55.1	130	35	45	16	42	19 02	23	25	57	
17	71 41.8	-9 28.1	248 33.8	162	+11 42.1	130	40	4 34	5 08	5 36	19 08	20	5 17	60	
18	86 41.9	-9 27.1	263 09.1	163	+11 29.1	130	45	4 22	4 59	5 29	19 16	16	5 07	64	
19	101 42.0	26.2	277 44.5	164	15.9	132	50	4 05	47	21	25 12	4 54	70	70	
20	116 42.1	25.3	292 19.8	163	+11 02.8	131	52	3 57	41	17	29 10	49	71	71	
21	131 42.2	24.4	306 55.3	165	+10 49.6	132	54	48	35	13	34 7	42	75	75	
22	146 42.3	23.4	321 30.7	164	36.4	132	56	37	28	09	39 5	35	78	78	
23	161 42.4	22.5	336 06.2	165	23.2	132	58	25	20	5 03	44 2	27	81	81	
24	176 42.5	-9 21.6	350 41.8	166	+10 09.9	133	60 S	3 10	4 11	4 58	19 50	-1	4 18	85	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 13 <sup>h</sup> 44.2 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 34 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 30 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 17 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 30 <sup>m</sup>						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
0	153 22.6	201 44.9	-18 25.8	202 23.9	-19 10.9	115 09.8	+14 01.6	171 59.6	-9 37.5						
1	168 25.1	216 44.2	25.1	217 24.4	10.4	130 11.9	01.7	187 01.8	37.4						
2	183 27.5	231 43.5	24.4	232 24.9	09.9	145 13.9	01.9	202 04.0	37.3						
3	198 30.0	246 42.8	23.6	247 25.3	09.4	160 16.0	02.0	217 06.1	37.2						
4	213 32.5	261 42.1	22.9	262 25.8	09.0	175 18.1	02.1	232 08.3	37.1						
5	228 34.9	276 41.4	-18 22.2	277 26.3	-19 08.5	190 20.2	+14 02.3	247 10.5	-9 37.0						
6	243 37.4	291 40.7	-18 21.5	292 26.8	-19 08.0	205 22.2	+14 02.4	262 12.7	-9 36.8						
7	258 39.9	306 40.0	20.8	307 27.3	07.5	220 24.3	02.5	277 14.8	36.7						
8	273 42.3	321 39.3	20.0	322 27.8	07.0	235 26.4	02.7	292 17.0	36.6						
9	288 44.8	336 38.6	19.3	337 28.3	06.5	250 28.5	02.8	307 19.2	36.5						
10	303 47.2	351 37.9	18.6	352 28.8	06.0	265 30.6	02.9	322 21.4	36.4						
11	318 49.7	6 37.2	-18 17.9	7 29.2	-19 05.5	280 32.6	+14 03.1	337 23.5	-9 36.3						
12	333 52.2	21 36.5	-18 17.2	22 29.7	-19 05.0	295 34.7	+14 03.2	352 25.7	-9 36.2						
13	348 54.6	36 35.7	16.4	37 30.2	04.5	310 36.8	03.3	7 27.9	36.0						
14	3 57.1	51 35.0	15.7	52 30.7	04.1	325 38.9	03.5	22 30.1	35.9						
15	18 59.6	66 34.3	15.0	67 31.2	03.6	340 40.9	03.6	37 32.3	35.8						
16	34 02.0	81 33.6	14.3	82 31.7	03.1	355 43.0	03.7	52 34.4	35.7						
17	49 04.5	96 32.9	-18 13.5	97 32.2	-19 02.6	10 45.1	+14 03.9	67 36.6	-9 35.6						
18	64 07.0	111 32.2	-18 12.8	112 32.7	-19 02.1	25 47.2	+14 04.0	82 38.8	-9 35.5						
19	79 09.4	126 31.5	12.1	127 33.2	01.6	40 49.2	04.1	97 41.0	35.4						
20	94 11.9	141 30.8	11.3	142 33.6	01.1	55 51.3	04.3	112 43.1	35.3						
21	109 14.3	156 30.1	10.6	157 34.1	00.6	70 53.4	04.4	127 45.3	35.1						
22	124 16.8	171 29.4	09.9	172 34.6	-19 00.1	85 55.5	04.5	142 47.5	35.0						
23	139 19.3	186 28.7	09.1	187 35.1	-18 59.6	100 57.5	04.7	157 49.7	34.9						
24	154 21.7	201 28.0	-18 08.4	202 35.6	-18 59.1	115 59.6	+14 04.8	172 51.8	-9 34.8						
Dif	—	-7	+7	+5	+5	+21	+1	+22	+1						

UT	SOL		☉ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 13.1 <sup>m</sup>		SD: 14.7' Edad: 15.0 <sup>d</sup> PMG: 0 <sup>h</sup> 38 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'				R°: 40 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	176 42.5	-9 21.6	350 41.8	+10 09.9	134 58	17 16	17 58	18 46	18 26 81	7 49 -2						
1	191 42.6	20.7	5 17.4	+9 56.5	133 58	20	18 00	46	29 78	44 2						
2	206 42.7	19.7	19 53.0	43.2	133 56	24	02	45	32 75	40 4						
3	221 42.8	18.8	34 28.7	29.8	134 54	28	04	45	35 72	36 7						
4	236 42.9	17.9	49 04.4	16.3	135 52	31	06	45	37 70	33 9						
5	251 43.0	-9 17.0	63 40.1	+9 02.9	134 50	17 34	18 07	18 45	18 39 68	7 30 11						
6	266 43.1	-9 16.0	78 15.9	+8 49.4	135 45	17 41	18 11	18 45	18 44 63	7 23 16						
7	281 43.2	15.1	92 51.7	35.9	135 40	47	14	45	48 59	17 20						
8	296 43.3	14.2	107 27.6	22.3	136 35	51	17	46	51 56	13 22						
9	311 43.3	13.3	122 03.5	+8 08.7	136 30	17 56	20	48	18 54 53	08 26						
10	326 43.4	12.3	136 39.4	+7 55.1	136 20	18 03	26	51	19 00 47	7 01 30						
11	341 43.5	-9 11.4	151 15.3	+7 41.5	136 10 N	18 10	18 31	18 56	19 04 43	6 54 35						
12	356 43.6	-9 10.5	165 51.3	+7 27.8	137 0	18 16	18 37	19 02	19 08 39	6 48 39						
13	11 43.7	09.5	180 27.3	14.1	137 10 S	23	44	09	13 34	41 44						
14	26 43.8	08.6	195 03.3	+7 00.4	137 20	30	18 52	19	17 30	35 48						
15	41 43.9	07.7	209 39.4	+6 46.7	137 30	38	19 03	31	22 25	27 53						
16	56 44.0	06.8	224 15.5	32.9	138 35	43	09	40	25 22	22 56						
17	71 44.1	-9 05.8	238 51.6	+6 19.1	138 40	18 48	19 16	19 49	19 28 20	6 17 60						
18	86 44.2	-9 04.9	253 27.7	+6 05.3	138 45	18 55	19 25	20 02	19 32 16	6 11 63						
19	101 44.3	04.0	268 03.9	+5 51.5	138 50	19 02	36	18	37 11	04 68						
20	116 44.4	03.0	282 40.0	37.6	139 52	06	41	25	39 9	6 00 71						
21	131 44.5	02.1	297 16.2	23.8	138 54	10	47	34	41 7	5 57 73						
22	146 44.6	01.2	311 52.5	+5 09.9	139 56	14	19 54	44	44 4	53 75						
23	161 44.7	-9 00.3	326 28.7	+4 56.0	139 58	19	20 01	20 56	46 2	48 79						
24	176 44.8	-8 59.3	341 05.0	+4 42.0	140 60 S	19 24	20 10	21 10	19 49 -1	5 43 82						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 40.3 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 29 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 14 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 27 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	154 21.7	201 28.0	-18 08.4	202 35.6	-18 59.1	115 59.6	+14 04.8	172 51.8	-9 34.8	
1	169 24.2	216 27.3	07.7	217 36.1	58.6	131 01.7	04.9	187 54.0	34.7	
2	184 26.7	231 26.6	06.9	232 36.6	58.1	146 03.7	05.1	202 56.2	34.6	
3	199 29.1	246 25.9	06.2	247 37.1	57.6	161 05.8	05.2	217 58.4	34.5	
4	214 31.6	261 25.2	05.5	262 37.6	57.1	176 07.9	05.4	233 00.6	34.3	
5	229 34.1	276 24.5	-18 04.7	277 38.1	-18 56.6	191 10.0	+14 05.5	248 02.7	-9 34.2	
6	244 36.5	291 23.8	-18 04.0	292 38.5	-18 56.2	206 12.0	+14 05.6	263 04.9	-9 34.1	
7	259 39.0	306 23.1	03.2	307 39.0	55.7	221 14.1	05.8	278 07.1	34.0	
8	274 41.5	321 22.4	02.5	322 39.5	55.2	236 16.2	05.9	293 09.3	33.9	
9	289 43.9	336 21.7	01.7	337 40.0	54.7	251 18.2	06.0	308 11.4	33.8	
10	304 46.4	351 21.0	01.0	352 40.5	54.2	266 20.3	06.2	323 13.6	33.7	
11	319 48.8	6 20.4	-18 00.3	7 41.0	-18 53.7	281 22.4	+14 06.3	338 15.8	-9 33.6	
12	334 51.3	21 19.7	-17 59.5	22 41.5	-18 53.2	296 24.5	+14 06.4	353 18.0	-9 33.4	
13	349 53.8	36 19.0	58.8	37 42.0	52.7	311 26.5	06.6	8 20.2	33.3	
14	4 56.2	51 18.3	58.0	52 42.5	52.2	326 28.6	06.7	23 22.3	33.2	
15	19 58.7	66 17.6	57.3	67 43.0	51.7	341 30.7	06.8	38 24.5	33.1	
16	35 01.2	81 16.9	56.5	82 43.5	51.2	356 32.7	07.0	53 26.7	33.0	
17	50 03.6	96 16.2	-17 55.8	97 43.9	-18 50.7	11 34.8	+14 07.1	68 28.9	-9 32.9	
18	65 06.1	111 15.5	-17 55.0	112 44.4	-18 50.2	26 36.9	+14 07.2	83 31.0	-9 32.8	
19	80 08.6	126 14.8	54.3	127 44.9	49.7	41 38.9	07.4	98 33.2	32.6	
20	95 11.0	141 14.1	53.5	142 45.4	49.2	56 41.0	07.5	113 35.4	32.5	
21	110 13.5	156 13.4	52.8	157 45.9	48.7	71 43.1	07.6	128 37.6	32.4	
22	125 15.9	171 12.7	52.0	172 46.4	48.2	86 45.2	07.8	143 39.7	32.3	
23	140 18.4	186 12.0	51.2	187 46.9	47.7	101 47.2	07.9	158 41.9	32.2	
24	155 20.9	201 11.4	-17 50.5	202 47.4	-18 47.2	116 49.3	+14 08.1	173 44.1	-9 32.1	

Dif	—	-7	+7	+5	+5	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 12 <sup>h</sup> 12.9 <sup>m</sup>		SD: 14.7' Edad: 16.0 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'			R <sup>o</sup> : 39 <sup>m</sup>			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	h m	h m	h m
0	176 44.8	-8 59.3	341 05.0	172	+4 42.0	139	60 N	5 39	6 27	7 09	19 47 82	7 47 -1		
1	191 44.9	58.4	355 41.2	173	28.1	140	58	39	25	04	47 78	46 1		
2	206 45.0	57.5	10 17.5	173	14.1	140	56	40	23	7 00	47 75	44 5		
3	221 45.1	56.5	24 53.8	173	+4 00.2	139	54	40	21	6 57	47 73	43 7		
4	236 45.2	55.6	39 30.2	174	+3 46.2	140	52	40	19	54	47 70	42 9		
5	251 45.3	-8 54.7	54 06.5	173	+3 32.2	140	50	5 41	6 18	6 51	19 47 68	7 41 11		
6	266 45.4	-8 53.7	68 42.8	173	+3 18.2	140	45	5 41	6 15	6 44	19 47 63	7 39 15		
7	281 45.5	52.8	83 19.2	174	+3 04.1	141	40	40	11	39	47 59	37 19		
8	296 45.6	51.9	97 55.6	174	+2 50.1	140	35	39	08	34	47 56	35 23		
9	311 45.7	50.9	112 32.0	174	36.1	140	30	38	06	30	47 53	34 25		
10	326 45.8	50.0	127 08.3	173	22.0	141	20	35	6 00	22	47 48	31 31		
11	341 45.9	-8 49.1	141 44.7	174	+2 07.9	141	10 N	5 30	5 55	6 16	19 47 43	7 29 35		
12	356 46.0	-8 48.1	156 21.1	174	+1 53.9	140	0	5 24	5 49	6 10	19 47 39	7 27 39		
13	11 46.1	47.2	170 57.5	174	39.8	141	10 S	5 17	42	6 03	47 35	25 43		
14	26 46.3	46.3	185 34.0	175	25.7	141	20	5 08	34	5 56	47 31	23 47		
15	41 46.4	45.3	200 10.4	174	+1 11.6	141	30	4 55	24	48	47 26	20 53		
16	56 46.5	44.4	214 46.8	174	+0 57.5	141	35	4 47	18	44	47 23	18 56		
17	71 46.6	-8 43.5	229 23.2	174	+0 43.4	141	40	4 37	5 10	5 38	19 48 19	7 17 59		
18	86 46.7	-8 42.5	243 59.6	174	+0 29.3	141	45	4 25	5 02	5 32	19 48 15	7 14 63		
19	101 46.8	41.6	258 36.1	175	15.2	141	50	09	4 51	25	48 11	12 68		
20	116 46.9	40.7	273 12.5	174	+0 01.0	142	52	4 01	45	21	48 9	11 70		
21	131 47.0	39.7	287 48.9	174	-0 13.1	141	54	3 53	40	17	48 7	10 72		
22	146 47.1	38.8	302 25.3	174	27.2	141	56	43	33	13	48 4	08 75		
23	161 47.2	37.9	317 01.7	174	41.3	141	58	31	26	08	48 2	07 78		
24	176 47.3	-8 36.9	331 38.1	174	-0 55.4	141	60 S	3 17	4 17	5 03	19 48 -1	7 05 81		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 36.4 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 36 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 23 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	155 20.9	201 11.4	-17 50.5	202 47.4	-18 47.2	116 49.3	+14 08.1	173 44.1	-9 32.1	
1	170 23.3	216 10.7	49.7	217 47.9	46.7	131 51.4	08.2	188 46.3	32.0	
2	185 25.8	231 10.0	49.0	232 48.4	46.1	146 53.4	08.3	203 48.5	31.9	
3	200 28.3	246 09.3	48.2	247 48.9	45.6	161 55.5	08.5	218 50.6	31.7	
4	215 30.7	261 08.6	47.5	262 49.4	45.1	176 57.6	08.6	233 52.8	31.6	
5	230 33.2	276 07.9	-17 46.7	277 49.9	-18 44.6	191 59.6	+14 08.7	248 55.0	-9 31.5	
6	245 35.7	291 07.2	-17 45.9	292 50.4	-18 44.1	207 01.7	+14 08.9	263 57.2	-9 31.4	
7	260 38.1	306 06.5	45.2	307 50.9	43.6	222 03.8	09.0	278 59.3	31.3	
8	275 40.6	321 05.9	44.4	322 51.4	43.1	237 05.8	09.1	294 01.5	31.2	
9	290 43.1	336 05.2	43.6	337 51.8	42.6	252 07.9	09.3	309 03.7	31.1	
10	305 45.5	351 04.5	42.9	352 52.3	42.1	267 10.0	09.4	324 05.9	30.9	
11	320 48.0	6 03.8	-17 42.1	7 52.8	-18 41.6	282 12.0	+14 09.5	339 08.0	-9 30.8	
12	335 50.4	21 03.1	-17 41.3	22 53.3	-18 41.1	297 14.1	+14 09.7	354 10.2	-9 30.7	
13	350 52.9	36 02.4	40.6	37 53.8	40.6	312 16.2	09.8	9 12.4	30.6	
14	5 55.4	51 01.8	39.8	52 54.3	40.1	327 18.2	10.0	24 14.6	30.5	
15	20 57.8	66 01.1	39.0	67 54.8	39.6	342 20.3	10.1	39 16.8	30.4	
16	36 00.3	81 00.4	38.3	82 55.3	39.1	357 22.4	10.2	54 18.9	30.3	
17	51 02.8	95 59.7	-17 37.5	97 55.8	-18 38.6	12 24.4	+14 10.4	69 21.1	-9 30.2	
18	66 05.2	110 59.0	-17 36.7	112 56.3	-18 38.0	27 26.5	+14 10.5	84 23.3	-9 30.0	
19	81 07.7	125 58.3	36.0	127 56.8	37.5	42 28.5	10.6	99 25.5	29.9	
20	96 10.2	140 57.7	35.2	142 57.3	37.0	57 30.6	10.8	114 27.6	29.8	
21	111 12.6	155 57.0	34.4	157 57.8	36.5	72 32.7	10.9	129 29.8	29.7	
22	126 15.1	170 56.3	33.6	172 58.3	36.0	87 34.7	11.0	144 32.0	29.6	
23	141 17.6	185 55.6	32.9	187 58.8	35.5	102 36.8	11.2	159 34.2	29.5	
24	156 20.0	200 55.0	-17 32.1	202 59.3	-18 35.0	117 38.9	+14 11.3	174 36.3	-9 29.4	
Dif	—	-7	+8	+5	+5	+21	+1	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 12.8 <sup>m</sup>		SD: 14.7' Edad: 17.0 <sup>d</sup> PMG: 1 <sup>h</sup> 57 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.2'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	176 47.3	-8 36.9	331 38.1	174	-0 55.4	141	60 N	17 21	18 03	18 51	21 09 84	7 46 -1				
1	191 47.4	36.0	346 14.5	174	-1 09.5	141	58	25	05	50	05 81	47 2				
2	206 47.5	35.0	0 50.9	174	23.7	142	56	29	06	49	02 77	49 4				
3	221 47.6	34.1	15 27.3	174	37.8	141	54	32	08	49	21 00 74	50 7				
4	236 47.7	33.2	30 03.7	174	-1 51.9	141	52	35	09	48	20 57 72	51 9				
5	251 47.8	-8 32.2	44 40.0	173	-2 06.0	141	50	17 38	18 10	18 48	20 55 69	7 52 11				
6	266 47.9	-8 31.3	59 16.4	174	-2 20.1	141	45	17 44	18 13	18 47	20 50 65	7 54 16				
7	281 48.1	30.4	73 52.7	173	34.2	141	40	49	16	48	46 61	56 20				
8	296 48.2	29.4	88 29.0	173	-2 48.3	141	35	53	19	48	43 57	58 23				
9	311 48.3	28.5	103 05.3	173	-3 02.4	141	30	17 57	21	49	40 54	7 59 26				
10	326 48.4	27.5	117 41.6	173	16.4	140	20	18 04	26	52	35 49	8 02 30				
11	341 48.5	-8 26.6	132 17.9	173	-3 30.5	141	10 N	18 10	18 31	18 56	20 30 45	8 04 35				
12	356 48.6	-8 25.7	146 54.1	172	-3 44.5	140	0	18 16	18 37	19 01	20 26 40	8 06 39				
13	11 48.7	24.7	161 30.4	173	-3 58.6	141	10 S	22	43	08	22 36	08 43				
14	26 48.8	23.8	176 06.6	172	-4 12.6	140	20	29	18 51	17	18 31	10 48				
15	41 48.9	22.8	190 42.8	172	26.7	141	30	36	19 00	29	13 26	13 53				
16	56 49.0	21.9	205 19.0	172	40.7	140	35	40	06	37	10 24	14 56				
17	71 49.1	-8 21.0	219 55.1	171	-4 54.7	140	40	18 45	19 13	19 46	20 07 20	8 16 59				
18	86 49.3	-8 20.0	234 31.2	171	-5 08.6	139	45	18 51	19 21	19 58	20 03 17	8 17 64				
19	101 49.4	19.1	249 07.3	171	22.6	140	50	18 58	32	20 13	19 59 12	20 68				
20	116 49.5	18.1	263 43.4	171	36.6	140	52	19 01	37	20	57 10	21 71				
21	131 49.6	17.2	278 19.4	170	-5 50.5	139	54	05	42	28	55 7	22 73				
22	146 49.7	16.3	292 55.5	171	-6 04.4	139	56	09	48	38	52 5	23 76				
23	161 49.8	15.3	307 31.4	169	18.3	139	58	13	19 55	20 49	50 2	25 79				
24	176 49.9	-8 14.4	322 07.4	170	-6 32.2	139	60 S	19 18	20 03	21 02	19 47 -1	8 26 83				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 <sup>h</sup> 32.4 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 37 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 07 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 20 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	156 20.0	200 55.0	-17 32.1	202 59.3	-18 35.0	117 38.9	+14 11.3	174 36.3	-9 29.4	
1	171 22.5	215 54.3	31.3	217 59.8	34.5	132 40.9	11.5	189 38.5	29.2	
2	186 24.9	230 53.6	30.5	233 00.3	34.0	147 43.0	11.6	204 40.7	29.1	
3	201 27.4	245 52.9	29.7	248 00.8	33.5	162 45.0	11.7	219 42.9	29.0	
4	216 29.9	260 52.2	29.0	263 01.3	32.9	177 47.1	11.9	234 45.1	28.9	
5	231 32.3	275 51.6	-17 28.2	278 01.8	-18 32.4	192 49.2	+14 12.0	249 47.2	-9 28.8	
6	246 34.8	290 50.9	-17 27.4	293 02.3	-18 31.9	207 51.2	+14 12.1	264 49.4	-9 28.7	
7	261 37.3	305 50.2	26.6	308 02.8	31.4	222 53.3	12.3	279 51.6	28.6	
8	276 39.7	320 49.5	25.8	323 03.3	30.9	237 55.4	12.4	294 53.8	28.4	
9	291 42.2	335 48.9	25.0	338 03.8	30.4	252 57.4	12.6	309 55.9	28.3	
10	306 44.7	350 48.2	24.3	353 04.3	29.9	267 59.5	12.7	324 58.1	28.2	
11	321 47.1	5 47.5	-17 23.5	8 04.8	-18 29.3	283 01.5	+14 12.8	340 00.3	-9 28.1	
12	336 49.6	20 46.8	-17 22.7	23 05.3	-18 28.8	298 03.6	+14 13.0	355 02.5	-9 28.0	
13	351 52.0	35 46.2	21.9	38 05.8	28.3	313 05.7	13.1	10 04.6	27.9	
14	6 54.5	50 45.5	21.1	53 06.3	27.8	328 07.7	13.2	25 06.8	27.8	
15	21 57.0	65 44.8	20.3	68 06.8	27.3	343 09.8	13.4	40 09.0	27.7	
16	36 59.4	80 44.2	19.5	83 07.3	26.8	358 11.8	13.5	55 11.2	27.5	
17	52 01.9	95 43.5	-17 18.7	98 07.8	-18 26.2	13 13.9	+14 13.6	70 13.4	-9 27.4	
18	67 04.4	110 42.8	-17 17.9	113 08.3	-18 25.7	28 16.0	+14 13.8	85 15.5	-9 27.3	
19	82 06.8	125 42.1	17.1	128 08.8	25.2	43 18.0	13.9	100 17.7	27.2	
20	97 09.3	140 41.5	16.3	143 09.3	24.7	58 20.1	14.1	115 19.9	27.1	
21	112 11.8	155 40.8	15.6	158 09.8	24.2	73 22.1	14.2	130 22.1	27.0	
22	127 14.2	170 40.1	14.8	173 10.3	23.7	88 24.2	14.3	145 24.2	26.9	
23	142 16.7	185 39.5	14.0	188 10.8	23.1	103 26.3	14.5	160 26.4	26.7	
24	157 19.2	200 38.8	-17 13.2	203 11.3	-18 22.6	118 28.3	+14 14.6	175 28.6	-9 26.6	

Dif	-	-7	+8	+5	+5	+21	+1	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 12 <sup>h</sup> 12.6 <sup>m</sup>		SD: 14.8' Edad: 18.0 <sup>d</sup> PMG: 2 <sup>h</sup> 36 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.5'			R°: 40 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h	m	m
0	176 49.9	-8 14.4	322 07.4		- 6 32.2		<b>60 N</b>	5 33	6 21	7 03	22 33 88	7 45 -1				
1	191 50.0	13.4	336 43.3	169	46.1	139	<b>58</b>	34	19	6 59	26 84 49	3				
2	206 50.1	12.5	351 19.2	169	- 6 59.9	138	<b>56</b>	35	18	55	19 81 53	6				
3	221 50.3	11.6	5 55.1	169	- 7 13.8	139	<b>54</b>	36	17	52	14 77 7	57 8				
4	236 50.4	10.6	20 30.9	168	27.6	138	<b>52</b>	36	15	49	09 74 8	00 11				
5	251 50.5	-8 09.7	35 06.7	168	- 7 41.4	138	<b>50</b>	5 37	6 14	6 47	22 04 72	8 03 13				
6	266 50.6	-8 08.7	49 42.4	167	- 7 55.1	137	<b>45</b>	5 37	6 11	6 41	21 55 66	8 10 18				
7	281 50.7	07.8	64 18.1	167	- 8 08.9	138	<b>40</b>	37	09	36	47 62 16	21				
8	296 50.8	06.8	78 53.8	167	22.6	137	<b>35</b>	37	06	31	40 59 21	24				
9	311 50.9	05.9	93 29.4	166	36.3	137	<b>30</b>	36	6 04	28	34 56 25	27				
10	326 51.0	05.0	108 05.0	166	- 8 49.9	136	<b>20</b>	33	5 59	21	24 51 32	33				
11	341 51.2	-8 04.0	122 40.6	166	- 9 03.6	137	<b>10 N</b>	5 29	5 54	6 15	21 15 46	8 39 37				
12	356 51.3	-8 03.1	137 16.1	165	- 9 17.2	136	<b>0</b>	5 24	5 48	6 09	21 06 43	8 45 41				
13	11 51.4	02.1	151 51.5	164	30.7	135	<b>10 S</b>	17	42	6 03	20 58 38	51 46				
14	26 51.5	01.2	166 26.9	164	44.3	136	<b>20</b>	5 09	35	5 57	49 34 8	58 50				
15	41 51.6	-8 00.2	181 02.3	164	- 9 57.8	135	<b>30</b>	4 57	25	50	39 29 9	06 55				
16	56 51.7	-7 59.3	195 37.6	163	- 10 11.3	135	<b>35</b>	49	20	45	34 26 10	58				
17	71 51.9	-7 58.4	210 12.9	163	- 10 24.7	134	<b>40</b>	4 40	5 13	5 41	20 27 23	9 15 62				
18	86 52.0	-7 57.4	224 48.1	162	- 10 38.2	135	<b>45</b>	4 28	5 05	5 35	20 20 19	9 21 66				
19	101 52.1	56.5	239 23.3	162	- 10 51.6	134	<b>50</b>	13	4 54	28	11 14 28	71				
20	116 52.2	55.5	253 58.4	161	- 11 04.9	133	<b>52</b>	4 06	49	25	07 12 32	72				
21	131 52.3	54.6	268 33.4	160	18.2	133	<b>54</b>	3 58	44	21	20 02 10	35 76				
22	146 52.4	53.6	283 08.4	160	31.5	133	<b>56</b>	48	38	17	19 57 7	39 79				
23	161 52.5	52.7	297 43.4	160	44.8	133	<b>58</b>	37	31	13	52 3 44	81				
24	176 52.7	-7 51.7	312 18.3	159	- 11 58.0	132	<b>60 S</b>	3 25	4 23	5 08	19 46 -1	9 49 85				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 28.5 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 16 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	157 19.2	200 38.8	- 17 13.2	203 11.3	- 18 22.6	118 28.3	+ 14 14.6	175 28.6	- 9 26.6	
1	172 21.6	215 38.1	12.4	218 11.8	22.1	133 30.4	14.7	190 30.8	26.5	
2	187 24.1	230 37.5	11.6	233 12.3	21.6	148 32.4	14.9	205 32.9	26.4	
3	202 26.5	245 36.8	10.8	248 12.8	21.1	163 34.5	15.0	220 35.1	26.3	
4	217 29.0	260 36.1	10.0	263 13.3	20.5	178 36.5	15.2	235 37.3	26.2	
5	232 31.5	275 35.5	- 17 09.2	278 13.8	- 18 20.0	193 38.6	+ 14 15.3	250 39.5	- 9 26.1	
6	247 33.9	290 34.8	- 17 08.4	293 14.3	- 18 19.5	208 40.7	+ 14 15.4	265 41.7	- 9 26.0	
7	262 36.4	305 34.1	07.6	308 14.8	19.0	223 42.7	15.6	280 43.8	25.8	
8	277 38.9	320 33.5	06.7	323 15.3	18.5	238 44.8	15.7	295 46.0	25.7	
9	292 41.3	335 32.8	05.9	338 15.8	17.9	253 46.8	15.9	310 48.2	25.6	
10	307 43.8	350 32.2	05.1	353 16.3	17.4	268 48.9	16.0	325 50.4	25.5	
11	322 46.3	5 31.5	- 17 04.3	8 16.8	- 18 16.9	283 50.9	+ 14 16.1	340 52.5	- 9 25.4	
12	337 48.7	20 30.8	- 17 03.5	23 17.3	- 18 16.4	298 53.0	+ 14 16.3	355 54.7	- 9 25.3	
13	352 51.2	35 30.2	02.7	38 17.8	15.8	313 55.0	16.4	10 56.9	25.2	
14	7 53.6	50 29.5	01.9	53 18.3	15.3	328 57.1	16.5	25 59.1	25.0	
15	22 56.1	65 28.8	01.1	68 18.8	14.8	343 59.2	16.7	41 01.2	24.9	
16	37 58.6	80 28.2	- 17 00.3	83 19.3	14.3	359 01.2	16.8	56 03.4	24.8	
17	53 01.0	95 27.5	- 16 59.5	98 19.8	- 18 13.7	14 03.3	+ 14 17.0	71 05.6	- 9 24.7	
18	68 03.5	110 26.9	- 16 58.7	113 20.3	- 18 13.2	29 05.3	+ 14 17.1	86 07.8	- 9 24.6	
19	83 06.0	125 26.2	57.8	128 20.8	12.7	44 07.4	17.2	101 10.0	24.5	
20	98 08.4	140 25.6	57.0	143 21.3	12.2	59 09.4	17.4	116 12.1	24.4	
21	113 10.9	155 24.9	56.2	158 21.8	11.6	74 11.5	17.5	131 14.3	24.3	
22	128 13.4	170 24.2	55.4	173 22.3	11.1	89 13.5	17.7	146 16.5	24.1	
23	143 15.8	185 23.6	54.6	188 22.8	10.6	104 15.6	17.8	161 18.7	24.0	
24	158 18.3	200 22.9	- 16 53.8	203 23.3	- 18 10.1	119 17.6	+ 14 17.9	176 20.8	- 9 23.9	
Dif	—	-7	+8	+5	+5	+21	+1	+22	+1	

UT	SOL		LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 12 <sup>h</sup> 12.4 <sup>m</sup>		SD: 14.9' Edad: 19.0 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.9'PMG: 3 <sup>h</sup> 16 <sup>m</sup> R°: 43 <sup>m</sup>					Civil		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m			h m	h m	h m	m	h m	m
0	176 52.7	-7 51.7	312 18.3	158	-11 58.0	131	60 N	17 26	18 08	18 56	** **	23 50	89	7 44	-1
1	191 52.8	50.8	326 53.1	158	-12 11.1	132	58	30	09	55	23 50	89	52	4	
2	206 52.9	49.8	341 27.9	157	24.3	132	56	33	10	53	40	84	7 59	7	
3	221 53.0	48.9	356 02.6	157	37.4	131	54	36	12	52	31	81	8 05	11	
4	236 53.1	47.9	10 37.3	157	-12 50.4	130	52	39	13	52	23	78	11 13		
5	251 53.3	-7 47.0	25 11.9	156	-13 03.4	130	50	17 41	18 14	18 51	23 16	75	8 16	16	
6	266 53.4	-7 46.1	39 46.4	155	-13 16.4	130	45	17 47	18 16	18 50	23 01	70	8 28	20	
7	281 53.5	45.1	54 20.9	155	29.3	129	40	51	18	50	22 49	65	37	25	
8	296 53.6	44.2	68 55.3	154	42.2	129	35	55	21	50	39	62	45	28	
9	311 53.7	43.2	83 29.6	153	-13 55.0	128	30	17 59	23	50	30	59	8 52	31	
10	326 53.8	42.3	98 03.9	153	-14 07.8	128	20	18 05	27	53	15	53	9 05	36	
11	341 54.0	-7 41.3	112 38.1	152	-14 20.5	127	10 N	18 10	18 32	18 56	22 01	50	9 16	40	
12	356 54.1	-7 40.4	127 12.2	151	-14 33.2	127	0	18 16	18 37	19 01	21 49	46	9 26	44	
13	11 54.2	39.4	141 46.3	151	45.8	126	10 S	21	42	07	36	42	37	48	
14	26 54.3	38.5	156 20.3	150	-14 58.4	126	20	27	49	15	23	38	9 48	52	
15	41 54.4	37.5	170 54.2	149	-15 11.0	126	30	34	18 58	27	08	33	10 01	57	
16	56 54.6	36.6	185 28.1	149	23.4	124	35	38	19 04	34	21 00	30	08	60	
17	71 54.7	-7 35.6	200 01.8	147	-15 35.9	125	40	18 42	19 10	19 43	20 50	27	10 17	63	
18	86 54.8	-7 34.7	214 35.5	147	-15 48.2	123	45	18 48	19 18	19 54	20 39	23	10 27	67	
19	101 54.9	33.7	229 09.1	146	-16 00.6	124	50	54	27	20 08	25	18	39	73	
20	116 55.1	32.8	243 42.7	146	12.8	122	52	18 57	32	15	19	15	44	76	
21	131 55.2	31.8	258 16.2	145	25.0	122	54	19 00	37	23	12	12	51	78	
22	146 55.3	30.9	272 49.5	143	37.2	122	56	04	43	32	20 04	9	10 58	82	
23	161 55.4	29.9	287 22.9	144	-16 49.3	121	58	08	49	42	19 55	6	11 05	87	
24	176 55.5	-7 29.0	301 56.1	142	-17 01.3	120	60 S	19 12	19 57	20 54	19 45	1	11 14	92	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 13 <sup>h</sup> 24.6 <sup>m</sup>		Mag.: -3.9 PMG: 10 <sup>h</sup> 39 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 26 <sup>m</sup>		Mag.: -2.2 PMG: 16 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 13 <sup>m</sup>						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
0	158 18.3	200 22.9	-16 53.8	203 23.3	-18 10.1	119 17.6	+14 17.9	176 20.8	-9 23.9						
1	173 20.8	215 22.3	52.9	218 23.8	09.5	134 19.7	18.1	191 23.0	23.8						
2	188 23.2	230 21.6	52.1	233 24.3	09.0	149 21.7	18.2	206 25.2	23.7						
3	203 25.7	245 21.0	51.3	248 24.9	08.5	164 23.8	18.3	221 27.4	23.6						
4	218 28.1	260 20.3	50.5	263 25.4	08.0	179 25.9	18.5	236 29.5	23.5						
5	233 30.6	275 19.7	-16 49.7	278 25.9	-18 07.4	194 27.9	+14 18.6	251 31.7	-9 23.3						
6	248 33.1	290 19.0	-16 48.8	293 26.4	-18 06.9	209 30.0	+14 18.8	266 33.9	-9 23.2						
7	263 35.5	305 18.3	48.0	308 26.9	06.4	224 32.0	18.9	281 36.1	23.1						
8	278 38.0	320 17.7	47.2	323 27.4	05.8	239 34.1	19.0	296 38.3	23.0						
9	293 40.5	335 17.0	46.4	338 27.9	05.3	254 36.1	19.2	311 40.4	22.9						
10	308 42.9	350 16.4	45.5	353 28.4	04.8	269 38.2	19.3	326 42.6	22.8						
11	323 45.4	5 15.7	-16 44.7	8 28.9	-18 04.2	284 40.2	+14 19.5	341 44.8	-9 22.7						
12	338 47.9	20 15.1	-16 43.9	23 29.4	-18 03.7	299 42.3	+14 19.6	356 47.0	-9 22.5						
13	353 50.3	35 14.4	43.0	38 29.9	03.2	314 44.3	19.7	11 49.1	22.4						
14	8 52.8	50 13.8	42.2	53 30.4	02.7	329 46.4	19.9	26 51.3	22.3						
15	23 55.2	65 13.1	41.4	68 30.9	02.1	344 48.4	20.0	41 53.5	22.2						
16	38 57.7	80 12.5	40.6	83 31.4	01.6	359 50.5	20.2	56 55.7	22.1						
17	54 00.2	95 11.8	-16 39.7	98 31.9	-18 01.1	14 52.5	+14 20.3	71 57.8	-9 22.0						
18	69 02.6	110 11.2	-16 38.9	113 32.4	-18 00.5	29 54.6	+14 20.4	87 00.0	-9 21.9						
19	84 05.1	125 10.5	38.1	128 33.0	-18 00.0	44 56.6	20.6	102 02.2	21.8						
20	99 07.6	140 09.9	37.2	143 33.5	-17 59.5	59 58.7	20.7	117 04.4	21.6						
21	114 10.0	155 09.2	36.4	158 34.0	58.9	75 00.7	20.9	132 06.6	21.5						
22	129 12.5	170 08.6	35.5	173 34.5	58.4	90 02.8	21.0	147 08.7	21.4						
23	144 15.0	185 08.0	34.7	188 35.0	57.9	105 04.8	21.1	162 10.9	21.3						
24	159 17.4	200 07.3	-16 33.9	203 35.5	-17 57.3	120 06.9	+14 21.3	177 13.1	-9 21.2						
Dif	—	-7	+8	+5	+5	+21	+1	+22	+1						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1'		SD: 15.0'		Edad: 20.0 <sup>d</sup>			R <sup>o</sup> : 47 <sup>m</sup>			PHE {		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 12.2 <sup>m</sup>		PMG: 3 <sup>h</sup> 59 <sup>m</sup>		R <sup>o</sup> : 47 <sup>m</sup>			4 <sup>h</sup> : 55.0'			12 <sup>h</sup> : 55.2'		20 <sup>h</sup> : 55.4'			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	176 55.5	-7 29.0	301 56.1	141	-17 01.3	119	60 N	5 27	6 15	6 57	0 01 95		7 43 1			
1	191 55.7	28.0	316 29.2	141	13.2	119	58	29	14	54	** ** *	** ** *	7 56 6			
2	206 55.8	27.1	331 02.3	141	25.1	119	56	30	13	50	** ** *	** ** *	8 06 12			
3	221 55.9	26.1	345 35.3	140	37.0	117	54	31	12	47	** ** *	** ** *	16 15			
4	236 56.0	25.2	0 08.2	139	-17 48.7	117	52	32	11	45	** ** *	** ** *	24 18			
5	251 56.2	-7 24.2	14 41.0	138	-18 00.5	118	50	5 33	6 10	6 42	** ** *	** ** *	8 32 20			
6	266 56.3	-7 23.3	29 13.7	137	-18 12.1	116	45	5 34	6 08	6 37	** ** *	** ** *	8 48 26			
7	281 56.4	22.3	43 46.3	136	23.7	116	40	34	06	33	23 54 67		9 02 29			
8	296 56.5	21.3	58 18.9	136	35.2	115	35	34	04	29	41 63		13 33			
9	311 56.6	20.4	72 51.3	134	46.6	114	30	34	6 02	26	29 61		23 36			
10	326 56.8	19.4	87 23.7	134	-18 58.0	114	20	32	5 57	19	23 08 57		41 40			
11	341 56.9	-7 18.5	101 55.9	132	-19 09.2	112	10 N	5 28	5 53	6 14	22 51 53		9 56 44			
12	356 57.0	-7 17.5	116 28.1	132	-19 20.5	113	0	5 24	5 48	6 09	22 35 50		10 10 48			
13	11 57.1	16.6	131 00.2	131	31.6	111	10 S	18	42	6 04	18 47		25 51			
14	26 57.3	15.6	145 32.2	130	42.7	111	20	5 10	36	5 58	22 01 43		40 55			
15	41 57.4	14.7	160 04.1	129	-19 53.6	109	30	4 58	27	51	21 41 39		10 58 60			
16	56 57.5	13.7	174 35.9	128	-20 04.6	110	35	51	22	47	30 36		11 08 63			
17	71 57.7	-7 12.8	189 07.6	127	-20 15.4	108	40	4 42	5 15	5 43	21 17 33		11 20 66			
18	86 57.8	-7 11.8	203 39.2	126	-20 26.1	107	45	4 31	5 07	5 38	21 02 29		11 34 70			
19	101 57.9	10.9	218 10.8	126	36.8	107	50	17	4 58	31	20 43 24		11 52 75			
20	116 58.0	09.9	232 42.2	124	47.4	106	52	10	53	28	34 22		12 00 78			
21	131 58.2	09.0	247 13.5	123	-20 57.9	105	54	4 03	48	25	24 19		09 82			
22	146 58.3	08.0	261 44.7	122	-21 08.3	104	56	3 54	43	22	13 15		20 85			
23	161 58.4	07.0	276 15.8	121	18.6	103	58	44	36	18	20 01 10		32 90			
24	176 58.5	-7 06.1	290 46.8	120	-21 28.9	103	60 S	3 32	4 29	5 13	19 46 3		12 46 97			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 20.6 <sup>m</sup>		Mag.: -3.8		Mag.: +1.3		Mag.: -2.2		Mag.: +0.9	
	PMG: 10 <sup>h</sup> 40 <sup>m</sup>		PMG: 10 <sup>h</sup> 25 <sup>m</sup>		PMG: 15 <sup>h</sup> 57 <sup>m</sup>		PMG: 12 <sup>h</sup> 09 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	159 17.4	200 07.3	-16 33.9	203 35.5	-17 57.3	120 06.9	+14 21.3	177 13.1	-9 21.2	
1	174 19.9	215 06.7	33.0	218 36.0	56.8	135 08.9	21.4	192 15.3	21.1	
2	189 22.4	230 06.0	32.2	233 36.5	56.2	150 11.0	21.6	207 17.4	21.0	
3	204 24.8	245 05.4	31.4	248 37.0	55.7	165 13.0	21.7	222 19.6	20.8	
4	219 27.3	260 04.7	30.5	263 37.5	55.2	180 15.0	21.8	237 21.8	20.7	
5	234 29.7	275 04.1	-16 29.7	278 38.0	-17 54.6	195 17.1	+14 22.0	252 24.0	-9 20.6	
6	249 32.2	290 03.4	-16 28.8	293 38.6	-17 54.1	210 19.1	+14 22.1	267 26.1	-9 20.5	
7	264 34.7	305 02.8	28.0	308 39.1	53.6	225 21.2	22.3	282 28.3	20.4	
8	279 37.1	320 02.2	27.1	323 39.6	53.0	240 23.2	22.4	297 30.5	20.3	
9	294 39.6	335 01.5	26.3	338 40.1	52.5	255 25.3	22.5	312 32.7	20.2	
10	309 42.1	350 00.9	25.4	353 40.6	51.9	270 27.3	22.7	327 34.9	20.1	
11	324 44.5	5 00.2	-16 24.6	8 41.1	-17 51.4	285 29.4	+14 22.8	342 37.0	-9 19.9	
12	339 47.0	19 59.6	-16 23.8	23 41.6	-17 50.9	300 31.4	+14 23.0	357 39.2	-9 19.8	
13	354 49.5	34 59.0	22.9	38 42.1	50.3	315 33.5	23.1	12 41.4	19.7	
14	9 51.9	49 58.3	22.1	53 42.6	49.8	330 35.5	23.2	27 43.6	19.6	
15	24 54.4	64 57.7	21.2	68 43.1	49.3	345 37.6	23.4	42 45.7	19.5	
16	39 56.9	79 57.0	20.4	83 43.7	48.7	0 39.6	23.5	57 47.9	19.4	
17	54 59.3	94 56.4	-16 19.5	98 44.2	-17 48.2	15 41.6	+14 23.7	72 50.1	-9 19.3	
18	70 01.8	109 55.8	-16 18.6	113 44.7	-17 47.6	30 43.7	+14 23.8	87 52.3	-9 19.1	
19	85 04.2	124 55.1	17.8	128 45.2	47.1	45 45.7	23.9	102 54.4	19.0	
20	100 06.7	139 54.5	16.9	143 45.7	46.6	60 47.8	24.1	117 56.6	18.9	
21	115 09.2	154 53.9	16.1	158 46.2	46.0	75 49.8	24.2	132 58.8	18.8	
22	130 11.6	169 53.2	15.2	173 46.7	45.5	90 51.9	24.4	148 01.0	18.7	
23	145 14.1	184 52.6	14.4	188 47.2	44.9	105 53.9	24.5	163 03.2	18.6	
24	160 16.6	199 52.0	-16 13.5	203 47.7	-17 44.4	120 56.0	+14 24.7	178 05.3	-9 18.5	
Dif	—	-6	+8	+5	+5	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 12 <sup>h</sup> 12.0 <sup>m</sup>		SD: 15.1' Edad: 21.0 <sup>d</sup> PMG: 4 <sup>h</sup> 46 <sup>m</sup> R°: 51 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.6' 12 <sup>h</sup> : 55.9' 20 <sup>h</sup> : 56.1'										
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	m	h m	m	
0	176 58.5	-7 06.1	290 46.8	120	-21 28.9	101	60 N	17 31	18 13	19 01	1 36	101	7 44	5	
1	191 58.7	05.1	305 17.8	118	39.0	101	58	34	14	18 59	19	92	8 02	13	
2	206 58.8	04.2	319 48.6	117	49.1	101	56	37	15	58	1 04	87	18	18	
3	221 58.9	03.2	334 19.3	116	-21 59.0	99	54	40	15	56	0 52	82	31	22	
4	236 59.0	02.3	348 49.9	115	-22 08.9	98	52	42	16	55	41	79	42	26	
5	251 59.2	-7 01.3	3 20.4	114	-22 18.7	97	50	17 44	18 17	18 54	0 31	76	8 52	29	
6	266 59.3	-7 00.3	17 50.8	113	-22 28.4	96	45	17 49	18 19	18 53	0 11	71	9 14	33	
7	281 59.4	-6 59.4	32 21.1	112	38.0	94	40	53	20	52	** ** *	** ** *	31	37	
8	296 59.6	58.4	46 51.3	111	47.4	94	35	17 57	22	52	** ** *	** ** *	46	40	
9	311 59.7	57.5	61 21.4	109	-22 56.8	93	30	18 00	24	52	** ** *	** ** *	9	59	
10	326 59.8	56.5	75 51.3	108	-23 06.1	92	20	06	28	53	** ** *	** ** *	10	21	
11	341 59.9	-6 55.6	90 21.2	107	-23 15.3	91	10 N	18 11	18 32	18 56	23 44	57	10	40	
12	357 00.1	-6 54.6	104 51.0	106	-23 24.4	90	0	18 15	18 36	19 00	23 25	54	10	58	
13	12 00.2	53.6	119 20.6	105	33.4	89	10 S	20	41	06	23 05	52	11	16	
14	27 00.3	52.7	133 50.2	104	42.2	88	20	25	48	14	22 44	50	35	59	
15	42 00.5	51.7	148 19.6	103	51.0	87	30	32	18 56	24	20	47	11	58	
16	57 00.6	50.8	162 49.0	102	-23 59.7	86	35	35	19 01	31	22 06	45	12	11	
17	72 00.7	-6 49.8	177 18.2	101	-24 08.2	85	40	18 39	19 07	19 40	21 50	42	12	26	
18	87 00.9	-6 48.9	191 47.3	100	-24 16.6	84	45	18 44	19 14	19 50	21 31	39	12	44	
19	102 01.0	47.9	206 16.3	99	25.0	84	50	50	23	20 03	21 07	35	13	07	
20	117 01.1	46.9	220 45.2	98	33.2	82	52	53	27	10	20 56	32	18	78	
21	132 01.3	46.0	235 14.0	97	41.3	81	54	56	32	17	43	29	31	81	
22	147 01.4	45.0	249 42.7	96	49.2	79	56	18 59	37	26	28	25	13	45	
23	162 01.5	44.1	264 11.3	94	-24 57.1	77	58	19 02	44	35	20 11	19	14	02	
24	177 01.7	-6 43.1	278 39.7	94	-25 04.8	77	60 S	19 06	19 50	20 46	19 49	11	14	23	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 16.7 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 41 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 06 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	160 16.6	199 52.0	-16 13.5	203 47.7	-17 44.4	120 56.0	+14 24.7	178 05.3	-9 18.5	
1	175 19.0	214 51.3	12.7	218 48.3	43.8	135 58.0	24.8	193 07.5	18.3	
2	190 21.5	229 50.7	11.8	233 48.8	43.3	151 00.0	24.9	208 09.7	18.2	
3	205 24.0	244 50.1	10.9	248 49.3	42.8	166 02.1	25.1	223 11.9	18.1	
4	220 26.4	259 49.4	10.1	263 49.8	42.2	181 04.1	25.2	238 14.0	18.0	
5	235 28.9	274 48.8	-16 09.2	278 50.3	-17 41.7	196 06.2	+14 25.4	253 16.2	-9 17.9	
6	250 31.3	289 48.2	-16 08.4	293 50.8	-17 41.1	211 08.2	+14 25.5	268 18.4	-9 17.8	
7	265 33.8	304 47.5	07.5	308 51.3	40.6	226 10.3	25.6	283 20.6	17.7	
8	280 36.3	319 46.9	06.6	323 51.9	40.0	241 12.3	25.8	298 22.7	17.6	
9	295 38.7	334 46.3	05.8	338 52.4	39.5	256 14.3	25.9	313 24.9	17.4	
10	310 41.2	349 45.6	04.9	353 52.9	38.9	271 16.4	26.1	328 27.1	17.3	
11	325 43.7	4 45.0	-16 04.0	8 53.4	-17 38.4	286 18.4	+14 26.2	343 29.3	-9 17.2	
12	340 46.1	19 44.4	-16 03.2	23 53.9	-17 37.8	301 20.5	+14 26.3	358 31.5	-9 17.1	
13	355 48.6	34 43.8	02.3	38 54.4	37.3	316 22.5	26.5	13 33.6	17.0	
14	10 51.1	49 43.1	01.4	53 54.9	36.8	331 24.5	26.6	28 35.8	16.9	
15	25 53.5	64 42.5	-16 00.6	68 55.5	36.2	346 26.6	26.8	43 38.0	16.8	
16	40 56.0	79 41.9	-15 59.7	83 56.0	35.7	1 28.6	26.9	58 40.2	16.6	
17	55 58.5	94 41.2	-15 58.8	98 56.5	-17 35.1	16 30.7	+14 27.1	73 42.3	-9 16.5	
18	71 00.9	109 40.6	-15 58.0	113 57.0	-17 34.6	31 32.7	+14 27.2	88 44.5	-9 16.4	
19	86 03.4	124 40.0	57.1	128 57.5	34.0	46 34.7	27.3	103 46.7	16.3	
20	101 05.8	139 39.4	56.2	143 58.0	33.5	61 36.8	27.5	118 48.9	16.2	
21	116 08.3	154 38.7	55.3	158 58.5	32.9	76 38.8	27.6	133 51.0	16.1	
22	131 10.8	169 38.1	54.5	173 59.1	32.4	91 40.9	27.8	148 53.2	16.0	
23	146 13.2	184 37.5	53.6	188 59.6	31.8	106 42.9	27.9	163 55.4	15.8	
24	161 15.7	199 36.9	-15 52.7	204 00.1	-17 31.3	121 44.9	+14 28.0	178 57.6	-9 15.7	
Dif	—	-6	+9	+5	+5	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1'		SD: 15.3'		Edad: 22.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.3' 12 <sup>h</sup> : 56.6' 20 <sup>h</sup> : 56.9'			R°: 56 <sup>m</sup>		Hora R°		Hora R°	
	PMG: 12 <sup>h</sup> 11.8 <sup>m</sup>		PMG: 5 <sup>h</sup> 37 <sup>m</sup>		R°: 56 <sup>m</sup>											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	177 01.7	-6 43.1	278 39.7	94	-25 04.8	77	60 N	5 22	6 10	6 51	3 17	100	7 49	16		
1	192 01.8	42.1	293 08.1	92	12.5	75	58	24	09	48	2 51	89	8 15	27		
2	207 01.9	41.2	307 36.3	92	20.0	73	56	25	08	45	31	83	36	32		
3	222 02.0	40.2	322 04.5	92	27.3	73	54	27	07	43	14	79	8 53	36		
4	237 02.2	39.3	336 32.5	90	34.6	71	52	28	07	40	2 00	76	9 08	39		
5	252 02.3	-6 38.3	351 00.4	89	-25 41.7	70	50	5 29	6 06	6 38	1 47	74	9 21	41		
6	267 02.4	-6 37.3	5 28.2	88	-25 48.7	68	45	5 30	6 04	6 34	1 22	69	9 47	45		
7	282 02.6	36.4	19 55.9	87	-25 55.5	68	40	31	03	30	1 01	67	10 08	47		
8	297 02.7	35.4	34 23.5	86	-26 02.3	68	35	32	6 01	26	0 44	65	26	49		
9	312 02.8	34.5	48 51.0	85	08.9	66	30	32	5 59	23	30	62	10 41	51		
10	327 03.0	33.5	63 18.4	84	15.3	64	20	30	56	18	0 05	60	11 07	53		
11	342 03.1	-6 32.5	77 45.7	83	-26 21.7	64	10 N	5 28	5 52	6 13	** **	** **	11 29	55		
12	357 03.2	-6 31.6	92 12.9	82	-26 27.9	62	0	5 24	5 48	6 08	** **	** **	11 50	57		
13	12 03.4	30.6	106 40.0	81	33.9	60	10 S	18	43	6 04	23 57	58	12 11	58		
14	27 03.5	29.7	121 06.9	79	39.8	59	20	10	36	5 59	34	56	12 34	60		
15	42 03.7	28.7	135 33.8	79	45.6	58	30	5 00	28	53	23 07	55	13 00	62		
16	57 03.8	27.7	150 00.5	77	51.3	57	35	4 53	23	49	22 51	54	15	64		
17	72 03.9	-6 26.8	164 27.2	77	-26 56.8	55	40	4 45	5 17	5 45	22 32	53	13 33	65		
18	87 04.1	-6 25.8	178 53.8	76	-27 02.1	53	45	4 34	5 10	5 40	22 10	51	13 55	67		
19	102 04.2	24.8	193 20.2	74	07.3	52	50	21	5 01	35	21 42	49	14 23	70		
20	117 04.3	23.9	207 46.6	74	12.4	51	52	15	4 57	32	28	47	36	72		
21	132 04.5	22.9	222 12.8	72	17.3	49	54	4 07	53	29	21 12	46	14 52	73		
22	147 04.6	22.0	236 39.0	72	22.0	47	56	3 59	47	26	20 53	43	15 10	77		
23	162 04.7	21.0	251 05.0	70	26.6	46	58	50	41	22	30	39	15 33	81		
24	177 04.9	-6 20.0	265 31.0	70	-27 31.1	45	60 S	3 38	4 34	5 18	20 00	30	16 03	90		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 12.8 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 42 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 51 <sup>m</sup>		Mag.: +0.9 PMG: 12 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	161 15.7	199 36.9	-15 52.7	204 00.1	-17 31.3	121 44.9	+14 28.0	178 57.6	-9 15.7	
1	176 18.2	214 36.3	51.8	219 00.6	30.7	136 47.0	28.2	193 59.8	15.6	
2	191 20.6	229 35.6	51.0	234 01.1	30.2	151 49.0	28.3	209 01.9	15.5	
3	206 23.1	244 35.0	50.1	249 01.6	29.6	166 51.1	28.5	224 04.1	15.4	
4	221 25.6	259 34.4	49.2	264 02.2	29.1	181 53.1	28.6	239 06.3	15.3	
5	236 28.0	274 33.8	-15 48.3	279 02.7	-17 28.5	196 55.1	+14 28.8	254 08.5	-9 15.2	
6	251 30.5	289 33.1	-15 47.4	294 03.2	-17 28.0	211 57.2	+14 28.9	269 10.6	-9 15.1	
7	266 33.0	304 32.5	46.6	309 03.7	27.4	226 59.2	29.0	284 12.8	14.9	
8	281 35.4	319 31.9	45.7	324 04.2	26.8	242 01.2	29.2	299 15.0	14.8	
9	296 37.9	334 31.3	44.8	339 04.7	26.3	257 03.3	29.3	314 17.2	14.7	
10	311 40.3	349 30.7	43.9	354 05.3	25.7	272 05.3	29.5	329 19.4	14.6	
11	326 42.8	4 30.0	-15 43.0	9 05.8	-17 25.2	287 07.3	+14 29.6	344 21.5	-9 14.5	
12	341 45.3	19 29.4	-15 42.1	24 06.3	-17 24.6	302 09.4	+14 29.8	359 23.7	-9 14.4	
13	356 47.7	34 28.8	41.2	39 06.8	24.1	317 11.4	29.9	14 25.9	14.3	
14	11 50.2	49 28.2	40.4	54 07.3	23.5	332 13.5	30.0	29 28.1	14.1	
15	26 52.7	64 27.6	39.5	69 07.9	23.0	347 15.5	30.2	44 30.2	14.0	
16	41 55.1	79 27.0	38.6	84 08.4	22.4	2 17.5	30.3	59 32.4	13.9	
17	56 57.6	94 26.3	-15 37.7	99 08.9	-17 21.9	17 19.6	+14 30.5	74 34.6	-9 13.8	
18	72 00.1	109 25.7	-15 36.8	114 09.4	-17 21.3	32 21.6	+14 30.6	89 36.8	-9 13.7	
19	87 02.5	124 25.1	35.9	129 09.9	20.7	47 23.6	30.8	104 38.9	13.6	
20	102 05.0	139 24.5	35.0	144 10.5	20.2	62 25.7	30.9	119 41.1	13.5	
21	117 07.5	154 23.9	34.1	159 11.0	19.6	77 27.7	31.0	134 43.3	13.4	
22	132 09.9	169 23.3	33.2	174 11.5	19.1	92 29.7	31.2	149 45.5	13.2	
23	147 12.4	184 22.7	32.3	189 12.0	18.5	107 31.8	31.3	164 47.7	13.1	
24	162 14.8	199 22.1	-15 31.5	204 12.5	-17 18.0	122 33.8	+14 31.5	179 49.8	-9 13.0	
Dif	—	-6	+9	+5	+6	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 11.6 <sup>m</sup>		SD: 15.5' Edad: 23.0 <sup>d</sup> PMG: 6 <sup>h</sup> 33 <sup>m</sup> R°: 59 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 57.5' 20 <sup>h</sup> : 57.8'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	m	h m	m		
0	177 04.9	- 6 20.0	265 31.0	69	-27 31.1	43	60 N	17 36	18 18	19 06	4 57	75	8 05	48		
1	192 05.0	19.1	279 56.9	67	35.4	40	58	39	18	04	4 20	71	8 42	53		
2	207 05.1	18.1	294 22.6	67	39.5	41	56	41	19	02	3 54	68	9 08	55		
3	222 05.3	17.1	308 48.3	66	43.5	40	54	44	19	00	33	67	9 29	56		
4	237 05.4	16.2	323 13.9	66	47.4	39	52	46	20	18 59	16	66	9 47	57		
5	252 05.6	- 6 15.2	337 39.4	65	-27 51.0	36	50	17 48	18 20	18 58	3 01	65	10 02	57		
6	267 05.7	- 6 14.2	352 04.8	64	-27 54.5	35	45	17 52	18 21	18 55	2 31	64	10 32	58		
7	282 05.8	13.3	6 30.1	63	-27 57.9	34	40	56	23	54	2 08	63	10 55	59		
8	297 06.0	12.3	20 55.4	63	-28 01.1	32	35	17 59	24	53	1 49	62	11 15	59		
9	312 06.1	11.3	35 20.5	61	04.1	30	30	18 01	25	53	32	62	11 32	59		
10	327 06.3	10.4	49 45.6	61	07.0	29	20	06	28	54	1 05	60	12 00	60		
11	342 06.4	- 6 09.4	64 10.6	60	-28 09.7	27	10 N	18 11	18 32	18 56	0 41	60	12 24	60		
12	357 06.5	- 6 08.5	78 35.5	59	-28 12.2	25	0	18 15	18 36	19 00	0 19	59	12 47	60		
13	12 06.7	07.5	93 00.3	58	14.6	24	10 S	19	40	05	** ** *	** ** *	13 09	60		
14	27 06.8	06.5	107 25.0	57	16.8	22	20	24	46	12	** ** *	** ** *	13 34	60		
15	42 06.9	05.6	121 49.7	57	18.8	20	30	29	54	22	** ** *	** ** *	14 02	60		
16	57 07.1	04.6	136 14.3	56	20.6	18	35	33	18 58	28	23 45	64	19	60		
17	72 07.2	- 6 03.6	150 38.8	55	-28 22.3	17	40	18 36	19 04	19 36	23 25	65	14 38	60		
18	87 07.4	- 6 02.7	165 03.2	54	-28 23.8	15	45	18 41	19 10	19 46	23 01	66	15 02	59		
19	102 07.5	01.7	179 27.6	54	25.1	13	50	46	19	19 59	22 31	66	33	58		
20	117 07.6	- 6 00.7	193 51.9	53	26.3	12	52	48	23	20 05	22 15	68	15 48	58		
21	132 07.8	- 5 59.8	208 16.2	53	27.3	10	54	51	27	12	21 58	68	16 05	58		
22	147 07.9	58.8	222 40.4	52	28.1	8	56	54	32	19	36	69	27	57		
23	162 08.1	57.8	237 04.5	51	28.7	6	58	18 57	38	28	21 09	71	16 54	56		
24	177 08.2	- 5 56.9	251 28.6	51	-28 29.1	4	60 S	19 00	19 44	20 39	20 30	74	17 33	52		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 08.9 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 23 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 48 <sup>m</sup>		Mag.: +0.9 PMG: 11 <sup>h</sup> 59 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "
0	162 14.8	199 22.1	- 15 31.5	204 12.5	- 17 18.0	122 33.8	+ 14 31.5	179 49.8	- 9 13.0	
1	177 17.3	214 21.4	30.6	219 13.1	17.4	137 35.8	31.6	194 52.0	12.9	
2	192 19.8	229 20.8	29.7	234 13.6	16.8	152 37.9	31.8	209 54.2	12.8	
3	207 22.2	244 20.2	28.8	249 14.1	16.3	167 39.9	31.9	224 56.4	12.7	
4	222 24.7	259 19.6	27.9	264 14.6	15.7	182 41.9	32.0	239 58.5	12.6	
5	237 27.2	274 19.0	- 15 27.0	279 15.1	- 17 15.2	197 44.0	+ 14 32.2	255 00.7	- 9 12.4	
6	252 29.6	289 18.4	- 15 26.1	294 15.7	- 17 14.6	212 46.0	+ 14 32.3	270 02.9	- 9 12.3	
7	267 32.1	304 17.8	25.2	309 16.2	14.0	227 48.0	32.5	285 05.1	12.2	
8	282 34.6	319 17.2	24.3	324 16.7	13.5	242 50.1	32.6	300 07.3	12.1	
9	297 37.0	334 16.6	23.4	339 17.2	12.9	257 52.1	32.8	315 09.4	12.0	
10	312 39.5	349 16.0	22.5	354 17.7	12.4	272 54.1	32.9	330 11.6	11.9	
11	327 42.0	4 15.3	- 15 21.6	9 18.3	- 17 11.8	287 56.2	+ 14 33.0	345 13.8	- 9 11.8	
12	342 44.4	19 14.7	- 15 20.7	24 18.8	- 17 11.2	302 58.2	+ 14 33.2	0 16.0	- 9 11.7	
13	357 46.9	34 14.1	19.8	39 19.3	10.7	318 00.2	33.3	15 18.1	11.5	
14	12 49.3	49 13.5	18.9	54 19.8	10.1	333 02.3	33.5	30 20.3	11.4	
15	27 51.8	64 12.9	17.9	69 20.4	09.6	348 04.3	33.6	45 22.5	11.3	
16	42 54.3	79 12.3	17.0	84 20.9	09.0	3 06.3	33.8	60 24.7	11.2	
17	57 56.7	94 11.7	- 15 16.1	99 21.4	- 17 08.4	18 08.4	+ 14 33.9	75 26.8	- 9 11.1	
18	72 59.2	109 11.1	- 15 15.2	114 21.9	- 17 07.9	33 10.4	+ 14 34.0	90 29.0	- 9 11.0	
19	88 01.7	124 10.5	14.3	129 22.4	07.3	48 12.4	34.2	105 31.2	10.9	
20	103 04.1	139 09.9	13.4	144 23.0	06.7	63 14.4	34.3	120 33.4	10.7	
21	118 06.6	154 09.3	12.5	159 23.5	06.2	78 16.5	34.5	135 35.6	10.6	
22	133 09.1	169 08.7	11.6	174 24.0	05.6	93 18.5	34.6	150 37.7	10.5	
23	148 11.5	184 08.1	10.7	189 24.5	05.0	108 20.5	34.8	165 39.9	10.4	
24	163 14.0	199 07.5	- 15 09.8	204 25.1	- 17 04.5	123 22.6	+ 14 34.9	180 42.1	- 9 10.3	
Dif	—	-6	+9	+5	+6	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 11.3 <sup>m</sup>		SD: 15.8' Edad: 24.0 <sup>d</sup> PMG: 7 <sup>h</sup> 32 <sup>m</sup> R°: 61 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.1' 12 <sup>h</sup> : 58.4' 20 <sup>h</sup> : 58.7'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h	m	m
0	177 08.2	-5 56.9	251 28.6	50	-28 29.1	3	60 N	5 16	6 04	6 45	6 12	32	8 53	97		
1	192 08.3	55.9	265 52.6	49	29.4	3	58	18	04	43	5 31	41	9 35	86		
2	207 08.5	54.9	280 16.5	49	29.5	1	56	20	03	40	5 02	46	10 03	82		
3	222 08.6	54.0	294 40.4	48	29.4	1	54	22	03	38	4 40	49	25	79		
4	237 08.8	53.0	309 04.2	48	29.1	3	52	23	02	36	22	50	44	76		
5	252 08.9	-5 52.0	323 28.0	48	-28 28.7	4	50	5 25	6 02	6 34	4 06	52	10 59	75		
6	267 09.1	-5 51.0	337 51.8	48	-28 28.0	7	45	5 27	6 01	6 30	3 35	54	11 30	72		
7	282 09.2	50.1	352 15.5	47	27.2	8	40	28	6 00	27	3 11	56	11 54	70		
8	297 09.3	49.1	6 39.1	46	26.2	10	35	29	5 58	24	2 51	57	12 14	68		
9	312 09.5	48.1	21 02.8	47	25.0	12	30	29	57	21	34	58	12 31	67		
10	327 09.6	47.2	35 26.3	45	23.6	14	20	29	54	16	2 05	59	13 00	64		
11	342 09.8	-5 46.2	49 49.9	46	-28 22.0	16	10 N	5 27	5 51	6 12	1 41	60	13 24	63		
12	357 09.9	-5 45.2	64 13.4	45	-28 20.3	17	0	5 23	5 47	6 08	1 18	61	13 47	61		
13	12 10.1	44.3	78 36.9	45	18.3	20	10 S	18	43	6 04	0 55	62	14 09	60		
14	27 10.2	43.3	93 00.3	44	16.2	21	20	11	37	5 59	30	63	14 34	57		
15	42 10.3	42.3	107 23.7	44	13.9	23	30	5 01	30	54	0 02	63	15 02	55		
16	57 10.5	41.4	121 47.1	44	11.4	25	35	4 55	25	51	** ** *	** ** *	19	53		
17	72 10.6	-5 40.4	136 10.5	44	-28 08.7	27	40	4 47	5 20	5 47	** ** *	** ** *	15 38	51		
18	87 10.8	-5 39.4	150 33.8	43	-28 05.8	29	45	4 37	5 13	5 43	** ** *	** ** *	16 01	49		
19	102 10.9	38.5	164 57.1	43	-28 02.7	31	50	25	05	38	23 37	82	31	45		
20	117 11.1	37.5	179 20.4	43	-27 59.4	33	52	19	5 01	36	23	84	16 46	43		
21	132 11.2	36.5	193 43.7	43	56.0	34	54	12	4 57	33	23 06	87	17 03	40		
22	147 11.4	35.5	208 07.0	43	52.3	37	56	4 04	52	30	22 45	92	24	36		
23	162 11.5	34.6	222 30.3	43	48.5	38	58	3 55	46	27	22 20	97	17 50	30		
24	177 11.6	-5 33.6	236 53.6	43	-27 44.5	40	60 S	3 45	4 40	5 24	21 44	109	18 25	20		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 04.9 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.3 PMG: 10 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 44 <sup>m</sup>		Mag.: +0.9 PMG: 11 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	163 14.0	199 07.5	-15 09.8	204 25.1	-17 04.5	123 22.6	+14 34.9	180 42.1	-9 10.3	
1	178 16.4	214 06.9	08.8	219 25.6	03.9	138 24.6	35.1	195 44.3	10.2	
2	193 18.9	229 06.3	07.9	234 26.1	03.3	153 26.6	35.2	210 46.4	10.1	
3	208 21.4	244 05.7	07.0	249 26.6	02.8	168 28.7	35.3	225 48.6	10.0	
4	223 23.8	259 05.1	06.1	264 27.2	02.2	183 30.7	35.5	240 50.8	09.8	
5	238 26.3	274 04.5	-15 05.2	279 27.7	-17 01.6	198 32.7	+14 35.6	255 53.0	-9 09.7	
6	253 28.8	289 03.9	-15 04.3	294 28.2	-17 01.1	213 34.7	+14 35.8	270 55.2	-9 09.6	
7	268 31.2	304 03.3	03.4	309 28.7	-17 00.5	228 36.8	35.9	285 57.3	09.5	
8	283 33.7	319 02.7	02.4	324 29.3	-16 59.9	243 38.8	36.1	300 59.5	09.4	
9	298 36.2	334 02.1	01.5	339 29.8	59.4	258 40.8	36.2	316 01.7	09.3	
10	313 38.6	349 01.5	-15 00.6	354 30.3	58.8	273 42.9	36.4	331 03.9	09.2	
11	328 41.1	4 00.9	-14 59.7	9 30.8	-16 58.2	288 44.9	+14 36.5	346 06.0	-9 09.0	
12	343 43.6	19 00.3	-14 58.8	24 31.4	-16 57.7	303 46.9	+14 36.6	1 08.2	-9 08.9	
13	358 46.0	33 59.7	57.8	39 31.9	57.1	318 48.9	36.8	16 10.4	08.8	
14	13 48.5	48 59.1	56.9	54 32.4	56.5	333 51.0	36.9	31 12.6	08.7	
15	28 50.9	63 58.5	56.0	69 32.9	56.0	348 53.0	37.1	46 14.8	08.6	
16	43 53.4	78 57.9	55.1	84 33.5	55.4	3 55.0	37.2	61 16.9	08.5	
17	58 55.9	93 57.3	-14 54.1	99 34.0	-16 54.8	18 57.0	+14 37.4	76 19.1	-9 08.4	
18	73 58.3	108 56.7	-14 53.2	114 34.5	-16 54.3	33 59.1	+14 37.5	91 21.3	-9 08.3	
19	89 00.8	123 56.2	52.3	129 35.1	53.7	49 01.1	37.7	106 23.5	08.1	
20	104 03.3	138 55.6	51.4	144 35.6	53.1	64 03.1	37.8	121 25.6	08.0	
21	119 05.7	153 55.0	50.4	159 36.1	52.5	79 05.1	37.9	136 27.8	07.9	
22	134 08.2	168 54.4	49.5	174 36.6	52.0	94 07.2	38.1	151 30.0	07.8	
23	149 10.7	183 53.8	48.6	189 37.2	51.4	109 09.2	38.2	166 32.2	07.7	
24	164 13.1	198 53.2	-14 47.6	204 37.7	-16 50.8	124 11.2	+14 38.4	181 34.4	-9 07.6	
Dif	—	-6	+9	+5	+6	+20	+1	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 12 <sup>h</sup> 11.1 <sup>m</sup>		SD: 16.0' Edad: 25.0 <sup>d</sup> PMG: 8 <sup>h</sup> 33 <sup>m</sup> R°: 61 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.0' 12 <sup>h</sup> : 59.4' 20 <sup>h</sup> : 59.7'				Civl	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m	
0	177 11.6	-5 33.6	236 53.6	42	-27 44.5	42	60 N	17 41	18 23	19 11	6 44	9	10 30	117
1	192 11.8	32.6	251 16.8	43	40.3	43	58	43	23	08	6 12	20	11 01	106
2	207 11.9	31.7	265 40.1	43	35.8	45	56	46	23	06	5 48	27	25	99
3	222 12.1	30.7	280 03.3	42	31.2	46	54	48	23	04	29	31	11 44	94
4	237 12.2	29.7	294 26.6	43	26.5	47	52	49	23	02	5 12	36	12 00	90
5	252 12.4	-5 28.7	308 49.9	43	-27 21.5	50	50	17 51	18 23	19 01	4 58	38	12 14	87
6	267 12.5	-5 27.8	323 13.1	42	-27 16.3	52	45	17 55	18 24	18 58	4 29	44	12 42	82
7	282 12.7	26.8	337 36.4	43	11.0	53	40	17 58	25	56	4 07	46	13 04	78
8	297 12.8	25.8	351 59.7	43	-27 05.4	56	35	18 00	26	55	3 48	49	22	75
9	312 13.0	24.9	6 23.0	43	-26 59.7	57	30	03	27	54	32	51	13 38	72
10	327 13.1	23.9	20 46.3	43	53.8	59	20	07	29	55	3 04	56	14 04	68
11	342 13.2	-5 22.9	35 09.6	43	-26 47.7	61	10 N	18 11	18 32	18 56	2 41	58	14 27	63
12	357 13.4	-5 21.9	49 32.9	43	-26 41.4	63	0	18 14	18 35	18 59	2 19	61	14 48	60
13	12 13.5	21.0	63 56.3	44	34.9	65	10 S	18	39	19 04	1 57	63	15 09	56
14	27 13.7	20.0	78 19.7	44	28.2	67	20	22	44	10	33	66	31	53
15	42 13.8	19.0	92 43.1	44	21.4	68	30	27	51	19	1 05	70	15 57	48
16	57 14.0	18.1	107 06.5	44	14.3	71	35	30	18 55	25	0 49	72	16 12	45
17	72 14.1	-5 17.1	121 30.0	45	-26 07.1	72	40	18 33	19 01	19 33	0 30	74	16 29	43
18	87 14.3	-5 16.1	135 53.5	45	-25 59.7	74	45	18 37	19 07	19 42	0 07	77	16 50	38
19	102 14.4	15.1	150 17.0	45	52.1	76	50	41	14	19 54	** ** *	***	17 16	33
20	117 14.6	14.2	164 40.6	46	44.3	78	52	44	18	20 00	** ** *	***	29	29
21	132 14.7	13.2	179 04.2	46	36.3	80	54	46	22	06	** ** *	***	17 43	26
22	147 14.9	12.2	193 27.8	46	28.2	81	56	48	27	13	** ** *	***	18 00	21
23	162 15.0	11.2	207 51.4	46	19.9	83	58	51	32	22	23 57	109	20	15
24	177 15.2	-5 10.3	222 15.2	48	-25 11.3	86	60 S	18 54	19 38	20 32	23 33	118	18 45	6

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 <sup>h</sup> 01.0 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 45 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 21 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 41 <sup>m</sup>		Mag.: +0.9 PMG: 11 <sup>h</sup> 52 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	164 13.1	198 53.2	-14 47.6	204 37.7	-16 50.8	124 11.2	+14 38.4	181 34.4	-9 07.6	
1	179 15.6	213 52.6	46.7	219 38.2	50.2	139 13.2	38.5	196 36.5	07.5	
2	194 18.1	228 52.0	45.8	234 38.7	49.7	154 15.3	38.7	211 38.7	07.3	
3	209 20.5	243 51.4	44.9	249 39.3	49.1	169 17.3	38.8	226 40.9	07.2	
4	224 23.0	258 50.8	43.9	264 39.8	48.5	184 19.3	39.0	241 43.1	07.1	
5	239 25.4	273 50.3	-14 43.0	279 40.3	-16 48.0	199 21.3	+14 39.1	256 45.2	-9 07.0	
6	254 27.9	288 49.7	-14 42.1	294 40.9	-16 47.4	214 23.4	+14 39.2	271 47.4	-9 06.9	
7	269 30.4	303 49.1	41.1	309 41.4	46.8	229 25.4	39.4	286 49.6	06.8	
8	284 32.8	318 48.5	40.2	324 41.9	46.2	244 27.4	39.5	301 51.8	06.7	
9	299 35.3	333 47.9	39.3	339 42.4	45.7	259 29.4	39.7	316 54.0	06.6	
10	314 37.8	348 47.3	38.3	354 43.0	45.1	274 31.5	39.8	331 56.1	06.4	
11	329 40.2	3 46.7	-14 37.4	9 43.5	-16 44.5	289 33.5	+14 40.0	346 58.3	-9 06.3	
12	344 42.7	18 46.1	-14 36.4	24 44.0	-16 43.9	304 35.5	+14 40.1	2 00.5	-9 06.2	
13	359 45.2	33 45.6	35.5	39 44.6	43.3	319 37.5	40.3	17 02.7	06.1	
14	14 47.6	48 45.0	34.6	54 45.1	42.8	334 39.5	40.4	32 04.8	06.0	
15	29 50.1	63 44.4	33.6	69 45.6	42.2	349 41.6	40.6	47 07.0	05.9	
16	44 52.6	78 43.8	32.7	84 46.2	41.6	4 43.6	40.7	62 09.2	05.8	
17	59 55.0	93 43.2	-14 31.7	99 46.7	-16 41.0	19 45.6	+14 40.8	77 11.4	-9 05.6	
18	74 57.5	108 42.6	-14 30.8	114 47.2	-16 40.5	34 47.6	+14 41.0	92 13.6	-9 05.5	
19	89 59.9	123 42.1	29.9	129 47.8	39.9	49 49.7	41.1	107 15.7	05.4	
20	105 02.4	138 41.5	28.9	144 48.3	39.3	64 51.7	41.3	122 17.9	05.3	
21	120 04.9	153 40.9	28.0	159 48.8	38.7	79 53.7	41.4	137 20.1	05.2	
22	135 07.3	168 40.3	27.0	174 49.3	38.1	94 55.7	41.6	152 22.3	05.1	
23	150 09.8	183 39.7	26.1	189 49.9	37.6	109 57.7	41.7	167 24.4	05.0	
24	165 12.3	198 39.2	-14 25.1	204 50.4	-16 37.0	124 59.8	+14 41.9	182 26.6	-9 04.9	
Dif	-	-6	+9	+5	+6	+20	+1	+22	+1	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna												
	SD: 16.1' PMG: 12 <sup>h</sup> 10.9 <sup>m</sup>		SD: 16.3' Edad: 26.0 <sup>d</sup>		PHE { 4 <sup>h</sup> : 59.9' 12 <sup>h</sup> : 60.2' 20 <sup>h</sup> : 60.5'PMG: 9 <sup>h</sup> 34 <sup>m</sup> R <sup>o</sup> : 58 <sup>m</sup>			Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									h	m	h	m	h	m	h	m			
0	177	15.2	-5	10.3	222	15.2	47	-25	11.3	86	<b>60 N</b>	5	10	5	58	6	39	6	53	3	12	27	118		
1	192	15.3		09.3	236	38.9		-25	02.7		<b>58</b>		13		58		37		32		11		12	47	111
2	207	15.5		08.3	251	02.7	48	-24	53.8	89	<b>56</b>		15		58		35		15		16		13	04	104
3	222	15.6		07.4	265	26.5	48		44.8	90	<b>54</b>		17		58		33		6	00	21		18	100	
4	237	15.8		06.4	279	50.4	49		35.5	93	<b>52</b>		19		58		32		5	48	24		30	96	
5	252	15.9	-5	05.4	294	14.3	49	-24	26.1	94	<b>50</b>		5	20	5	58	6	30	5	36	28		13	41	93
6	267	16.1	-5	04.4	308	38.3	50	-24	16.6	95	<b>45</b>		5	23	5	57	6	27	5	13	33		14	04	85
7	282	16.2		03.5	323	02.3	50	-24	06.8	98	<b>40</b>		25		57		24		4	53	39		22	80	
8	297	16.4		02.5	337	26.4	51	-23	56.9	99	<b>35</b>		27		56		21		37		43		37	76	
9	312	16.5		01.5	351	50.5	51		46.8	101	<b>30</b>		27		55		19		23		46		14	50	73
10	327	16.7	-5	00.5	6	14.7	52		36.6	102	<b>20</b>		27		53		15		4	00	50		15	12	67
11	342	16.8	-4	59.6	20	39.0	53	-23	26.2	104	<b>10 N</b>		5	26	5	50	6	11	3	39	55		15	30	63
12	357	17.0	-4	58.6	35	03.3	53	-23	15.6	106	<b>0</b>		5	23	5	47	6	08	3	20	59		15	48	58
13	12	17.1		57.6	49	27.6	53	-23	04.8	108	<b>10 S</b>		18		43		04		3	00	63		16	05	54
14	27	17.3		56.6	63	52.0	54	-22	53.9	109	<b>20</b>		12		38		6	00	2	39	68		24	48	
15	42	17.4		55.7	78	16.5	55		42.8	111	<b>30</b>		5	03	31	5	55		15	73		45	43		
16	57	17.6		54.7	92	41.0	55		31.6	112	<b>35</b>		4	57	27	5	53		2	01	76		16	57	39
17	72	17.7	-4	53.7	107	05.6	56	-22	20.2	114	<b>40</b>		4	50	5	22	5	49	1	44	80		17	12	35
18	87	17.9	-4	52.7	121	30.3	57	-22	08.6	116	<b>45</b>		4	41	5	16	5	46	1	24	85		17	28	30
19	102	18.0		51.8	135	55.0	57	-21	56.9	117	<b>50</b>		29		08		41		0	59	91		49	23	
20	117	18.2		50.8	150	19.8	58		45.0	119	<b>52</b>		23		05		39		47		94		17	58	21
21	132	18.3		49.8	164	44.6	58		32.9	121	<b>54</b>		17		5	01	37		33		98		18	09	17
22	147	18.5		48.8	179	09.5	59		20.8	122	<b>56</b>		09		4	56	35		0	17	102		21	13	
23	162	18.6		47.8	193	34.5	60	-21	08.4	124	<b>58</b>		4	01	51		32		**	**	***		35	8	
24	177	18.8	-4	46.9	207	59.6	61	-20	55.9	125	<b>60 S</b>		3	51	4	45	5	29	**	**	***		18	51	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 12 <sup>h</sup> 57.1 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 46 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 49 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	165	12.3	198	39.2	-14	25.1	204	50.4	-16	37.0	124	59.8	+14	41.9	182	26.6	-9	04.9	
1	180	14.7	213	38.6		24.2	219	50.9		36.4	140	01.8		42.0	197	28.8		04.7	
2	195	17.2	228	38.0		23.2	234	51.5		35.8	155	03.8		42.2	212	31.0		04.6	
3	210	19.7	243	37.4		22.3	249	52.0		35.2	170	05.8		42.3	227	33.2		04.5	
4	225	22.1	258	36.8		21.3	264	52.5		34.7	185	07.8		42.4	242	35.3		04.4	
5	240	24.6	273	36.3	-14	20.4	279	53.1	-16	34.1	200	09.9	+14	42.6	257	37.5	-9	04.3	
6	255	27.1	288	35.7	-14	19.4	294	53.6	-16	33.5	215	11.9	+14	42.7	272	39.7	-9	04.2	
7	270	29.5	303	35.1		18.5	309	54.1		32.9	230	13.9		42.9	287	41.9		04.1	
8	285	32.0	318	34.5		17.5	324	54.7		32.3	245	15.9		43.0	302	44.0		04.0	
9	300	34.4	333	34.0		16.6	339	55.2		31.8	260	17.9		43.2	317	46.2		03.8	
10	315	36.9	348	33.4		15.6	354	55.7		31.2	275	20.0		43.3	332	48.4		03.7	
11	330	39.4	3	32.8	-14	14.7	9	56.3	-16	30.6	290	22.0	+14	43.5	347	50.6	-9	03.6	
12	345	41.8	18	32.2	-14	13.7	24	56.8	-16	30.0	305	24.0	+14	43.6	2	52.8	-9	03.5	
13	0	44.3	33	31.7		12.8	39	57.3		29.4	320	26.0		43.8	17	54.9		03.4	
14	15	46.8	48	31.1		11.8	54	57.9		28.8	335	28.0		43.9	32	57.1		03.3	
15	30	49.2	63	30.5		10.8	69	58.4		28.3	350	30.0		44.1	47	59.3		03.2	
16	45	51.7	78	29.9		09.9	84	58.9		27.7	5	32.1		44.2	63	01.5		03.0	
17	60	54.2	93	29.4	-14	08.9	99	59.5	-16	27.1	20	34.1	+14	44.3	78	03.6	-9	02.9	
18	75	56.6	108	28.8	-14	08.0	115	00.0	-16	26.5	35	36.1	+14	44.5	93	05.8	-9	02.8	
19	90	59.1	123	28.2		07.0	130	00.5		25.9	50	38.1		44.6	108	08.0		02.7	
20	106	01.5	138	27.7		06.1	145	01.1		25.3	65	40.1		44.8	123	10.2		02.6	
21	121	04.0	153	27.1		05.1	160	01.6		24.7	80	42.1		44.9	138	12.4		02.5	
22	136	06.5	168	26.5		04.1	175	02.2		24.2	95	44.2		45.1	153	14.5		02.4	
23	151	08.9	183	25.9		03.2	190	02.7		23.6	110	46.2		45.2	168	16.7		02.3	
24	166	11.4	198	25.4	-14	02.2	205	03.2	-16	23.0	125	48.2	+14	45.4	183	18.9	-9	02.1	
Dif		-		-6		+10		+5		+6		+20		+1		+22			+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 10.6 <sup>m</sup>		SD: 16.5' Edad: 27.0 <sup>d</sup> PMG: 10 <sup>h</sup> 32 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.9' 20 <sup>h</sup> : 61.1'				R°: 56 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	177 18.8	-4 46.9	207 59.6	61	-20 55.9	126	60 N	17 46	18 28	19 16	6 56	1	14 25	114		
1	192 19.0	45.9	222 24.7	61	43.3	128	58	48	27	13	43	6	38	108		
2	207 19.1	44.9	236 49.8	61	30.5	129	56	50	27	10	31	11	48	104		
3	222 19.3	43.9	251 15.1	63	17.6	131	54	51	27	08	21	15	14	58		
4	237 19.4	43.0	265 40.4	63	-20 04.5	132	52	53	27	06	12	18	15	06		
5	252 19.6	-4 42.0	280 05.8	64	-19 51.3	134	50	17 54	18 27	19 04	6 04	21	15	14		
6	267 19.7	-4 41.0	294 31.2	64	-19 37.9	135	45	17 57	18 27	19 01	5 46	27	15	29		
7	282 19.9	40.0	308 56.7	65	24.4	136	40	18 00	27	18 58	32	32	42	81		
8	297 20.0	39.1	323 22.3	66	-19 10.8	138	35	02	27	57	20	36	15	53		
9	312 20.2	38.1	337 48.0	67	-18 57.0	139	30	04	28	56	5 09	40	16	03		
10	327 20.3	37.1	352 13.7	67	43.1	140	20	08	30	55	4 50	46	19	65		
11	342 20.5	-4 36.1	6 39.5	68	-18 29.1	142	10 N	18 11	18 32	18 56	4 34	51	16	33		
12	357 20.6	-4 35.1	21 05.3	68	-18 14.9	143	0	18 14	18 35	18 59	4 19	56	16	46		
13	12 20.8	34.2	35 31.3	70	-18 00.6	144	10 S	17	38	19 03	4 03	61	16	59		
14	27 21.0	33.2	49 57.3	70	-17 46.2	146	20	21	43	09	3 47	66	17	12		
15	42 21.1	32.2	64 23.3	70	31.6	146	30	25	49	17	28	73	28	37		
16	57 21.3	31.2	78 49.5	72	17.0	146	35	27	53	23	17	76	36	34		
17	72 21.4	-4 30.3	93 15.7	72	-17 02.2	148	40	18 30	18 57	19 30	3 04	81	17	47		
18	87 21.6	-4 29.3	107 42.0	73	-16 47.3	149	45	18 33	19 03	19 38	2 49	86	17	58		
19	102 21.7	28.3	122 08.3	73	32.3	150	50	37	10	49	30	92	18	12		
20	117 21.9	27.3	136 34.7	74	17.1	152	52	39	13	19 55	21	96	19	16		
21	132 22.0	26.3	151 01.2	75	-16 01.9	152	54	41	17	20 01	2 11	100	26	13		
22	147 22.2	25.4	165 27.7	75	-15 46.5	154	56	43	21	07	1 59	104	34	9		
23	162 22.4	24.4	179 54.3	76	31.1	154	58	46	26	15	46	110	43	5		
24	177 22.5	-4 23.4	194 21.0	77	-15 15.5	156	60 S	18 48	19 31	20 25	1 31	116	18	54		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 12 <sup>h</sup> 53.1 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 19 <sup>m</sup>		Mag.: -2.2 PMG: 15 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 45 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	166 11.4	198 25.4	-14 02.2	205 03.2	-16 23.0	125 48.2	+14 45.4	183 18.9	-9 02.1		
1	181 13.9	213 24.8	01.2	220 03.8	22.4	140 50.2	45.5	198 21.1	02.0		
2	196 16.3	228 24.2	-14 00.3	235 04.3	21.8	155 52.2	45.7	213 23.3	01.9		
3	211 18.8	243 23.7	-13 59.3	250 04.8	21.2	170 54.2	45.8	228 25.4	01.8		
4	226 21.3	258 23.1	58.3	265 05.4	20.6	185 56.3	46.0	243 27.6	01.7		
5	241 23.7	273 22.5	-13 57.4	280 05.9	-16 20.1	200 58.3	+14 46.1	258 29.8	-9 01.6		
6	256 26.2	288 22.0	-13 56.4	295 06.4	-16 19.5	216 00.3	+14 46.3	273 32.0	-9 01.5		
7	271 28.7	303 21.4	55.4	310 07.0	18.9	231 02.3	46.4	288 34.1	01.4		
8	286 31.1	318 20.8	54.5	325 07.5	18.3	246 04.3	46.5	303 36.3	01.2		
9	301 33.6	333 20.3	53.5	340 08.1	17.7	261 06.3	46.7	318 38.5	01.1		
10	316 36.0	348 19.7	52.5	355 08.6	17.1	276 08.3	46.8	333 40.7	01.0		
11	331 38.5	3 19.2	-13 51.6	10 09.1	-16 16.5	291 10.4	+14 47.0	348 42.9	-9 00.9		
12	346 41.0	18 18.6	-13 50.6	25 09.7	-16 15.9	306 12.4	+14 47.1	3 45.0	-9 00.8		
13	1 43.4	33 18.0	49.6	40 10.2	15.3	321 14.4	47.3	18 47.2	00.7		
14	16 45.9	48 17.5	48.7	55 10.7	14.7	336 16.4	47.4	33 49.4	00.6		
15	31 48.4	63 16.9	47.7	70 11.3	14.2	351 18.4	47.6	48 51.6	00.5		
16	46 50.8	78 16.3	46.7	85 11.8	13.6	6 20.4	47.7	63 53.8	00.3		
17	61 53.3	93 15.8	-13 45.7	100 12.4	-16 13.0	21 22.4	+14 47.9	78 55.9	-9 00.2		
18	76 55.8	108 15.2	-13 44.8	115 12.9	-16 12.4	36 24.4	+14 48.0	93 58.1	-9 00.1		
19	91 58.2	123 14.7	43.8	130 13.4	11.8	51 26.5	48.2	109 00.3	-9 00.0		
20	107 00.7	138 14.1	42.8	145 14.0	11.2	66 28.5	48.3	124 02.5	-8 59.9		
21	122 03.2	153 13.5	41.8	160 14.5	10.6	81 30.5	48.5	139 04.6	59.8		
22	137 05.6	168 13.0	40.8	175 15.1	10.0	96 32.5	48.6	154 06.8	59.7		
23	152 08.1	183 12.4	39.9	190 15.6	09.4	111 34.5	48.8	169 09.0	59.5		
24	167 10.5	198 11.9	-13 38.9	205 16.1	-16 08.8	126 36.5	+14 48.9	184 11.2	-8 59.4		
Dif	—	-6	+10	+5	+6	+20	+1	+22	+1		

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16.1'		SD: 16.7'		Edad: 28.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 61.2' 12 <sup>h</sup> : 61.3' 20 <sup>h</sup> : 61.4'			R <sup>o</sup> : 53 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>				
	PMG: 12 <sup>h</sup> 10.4 <sup>m</sup>		PMG: 11 <sup>h</sup> 28 <sup>m</sup>		R <sup>o</sup> : 53 <sup>m</sup>								Hora R <sup>o</sup>		Hora R <sup>o</sup>				
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>					
0	177	22.5	-4	23.4	194	21.0	78	-15	15.5	157	60 N	5 04	5 52	6 34	6 57	0	16 19	110	
1	192	22.7		22.4	208	47.8	78	-14	59.8	158	58	07	53	32	49	4	26	105	
2	207	22.8		21.5	223	14.6	78		44.0	158	56	10	53	30	42	8	32	101	
3	222	23.0		20.5	237	41.5	79		28.2	160	54	12	53	28	36	11	37	97	
4	237	23.1		19.5	252	08.4	79	-14	12.2	160	52	14	53	27	30	14	42	94	
5	252	23.3	-4	18.5	266	35.4	80	-13	56.1	161	50	5 16	5 54	6 26	6 25	17	16	46	91
6	267	23.5	-4	17.5	281	02.5	81	-13	40.0	161	45	5 20	5 54	6 23	6 13	23	16	55	85
7	282	23.6		16.6	295	29.6	81		23.7	163	40	22	53	20	6 04	28	17	03	79
8	297	23.8		15.6	309	56.8	82	-13	07.3	164	35	24	53	18	5 56	32	09	75	
9	312	23.9		14.6	324	24.1	83	-12	50.9	164	30	25	53	16	49	36	15	70	
10	327	24.1		13.6	338	51.4	83		34.4	165	20	26	51	13	36	43	24	64	
11	342	24.2	-4	12.6	353	18.8	84	-12	17.8	166	10 N	5 25	5 49	6 10	5 25	48	17	33	58
12	357	24.4	-4	11.7	7	46.2	84	-12	01.1	167	0	5 22	5 46	6 07	5 15	53	17	40	53
13	12	24.6		10.7	22	13.7	85	-11	44.3	168	10 S	18	43	04	5 04	59	48	47	
14	27	24.7		09.7	36	41.2	85		27.5	168	20	13	38	6 01	4 53	65	17	56	41
15	42	24.9		08.7	51	08.8	86	-11	10.6	169	30	5 04	33	5 57	41	71	18	05	35
16	57	25.0		07.7	65	36.5	87	-10	53.6	170	35	4 59	29	54	33	75	10	31	
17	72	25.2	-4	06.8	80	04.2	87	-10	36.5	171	40	4 52	5 24	5 52	4 25	79	18	16	27
18	87	25.4	-4	05.8	94	32.0	88	-10	19.4	171	45	4 44	5 19	5 48	4 15	85	18	23	22
19	102	25.5		04.8	108	59.8	88	-10	02.2	172	50	33	12	45	4 02	92	31	16	
20	117	25.7		03.8	123	27.7	89	-9	44.9	173	52	27	09	43	3 57	95	35	13	
21	132	25.8		02.8	137	55.7	90		27.6	173	54	21	05	41	51	98	39	10	
22	147	26.0		01.9	152	23.6	89	-9	10.2	174	56	14	5 01	39	43	103	43	8	
23	162	26.2	-4	00.9	166	51.7	91	-8	52.7	175	58	4 07	4 56	36	36	106	48	4	
24	177	26.3	-3	59.9	181	19.8	91	-8	35.2	175	60 S	3 58	4 51	5 34	3 27	111	18	54	-1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 12 <sup>h</sup> 49.2 <sup>m</sup>		Mag.: -3.8		Mag.: +1.2		Mag.: -2.1		Mag.: +1.0									
	PMG: 10 <sup>h</sup> 48 <sup>m</sup>		PMG: 10 <sup>h</sup> 19 <sup>m</sup>		PMG: 15 <sup>h</sup> 31 <sup>m</sup>		PMG: 11 <sup>h</sup> 42 <sup>m</sup>											
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	167	10.5	198	11.9	-13	38.9	205	16.1	-16	08.8	126	36.5	+14	48.9	184	11.2	-8	59.4
1	182	13.0	213	11.3		37.9	220	16.7		08.2	141	38.5		49.0	199	13.4		59.3
2	197	15.5	228	10.7		36.9	235	17.2		07.6	156	40.5		49.2	214	15.5		59.2
3	212	17.9	243	10.2		36.0	250	17.8		07.0	171	42.6		49.3	229	17.7		59.1
4	227	20.4	258	09.6		35.0	265	18.3		06.4	186	44.6		49.5	244	19.9		59.0
5	242	22.9	273	09.1	-13	34.0	280	18.8	-16	05.9	201	46.6	+14	49.6	259	22.1	-8	58.9
6	257	25.3	288	08.5	-13	33.0	295	19.4	-16	05.3	216	48.6	+14	49.8	274	24.3	-8	58.8
7	272	27.8	303	08.0		32.0	310	19.9		04.7	231	50.6		49.9	289	26.4		58.6
8	287	30.3	318	07.4		31.0	325	20.5		04.1	246	52.6		50.1	304	28.6		58.5
9	302	32.7	333	06.9		30.1	340	21.0		03.5	261	54.6		50.2	319	30.8		58.4
10	317	35.2	348	06.3		29.1	355	21.5		02.9	276	56.6		50.4	334	33.0		58.3
11	332	37.6		3 05.7	-13	28.1	10	22.1	-16	02.3	291	58.6	+14	50.5	349	35.1	-8	58.2
12	347	40.1	18	05.2	-13	27.1	25	22.6	-16	01.7	307	00.6	+14	50.7	4	37.3	-8	58.1
13	2	42.6	33	04.6		26.1	40	23.2		01.1	322	02.7		50.8	19	39.5		58.0
14	17	45.0	48	04.1		25.1	55	23.7	-16	00.5	337	04.7		51.0	34	41.7		57.9
15	32	47.5	63	03.5		24.1	70	24.3	-15	59.9	352	06.7		51.1	49	43.9		57.7
16	47	50.0	78	03.0		23.1	85	24.8		59.3	7	08.7		51.3	64	46.0		57.6
17	62	52.4	93	02.4	-13	22.2	100	25.3	-15	58.7	22	10.7	+14	51.4	79	48.2	-8	57.5
18	77	54.9	108	01.9	-13	21.2	115	25.9	-15	58.1	37	12.7	+14	51.6	94	50.4	-8	57.4
19	92	57.4	123	01.3		20.2	130	26.4		57.5	52	14.7		51.7	109	52.6		57.3
20	107	59.8	138	00.8		19.2	145	27.0		56.9	67	16.7		51.9	124	54.8		57.2
21	123	02.3	153	00.2		18.2	160	27.5		56.3	82	18.7		52.0	139	56.9		57.1
22	138	04.8	167	59.7		17.2	175	28.1		55.7	97	20.7		52.2	154	59.1		57.0
23	153	07.2	182	59.1		16.2	190	28.6		55.1	112	22.7		52.3	170	01.3		56.8
24	168	09.7	197	58.6	-13	15.2	205	29.1	-15	54.5	127	24.7	+14	52.4	185	03.5	-8	56.7
Dif		-		-6		+10		+5		+6		+20		+1		+22		+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna											
	SD: 16.1' PMG: 12 <sup>h</sup> 10.1 <sup>m</sup>		SD: 16.7' Edad: 29.0 <sup>d</sup> PMG: 12 <sup>h</sup> 21 <sup>m</sup> R <sup>o</sup> : 51 <sup>m</sup>						PHE { 4 <sup>h</sup> : 61.4' 12 <sup>h</sup> : 61.4' 20 <sup>h</sup> : 61.4'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif										h	m	h	m	h	m	h	m	
0	177	26.3	-3	59.9	181	19.8	91	-8	35.2	175	60 N	17	51	18	32	19	21	6	57	-1	18	09	108	
1	192	26.5		58.9	195	47.9		17.7		175	58		53		32		18		53		3		11	103
2	207	26.6		57.9	210	16.1	92	-8	00.1	176	56		54		31		14		50		6		13	99
3	222	26.8		56.9	224	44.3	92	-7	42.4	177	54		55		31		12		47		10		14	96
4	237	27.0		56.0	239	12.6	93		24.7	177	52		56		30		09		44		13		16	92
5	252	27.1	-3	55.0	253	40.9	93	-7	07.0	177	50		17	58	18	30	19	07	6	42	15	18	17	89
6	267	27.3	-3	54.0	268	09.2	93	-6	49.2	178	45		18	00	18	29	19	03	6	36	21	18	20	83
7	282	27.4		53.0	282	37.6	94		31.4	178	40		02	29	19	00			32	26			22	78
8	297	27.6		52.0	297	06.1	95	-6	13.5	179	35		04	29	18	58			28	30			24	73
9	312	27.8		51.1	311	34.5	94	-5	55.6	179	30		05	29		57			25	34			25	70
10	327	27.9		50.1	326	03.1	96		37.7	179	20		08	30		56			19	40			28	63
11	342	28.1	-3	49.1	340	31.6	95	-5	19.7	180	10 N		18	11	18	32	18	56	6	13	47	18	31	56
12	357	28.3	-3	48.1	355	00.2	96	-5	01.7	180	0		18	13	18	34	18	58	6	08	52	18	33	51
13	12	28.4		47.1	9	28.8	96	-4	43.7	180	10 S		16	37	19	02			6	03	58		35	46
14	27	28.6		46.1	23	57.5	97		25.6	181	20		19	41	07				5	58	63		37	41
15	42	28.7		45.2	38	26.2	97	-4	07.5	181	30		22	46	15				52	70			40	34
16	57	28.9		44.2	52	54.9	97	-3	49.5	180	35		25	50	20				48	74			41	30
17	72	29.1	-3	43.2	67	23.6	97	-3	31.3	182	40		18	27	18	54	19	26	5	44	79	18	43	26
18	87	29.2	-3	42.2	81	52.4	98	-3	13.2	181	45		18	30	18	59	19	34	5	40	83	18	45	21
19	102	29.4		41.2	96	21.2	98	-2	55.1	181	50		33	19	06				34	90			47	15
20	117	29.5		40.3	110	50.0	98		36.9	182	52		34	09	50				32	92			48	13
21	132	29.7		39.3	125	18.9	99		18.7	182	54		36	12	19	55			29	96			49	10
22	147	29.9		38.3	139	47.8	99	-2	00.6	181	56		38	16	20	02			26	99			51	6
23	162	30.0		37.3	154	16.7	99	-1	42.4	182	58		40	20	09				22	104			52	3
24	177	30.2	-3	36.3	168	45.6	99	-1	24.2	182	60 S		18	42	19	25	20	17	5	18	108	18	53	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 12 <sup>h</sup> 45.3 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 48 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 18 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 38 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	168	09.7	197	58.6	-13	15.2	205	29.1	-15	54.5	127	24.7	+14	52.4	185	03.5	-8	56.7	
1	183	12.1	212	58.0		14.2	220	29.7		53.9	142	26.8		52.6	200	05.7		56.6	
2	198	14.6	227	57.5		13.2	235	30.2		53.3	157	28.8		52.7	215	07.8		56.5	
3	213	17.1	242	56.9		12.2	250	30.8		52.7	172	30.8		52.9	230	10.0		56.4	
4	228	19.5	257	56.4		11.2	265	31.3		52.1	187	32.8		53.0	245	12.2		56.3	
5	243	22.0	272	55.9	-13	10.2	280	31.9	-15	51.5	202	34.8	+14	53.2	260	14.4	-8	56.2	
6	258	24.5	287	55.3	-13	09.2	295	32.4	-15	50.9	217	36.8	+14	53.3	275	16.6	-8	56.1	
7	273	26.9	302	54.8		08.2	310	33.0		50.3	232	38.8		53.5	290	18.7		55.9	
8	288	29.4	317	54.2		07.2	325	33.5		49.7	247	40.8		53.6	305	20.9		55.8	
9	303	31.9	332	53.7		06.2	340	34.1		49.1	262	42.8		53.8	320	23.1		55.7	
10	318	34.3	347	53.1		05.2	355	34.6		48.5	277	44.8		53.9	335	25.3		55.6	
11	333	36.8	2	52.6	-13	04.2	10	35.1	-15	47.9	292	46.8	+14	54.1	350	27.4	-8	55.5	
12	348	39.2	17	52.0	-13	03.2	25	35.7	-15	47.3	307	48.8	+14	54.2	5	29.6	-8	55.4	
13	3	41.7	32	51.5		02.2	40	36.2		46.7	322	50.8		54.4	20	31.8		55.3	
14	18	44.2	47	51.0		01.2	55	36.8		46.1	337	52.8		54.5	35	34.0		55.2	
15	33	46.6	62	50.4	-13	00.2	70	37.3		45.5	352	54.8		54.7	50	36.2		55.0	
16	48	49.1	77	49.9	-12	59.2	85	37.9		44.9	7	56.8		54.8	65	38.3		54.9	
17	63	51.6	92	49.3	-12	58.2	100	38.4	-15	44.2	22	58.8	+14	55.0	80	40.5	-8	54.8	
18	78	54.0	107	48.8	-12	57.2	115	39.0	-15	43.6	38	00.8	+14	55.1	95	42.7	-8	54.7	
19	93	56.5	122	48.3		56.2	130	39.5		43.0	53	02.9		55.3	110	44.9		54.6	
20	108	59.0	137	47.7		55.2	145	40.1		42.4	68	04.9		55.4	125	47.1		54.5	
21	124	01.4	152	47.2		54.2	160	40.6		41.8	83	06.9		55.6	140	49.2		54.4	
22	139	03.9	167	46.6		53.2	175	41.2		41.2	98	08.9		55.7	155	51.4		54.3	
23	154	06.4	182	46.1		52.2	190	41.7		40.6	113	10.9		55.9	170	53.6		54.1	
24	169	08.8	197	45.6	-12	51.2	205	42.3	-15	40.0	128	12.9	+14	56.0	185	55.8	-8	54.0	
Dif		-		-5		+10		+5		+6		+20		+1		+22			+1

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 12 <sup>h</sup> 09.9 <sup>m</sup>		SD: 16.7' Edad: 0.6 <sup>d</sup> PHE { 4 <sup>h</sup> : 61.3' 12 <sup>h</sup> : 61.2' 20 <sup>h</sup> : 61.0' PMG: 13 <sup>h</sup> 12 <sup>m</sup> R°: 52 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m	
0	177 30.2	-3 36.3	168 45.6	100	-1 24.2	182	58	5 01	47	26	56	-1	19 57 107	
1	192 30.4	35.3	183 14.6	99	-1 06.0	182	58	5 01	47	26	56	3	54 103	
2	207 30.5	34.4	197 43.5	100	-0 47.8	182	56	05	48	25	56	7	52 98	
3	222 30.7	33.4	212 12.5	100	29.6	182	54	07	48	24	57	9	50 95	
4	237 30.9	32.4	226 41.5	100	-0 11.4	182	52	10	49	22	57	13	48 92	
5	252 31.0	-3 31.4	241 10.5	100	+0 06.7	181	50	5 12	5 49	6 21	6 57	15	19 46 89	
6	267 31.2	-3 30.4	255 39.6	101	+0 24.9	182	45	5 16	5 50	6 19	6 57	21	19 43 82	
7	282 31.3	29.4	270 08.6	100	+0 43.1	182	40	19	50	17	58	26	40 77	
8	297 31.5	28.5	284 37.7	101	+1 01.2	181	35	21	50	16	58	30	37 73	
9	312 31.7	27.5	299 06.7	100	19.3	181	30	23	50	14	59	33	35 69	
10	327 31.8	26.5	313 35.8	101	37.4	181	20	24	49	11	6 59	40	31 62	
11	342 32.0	-3 25.5	328 04.9	101	+1 55.5	181	10 N	5 24	5 48	6 09	7 00	45	19 27 57	
12	357 32.2	-3 24.5	342 34.0	101	+2 13.6	181	0	5 22	5 46	6 07	7 00	51	19 24 52	
13	12 32.3	23.5	357 03.1	101	31.6	180	10 S	19	43	04	01	56	21 46	
14	27 32.5	22.6	11 32.2	101	+2 49.7	181	20	13	39	6 01	01	63	18 40	
15	42 32.7	21.6	26 01.3	101	+3 07.7	180	30	06	34	5 58	02	69	14 34	
16	57 32.8	20.6	40 30.4	101	25.6	179	35	5 01	31	56	02	73	11 31	
17	72 33.0	-3 19.6	54 59.5	101	+3 43.6	180	40	4 54	5 27	5 54	7 03	77	19 09 26	
18	87 33.2	-3 18.6	69 28.6	101	+4 01.5	179	45	4 46	5 22	5 51	7 03	83	19 06 21	
19	102 33.3	17.6	83 57.7	101	19.3	178	50	36	15	48	04	89	02 16	
20	117 33.5	16.6	98 26.8	101	37.2	178	52	31	12	46	04	92	19 01 13	
21	132 33.7	15.7	112 55.9	101	+4 55.0	179	54	26	09	45	05	95	18 59 10	
22	147 33.8	14.7	127 25.0	101	+5 12.7	177	56	19	05	43	05	99	57 7	
23	162 34.0	13.7	141 54.1	101	30.4	177	58	12	5 01	41	06	102	55 3	
24	177 34.2	-3 12.7	156 23.2	101	+5 48.1	177	60 S	4 04	4 56	5 39	7 06	107	18 53 -1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 <sup>h</sup> 41.3 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 35 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	169 08.8	197 45.6	-12 51.2	205 42.3	-15 40.0	128 12.9	+14 56.0	185 55.8	-8 54.0	
1	184 11.3	212 45.0	50.2	220 42.8	39.4	143 14.9	56.2	200 58.0	53.9	
2	199 13.7	227 44.5	49.1	235 43.4	38.8	158 16.9	56.3	216 00.1	53.8	
3	214 16.2	242 44.0	48.1	250 43.9	38.2	173 18.9	56.5	231 02.3	53.7	
4	229 18.7	257 43.4	47.1	265 44.4	37.6	188 20.9	56.6	246 04.5	53.6	
5	244 21.1	272 42.9	-12 46.1	280 45.0	-15 37.0	203 22.9	+14 56.8	261 06.7	-8 53.5	
6	259 23.6	287 42.4	-12 45.1	295 45.5	-15 36.4	218 24.9	+14 56.9	276 08.9	-8 53.4	
7	274 26.1	302 41.8	44.1	310 46.1	35.7	233 26.9	57.1	291 11.0	53.2	
8	289 28.5	317 41.3	43.1	325 46.6	35.1	248 28.9	57.2	306 13.2	53.1	
9	304 31.0	332 40.8	42.1	340 47.2	34.5	263 30.9	57.4	321 15.4	53.0	
10	319 33.5	347 40.2	41.0	355 47.7	33.9	278 32.9	57.5	336 17.6	52.9	
11	334 35.9	2 39.7	-12 40.0	10 48.3	-15 33.3	293 34.9	+14 57.6	351 19.8	-8 52.8	
12	349 38.4	17 39.2	-12 39.0	25 48.8	-15 32.7	308 36.9	+14 57.8	6 21.9	-8 52.7	
13	4 40.8	32 38.6	38.0	40 49.4	32.1	323 38.9	57.9	21 24.1	52.6	
14	19 43.3	47 38.1	37.0	55 49.9	31.5	338 40.9	58.1	36 26.3	52.5	
15	34 45.8	62 37.6	36.0	70 50.5	30.9	353 42.9	58.2	51 28.5	52.4	
16	49 48.2	77 37.0	34.9	85 51.0	30.3	8 44.9	58.4	66 30.7	52.2	
17	64 50.7	92 36.5	-12 33.9	100 51.6	-15 29.6	23 46.9	+14 58.5	81 32.8	-8 52.1	
18	79 53.2	107 36.0	-12 32.9	115 52.1	-15 29.0	38 48.9	+14 58.7	96 35.0	-8 52.0	
19	94 55.6	122 35.4	31.9	130 52.7	28.4	53 50.9	58.8	111 37.2	51.9	
20	109 58.1	137 34.9	30.9	145 53.3	27.8	68 52.9	59.0	126 39.4	51.8	
21	125 00.6	152 34.4	29.8	160 53.8	27.2	83 54.9	59.1	141 41.6	51.7	
22	140 03.0	167 33.9	28.8	175 54.4	26.6	98 56.9	59.3	156 43.7	51.6	
23	155 05.5	182 33.3	27.8	190 54.9	26.0	113 58.9	59.4	171 45.9	51.5	
24	170 08.0	197 32.8	-12 26.8	205 55.5	-15 25.4	129 00.9	+14 59.6	186 48.1	-8 51.3	
Dif	—	-5	+10	+6	+6	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.1' PMG: 12 <sup>h</sup> 09.6 <sup>m</sup>		SD: 16.6' Edad: 1.6 <sup>d</sup> PMG: 14 <sup>h</sup> 04 <sup>m</sup> R°: 52 <sup>m</sup>						PHE { 4 <sup>h</sup> : 60.9' 12 <sup>h</sup> : 60.6' 20 <sup>h</sup> : 60.4'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m		
0	177 34.2	-3 12.7	156 23.2	101	+ 5 48.1	176	60 N	17 56	18 37	19 26	6 55	0	21 44	109	
1	192 34.3	11.7	170 52.3	101	+ 6 05.7	176	58	57	36	22	6 59	4	37	103	
2	207 34.5	10.7	185 21.4	101	23.3	176	56	58	35	19	7 03	8	30	99	
3	222 34.7	09.8	199 50.4	100	40.8	175	54	17 59	34	16	06	12	25	95	
4	237 34.8	08.8	214 19.5	101	+ 6 58.3	175	52	18 00	34	13	10	14	20	91	
5	252 35.0	-3 07.8	228 48.5	100	+ 7 15.7	174	50	18 01	18 33	19 11	7 12	17	21 15	88	
6	267 35.2	-3 06.8	243 17.5	100	+ 7 33.0	173	45	18 03	18 32	19 06	7 18	23	21 05	82	
7	282 35.3	05.8	257 46.5	100	+ 7 50.3	173	40	04	31	03	24	27	20 57	77	
8	297 35.5	04.8	272 15.5	100	+ 8 07.6	173	35	05	31	19 00	28	32	50	73	
9	312 35.7	03.8	286 44.5	100	24.7	171	30	07	31	18 58	32	35	44	69	
10	327 35.8	02.9	301 13.5	100	41.9	172	20	09	31	56	39	41	33	63	
11	342 36.0	-3 01.9	315 42.4	99	+ 8 58.9	170	10 N	18 11	18 32	18 56	7 45	47	20 24	58	
12	357 36.2	-3 00.9	330 11.3	99	+ 9 15.9	170	0	18 13	18 34	18 58	7 51	52	20 16	52	
13	12 36.3	-2 59.9	344 40.2	99	32.8	169	10 S	15	36	19 00	7 57	57	20 07	48	
14	27 36.5	58.9	359 09.1	99	+ 9 49.6	168	20	17	39	05	8 04	62	19 58	43	
15	42 36.7	57.9	13 38.0	99	+10 06.4	168	30	20	44	12	11 69	48	36	36	
16	57 36.8	56.9	28 06.8	98	23.1	167	35	22	47	17	15 73	42	33	33	
17	72 37.0	-2 56.0	42 35.6	98	+10 39.7	166	40	18 24	18 51	19 23	8 20	77	19 35	29	
18	87 37.2	-2 55.0	57 04.4	98	+10 56.3	166	45	18 26	18 55	19 30	8 26	82	19 27	25	
19	102 37.4	54.0	71 33.2	98	+11 12.7	164	50	29	19 01	40	33 89	18	18	18	
20	117 37.5	53.0	86 01.9	97	29.1	164	52	30	04	44	36 92	14	15	15	
21	132 37.7	52.0	100 30.6	97	+11 45.4	163	54	31	07	50	40 95	09	13	13	
22	147 37.9	51.0	114 59.3	97	+12 01.6	162	56	33	10	19 56	44 99	19 04	9	9	
23	162 38.0	50.0	129 27.9	96	17.8	162	58	34	14	20 03	48 103	18 58	5	5	
24	177 38.2	-2 49.1	143 56.5	96	+12 33.8	160	60 S	18 36	19 19	20 10	8 53	109	18 52	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 <sup>h</sup> 37.4 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 50 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 16 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 31 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	170 08.0	197 32.8	- 12 26.8	205 55.5	- 15 25.4	129 00.9	+ 14 59.6	186 48.1	- 8 51.3	
1	185 10.4	212 32.3	25.7	220 56.0	24.7	144 02.9	59.7	201 50.3	51.2	
2	200 12.9	227 31.7	24.7	235 56.6	24.1	159 04.9	+ 14 59.9	216 52.5	51.1	
3	215 15.3	242 31.2	23.7	250 57.1	23.5	174 06.9	+ 15 00.0	231 54.6	51.0	
4	230 17.8	257 30.7	22.7	265 57.7	22.9	189 08.9	00.2	246 56.8	50.9	
5	245 20.3	272 30.2	- 12 21.6	280 58.2	- 15 22.3	204 10.9	+ 15 00.3	261 59.0	- 8 50.8	
6	260 22.7	287 29.6	- 12 20.6	295 58.8	- 15 21.7	219 12.9	+ 15 00.5	277 01.2	- 8 50.7	
7	275 25.2	302 29.1	19.6	310 59.3	21.1	234 14.9	00.6	292 03.4	50.6	
8	290 27.7	317 28.6	18.6	325 59.9	20.4	249 16.9	00.8	307 05.5	50.4	
9	305 30.1	332 28.1	17.5	341 00.4	19.8	264 18.9	00.9	322 07.7	50.3	
10	320 32.6	347 27.6	16.5	356 01.0	19.2	279 20.9	01.1	337 09.9	50.2	
11	335 35.1	2 27.0	- 12 15.5	11 01.5	- 15 18.6	294 22.9	+ 15 01.2	352 12.1	- 8 50.1	
12	350 37.5	17 26.5	- 12 14.4	26 02.1	- 15 18.0	309 24.9	+ 15 01.4	7 14.3	- 8 50.0	
13	5 40.0	32 26.0	13.4	41 02.7	17.4	324 26.9	01.5	22 16.4	49.9	
14	20 42.4	47 25.5	12.4	56 03.2	16.7	339 28.9	01.7	37 18.6	49.8	
15	35 44.9	62 24.9	11.3	71 03.8	16.1	354 30.9	01.8	52 20.8	49.7	
16	50 47.4	77 24.4	10.3	86 04.3	15.5	9 32.9	02.0	67 23.0	49.5	
17	65 49.8	92 23.9	- 12 09.3	101 04.9	- 15 14.9	24 34.9	+ 15 02.1	82 25.2	- 8 49.4	
18	80 52.3	107 23.4	- 12 08.2	116 05.4	- 15 14.3	39 36.8	+ 15 02.3	97 27.3	- 8 49.3	
19	95 54.8	122 22.9	07.2	131 06.0	13.7	54 38.8	02.4	112 29.5	49.2	
20	110 57.2	137 22.3	06.2	146 06.5	13.0	69 40.8	02.6	127 31.7	49.1	
21	125 59.7	152 21.8	05.1	161 07.1	12.4	84 42.8	02.7	142 33.9	49.0	
22	141 02.2	167 21.3	04.1	176 07.6	11.8	99 44.8	02.9	157 36.1	48.9	
23	156 04.6	182 20.8	03.1	191 08.2	11.2	114 46.8	03.0	172 38.3	48.8	
24	171 07.1	197 20.3	- 12 02.0	206 08.8	- 15 10.6	129 48.8	+ 15 03.2	187 40.4	- 8 48.7	
Dif	—	-5	+10	+6	+6	+20	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 09.3 <sup>m</sup>		SD: 16.4' Edad: 2.6 <sup>d</sup>		PHE { 4 <sup>h</sup> : 60.1' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 59.6'			R°: 54 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	177 38.2	-2 49.1	143 56.5	96	+12 33.8	160	60 N	4 51	5 40	6 22	6 55	1	23 33	111		
1	192 38.4	48.1	158 25.1	96	+12 49.8	158	58	56	42	20	7 03	6	20 104			
2	207 38.5	47.1	172 53.7	96	+13 05.6	158	56	4 59	43	20	11 10		09 98			
3	222 38.7	46.1	187 22.2	95	21.4	157	54	5 02	44	19	18 14		23 00	93		
4	237 38.9	45.1	201 50.7	95	37.1	157	52	05	44	18	24 17		22 51	90		
5	252 39.0	-2 44.1	216 19.1	94	+13 52.6	155	50	5 07	5 45	6 17	7 29	20	22 43	87		
6	267 39.2	-2 43.1	230 47.5	94	+14 08.1	155	45	5 12	5 46	6 16	7 41	26	22 27	81		
7	282 39.4	42.2	245 15.9	94	23.5	154	40	16	47	14	7 51	31	14 76			
8	297 39.6	41.2	259 44.3	94	38.8	153	35	18	48	13	8 00	34	22 03	72		
9	312 39.7	40.2	274 12.6	93	+14 54.0	152	30	20	48	12	07 38		21 53	69		
10	327 39.9	39.2	288 40.8	92	+15 09.1	151	20	22	48	10	20 44		36 64			
11	342 40.1	-2 38.2	303 09.1	93	+15 24.0	149	10 N	5 23	5 47	6 08	8 32	49	21 22	58		
12	357 40.2	-2 37.2	317 37.3	92	+15 38.9	149	0	5 21	5 45	6 06	8 43	54	21 08	55		
13	12 40.4	36.2	332 05.4	91	+15 53.7	148	10 S	19	43	04	8 54	58	20 55	50		
14	27 40.6	35.3	346 33.5	91	+16 08.3	146	20	14	40	6 02	9 06	63	41 45			
15	42 40.8	34.3	1 01.6	91	22.9	146	30	07	35	5 59	20 69		24 41			
16	57 40.9	33.3	15 29.6	90	37.3	144	35	5 03	32	58	28 73		15 37			
17	72 41.1	-2 32.3	29 57.6	90	+16 51.6	143	40	4 57	5 29	5 56	9 37	77	20 04	33		
18	87 41.3	-2 31.3	44 25.6	90	+17 05.8	142	45	4 49	5 24	5 54	9 48	82	19 52	28		
19	102 41.4	30.3	58 53.5	89	19.9	141	50	40	19	51	10 02	87	36 23			
20	117 41.6	29.3	73 21.4	89	33.9	140	52	35	16	50	08 91		29 20			
21	132 41.8	28.3	87 49.2	88	+17 47.7	138	54	30	13	49	15 94		22 16			
22	147 42.0	27.4	102 17.0	88	+18 01.4	137	56	24	10	47	23 98		13 12			
23	162 42.1	26.4	116 44.7	87	15.1	137	58	17	06	46	31 104		19 03	8		
24	177 42.3	-2 25.4	131 12.4	87	+18 28.5	134	60 S	4 10	5 01	5 44	10 42	110	18 52	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 <sup>h</sup> 33.5 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 51 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 15 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 19 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 28 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	171 07.1	197 20.3	-12 02.0	206 08.8	-15 10.6	129 48.8	+15 03.2	187 40.4	-8 48.7	
1	186 09.6	212 19.8	-12 01.0	221 09.3	09.9	144 50.8	03.3	202 42.6	48.5	
2	201 12.0	227 19.2	-11 59.9	236 09.9	09.3	159 52.8	03.5	217 44.8	48.4	
3	216 14.5	242 18.7	58.9	251 10.4	08.7	174 54.8	03.6	232 47.0	48.3	
4	231 16.9	257 18.2	57.9	266 11.0	08.1	189 56.8	03.8	247 49.2	48.2	
5	246 19.4	272 17.7	-11 56.8	281 11.5	-15 07.5	204 58.8	+15 03.9	262 51.3	-8 48.1	
6	261 21.9	287 17.2	-11 55.8	296 12.1	-15 06.8	220 00.8	+15 04.1	277 53.5	-8 48.0	
7	276 24.3	302 16.7	54.7	311 12.7	06.2	235 02.8	04.2	292 55.7	47.9	
8	291 26.8	317 16.1	53.7	326 13.2	05.6	250 04.8	04.4	307 57.9	47.8	
9	306 29.3	332 15.6	52.7	341 13.8	05.0	265 06.8	04.5	323 00.1	47.6	
10	321 31.7	347 15.1	51.6	356 14.3	04.3	280 08.8	04.7	338 02.2	47.5	
11	336 34.2	2 14.6	-11 50.6	11 14.9	-15 03.7	295 10.8	+15 04.8	353 04.4	-8 47.4	
12	351 36.7	17 14.1	-11 49.5	26 15.4	-15 03.1	310 12.7	+15 05.0	8 06.6	-8 47.3	
13	6 39.1	32 13.6	48.5	41 16.0	02.5	325 14.7	05.1	23 08.8	47.2	
14	21 41.6	47 13.1	47.4	56 16.6	01.9	340 16.7	05.3	38 11.0	47.1	
15	36 44.1	62 12.6	46.4	71 17.1	01.2	355 18.7	05.4	53 13.1	47.0	
16	51 46.5	77 12.0	45.3	86 17.7	00.6	10 20.7	05.6	68 15.3	46.9	
17	66 49.0	92 11.5	-11 44.3	101 18.2	-15 00.0	25 22.7	+15 05.7	83 17.5	-8 46.8	
18	81 51.4	107 11.0	-11 43.3	116 18.8	-14 59.4	40 24.7	+15 05.9	98 19.7	-8 46.6	
19	96 53.9	122 10.5	42.2	131 19.4	58.7	55 26.7	06.0	113 21.9	46.5	
20	111 56.4	137 10.0	41.2	146 19.9	58.1	70 28.7	06.2	128 24.1	46.4	
21	126 58.8	152 09.5	40.1	161 20.5	57.5	85 30.7	06.3	143 26.2	46.3	
22	142 01.3	167 09.0	39.1	176 21.0	56.9	100 32.7	06.5	158 28.4	46.2	
23	157 03.8	182 08.5	38.0	191 21.6	56.2	115 34.7	06.6	173 30.6	46.1	
24	172 06.2	197 08.0	-11 37.0	206 22.2	-14 55.6	130 36.6	+15 06.8	188 32.8	-8 46.0	
Dif	—	-5	+10	+6	+6	+20	+2	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 16.1' PMG: 12 <sup>h</sup> 09.0 <sup>m</sup>		SD: 16.2' Edad: 3.6 <sup>d</sup> PMG: 15 <sup>h</sup> 50 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.0' 20 <sup>h</sup> : 58.6'R°: 55 <sup>m</sup>				Civil		Náutico		Hora R°		Hora R°				
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m	h	m	
0	177	42.3	-2	25.4	131	12.4	87	+18	28.5	134	60 N	18 01	18 42	19 32	6 56	3	**	**	***
1	192	42.5		24.4	145	40.1	86		41.9	132	58	02	41	27	7 09	11	**	**	***
2	207	42.7		23.4	160	07.7	86	+18	55.1	131	56	02	39	23	21	16	**	**	***
3	222	42.8		22.4	174	35.3	85	+19	08.2	130	54	03	38	20	32	20	**	**	***
4	237	43.0		21.4	189	02.8	85		21.2	129	52	03	37	17	41	23	**	**	***
5	252	43.2	-2	20.4	203	30.3	85	+19	34.1	127	50	18 04	18 36	19 14	7 49	27	**	**	***
6	267	43.3	-2	19.5	217	57.7	84	+19	46.8	126	45	18 05	18 34	19 09	8 07	32	23	48	75
7	282	43.5		18.5	232	25.1	84	+19	59.4	125	40	06	33	05	22	36		30	72
8	297	43.7		17.5	246	52.5	84	+20	11.9	123	35	07	32	02	34	40		15	69
9	312	43.9		16.5	261	19.8	83		24.2	122	30	08	32	19 00	8 45	43	23	02	66
10	327	44.0		15.5	275	47.0	82		36.4	120	20	09	31	18 57	9 04	48	22	40	62
11	342	44.2	-2	14.5	290	14.2	82	+20	48.4	119	10 N	18 11	18 32	18 56	9 21	51	22	20	60
12	357	44.4	-2	13.5	304	41.4	82	+21	00.3	118	0	18 12	18 33	18 57	9 37	55	22	03	56
13	12	44.6		12.5	319	08.6	82		12.1	117	10 S	14	35	18 59	9 52	59	21	45	53
14	27	44.7		11.6	333	35.6	80		23.8	115	20	16	38	19 03	10 09	63		26	50
15	42	44.9		10.6	348	02.7	81		35.3	113	30	18	42	10	29	68	21	05	45
16	57	45.1		09.6	2	29.7	80		46.6	112	35	19	44	14	41	70	20	52	43
17	72	45.3	-2	08.6	16	56.7	80	+21	57.8	111	40	18 20	18 48	19 19	10 54	74	20	37	40
18	87	45.4	-2	07.6	31	23.6	79	+22	08.9	109	45	18 22	18 52	19 26	11 10	78	20	20	36
19	102	45.6		06.6	45	50.5	79		19.8	108	50	24	57	35	29	85	19	59	31
20	117	45.8		05.6	60	17.3	78		30.6	107	52	25	18 59	39	39	87	49	28	
21	132	46.0		04.6	74	44.1	78		41.3	105	54	26	19 02	44	11 49	92	38	24	
22	147	46.1		03.7	89	10.8	77	+22	51.8	103	56	28	05	50	12 01	96	25	20	
23	162	46.3		02.7	103	37.5	77	+23	02.1	102	58	29	08	19 56	15	102	19	11	13
24	177	46.5	-2	01.7	118	04.2	77	+23	12.3	102	60 S	18 30	19 12	20 04	12 32	111	18	53	5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 12 <sup>h</sup> 29.5 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 14 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 16 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 24 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	172	06.2	197	08.0	-11	37.0	206	22.2	-14	55.6	130	36.6	+15	06.8	188	32.8	-8	46.0	
1	187	08.7	212	07.5		35.9	221	22.7		55.0	145	38.6		06.9	203	35.0		45.9	
2	202	11.2	227	07.0		34.9	236	23.3		54.4	160	40.6		07.1	218	37.1		45.7	
3	217	13.6	242	06.5		33.8	251	23.8		53.7	175	42.6		07.2	233	39.3		45.6	
4	232	16.1	257	06.0		32.8	266	24.4		53.1	190	44.6		07.4	248	41.5		45.5	
5	247	18.5	272	05.4	-11	31.7	281	25.0	-14	52.5	205	46.6	+15	07.6	263	43.7	-8	45.4	
6	262	21.0	287	04.9	-11	30.6	296	25.5	-14	51.8	220	48.6	+15	07.7	278	45.9	-8	45.3	
7	277	23.5	302	04.4		29.6	311	26.1		51.2	235	50.6		07.9	293	48.1		45.2	
8	292	25.9	317	03.9		28.5	326	26.7		50.6	250	52.6		08.0	308	50.2		45.1	
9	307	28.4	332	03.4		27.5	341	27.2		50.0	265	54.6		08.2	323	52.4		45.0	
10	322	30.9	347	02.9		26.4	356	27.8		49.3	280	56.5		08.3	338	54.6		44.9	
11	337	33.3	2	02.4	-11	25.4	11	28.3	-14	48.7	295	58.5	+15	08.5	353	56.8	-8	44.7	
12	352	35.8	17	01.9	-11	24.3	26	28.9	-14	48.1	311	00.5	+15	08.6	8	59.0	-8	44.6	
13	7	38.3	32	01.4		23.2	41	29.5		47.4	326	02.5		08.8	24	01.1		44.5	
14	22	40.7	47	00.9		22.2	56	30.0		46.8	341	04.5		08.9	39	03.3		44.4	
15	37	43.2	62	00.4		21.1	71	30.6		46.2	356	06.5		09.1	54	05.5		44.3	
16	52	45.7	76	59.9		20.1	86	31.2		45.6	11	08.5		09.2	69	07.7		44.2	
17	67	48.1	91	59.4	-11	19.0	101	31.7	-14	44.9	26	10.5	+15	09.4	84	09.9	-8	44.1	
18	82	50.6	106	58.9	-11	18.0	116	32.3	-14	44.3	41	12.5	+15	09.5	99	12.1	-8	44.0	
19	97	53.0	121	58.4		16.9	131	32.8		43.7	56	14.4		09.7	114	14.2		43.9	
20	112	55.5	136	57.9		15.8	146	33.4		43.0	71	16.4		09.8	129	16.4		43.7	
21	127	58.0	151	57.4		14.8	161	34.0		42.4	86	18.4		10.0	144	18.6		43.6	
22	143	00.4	166	56.9		13.7	176	34.5		41.8	101	20.4		10.1	159	20.8		43.5	
23	158	02.9	181	56.4		12.6	191	35.1		41.1	116	22.4		10.3	174	23.0		43.4	
24	173	05.4	196	55.9	-11	11.6	206	35.7	-14	40.5	131	24.4	+15	10.4	189	25.1	-8	43.3	
Dif		-		-5		+11		+6		+6		+20		+2		+22			+1



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 08.8 <sup>m</sup>		SD: 15.9' Edad: 4.6 <sup>d</sup>		PHE { 4 <sup>h</sup> : 58.3' 12 <sup>h</sup> : 58.0' 20 <sup>h</sup> : 57.7'			R°: 57 <sup>m</sup>			PMG: 16 <sup>h</sup> 45 <sup>m</sup>		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	177 46.5	-2 01.7	118 04.2	77	+23 12.3	100	60 N	4 45	5 34	6 15	6 59	10	1 24	107		
1	192 46.7	-2 00.7	132 30.9	76	22.3	99	58	50	36	15	7 20	19	1 04	97		
2	207 46.8	-1 59.7	146 57.5	75	32.2	98	56	54	37	14	37 25	0 47	92	92		
3	222 47.0	58.7	161 24.0	75	42.0	96	54	4 57	39	14	7 52	29	33	87		
4	237 47.2	57.7	175 50.5	75	+23 51.6	94	52	5 00	40	13	8 04	33	21	84		
5	252 47.4	-1 56.7	190 17.0	75	+24 01.0	93	50	5 03	5 41	6 13	8 16	35	0 10	81		
6	267 47.5	-1 55.8	204 43.5	74	+24 10.3	91	45	5 08	5 43	6 12	8 39	40	** ** *	** ** *		
7	282 47.7	54.8	219 09.9	74	19.4	90	40	13	44	11	8 58	43	** ** *	** ** *		
8	297 47.9	53.8	233 36.3	73	28.4	88	35	16	45	10	9 14	46	** ** *	** ** *		
9	312 48.1	52.8	248 02.6	73	37.2	87	30	18	46	09	28	48	** ** *	** ** *		
10	327 48.2	51.8	262 28.9	73	45.9	85	20	21	46	08	9 52	51	23 42	60		
11	342 48.4	-1 50.8	276 55.2	73	+24 54.4	84	10 N	5 21	5 46	6 07	10 12	54	23 20	58		
12	357 48.6	-1 49.8	291 21.5	72	+25 02.8	81	0	5 21	5 45	6 05	10 32	56	22 59	57		
13	12 48.8	48.8	305 47.7	72	10.9	80	10 S	19	43	04	10 51	59	38	55		
14	27 48.9	47.8	320 13.9	72	19.0	81	20	15	40	02	11 12	62	22 16	53		
15	42 49.1	46.9	334 40.0	71	26.9	79	30	09	37	6 01	37	65	21 50	50		
16	57 49.3	45.9	349 06.2	72	34.6	77	35	5 04	34	5 59	11 51	67	35	49		
17	72 49.5	-1 44.9	3 32.3	71	+25 42.1	75	40	4 59	5 31	5 58	12 08	69	21 17	47		
18	87 49.6	-1 43.9	17 58.4	71	+25 49.5	74	45	4 52	5 27	5 56	12 28	72	20 56	45		
19	102 49.8	42.9	32 24.5	71	+25 56.7	72	50	43	22	54	12 54	76	30	40		
20	117 50.0	41.9	46 50.5	70	+26 03.8	71	52	39	20	54	13 06	79	17	38		
21	132 50.2	40.9	61 16.5	70	10.7	69	54	34	17	53	21	81	20 02	36		
22	147 50.4	39.9	75 42.5	70	17.5	68	56	29	14	51	37	86	19 45	32		
23	162 50.5	39.0	90 08.5	70	24.1	66	58	23	11	50	13 57	92	19 24	27		
24	177 50.7	-1 38.0	104 34.5	70	+26 30.5	64	60 S	4 15	5 07	5 49	14 23	103	18 58	16		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 <sup>h</sup> 25.6 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 13 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 12 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 21 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	173 05.4	196 55.9	-11 11.6	206 35.7	-14 40.5	131 24.4	+15 10.4	189 25.1	-8 43.3	
1	188 07.8	211 55.4	10.5	221 36.2	39.9	146 26.4	10.6	204 27.3	43.2	
2	203 10.3	226 54.9	09.5	236 36.8	39.2	161 28.4	10.7	219 29.5	43.1	
3	218 12.8	241 54.4	08.4	251 37.4	38.6	176 30.3	10.9	234 31.7	43.0	
4	233 15.2	256 53.9	07.3	266 37.9	38.0	191 32.3	11.0	249 33.9	42.9	
5	248 17.7	271 53.4	-11 06.3	281 38.5	-14 37.3	206 34.3	+15 11.2	264 36.1	-8 42.7	
6	263 20.2	286 52.9	-11 05.2	296 39.1	-14 36.7	221 36.3	+15 11.3	279 38.2	-8 42.6	
7	278 22.6	301 52.4	04.1	311 39.6	36.1	236 38.3	11.5	294 40.4	42.5	
8	293 25.1	316 51.9	03.1	326 40.2	35.4	251 40.3	11.6	309 42.6	42.4	
9	308 27.5	331 51.5	02.0	341 40.7	34.8	266 42.3	11.8	324 44.8	42.3	
10	323 30.0	346 51.0	-11 00.9	356 41.3	34.2	281 44.2	11.9	339 47.0	42.2	
11	338 32.5	1 50.5	-10 59.8	11 41.9	-14 33.5	296 46.2	+15 12.1	354 49.2	-8 42.1	
12	353 34.9	16 50.0	-10 58.8	26 42.4	-14 32.9	311 48.2	+15 12.2	9 51.3	-8 42.0	
13	8 37.4	31 49.5	57.7	41 43.0	32.3	326 50.2	12.4	24 53.5	41.8	
14	23 39.9	46 49.0	56.6	56 43.6	31.6	341 52.2	12.5	39 55.7	41.7	
15	38 42.3	61 48.5	55.6	71 44.1	31.0	356 54.2	12.7	54 57.9	41.6	
16	53 44.8	76 48.0	54.5	86 44.7	30.4	11 56.2	12.8	70 00.1	41.5	
17	68 47.3	91 47.5	-10 53.4	101 45.3	-14 29.7	26 58.1	+15 13.0	85 02.2	-8 41.4	
18	83 49.7	106 47.0	-10 52.3	116 45.8	-14 29.1	42 00.1	+15 13.2	100 04.4	-8 41.3	
19	98 52.2	121 46.5	51.3	131 46.4	28.5	57 02.1	13.3	115 06.6	41.2	
20	113 54.7	136 46.0	50.2	146 47.0	27.8	72 04.1	13.5	130 08.8	41.1	
21	128 57.1	151 45.6	49.1	161 47.6	27.2	87 06.1	13.6	145 11.0	41.0	
22	143 59.6	166 45.1	48.0	176 48.1	26.5	102 08.1	13.8	160 13.2	40.8	
23	159 02.0	181 44.6	47.0	191 48.7	25.9	117 10.0	13.9	175 15.3	40.7	
24	174 04.5	196 44.1	-10 45.9	206 49.3	-14 25.3	132 12.0	+15 14.1	190 17.5	-8 40.6	
Dif	—	-5	+11	+6	+6	+20	+2	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 08.5 <sup>m</sup>		SD: 15.7' Edad: 5.6 <sup>d</sup> PMG: 17 <sup>h</sup> 42 <sup>m</sup>		R <sup>o</sup> : 56 <sup>m</sup>				PHE { 4 <sup>h</sup> : 57.4' 12 <sup>h</sup> : 57.1' 20 <sup>h</sup> : 56.8'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	177 50.7	-1 38.0	104 34.5	69 +26 30.5	62	60 N	18 06	18 47	19 37	7 09 28	3 11 91					
1	192 50.9	37.0	119 00.4	69 36.7	61	58	06	45	32	7 39 37	2 41 82					
2	207 51.1	36.0	133 26.3	69 42.8	60	56	06	44	27	8 02 41	19 77					
3	222 51.2	35.0	147 52.3	69 48.8	59	54	07	42	24	21 44	2 00 74					
4	237 51.4	34.0	162 18.2	69 +26 54.5	57	52	07	41	20	37 46	1 45 71					
5	252 51.6	-1 33.0	176 44.0	68 +27 00.1	56	50	18 07	18 39	19 17	8 51 47	1 31 70					
6	267 51.8	-1 32.0	191 09.9	69 +27 05.5	54	45	18 08	18 37	19 11	9 19 49	1 03 68					
7	282 52.0	31.0	205 35.8	69 10.8	53	40	08	35	07	9 41 51	0 42 65					
8	297 52.1	30.1	220 01.7	69 15.9	51	35	09	34	03	10 00 52	24 63					
9	312 52.3	29.1	234 27.5	68 20.9	50	30	09	33	19 01	16 53	0 08 63					
10	327 52.5	28.1	248 53.4	69 25.6	47	20	10	32	18 58	10 43 54	** ** *					
11	342 52.7	-1 27.1	263 19.2	68 +27 30.2	46	10 N	18 11	18 32	18 56	11 06 56	** ** *					
12	357 52.8	-1 26.1	277 45.1	69 +27 34.7	45	0	18 12	18 32	18 56	11 28 57	23 56 56					
13	12 53.0	25.1	292 10.9	68 39.0	43	10 S	13	34	18 58	11 50 58	33 56					
14	27 53.2	24.1	306 36.8	69 43.1	41	20	14	36	19 02	12 14 58	23 09 55					
15	42 53.4	23.1	321 02.7	69 47.0	39	30	15	39	07	42 59	22 40 56					
16	57 53.6	22.1	335 28.5	68 50.8	38	35	16	41	11	12 58 60	24 55					
17	72 53.7	-1 21.2	349 54.4	69 +27 54.4	36	40	18 17	18 44	19 16	13 17 61	22 04 55					
18	87 53.9	-1 20.2	4 20.2	68 +27 57.8	34	45	18 18	18 48	19 22	13 40 62	21 41 54					
19	102 54.1	19.2	18 46.1	69 +28 01.1	33	50	20	52	31	14 10 63	21 10 54					
20	117 54.3	18.2	33 12.0	69 04.2	31	52	21	54	35	25 64	20 55 53					
21	132 54.5	17.2	47 37.9	69 07.2	30	54	21	57	39	14 42 65	38 52					
22	147 54.6	16.2	62 03.8	69 10.0	28	56	22	18 59	44	15 03 66	20 17 51					
23	162 54.8	15.2	76 29.8	70 12.6	26	58	23	19 03	50	15 29 69	19 51 49					
24	177 55.0	-1 14.2	90 55.7	69 +28 15.1	25	60 S	18 24	19 06	19 57	16 06 74	19 14 44					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 12 <sup>h</sup> 21.7 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 12 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 09 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 17 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	174 04.5	196 44.1	-10 45.9	206 49.3	-14 25.3	132 12.0	+15 14.1	190 17.5	-8 40.6							
1	189 07.0	211 43.6	44.8	221 49.8	24.6	147 14.0	14.2	205 19.7	40.5							
2	204 09.4	226 43.1	43.7	236 50.4	24.0	162 16.0	14.4	220 21.9	40.4							
3	219 11.9	241 42.6	42.7	251 51.0	23.3	177 18.0	14.5	235 24.1	40.3							
4	234 14.4	256 42.1	41.6	266 51.5	22.7	192 20.0	14.7	250 26.3	40.2							
5	249 16.8	271 41.6	-10 40.5	281 52.1	-14 22.1	207 21.9	+15 14.8	265 28.4	-8 40.1							
6	264 19.3	286 41.2	-10 39.4	296 52.7	-14 21.4	222 23.9	+15 15.0	280 30.6	-8 40.0							
7	279 21.8	301 40.7	38.4	311 53.2	20.8	237 25.9	15.1	295 32.8	39.8							
8	294 24.2	316 40.2	37.3	326 53.8	20.2	252 27.9	15.3	310 35.0	39.7							
9	309 26.7	331 39.7	36.2	341 54.4	19.5	267 29.9	15.4	325 37.2	39.6							
10	324 29.1	346 39.2	35.1	356 55.0	18.9	282 31.8	15.6	340 39.4	39.5							
11	339 31.6	1 38.7	-10 34.0	11 55.5	-14 18.2	297 33.8	+15 15.7	355 41.5	-8 39.4							
12	354 34.1	16 38.3	-10 32.9	26 56.1	-14 17.6	312 35.8	+15 15.9	10 43.7	-8 39.3							
13	9 36.5	31 37.8	31.9	41 56.7	16.9	327 37.8	16.0	25 45.9	39.2							
14	24 39.0	46 37.3	30.8	56 57.2	16.3	342 39.8	16.2	40 48.1	39.1							
15	39 41.5	61 36.8	29.7	71 57.8	15.7	357 41.8	16.3	55 50.3	39.0							
16	54 43.9	76 36.3	28.6	86 58.4	15.0	12 43.7	16.5	70 52.5	38.9							
17	69 46.4	91 35.8	-10 27.5	101 58.9	-14 14.4	27 45.7	+15 16.6	85 54.6	-8 38.7							
18	84 48.9	106 35.4	-10 26.4	116 59.5	-14 13.7	42 47.7	+15 16.8	100 56.8	-8 38.6							
19	99 51.3	121 34.9	25.4	132 00.1	13.1	57 49.7	17.0	115 59.0	38.5							
20	114 53.8	136 34.4	24.3	147 00.7	12.5	72 51.7	17.1	131 01.2	38.4							
21	129 56.3	151 33.9	23.2	162 01.2	11.8	87 53.6	17.3	146 03.4	38.3							
22	144 58.7	166 33.4	22.1	177 01.8	11.2	102 55.6	17.4	161 05.6	38.2							
23	160 01.2	181 33.0	21.0	192 02.4	10.5	117 57.6	17.6	176 07.7	38.1							
24	175 03.6	196 32.5	-10 19.9	207 02.9	-14 09.9	132 59.6	+15 17.7	191 09.9	-8 38.0							
Dif	—	-5	+11	+6	+6	+20	+2	+22	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 08.2 <sup>m</sup>		SD: 15.4' Edad: 6.6 <sup>d</sup> PHE { 4 <sup>h</sup> : 56.5' 12 <sup>h</sup> : 56.2' 20 <sup>h</sup> : 56.0'					R <sup>o</sup> : 55 <sup>m</sup>					Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	177 55.0	-1 14.2	90 55.7	70	+28 15.1	22	60 N	4 39	5 28	6 09	7 37 64	4 42 52				
1	192 55.2	13.2	105 21.7	70	17.3	22	58	44	30	09	8 16 62	4 03 54				
2	207 55.4	12.3	119 47.7	70	19.5	22	56	48	32	09	8 43 61	3 36 54				
3	222 55.5	11.3	134 13.7	70	21.4	19	54	52	34	09	9 05 60	3 14 55				
4	237 55.7	10.3	148 39.7	70	23.2	18	52	56	35	09	23 59	2 56 56				
5	252 55.9	-1 09.3	163 05.8	71	+28 24.9	17	50	4 59	5 36	6 08	9 38 59	2 41 56				
6	267 56.1	-1 08.3	177 31.9	71	+28 26.3	14	45	5 05	5 39	6 08	10 08 59	2 11 56				
7	282 56.3	07.3	191 58.0	71	27.7	14	40	09	41	08	32 58	1 47 56				
8	297 56.4	06.3	206 24.1	71	28.8	11	35	13	42	07	10 52 57	27 57				
9	312 56.6	05.3	220 50.3	72	29.8	10	30	15	43	07	11 09 57	1 11 56				
10	327 56.8	04.4	235 16.5	72	30.6	8	20	19	44	06	11 37 57	0 42 57				
11	342 57.0	-1 03.4	249 42.7	72	+28 31.3	7	10 N	5 20	5 45	6 06	12 02 56	0 18 56				
12	357 57.2	-1 02.4	264 09.0	73	+28 31.8	5	0	5 20	5 44	6 05	12 25 55	** ** *	** ** *			
13	12 57.3	01.4	278 35.3	73	32.1	3	10 S	19	43	04	12 48 54	** ** *	** ** *			
14	27 57.5	-1 00.4	293 01.6	73	32.3	2	20	15	41	03	13 12 54	** ** *	** ** *			
15	42 57.7	-0 59.4	307 28.0	74	32.3	0	30	10	38	02	41 52	23 36 58				
16	57 57.9	58.4	321 54.4	74	32.2	1	35	06	36	01	13 58 52	23 19 59				
17	72 58.1	-0 57.4	336 20.9	75	+28 31.9	3	40	5 01	5 33	6 00	14 18 51	22 59 60				
18	87 58.2	-0 56.4	350 47.4	75	+28 31.4	5	45	4 55	5 30	5 59	14 42 50	22 35 62				
19	102 58.4	55.5	5 14.0	76	30.8	6	50	47	25	58	15 13 48	22 04 64				
20	117 58.6	54.5	19 40.6	76	30.1	7	52	43	23	57	29 46	21 48 66				
21	132 58.8	53.5	34 07.2	76	29.1	10	54	39	21	56	15 47 45	30 67				
22	147 59.0	52.5	48 33.9	77	28.1	10	56	33	18	56	16 09 43	21 08 70				
23	162 59.2	51.5	63 00.7	78	26.8	13	58	28	15	55	16 38 39	20 40 73				
24	177 59.3	-0 50.5	77 27.5	78	+28 25.5	13	60 S	4 21	5 12	5 54	17 20 31	19 58 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 <sup>h</sup> 17.7 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 54 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 06 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 14 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	175 03.6	196 32.5	-10 19.9	207 02.9	-14 09.9	132 59.6	+15 17.7	191 09.9	-8 38.0	
1	190 06.1	211 32.0	18.8	222 03.5	09.2	148 01.6	17.9	206 12.1	37.9	
2	205 08.6	226 31.5	17.7	237 04.1	08.6	163 03.5	18.0	221 14.3	37.7	
3	220 11.0	241 31.0	16.7	252 04.7	07.9	178 05.5	18.2	236 16.5	37.6	
4	235 13.5	256 30.6	15.6	267 05.2	07.3	193 07.5	18.3	251 18.7	37.5	
5	250 16.0	271 30.1	-10 14.5	282 05.8	-14 06.7	208 09.5	+15 18.5	266 20.8	-8 37.4	
6	265 18.4	286 29.6	-10 13.4	297 06.4	-14 06.0	223 11.4	+15 18.6	281 23.0	-8 37.3	
7	280 20.9	301 29.1	12.3	312 07.0	05.4	238 13.4	18.8	296 25.2	37.2	
8	295 23.4	316 28.6	11.2	327 07.5	04.7	253 15.4	18.9	311 27.4	37.1	
9	310 25.8	331 28.2	10.1	342 08.1	04.1	268 17.4	19.1	326 29.6	37.0	
10	325 28.3	346 27.7	09.0	357 08.7	03.4	283 19.4	19.2	341 31.8	36.9	
11	340 30.8	1 27.2	-10 07.9	12 09.3	-14 02.8	298 21.3	+15 19.4	356 33.9	-8 36.7	
12	355 33.2	16 26.7	-10 06.8	27 09.8	-14 02.1	313 23.3	+15 19.5	11 36.1	-8 36.6	
13	10 35.7	31 26.3	05.7	42 10.4	01.5	328 25.3	19.7	26 38.3	36.5	
14	25 38.1	46 25.8	04.6	57 11.0	00.8	343 27.3	19.8	41 40.5	36.4	
15	40 40.6	61 25.3	03.6	72 11.6	-14 00.2	358 29.2	20.0	56 42.7	36.3	
16	55 43.1	76 24.8	02.5	87 12.1	-13 59.5	13 31.2	20.2	71 44.9	36.2	
17	70 45.5	91 24.4	-10 01.4	102 12.7	-13 58.9	28 33.2	+15 20.3	86 47.0	-8 36.1	
18	85 48.0	106 23.9	-10 00.3	117 13.3	-13 58.3	43 35.2	+15 20.5	101 49.2	-8 36.0	
19	100 50.5	121 23.4	-9 59.2	132 13.9	57.6	58 37.2	20.6	116 51.4	35.9	
20	115 52.9	136 23.0	58.1	147 14.4	57.0	73 39.1	20.8	131 53.6	35.8	
21	130 55.4	151 22.5	57.0	162 15.0	56.3	88 41.1	20.9	146 55.8	35.6	
22	145 57.9	166 22.0	55.9	177 15.6	55.7	103 43.1	21.1	161 58.0	35.5	
23	161 00.3	181 21.5	54.8	192 16.2	55.0	118 45.1	21.2	177 00.2	35.4	
24	176 02.8	196 21.1	-9 53.7	207 16.7	-13 54.4	133 47.0	+15 21.4	192 02.3	-8 35.3	
Dif	—	-5	+11	+6	+6	+20	+2	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 07.9 <sup>m</sup>		SD: 15.2' Edad: 7.6 <sup>d</sup> PMG: 19 <sup>h</sup> 33 <sup>m</sup> R <sup>o</sup> : 51 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.3'				Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	177 59.3	-0 50.5	77 27.5	78	+28 25.5	16	60 N	18 11	18 52	19 42	8 41 90	5 34 19				
1	192 59.5	49.5	91 54.3	79	23.9	17	58	11	50	37	9 18 80	4 57 29				
2	207 59.7	48.5	106 21.2	80	22.2	18	56	11	48	32	9 44 76	30 34				
3	222 59.9	47.5	120 48.2	81	20.4	19	54	11	46	28	10 05 72	4 09 37				
4	238 00.1	46.6	135 15.2	82	18.4	20	52	10	44	24	22 70	3 52 39				
5	253 00.2	-0 45.6	149 42.3	83	+28 16.2	21	50	18 10	18 43	19 21	10 37 68	3 37 41				
6	268 00.4	-0 44.6	164 09.4	84	+28 14.0	22	45	18 10	18 40	19 14	11 07 64	3 07 44				
7	283 00.6	43.6	178 36.6	85	11.5	23	40	10	37	09	30 62	2 43 46				
8	298 00.8	42.6	193 03.9	86	08.9	24	35	10	36	05	11 49 61	24 47				
9	313 01.0	41.6	207 31.2	87	06.2	25	30	10	34	19 02	12 06 59	2 07 49				
10	328 01.2	40.6	221 58.6	88	03.3	26	20	11	33	18 58	34 56	1 39 50				
11	343 01.3	-0 39.6	236 26.1	89	+28 00.3	27	10 N	18 11	18 32	18 56	12 58 54	1 14 53				
12	358 01.5	-0 38.6	250 53.6	90	+27 57.1	28	0	18 11	18 32	18 56	13 20 52	0 52 53				
13	13 01.7	37.7	265 21.2	91	53.8	29	10 S	12	33	18 57	13 42 50	29 55				
14	28 01.9	36.7	279 48.8	92	50.3	30	20	12	34	19 00	14 06 48	0 04 57				
15	43 02.1	35.7	294 16.6	93	46.7	31	30	13	37	05	33 45	** ** *				
16	58 02.3	34.7	308 44.4	94	43.0	32	35	13	39	08	14 50 43	** ** *				
17	73 02.4	-0 33.7	323 12.2	95	+27 39.1	33	40	18 14	18 41	19 13	15 09 41	23 59 64				
18	88 02.6	-0 32.7	337 40.2	96	+27 35.1	34	45	18 15	18 44	19 18	15 32 38	23 37 66				
19	103 02.8	31.7	352 08.2	97	30.9	35	50	16	48	26	16 01 34	23 08 71				
20	118 03.0	30.7	6 36.3	98	26.6	36	52	16	50	30	15 33	22 54 73				
21	133 03.2	29.7	21 04.4	99	22.2	37	54	16	52	34	32 30	37 77				
22	148 03.4	28.8	35 32.7	100	17.6	38	56	17	54	38	16 52 26	22 18 80				
23	163 03.5	27.8	50 01.0	101	12.9	39	58	18	18 57	44	17 17 20	21 53 86				
24	178 03.7	-0 26.8	64 29.4	102	+27 08.1	40	60 S	18 18	19 00	19 50	17 51 10	21 20 96				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 12 <sup>h</sup> 13.8 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 55 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 10 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 03 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 10 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	176 02.8	196 21.1	-9 53.7	207 16.7	-13 54.4	133 47.0	+15 21.4	192 02.3	-8 35.3							
1	191 05.3	211 20.6	52.6	222 17.3	53.7	148 49.0	21.5	207 04.5	35.2							
2	206 07.7	226 20.1	51.5	237 17.9	53.1	163 51.0	21.7	222 06.7	35.1							
3	221 10.2	241 19.7	50.4	252 18.5	52.4	178 53.0	21.8	237 08.9	35.0							
4	236 12.6	256 19.2	49.3	267 19.0	51.8	193 54.9	22.0	252 11.1	34.9							
5	251 15.1	271 18.7	-9 48.2	282 19.6	-13 51.1	208 56.9	+15 22.1	267 13.3	-8 34.8							
6	266 17.6	286 18.3	-9 47.1	297 20.2	-13 50.5	223 58.9	+15 22.3	282 15.4	-8 34.7							
7	281 20.0	301 17.8	46.0	312 20.8	49.8	239 00.9	22.4	297 17.6	34.5							
8	296 22.5	316 17.3	44.9	327 21.4	49.2	254 02.8	22.6	312 19.8	34.4							
9	311 25.0	331 16.9	43.8	342 21.9	48.5	269 04.8	22.8	327 22.0	34.3							
10	326 27.4	346 16.4	42.7	357 22.5	47.9	284 06.8	22.9	342 24.2	34.2							
11	341 29.9	1 15.9	-9 41.6	12 23.1	-13 47.2	299 08.8	+15 23.1	357 26.4	-8 34.1							
12	356 32.4	16 15.5	-9 40.4	27 23.7	-13 46.5	314 10.7	+15 23.2	12 28.6	-8 34.0							
13	11 34.8	31 15.0	39.3	42 24.2	45.9	329 12.7	23.4	27 30.7	33.9							
14	26 37.3	46 14.5	38.2	57 24.8	45.2	344 14.7	23.5	42 32.9	33.8							
15	41 39.7	61 14.1	37.1	72 25.4	44.6	359 16.7	23.7	57 35.1	33.7							
16	56 42.2	76 13.6	36.0	87 26.0	43.9	14 18.6	23.8	72 37.3	33.5							
17	71 44.7	91 13.1	-9 34.9	102 26.6	-13 43.3	29 20.6	+15 24.0	87 39.5	-8 33.4							
18	86 47.1	106 12.7	-9 33.8	117 27.1	-13 42.6	44 22.6	+15 24.1	102 41.7	-8 33.3							
19	101 49.6	121 12.2	32.7	132 27.7	42.0	59 24.5	24.3	117 43.8	33.2							
20	116 52.1	136 11.7	31.6	147 28.3	41.3	74 26.5	24.4	132 46.0	33.1							
21	131 54.5	151 11.3	30.5	162 28.9	40.7	89 28.5	24.6	147 48.2	33.0							
22	146 57.0	166 10.8	29.4	177 29.5	40.0	104 30.5	24.7	162 50.4	32.9							
23	161 59.5	181 10.3	28.3	192 30.0	39.4	119 32.4	24.9	177 52.6	32.8							
24	177 01.9	196 09.9	-9 27.2	207 30.6	-13 38.7	134 34.4	+15 25.1	192 54.8	-8 32.7							
Dif	-	-5	+11	+6	+7	+20	+2	+22	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 07.6 <sup>m</sup>		SD: 15.0' Edad: 8.6 <sup>d</sup> PMG: 20 <sup>h</sup> 24 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.1' 12 <sup>h</sup> : 54.9' 20 <sup>h</sup> : 54.8'			R°: 48 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	178 03.7	-0 26.8	64 29.4	94	+27 08.1	50	60 N	4 32	5 22	6 03	10 11	96	5 53	7		
1	193 03.9	25.8	78 57.8	96	+27 03.1	51	58	38	25	04	10 38	88	26	15		
2	208 04.1	24.8	93 26.4	96	+26 58.0	53	56	43	27	04	11 00	81	5 04	20		
3	223 04.3	23.8	107 55.0	96	52.7	53	54	47	29	04	17 78	4 46	24	24		
4	238 04.5	22.8	122 23.7	97	47.4	55	52	51	30	04	32 74	31	27	27		
5	253 04.6	-0 21.8	136 52.5	98	+26 41.9	56	50	4 54	5 32	6 04	11 45	72	4 18	29		
6	268 04.8	-0 20.9	151 21.3	100	+26 36.3	58	45	5 01	5 35	6 04	12 11	67	3 51	34		
7	283 05.0	19.9	165 50.3	100	30.5	59	40	06	38	04	32 64	29	37	37		
8	298 05.2	18.9	180 19.3	101	24.6	60	35	10	39	05	12 50	60	3 11	40		
9	313 05.4	17.9	194 48.4	101	18.6	61	30	13	41	05	13 05	58	2 56	41		
10	328 05.6	16.9	209 17.6	102	12.5	62	20	17	43	05	30 55	29	45	45		
11	343 05.7	-0 15.9	223 46.9	103	+26 06.3	64	10 N	5 19	5 44	6 05	13 52	51	2 07	47		
12	358 05.9	-0 14.9	238 16.2	103	+25 59.9	65	0	5 20	5 44	6 04	14 12	48	1 45	51		
13	13 06.1	13.9	252 45.6	104	53.4	66	10 S	19	43	04	32 46	24	53	53		
14	28 06.3	12.9	267 15.2	106	46.8	67	20	16	42	04	14 54	42	1 01	55		
15	43 06.5	12.0	281 44.8	106	40.1	69	30	11	39	03	15 18	39	0 34	59		
16	58 06.7	11.0	296 14.5	107	33.2	69	35	08	37	03	33 36	0 18	61	61		
17	73 06.9	-0 10.0	310 44.2	107	+25 26.3	71	40	5 03	5 35	6 02	15 50	33	** ** *	** ** *		
18	88 07.0	-0 09.0	325 14.1	109	+25 19.2	72	45	4 58	5 32	6 02	16 10	30	** ** *	** ** *		
19	103 07.2	08.0	339 44.0	109	12.0	73	50	50	29	01	35 25	** ** *	** ** *	** ** *		
20	118 07.4	07.0	354 14.0	110	+25 04.7	75	52	47	27	00	16 48	22	** ** *	** ** *		
21	133 07.6	06.0	8 44.2	112	+24 57.2	75	54	43	25	00	17 02	19	23 54	78		
22	148 07.8	05.0	23 14.3	111	49.7	76	56	38	22	6 00	18 15	38	83	83		
23	163 08.0	04.1	37 44.6	113	42.1	76	58	33	20	5 59	17 37	10	23 19	88		
24	178 08.1	-0 03.1	52 15.0	114	+24 34.3	78	60 S	4 27	5 17	5 59	18 01	3	22 56	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 <sup>h</sup> 09.9 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 56 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 10 <sup>m</sup>		Mag.: -2.1 PMG: 15 <sup>h</sup> 00 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 07 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	177 01.9	196 09.9	-9 27.2	207 30.6	-13 38.7	134 34.4	+15 25.1	192 54.8	-8 32.7	32.7
1	192 04.4	211 09.4	26.0	222 31.2	38.0	149 36.4	25.2	207 57.0	32.6	32.6
2	207 06.9	226 09.0	24.9	237 31.8	37.4	164 38.4	25.4	222 59.1	32.4	32.4
3	222 09.3	241 08.5	23.8	252 32.4	36.7	179 40.3	25.5	238 01.3	32.3	32.3
4	237 11.8	256 08.0	22.7	267 32.9	36.1	194 42.3	25.7	253 03.5	32.2	32.2
5	252 14.2	271 07.6	-9 21.6	282 33.5	-13 35.4	209 44.3	+15 25.8	268 05.7	-8 32.1	32.1
6	267 16.7	286 07.1	-9 20.5	297 34.1	-13 34.8	224 46.2	+15 26.0	283 07.9	-8 32.0	32.0
7	282 19.2	301 06.7	19.4	312 34.7	34.1	239 48.2	26.1	298 10.1	31.9	31.9
8	297 21.6	316 06.2	18.3	327 35.3	33.5	254 50.2	26.3	313 12.3	31.8	31.8
9	312 24.1	331 05.7	17.1	342 35.9	32.8	269 52.1	26.4	328 14.4	31.7	31.7
10	327 26.6	346 05.3	16.0	357 36.4	32.1	284 54.1	26.6	343 16.6	31.6	31.6
11	342 29.0	1 04.8	-9 14.9	12 37.0	-13 31.5	299 56.1	+15 26.7	358 18.8	-8 31.5	31.5
12	357 31.5	16 04.4	-9 13.8	27 37.6	-13 30.8	314 58.1	+15 26.9	13 21.0	-8 31.3	31.3
13	12 34.0	31 03.9	12.7	42 38.2	30.2	330 00.0	27.0	28 23.2	31.2	31.2
14	27 36.4	46 03.4	11.6	57 38.8	29.5	345 02.0	27.2	43 25.4	31.1	31.1
15	42 38.9	61 03.0	10.5	72 39.3	28.9	0 04.0	27.4	58 27.6	31.0	31.0
16	57 41.4	76 02.5	09.3	87 39.9	28.2	15 05.9	27.5	73 29.7	30.9	30.9
17	72 43.8	91 02.1	-9 08.2	102 40.5	-13 27.5	30 07.9	+15 27.7	88 31.9	-8 30.8	30.8
18	87 46.3	106 01.6	-9 07.1	117 41.1	-13 26.9	45 09.9	+15 27.8	103 34.1	-8 30.7	30.7
19	102 48.7	121 01.2	06.0	132 41.7	26.2	60 11.8	28.0	118 36.3	30.6	30.6
20	117 51.2	136 00.7	04.9	147 42.3	25.6	75 13.8	28.1	133 38.5	30.5	30.5
21	132 53.7	151 00.2	03.7	162 42.8	24.9	90 15.8	28.3	148 40.7	30.4	30.4
22	147 56.1	165 59.8	02.6	177 43.4	24.2	105 17.8	28.4	163 42.9	30.3	30.3
23	162 58.6	180 59.3	01.5	192 44.0	23.6	120 19.7	28.6	178 45.0	30.1	30.1
24	178 01.1	195 58.9	-9 00.4	207 44.6	-13 22.9	135 21.7	+15 28.7	193 47.2	-8 30.0	30.0
Dif	—	-5	+11	+6	+7	+20	+2	+22	+1	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 07.3 <sup>m</sup>		SD: 14.9' Edad: 9.6 <sup>d</sup> PMG: 21 <sup>h</sup> 12 <sup>m</sup>		R <sup>o</sup> : 44 <sup>m</sup>				PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.4'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 08.1	- 0 03.1	52 15.0	+24 34.3	78	60 N	18 16	18 57	19 48	11 47	92	6 00	2			
1	193 08.3	02.1	66 45.4 <sup>114</sup>	26.5	80	58	15	54	42	12 06	86	5 41	8			
2	208 08.5	01.1	81 16.0 <sup>116</sup>	18.5	81	56	15	52	36	21 82		24	13			
3	223 08.7	- 0 00.1	95 46.6 <sup>116</sup>	10.4	82	54	14	50	32	35 78		5 10	16			
4	238 08.9	+ 0 00.9	110 17.3 <sup>117</sup>	+24 02.2	82	52	14	48	28	46 75		4 58	19			
5	253 09.1	+ 0 01.9	124 48.1 <sup>118</sup>	+23 53.9	83	50	18 14	18 46	19 24	12 57	72	4 47	22			
6	268 09.3	+ 0 02.9	139 19.0 <sup>119</sup>	+23 45.6	83	45	18 13	18 42	19 17	13 18	68	4 25	26			
7	283 09.4	03.9	153 49.9 <sup>119</sup>	37.1	85	40	12	39	11	36 63		4 06	30			
8	298 09.6	04.8	168 21.0 <sup>121</sup>	28.5	86	35	12	37	07	13 50	60	3 51	33			
9	313 09.8	05.8	182 52.1 <sup>121</sup>	19.8	87	30	12	36	19 03	14 03	57	37	36			
10	328 10.0	06.8	197 23.3 <sup>122</sup>	11.0	88	20	11	33	18 59	25 52		3 14	40			
11	343 10.2	+ 0 07.8	211 54.6 <sup>123</sup>	+23 02.1	89	10 N	18 11	18 32	18 56	14 43	49	2 54	44			
12	358 10.4	+ 0 08.8	226 26.0 <sup>124</sup>	+22 53.1	90	0	18 11	18 31	18 55	15 00	45	2 36	46			
13	13 10.6	09.8	240 57.5 <sup>125</sup>	44.0	91	10 S	10	31	56	18 41		2 17	50			
14	28 10.7	10.8	255 29.0 <sup>125</sup>	34.8	92	20	10	32	18 58	36 38		1 56	54			
15	43 10.9	11.8	270 00.6 <sup>126</sup>	25.6	92	30	11	34	19 02	15 57	33	33	58			
16	58 11.1	12.7	284 32.3 <sup>127</sup>	16.2	94	35	11	36	05	16 09	31	19	61			
17	73 11.3	+ 0 13.7	299 04.1 <sup>128</sup>	+22 06.7	95	40	18 11	18 38	19 09	16 23	28	1 03	63			
18	88 11.5	+ 0 14.7	313 36.0 <sup>129</sup>	+21 57.2	95	45	18 11	18 40	19 15	16 40	23	0 43	68			
19	103 11.7	15.7	328 08.0 <sup>130</sup>	47.5	97	50	11	43	21	17 00	19	19	73			
20	118 11.9	16.7	342 40.0 <sup>130</sup>	37.8	97	52	11	45	25	10 16		0 07	76			
21	133 12.0	17.7	357 12.1 <sup>131</sup>	28.0	98	54	12	47	28	21 13		** ** *	** ** *			
22	148 12.2	18.7	11 44.3 <sup>132</sup>	18.1	99	56	12	49	33	33 10		** ** *	** ** *			
23	163 12.4	19.7	26 16.6 <sup>133</sup>	+21 08.1	100	58	12	51	38	17 47	6	** ** *	** ** *			
24	178 12.6	+ 0 20.6	40 49.0 <sup>134</sup>	+20 58.0	101	60 S	18 12	18 54	19 43	18 04	0	** ** *	** ** *			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 <sup>h</sup> 05.9 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 56 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 57 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 03 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	178 01.1	195 58.9	- 9 00.4	207 44.6	- 13 22.9	135 21.7	+ 15 28.7	193 47.2	- 8 30.0	
1	193 03.5	210 58.4	- 8 59.3	222 45.2	22.3	150 23.7	28.9	208 49.4	29.9	
2	208 06.0	225 58.0	58.1	237 45.8	21.6	165 25.6	29.0	223 51.6	29.8	
3	223 08.5	240 57.5	57.0	252 46.4	20.9	180 27.6	29.2	238 53.8	29.7	
4	238 10.9	255 57.1	55.9	267 46.9	20.3	195 29.6	29.4	253 56.0	29.6	
5	253 13.4	270 56.6	- 8 54.8	282 47.5	- 13 19.6	210 31.5	+ 15 29.5	268 58.2	- 8 29.5	
6	268 15.9	285 56.2	- 8 53.7	297 48.1	- 13 18.9	225 33.5	+ 15 29.7	284 00.3	- 8 29.4	
7	283 18.3	300 55.7	52.5	312 48.7	18.3	240 35.5	29.8	299 02.5	29.3	
8	298 20.8	315 55.3	51.4	327 49.3	17.6	255 37.4	30.0	314 04.7	29.2	
9	313 23.2	330 54.8	50.3	342 49.9	17.0	270 39.4	30.1	329 06.9	29.0	
10	328 25.7	345 54.4	49.2	357 50.4	16.3	285 41.4	30.3	344 09.1	28.9	
11	343 28.2	0 53.9	- 8 48.0	12 51.0	- 13 15.6	300 43.3	+ 15 30.4	359 11.3	- 8 28.8	
12	358 30.6	15 53.5	- 8 46.9	27 51.6	- 13 15.0	315 45.3	+ 15 30.6	14 13.5	- 8 28.7	
13	13 33.1	30 53.0	45.8	42 52.2	14.3	330 47.3	30.7	29 15.7	28.6	
14	28 35.6	45 52.6	44.7	57 52.8	13.6	345 49.2	30.9	44 17.8	28.5	
15	43 38.0	60 52.1	43.5	72 53.4	13.0	0 51.2	31.0	59 20.0	28.4	
16	58 40.5	75 51.7	42.4	87 54.0	12.3	15 53.2	31.2	74 22.2	28.3	
17	73 43.0	90 51.2	- 8 41.3	102 54.6	- 13 11.7	30 55.1	+ 15 31.4	89 24.4	- 8 28.2	
18	88 45.4	105 50.8	- 8 40.1	117 55.1	- 13 11.0	45 57.1	+ 15 31.5	104 26.6	- 8 28.1	
19	103 47.9	120 50.3	39.0	132 55.7	10.3	60 59.1	31.7	119 28.8	28.0	
20	118 50.3	135 49.9	37.9	147 56.3	09.7	76 01.0	31.8	134 31.0	27.8	
21	133 52.8	150 49.4	36.8	162 56.9	09.0	91 03.0	32.0	149 33.1	27.7	
22	148 55.3	165 49.0	35.6	177 57.5	08.3	106 05.0	32.1	164 35.3	27.6	
23	163 57.7	180 48.5	34.5	192 58.1	07.7	121 06.9	32.3	179 37.5	27.5	
24	179 00.2	195 48.1	- 8 33.4	207 58.7	- 13 07.0	136 08.9	+ 15 32.4	194 39.7	- 8 27.4	
Dif	—	-5	+11	+6	+7	+20	+2	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna										
	SD: 16.1' PMG: 12 <sup>h</sup> 07.0 <sup>m</sup>		SD: 14.8' Edad: 10.6 <sup>d</sup> PMG: 21 <sup>h</sup> 56 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.1'			R°: 42 <sup>m</sup>					Hora R°		Hora R°								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h	m	m	h	m	m				
0	178	12.6	+0	20.6	40	49.0	+20	58.0	101	60 N	4	26	5	16	5	57	13	19	88	6	02	0	
1	193	12.8		21.6	55	21.4 <sup>134</sup>		47.9	101	58	32	19	58				32	83		5	49	4	
2	208	13.0		22.6	69	53.9 <sup>135</sup>		37.6	103	56	37	21	58				43	79			37	8	
3	223	13.2		23.6	84	26.5 <sup>136</sup>		27.3	103	54	42	24	59				13	53	76		26	12	
4	238	13.4		24.6	98	59.2 <sup>137</sup>		16.9	104	52	46	26	5	59			14	01	74		17	14	
5	253	13.5	+0	25.6	113	32.0 <sup>138</sup>	+20	06.4	105	50	4	49	5	28	6	00	14	09	71		5	09	16
6	268	13.7	+0	26.6	128	04.8 <sup>138</sup>	+19	55.8	106	45	4	57	5	31	6	01	14	26	65		4	51	21
7	283	13.9		27.6	142	37.7 <sup>139</sup>		45.2	106	40	5	03	34	01			39	62			36	26	
8	298	14.1		28.5	157	10.7 <sup>140</sup>		34.5	107	35	07	37	02				14	50	59		24	28	
9	313	14.3		29.5	171	43.7 <sup>140</sup>		23.7	108	30	11	38	02				15	00	55		4	13	31
10	328	14.5		30.5	186	16.8 <sup>141</sup>		12.8	109	20	15	41	03				17	50			3	54	36
11	343	14.7	+0	31.5	200	50.0 <sup>142</sup>	+19	01.8	110	10 N	5	18	5	42	6	03	15	32	46		3	38	40
12	358	14.8	+0	32.5	215	23.3 <sup>143</sup>	+18	50.8	110	0	5	19	5	43	6	04	15	45	43		3	22	44
13	13	15.0		33.5	229	56.6 <sup>143</sup>		39.7	111	10 S	19	19	43	04			15	59	38		3	07	47
14	28	15.2		34.5	244	30.1 <sup>145</sup>		28.5	112	20	17	42	04				16	14	34		2	50	52
15	43	15.4		35.4	259	03.5 <sup>144</sup>		17.3	112	30	13	40	04				30	29			31	56	
16	58	15.6		36.4	273	37.1 <sup>146</sup>	+18	06.0	113	35	10	39	04				40	26	20		20	59	
17	73	15.8	+0	37.4	288	10.7 <sup>146</sup>	+17	54.6	114	40	5	06	5	37	6	04	16	51	23		2	06	63
18	88	16.0	+0	38.4	302	44.4 <sup>147</sup>	+17	43.2	114	45	5	00	5	35	6	04	17	03	20		1	51	66
19	103	16.2		39.4	317	18.2 <sup>148</sup>		31.7	115	50	4	54	32	04			19	14			32	72	
20	118	16.3		40.4	331	52.0 <sup>148</sup>		20.1	116	52	50	30	04				26	12			23	74	
21	133	16.5		41.4	346	25.9 <sup>149</sup>	+17	08.4	117	54	47	29	04				34	10	12		12	78	
22	148	16.7		42.4	0	59.8 <sup>149</sup>	+16	56.7	117	56	42	27	04				43	7			1	01	81
23	163	16.9		43.3	15	33.9 <sup>151</sup>		45.0	117	58	38	24	04				17	53	3		0	47	85
24	178	17.1	+0	44.3	30	08.0 <sup>151</sup>	+16	33.1	119	60 S	4	32	5	22	6	03	18	04	0		0	31	91

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO												
	PMG 12 <sup>h</sup> 02.0 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 57 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.0 PMG: 11 <sup>h</sup> 00 <sup>m</sup>												
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec											
0	179	00.2	195	48.1	-8	33.4	207	58.7	-13	07.0	136	08.9	+15	32.4	194	39.7	-8	27.4			
1	194	02.7	210	47.6		32.2	222	59.3		06.3	151	10.9		32.6	209	41.9		27.3			
2	209	05.1	225	47.2		31.1	237	59.8		05.7	166	12.8		32.7	224	44.1		27.2			
3	224	07.6	240	46.7		30.0	253	00.4		05.0	181	14.8		32.9	239	46.3		27.1			
4	239	10.1	255	46.3		28.8	268	01.0		04.3	196	16.8		33.1	254	48.5		27.0			
5	254	12.5	270	45.9	-8	27.7	283	01.6	-13	03.7	211	18.7	+15	33.2	269	50.6	-8	26.9			
6	269	15.0	285	45.4	-8	26.6	298	02.2	-13	03.0	226	20.7	+15	33.4	284	52.8	-8	26.8			
7	284	17.5	300	45.0		25.5	313	02.8		02.3	241	22.6		33.5	299	55.0		26.6			
8	299	19.9	315	44.5		24.3	328	03.4		01.7	256	24.6		33.7	314	57.2		26.5			
9	314	22.4	330	44.1		23.2	343	04.0		01.0	271	26.6		33.8	329	59.4		26.4			
10	329	24.8	345	43.6		22.0	358	04.6	-13	00.3	286	28.5		34.0	345	01.6		26.3			
11	344	27.3	0	43.2	-8	20.9	13	05.1	-12	59.7	301	30.5	+15	34.1	0	03.8	-8	26.2			
12	359	29.8	15	42.7	-8	19.8	28	05.7	-12	59.0	316	32.5	+15	34.3	15	06.0	-8	26.1			
13	14	32.2	30	42.3		18.6	43	06.3		58.3	331	34.4		34.4	30	08.1		26.0			
14	29	34.7	45	41.9		17.5	58	06.9		57.7	346	36.4		34.6	45	10.3		25.9			
15	44	37.2	60	41.4		16.4	73	07.5		57.0	1	38.4		34.7	60	12.5		25.8			
16	59	39.6	75	41.0		15.2	88	08.1		56.3	16	40.3		34.9	75	14.7		25.7			
17	74	42.1	90	40.5	-8	14.1	103	08.7	-12	55.7	31	42.3	+15	35.1	90	16.9	-8	25.6			
18	89	44.6	105	40.1	-8	13.0	118	09.3	-12	55.0	46	44.2	+15	35.2	105	19.1	-8	25.4			
19	104	47.0	120	39.7		11.8	133	09.9		54.3	61	46.2		35.4	120	21.3		25.3			
20	119	49.5	135	39.2		10.7	148	10.5		53.6	76	48.2		35.5	135	23.5		25.2			
21	134	52.0	150	38.8		09.5	163	11.1		53.0	91	50.1		35.7	150	25.6		25.1			
22	149	54.4	165	38.3		08.4	178	11.6		52.3	106	52.1		35.8	165	27.8		25.0			
23	164	56.9	180	37.9		07.3	193	12.2		51.6	121	54.1		36.0	180	30.0		24.9			
24	179	59.3	195	37.5	-8	06.1	208	12.8	-12	51.0	136	56.0	+15	36.1	195	32.2	-8	24.8			
Dif		-		-4		+11		+6		+7		+20		+2		+22					+1



UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 12 <sup>h</sup> 06.7 <sup>m</sup>			SD: 14.7' Edad: 11.6 <sup>d</sup> PMG: 22 <sup>h</sup> 38 <sup>m</sup> R°: 39 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	178 17.1	+0 44.3	30 08.0	151	+16 33.1	119	60 N	18 21	19 02	19 53	14 47 84	6 02 0					
1	193 17.3	45.3	44 42.1	152	21.2	119	58	20	18 59	46	14 55 80	5 53 3					
2	208 17.5	46.3	59 16.3	153	+16 09.3	121	56	19	56	41	15 02 77	45 6					
3	223 17.7	47.3	73 50.6	153	+15 57.2	120	54	18	53	36	09 74	38 8					
4	238 17.8	48.3	88 24.9	154	45.2	122	52	17	51	31	15 71	31 11					
5	253 18.0	+0 49.3	102 59.3	155	+15 33.0	122	50	18 17	18 49	19 27	15 20 69	5 25 13					
6	268 18.2	+0 50.2	117 33.8	155	+15 20.8	122	45	18 15	18 45	19 19	15 31 64	5 12 18					
7	283 18.4	51.2	132 08.3	156	+15 08.6	123	40	14	42	13	41 60	5 02 21					
8	298 18.6	52.2	146 42.9	156	+14 56.3	124	35	14	39	08	49 56	4 52 25					
9	313 18.8	53.2	161 17.5	157	43.9	124	30	13	37	19 05	15 55 54	44 28					
10	328 19.0	54.2	175 52.2	157	31.5	124	20	12	34	18 59	16 07 49	30 33					
11	343 19.2	+0 55.2	190 26.9	158	+14 19.1	126	10 N	18 11	18 32	18 56	16 18 44	4 18 37					
12	358 19.4	+0 56.2	205 01.7	159	+14 06.5	125	0	18 10	18 31	18 55	16 28 40	4 06 41					
13	13 19.5	57.1	219 36.6	159	+13 54.0	127	10 S	09	30	55	37 36	3 54 45					
14	28 19.7	58.1	234 11.5	159	41.3	127	20	09	31	18 56	48 31	42 49					
15	43 19.9	+0 59.1	248 46.4	159	28.7	126	30	08	32	19 00	16 59 27	27 55					
16	58 20.1	+1 00.1	263 21.4	160	16.0	127	35	08	33	02	17 06 24	19 57					
17	73 20.3	+1 01.1	277 56.5	161	+13 03.2	128	40	18 08	18 34	19 06	17 14 20	3 09 61					
18	88 20.5	+1 02.1	292 31.6	162	+12 50.4	129	45	18 07	18 36	19 11	17 23 16	2 57 65					
19	103 20.7	03.1	307 06.8	162	37.5	129	50	07	39	17	33 13	44 70					
20	118 20.9	04.0	321 42.0	162	24.6	129	52	07	40	20	38 10	37 72					
21	133 21.0	05.0	336 17.2	163	+12 11.7	130	54	07	42	23	44 7	30 75					
22	148 21.2	06.0	350 52.5	163	+11 58.7	131	56	06	43	27	50 5	22 78					
23	163 21.4	07.0	5 27.8	163	45.6	131	58	06	45	32	17 56 2	12 82					
24	178 21.6	+1 08.0	20 03.2	164	+11 32.5	131	60 S	18 06	18 48	19 37	18 04 -2	2 02 86					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 11 <sup>h</sup> 58.1 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 58 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 50 <sup>m</sup>		Mag.: +1.0 PMG: 10 <sup>h</sup> 56 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	179 59.3	195 37.5	-8 06.1	208 12.8	-12 51.0	136 56.0	+15 36.1	195 32.2	-8 24.8								
1	195 01.8	210 37.0	05.0	223 13.4	50.3	151 58.0	36.3	210 34.4	24.7								
2	210 04.3	225 36.6	03.8	238 14.0	49.6	166 59.9	36.4	225 36.6	24.6								
3	225 06.7	240 36.1	02.7	253 14.6	48.9	182 01.9	36.6	240 38.8	24.5								
4	240 09.2	255 35.7	01.6	268 15.2	48.3	197 03.9	36.8	255 41.0	24.4								
5	255 11.7	270 35.3	-8 00.4	283 15.8	-12 47.6	212 05.8	+15 36.9	270 43.2	-8 24.2								
6	270 14.1	285 34.8	-7 59.3	298 16.4	-12 46.9	227 07.8	+15 37.1	285 45.3	-8 24.1								
7	285 16.6	300 34.4	58.1	313 17.0	46.3	242 09.7	37.2	300 47.5	24.0								
8	300 19.1	315 34.0	57.0	328 17.6	45.6	257 11.7	37.4	315 49.7	23.9								
9	315 21.5	330 33.5	55.9	343 18.2	44.9	272 13.7	37.5	330 51.9	23.8								
10	330 24.0	345 33.1	54.7	358 18.8	44.2	287 15.6	37.7	345 54.1	23.7								
11	345 26.4	0 32.7	-7 53.6	13 19.3	-12 43.6	302 17.6	+15 37.8	0 56.3	-8 23.6								
12	0 28.9	15 32.2	-7 52.4	28 19.9	-12 42.9	317 19.5	+15 38.0	15 58.5	-8 23.5								
13	15 31.4	30 31.8	51.3	43 20.5	42.2	332 21.5	38.1	31 00.7	23.4								
14	30 33.8	45 31.3	50.1	58 21.1	41.5	347 23.5	38.3	46 02.8	23.3								
15	45 36.3	60 30.9	49.0	73 21.7	40.9	2 25.4	38.5	61 05.0	23.2								
16	60 38.8	75 30.5	47.8	88 22.3	40.2	17 27.4	38.6	76 07.2	23.1								
17	75 41.2	90 30.0	-7 46.7	103 22.9	-12 39.5	32 29.3	+15 38.8	91 09.4	-8 22.9								
18	90 43.7	105 29.6	-7 45.6	118 23.5	-12 38.9	47 31.3	+15 38.9	106 11.6	-8 22.8								
19	105 46.2	120 29.2	44.4	133 24.1	38.2	62 33.3	39.1	121 13.8	22.7								
20	120 48.6	135 28.7	43.3	148 24.7	37.5	77 35.2	39.2	136 16.0	22.6								
21	135 51.1	150 28.3	42.1	163 25.3	36.8	92 37.2	39.4	151 18.2	22.5								
22	150 53.6	165 27.9	41.0	178 25.9	36.1	107 39.1	39.5	166 20.4	22.4								
23	165 56.0	180 27.4	39.8	193 26.5	35.5	122 41.1	39.7	181 22.5	22.3								
24	180 58.5	195 27.0	-7 38.7	208 27.1	-12 34.8	137 43.1	+15 39.8	196 24.7	-8 22.2								
Dif	—	-4	+11	+6	+7	+20	+2	+22	+1								

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 06.4 <sup>m</sup>			SD: 14.7' Edad: 12.6 <sup>d</sup> PMG: 23 <sup>h</sup> 17 <sup>m</sup> R°: 39 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h	m	h	m	h	m	h	m	m
0	178	21.6	+1 08.0	20	03.2	+11 32.5	131	60 N	4 19	5 10	5 51	16 11	82	6 02	-2	
1	193	21.8	09.0	34	38.6	19.4	164	58	26	13	52	15 79	5 56	2		
2	208	22.0	10.0	49	14.1	+11 06.3	131	56	31	16	53	19 76	51	5		
3	223	22.2	10.9	63	49.6	+10 53.1	165	54	36	19	54	23 73	46	8		
4	238	22.4	11.9	78	25.2	39.8	166	52	41	21	55	26 70	42	10		
5	253	22.6	+1 12.9	93	00.7	+10 26.5	165	50	4 45	5 23	5 55	16 29	68	5 38	12	
6	268	22.7	+1 13.9	107	36.4	+10 13.2	133	45	4 53	5 28	5 57	16 35	64	5 30	16	
7	283	22.9	14.9	122	12.0	+9 59.9	133	40	4 59	31	58	41 59	23	20		
8	298	23.1	15.9	136	47.7	46.5	167	35	5 04	34	5 59	45 56	17	24		
9	313	23.3	16.8	151	23.5	33.1	168	30	5 08	36	6 00	49 53	12	26		
10	328	23.5	17.8	165	59.2	19.6	167	20	5 14	39	01	16 56	48	5 03	31	
11	343	23.7	+1 18.8	180	35.0	+9 06.1	168	10 N	5 17	5 41	6 02	17 02	43	4 55	35	
12	358	23.9	+1 19.8	195	10.9	+8 52.6	135	0	5 18	5 42	6 03	17 08	39	4 47	40	
13	13	24.1	20.8	209	46.7	39.0	168	10 S	5 19	43	04	13 35	39	44		
14	28	24.2	21.8	224	22.6	25.4	169	20	5 17	43	05	19 31	31	48		
15	43	24.4	22.8	238	58.6	+8 11.8	170	30	5 14	42	05	26 26	22	53		
16	58	24.6	23.7	253	34.5	+7 58.2	169	35	5 11	41	06	30 23	16	56		
17	73	24.8	+1 24.7	268	10.5	+7 44.5	170	40	5 08	5 39	6 06	17 34	20	4 10	60	
18	88	25.0	+1 25.7	282	46.5	+7 30.8	170	45	5 03	5 37	6 07	17 39	16	4 02	64	
19	103	25.2	26.7	297	22.6	17.1	171	50	4 57	35	07	46 11	3 54	68		
20	118	25.4	27.7	311	58.6	+7 03.3	170	52	4 54	34	07	48 9	49	71		
21	133	25.6	28.7	326	34.7	+6 49.5	171	54	4 51	32	08	51 7	45	73		
22	148	25.8	29.6	341	10.8	35.7	171	56	4 47	31	08	55 4	40	76		
23	163	25.9	30.6	355	47.0	21.9	172	58	4 42	29	08	17 58	2	34	79	
24	178	26.1	+1 31.6	10	23.1	+6 08.0	171	60 S	4 37	5 27	6 08	18 02	-1	3 28	82	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 11 <sup>h</sup> 54.1 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 59 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 06 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.0 PMG: 10 <sup>h</sup> 53 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "							
0	180	58.5	195 27.0	-7 38.7	208 27.1	-12 34.8	137 43.1	+15 39.8	196 24.7	-8 22.2						
1	196	00.9	210 26.6	37.5	223 27.7	34.1	152 45.0	40.0	211 26.9	22.1						
2	211	03.4	225 26.2	36.4	238 28.3	33.4	167 47.0	40.2	226 29.1	22.0						
3	226	05.9	240 25.7	35.2	253 28.9	32.8	182 48.9	40.3	241 31.3	21.9						
4	241	08.3	255 25.3	34.1	268 29.5	32.1	197 50.9	40.5	256 33.5	21.8						
5	256	10.8	270 24.9	-7 32.9	283 30.1	-12 31.4	212 52.8	+15 40.6	271 35.7	-8 21.6						
6	271	13.3	285 24.4	-7 31.8	298 30.7	-12 30.7	227 54.8	+15 40.8	286 37.9	-8 21.5						
7	286	15.7	300 24.0	30.6	313 31.3	30.1	242 56.8	40.9	301 40.1	21.4						
8	301	18.2	315 23.6	29.5	328 31.9	29.4	257 58.7	41.1	316 42.2	21.3						
9	316	20.7	330 23.1	28.3	343 32.4	28.7	273 00.7	41.2	331 44.4	21.2						
10	331	23.1	345 22.7	27.2	358 33.0	28.0	288 02.6	41.4	346 46.6	21.1						
11	346	25.6	0 22.3	-7 26.0	13 33.6	-12 27.4	303 04.6	+15 41.6	1 48.8	-8 21.0						
12	1	28.0	15 21.9	-7 24.9	28 34.2	-12 26.7	318 06.5	+15 41.7	16 51.0	-8 20.9						
13	16	30.5	30 21.4	23.7	43 34.8	26.0	333 08.5	41.9	31 53.2	20.8						
14	31	33.0	45 21.0	22.5	58 35.4	25.3	348 10.5	42.0	46 55.4	20.7						
15	46	35.4	60 20.6	21.4	73 36.0	24.6	3 12.4	42.2	61 57.6	20.6						
16	61	37.9	75 20.1	20.2	88 36.6	24.0	18 14.4	42.3	76 59.8	20.5						
17	76	40.4	90 19.7	-7 19.1	103 37.2	-12 23.3	33 16.3	+15 42.5	92 02.0	-8 20.3						
18	91	42.8	105 19.3	-7 17.9	118 37.8	-12 22.6	48 18.3	+15 42.6	107 04.1	-8 20.2						
19	106	45.3	120 18.9	16.8	133 38.4	21.9	63 20.2	42.8	122 06.3	20.1						
20	121	47.8	135 18.4	15.6	148 39.0	21.2	78 22.2	42.9	137 08.5	20.0						
21	136	50.2	150 18.0	14.5	163 39.6	20.6	93 24.1	43.1	152 10.7	19.9						
22	151	52.7	165 17.6	13.3	178 40.2	19.9	108 26.1	43.3	167 12.9	19.8						
23	166	55.2	180 17.2	12.2	193 40.8	19.2	123 28.1	43.4	182 15.1	19.7						
24	181	57.6	195 16.7	-7 11.0	208 41.4	-12 18.5	138 30.0	+15 43.6	197 17.3	-8 19.6						
Dif	—		-4	+12	+6		+7	+20	+2	+22		+1				

UT	SOL			☉ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 06.1 <sup>m</sup>			SD: 14.7' Edad: 13.6 <sup>d</sup> PMG: 23 <sup>h</sup> 56 <sup>m</sup> R°: 39 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 26.1	+1 31.6		10 23.1	172	+6 08.0	138	<b>60 N</b>	18 25	19 07	19 59	17 33 81	6 00 -1				
1	193 26.3			24 59.3	172	+5 54.2	140	<b>58</b>	24	04	52	34 78	5 58 1				
2	208 26.5			39 35.5	172		140	<b>56</b>	23	19 00	45	35 75	56 4				
3	223 26.7			54 11.7	172		139	<b>54</b>	22	18 57	40	36 72	54 6				
4	238 26.9			68 48.0	173	+5 12.4	139	<b>52</b>	21	55	35	36 71	52 9				
5	253 27.1	+1 36.5		83 24.2	172	+4 58.4	140	<b>50</b>	18 20	18 52	19 31	17 37 68	5 50 11				
6	268 27.3	+1 37.5		98 00.5	173	+4 44.4	140	<b>45</b>	18 18	18 47	19 22	17 39 63	5 46 16				
7	283 27.5			112 36.7	172		140	<b>40</b>	17	44	15	40 59	43 19				
8	298 27.7			127 13.0	173		140	<b>35</b>	15	41	10	41 56	41 22				
9	313 27.8			141 49.3	173	+4 02.4	140	<b>30</b>	14	38	06	42 53	38 25				
10	328 28.0			156 25.7	174	+3 48.3	141	<b>20</b>	12	34	19 00	44 48	34 30				
11	343 28.2	+1 42.4		171 02.0	173	+3 34.3	140	<b>10 N</b>	18 11	18 32	18 56	17 45 44	5 30 35				
12	358 28.4	+1 43.4		185 38.3	173	+3 20.2	141	<b>0</b>	18 09	18 30	18 54	17 47 39	5 27 39				
13	13 28.6			200 14.7	174	+3 06.1	141	<b>10 S</b>	08	29	53	48 35	23 43				
14	28 28.8			214 51.0	173	+2 52.0	141	<b>20</b>	07	29	54	50 30	19 48				
15	43 29.0			229 27.4	174		141	<b>30</b>	06	30	18 57	52 25	15 53				
16	58 29.2			244 03.8	174		142	<b>35</b>	05	30	19 00	53 22	12 56				
17	73 29.4	+1 47.3		258 40.1	173	+2 09.6	141	<b>40</b>	18 04	18 31	19 03	17 54 19	5 10 59				
18	88 29.5	+1 49.3		273 16.5	174	+1 55.5	141	<b>45</b>	18 03	18 33	19 07	17 55 15	5 06 63				
19	103 29.7			287 52.9	174		142	<b>50</b>	03	35	12	57 10	02 68				
20	118 29.9			302 29.3	174		142	<b>52</b>	02	36	15	57 9	5 00 70				
21	133 30.1			317 05.6	173	+1 13.0	141	<b>54</b>	02	37	18	58 7	4 58 73				
22	148 30.3			331 42.0	174	+0 58.8	142	<b>56</b>	01	38	22	17 59 4	56 75				
23	163 30.5			346 18.4	174		142	<b>58</b>	01	40	26	18 00 1	53 79				
24	178 30.7	+1 55.2		0 54.8	174	+0 30.4	142	<b>60 S</b>	18 00	18 41	19 30	18 01 -2	4 50 82				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 11 <sup>h</sup> 50.2 <sup>m</sup>		Mag.: -3.8 PMG: 10 <sup>h</sup> 59 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 05 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.0 PMG: 10 <sup>h</sup> 49 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "							
0	181 57.6		195 16.7	-7 11.0	208 41.4	-12 18.5	138 30.0	+15 43.6	197 17.3	-8 19.6							
1	197 00.1		210 16.3	09.8	223 42.0	17.8	153 32.0	43.7	212 19.5	19.5							
2	212 02.5		225 15.9	08.7	238 42.6	17.2	168 33.9	43.9	227 21.7	19.4							
3	227 05.0		240 15.5	07.5	253 43.2	16.5	183 35.9	44.0	242 23.9	19.3							
4	242 07.5		255 15.0	06.4	268 43.8	15.8	198 37.8	44.2	257 26.0	19.2							
5	257 09.9		270 14.6	-7 05.2	283 44.4	-12 15.1	213 39.8	+15 44.3	272 28.2	-8 19.1							
6	272 12.4		285 14.2	-7 04.0	298 45.0	-12 14.4	228 41.7	+15 44.5	287 30.4	-8 18.9							
7	287 14.9		300 13.8	02.9	313 45.6	13.7	243 43.7	44.7	302 32.6	18.8							
8	302 17.3		315 13.3	01.7	328 46.2	13.1	258 45.6	44.8	317 34.8	18.7							
9	317 19.8		330 12.9	-7 00.6	343 46.8	12.4	273 47.6	45.0	332 37.0	18.6							
10	332 22.3		345 12.5	-6 59.4	358 47.4	11.7	288 49.6	45.1	347 39.2	18.5							
11	347 24.7		0 12.1	-6 58.2	13 48.0	-12 11.0	303 51.5	+15 45.3	2 41.4	-8 18.4							
12	2 27.2		15 11.7	-6 57.1	28 48.6	-12 10.3	318 53.5	+15 45.4	17 43.6	-8 18.3							
13	17 29.6		30 11.2	55.9	43 49.2	09.6	333 55.4	45.6	32 45.8	18.2							
14	32 32.1		45 10.8	54.8	58 49.8	09.0	348 57.4	45.7	47 47.9	18.1							
15	47 34.6		60 10.4	53.6	73 50.4	08.3	3 59.3	45.9	62 50.1	18.0							
16	62 37.0		75 10.0	52.4	88 51.0	07.6	19 01.3	46.0	77 52.3	17.9							
17	77 39.5		90 09.5	-6 51.3	103 51.6	-12 06.9	34 03.2	+15 46.2	92 54.5	-8 17.8							
18	92 42.0		105 09.1	-6 50.1	118 52.2	-12 06.2	49 05.2	+15 46.4	107 56.7	-8 17.7							
19	107 44.4		120 08.7	48.9	133 52.8	05.5	64 07.1	46.5	122 58.9	17.5							
20	122 46.9		135 08.3	47.8	148 53.4	04.9	79 09.1	46.7	138 01.1	17.4							
21	137 49.4		150 07.9	46.6	163 54.0	04.2	94 11.0	46.8	153 03.3	17.3							
22	152 51.8		165 07.4	45.5	178 54.6	03.5	109 13.0	47.0	168 05.5	17.2							
23	167 54.3		180 07.0	44.3	193 55.2	02.8	124 14.9	47.1	183 07.7	17.1							
24	182 56.8		195 06.6	-6 43.1	208 55.9	-12 02.1	139 16.9	+15 47.3	198 09.9	-8 17.0							
Dif	—		-4	+12	+6	+7	+20	+2	+22	+1							

UT	SOL		☉ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0'		SD: 14.7'		Edad: 14.6 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.1'			R <sup>o</sup> : ****m					
	PMG: 12 <sup>h</sup> 05.8 <sup>m</sup>		PMG: **h ***m		R <sup>o</sup> : ****m			12 <sup>h</sup> : 54.1'			20 <sup>h</sup> : 54.2'					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora R <sup>o</sup>	Hora R <sup>o</sup>				
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 30.7	+1 55.2	0 54.8		+0 30.4		60 N	4 12	5 03	5 45	18 54 84	5 59 -2				
1	193 30.9	56.2	15 31.1	173	16.2	142	58	19	07	47	52 80	5 59 2				
2	208 31.1	57.2	30 07.5	174	+0 02.0	142	56	26	11	48	50 77	6 00 4				
3	223 31.2	58.1	44 43.9	174	-0 12.2	142	54	31	14	49	48 74	00 7				
4	238 31.4	+1 59.1	59 20.2	173	26.4	142	52	36	16	50	47 71	01 9				
5	253 31.6	+2 00.1	73 56.6	174	-0 40.6	142	50	4 40	5 19	5 51	18 45 70	6 01 11				
6	268 31.8	+2 01.1	88 32.9	173	-0 54.8	142	45	4 49	5 24	5 53	18 42 64	6 02 15				
7	283 32.0	02.1	103 09.3	174	-1 09.1	143	40	4 56	28	55	39 61	02 20				
8	298 32.2	03.0	117 45.6	173	23.3	142	35	5 01	31	56	37 57	03 22				
9	313 32.4	04.0	132 21.9	173	37.5	142	30	5 06	33	57	35 54	03 26				
10	328 32.6	05.0	146 58.2	173	-1 51.7	142	20	12	37	5 59	32 48	04 31				
11	343 32.8	+2 06.0	161 34.5	173	-2 05.9	142	10 N	5 16	5 40	6 01	18 29 44	6 05 35				
12	358 33.0	+2 07.0	176 10.8	173	-2 20.1	142	0	5 18	5 42	6 03	18 26 40	6 06 39				
13	13 33.1	08.0	190 47.0	172	34.3	142	10 S	19	43	04	23 36	06 44				
14	28 33.3	08.9	205 23.3	173	-2 48.5	142	20	18	43	05	20 31	07 48				
15	43 33.5	09.9	219 59.5	172	-3 02.6	141	30	15	43	07	17 26	08 53				
16	58 33.7	10.9	234 35.7	172	16.8	142	35	13	42	07	15 23	08 56				
17	73 33.9	+2 11.9	249 11.9	172	-3 31.0	142	40	5 10	5 41	6 08	18 13 20	6 09 59				
18	88 34.1	+2 12.9	263 48.1	172	-3 45.1	141	45	5 06	5 40	6 09	18 10 16	6 09 64				
19	103 34.3	13.8	278 24.2	171	-3 59.3	142	50	5 00	38	10	07 12	10 68				
20	118 34.5	14.8	293 00.3	171	-4 13.4	141	52	4 58	37	11	06 10	10 71				
21	133 34.7	15.8	307 36.4	171	27.5	141	54	55	36	11	05 7	11 73				
22	148 34.8	16.8	322 12.5	171	41.7	142	56	51	35	12	03 5	11 76				
23	163 35.0	17.8	336 48.6	171	-4 55.8	141	58	47	33	13	18 01 2	12 78				
24	178 35.2	+2 18.7	351 24.6	170	-5 09.9	141	60 S	4 43	5 32	6 13	17 59 -1	6 12 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 <sup>h</sup> 46.3 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 00 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 41 <sup>m</sup>		Mag.: +1.0 PMG: 10 <sup>h</sup> 46 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	182 56.8	195 06.6	-6 43.1	208 55.9	-12 02.1	139 16.9	+15 47.3	198 09.9	-8 17.0	
1	197 59.2	210 06.2	42.0	223 56.5	01.4	154 18.8	47.4	213 12.0	16.9	
2	213 01.7	225 05.8	40.8	238 57.1	00.7	169 20.8	47.6	228 14.2	16.8	
3	228 04.1	240 05.4	39.6	253 57.7	-12 00.1	184 22.7	47.8	243 16.4	16.7	
4	243 06.6	255 04.9	38.5	268 58.3	-11 59.4	199 24.7	47.9	258 18.6	16.6	
5	258 09.1	270 04.5	-6 37.3	283 58.9	-11 58.7	214 26.6	+15 48.1	273 20.8	-8 16.5	
6	273 11.5	285 04.1	-6 36.1	298 59.5	-11 58.0	229 28.6	+15 48.2	288 23.0	-8 16.4	
7	288 14.0	300 03.7	35.0	314 00.1	57.3	244 30.5	48.4	303 25.2	16.3	
8	303 16.5	315 03.3	33.8	329 00.7	56.6	259 32.5	48.5	318 27.4	16.1	
9	318 18.9	330 02.9	32.6	344 01.3	55.9	274 34.4	48.7	333 29.6	16.0	
10	333 21.4	345 02.4	31.5	359 01.9	55.3	289 36.4	48.8	348 31.8	15.9	
11	348 23.9	0 02.0	-6 30.3	14 02.5	-11 54.6	304 38.3	+15 49.0	3 34.0	-8 15.8	
12	3 26.3	15 01.6	-6 29.1	29 03.1	-11 53.9	319 40.3	+15 49.2	18 36.2	-8 15.7	
13	18 28.8	30 01.2	28.0	44 03.7	53.2	334 42.2	49.3	33 38.3	15.6	
14	33 31.2	45 00.8	26.8	59 04.3	52.5	349 44.2	49.5	48 40.5	15.5	
15	48 33.7	60 00.4	25.6	74 04.9	51.8	4 46.1	49.6	63 42.7	15.4	
16	63 36.2	74 59.9	24.4	89 05.5	51.1	19 48.1	49.8	78 44.9	15.3	
17	78 38.6	89 59.5	-6 23.3	104 06.1	-11 50.4	34 50.0	+15 49.9	93 47.1	-8 15.2	
18	93 41.1	104 59.1	-6 22.1	119 06.7	-11 49.7	49 52.0	+15 50.1	108 49.3	-8 15.1	
19	108 43.6	119 58.7	20.9	134 07.3	49.1	64 53.9	50.2	123 51.5	15.0	
20	123 46.0	134 58.3	19.8	149 07.9	48.4	79 55.9	50.4	138 53.7	14.9	
21	138 48.5	149 57.9	18.6	164 08.5	47.7	94 57.8	50.6	153 55.9	14.8	
22	153 51.0	164 57.5	17.4	179 09.2	47.0	109 59.8	50.7	168 58.1	14.6	
23	168 53.4	179 57.1	16.2	194 09.8	46.3	125 01.7	50.9	184 00.3	14.5	
24	183 55.9	194 56.6	-6 15.1	209 10.4	-11 45.6	140 03.7	+15 51.0	199 02.5	-8 14.4	

Dif	—	-4	+12	+6	+7	+20	+2	+22	+1
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UT	SOL			☉ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 05.5 <sup>m</sup>			SD: 14.8' Edad: 15.6 <sup>d</sup> PMG: 0 <sup>h</sup> 35 <sup>m</sup> R°: 41 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.4'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 35.2	+2 18.7		351 24.6	170	- 5 09.9	140	<b>60 N</b>	18 30	19 13	20 04	20 18 88	5 57 -1				
1	193 35.4	19.7		6 00.6	170	23.9	140	<b>58</b>	28	08	19 57	12 84	6 01 2				
2	208 35.6	20.7		20 36.6	170	38.0	141	<b>56</b>	27	05	50	07 80	04 5				
3	223 35.8	21.7		35 12.5	169	- 5 52.0	141	<b>54</b>	26	19 01	44	20 02 77	07 8				
4	238 36.0	22.7		49 48.4	169	- 6 06.1	141	<b>52</b>	24	18 58	39	19 58 74	10 10				
5	253 36.2	+2 23.6		64 24.3	169	- 6 20.1	140	<b>50</b>	18 23	18 56	19 34	19 55 71	6 12 12				
6	268 36.4	+2 24.6		79 00.2	169	- 6 34.1	140	<b>45</b>	18 21	18 50	19 25	19 46 67	6 17 17				
7	283 36.6	25.6		93 36.0	168	- 6 48.0	139	<b>40</b>	19	46	18	40 62	22 20				
8	298 36.7	26.6		108 11.8	168	- 7 02.0	140	<b>35</b>	17	42	12	34 59	25 24				
9	313 36.9	27.6		122 47.5	167	15.9	139	<b>30</b>	15	39	07	29 56	29 27				
10	328 37.1	28.5		137 23.2	167	29.8	139	<b>20</b>	13	35	19 01	20 51	35 32				
11	343 37.3	+2 29.5		151 58.9	167	- 7 43.7	139	<b>10 N</b>	18 11	18 32	18 56	19 13 46	6 40 36				
12	358 37.5	+2 30.5		166 34.5	166	- 7 57.6	139	<b>0</b>	18 09	18 29	18 53	19 06 41	6 45 40				
13	13 37.7	31.5		181 10.1	166	- 8 11.4	138	<b>10 S</b>	07	28	52	18 59 37	50 45				
14	28 37.9	32.5		195 45.7	166	25.3	139	<b>20</b>	05	27	53	51 33	6 55 49				
15	43 38.1	33.4		210 21.2	165	39.1	138	<b>30</b>	03	27	55	43 28	7 01 55				
16	58 38.3	34.4		224 56.7	165	- 8 52.8	137	<b>35</b>	02	27	57	38 25	04 58				
17	73 38.4	+2 35.4		239 32.1	164	- 9 06.6	138	<b>40</b>	18 01	18 28	18 59	18 33 22	7 08 61				
18	88 38.6	+2 36.4		254 07.5	164	- 9 20.3	137	<b>45</b>	18 00	18 29	19 03	18 26 19	7 13 65				
19	103 38.8	37.3		268 42.9	164	33.9	136	<b>50</b>	17 58	30	08	19 13	18 71				
20	118 39.0	38.3		283 18.2	163	- 9 47.6	137	<b>52</b>	57	31	10	16 11	21 73				
21	133 39.2	39.3		297 53.4	162	- 10 01.2	136	<b>54</b>	57	32	13	12 8	24 75				
22	148 39.4	40.3		312 28.6	162	14.8	136	<b>56</b>	56	33	16	08 6	27 78				
23	163 39.6	41.3		327 03.8	162	28.3	135	<b>58</b>	55	34	20	18 03 3	30 82				
24	178 39.8	+2 42.2		341 38.9	161	- 10 41.9	136	<b>60 S</b>	17 54	18 35	19 24	17 58 -1	7 34 85				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 11 <sup>h</sup> 42.4 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.0 PMG: 10 <sup>h</sup> 42 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "							
0	183 55.9	194 56.6	- 6 15.1	209 10.4	- 11 45.6	140 03.7	+ 15 51.0	199 02.5	- 8 14.4								
1	198 58.4	209 56.2	13.9	224 11.0	44.9	155 05.6	51.2	214 04.6	14.3								
2	214 00.8	224 55.8	12.7	239 11.6	44.2	170 07.6	51.3	229 06.8	14.2								
3	229 03.3	239 55.4	11.6	254 12.2	43.5	185 09.5	51.5	244 09.0	14.1								
4	244 05.7	254 55.0	10.4	269 12.8	42.8	200 11.5	51.6	259 11.2	14.0								
5	259 08.2	269 54.6	- 6 09.2	284 13.4	- 11 42.2	215 13.4	+ 15 51.8	274 13.4	- 8 13.9								
6	274 10.7	284 54.2	- 6 08.0	299 14.0	- 11 41.5	230 15.4	+ 15 52.0	289 15.6	- 8 13.8								
7	289 13.1	299 53.8	06.9	314 14.6	40.8	245 17.3	52.1	304 17.8	13.7								
8	304 15.6	314 53.3	05.7	329 15.2	40.1	260 19.3	52.3	319 20.0	13.6								
9	319 18.1	329 52.9	04.5	344 15.8	39.4	275 21.2	52.4	334 22.2	13.5								
10	334 20.5	344 52.5	03.3	359 16.4	38.7	290 23.2	52.6	349 24.4	13.4								
11	349 23.0	359 52.1	- 6 02.2	14 17.1	- 11 38.0	305 25.1	+ 15 52.7	4 26.6	- 8 13.3								
12	4 25.5	14 51.7	- 6 01.0	29 17.7	- 11 37.3	320 27.1	+ 15 52.9	19 28.8	- 8 13.2								
13	19 27.9	29 51.3	- 5 59.8	44 18.3	36.6	335 29.0	53.0	34 31.0	13.0								
14	34 30.4	44 50.9	58.6	59 18.9	35.9	350 31.0	53.2	49 33.2	12.9								
15	49 32.9	59 50.5	57.5	74 19.5	35.2	5 32.9	53.4	64 35.3	12.8								
16	64 35.3	74 50.1	56.3	89 20.1	34.5	20 34.8	53.5	79 37.5	12.7								
17	79 37.8	89 49.7	- 5 55.1	104 20.7	- 11 33.8	35 36.8	+ 15 53.7	94 39.7	- 8 12.6								
18	94 40.2	104 49.3	- 5 53.9	119 21.3	- 11 33.1	50 38.7	+ 15 53.8	109 41.9	- 8 12.5								
19	109 42.7	119 48.8	52.7	134 21.9	32.5	65 40.7	54.0	124 44.1	12.4								
20	124 45.2	134 48.4	51.6	149 22.5	31.8	80 42.6	54.1	139 46.3	12.3								
21	139 47.6	149 48.0	50.4	164 23.1	31.1	95 44.6	54.3	154 48.5	12.2								
22	154 50.1	164 47.6	49.2	179 23.7	30.4	110 46.5	54.4	169 50.7	12.1								
23	169 52.6	179 47.2	48.0	194 24.4	29.7	125 48.5	54.6	184 52.9	12.0								
24	184 55.0	194 46.8	- 5 46.8	209 25.0	- 11 29.0	140 50.4	+ 15 54.8	199 55.1	- 8 11.9								
Dif	—	-4	+12	+6	+7	+19	+2	+22	+1								

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 05.2 <sup>m</sup>			SD: 14.8' Edad: 16.6 <sup>d</sup> PMG: 1 <sup>h</sup> 16 <sup>m</sup> R°: 42 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.7'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m			
0	178 39.8	+2 42.2		341 38.9		-10 41.9	134	4 05	4 57	5 39	21 46 92	5 56 -1				
1	193 40.0			356 13.9 <sup>160</sup>		-10 55.3	134	58 13	5 01	41	36 87	6 03 3				
2	208 40.2	44.2		10 48.9 <sup>160</sup>		-11 08.8	135	56 20	05	43	27 83	09 7				
3	223 40.3	45.2		25 23.9 <sup>160</sup>		22.2	134	54 26	09	44	19 80	15 9				
4	238 40.5	46.1		39 58.7 <sup>158</sup>		35.6	134	52 31	12	45	12 77	20 12				
5	253 40.7	+2 47.1		54 33.6 <sup>159</sup>		-11 48.9	133	50 4 36	5 14	5 47	21 06 74	6 24 15				
6	268 40.9	+2 48.1		69 08.4 <sup>158</sup>		-12 02.2	133	45 4 45	5 20	5 49	20 53 68	6 34 19				
7	283 41.1	49.1		83 43.1 <sup>157</sup>		15.5	133	40 52	24	52	42 64	42 24				
8	298 41.3	50.1		98 17.8 <sup>157</sup>		28.7	132	35 4 58	28	53	33 60	49 27				
9	313 41.5	51.0		112 52.4 <sup>156</sup>		41.9	132	30 5 03	31	55	25 57	6 56 29				
10	328 41.7	52.0		127 26.9 <sup>155</sup>		-12 55.0	131	20 10	36	5 58	20 11 53	7 07 34				
11	343 41.9	+2 53.0		142 01.4 <sup>155</sup>		-13 08.1	131	10 N 5 14	5 39	6 00	19 59 48	7 16 39				
12	358 42.0	+2 54.0		156 35.8 <sup>154</sup>		-13 21.1	130	0 5 17	5 41	6 02	19 47 45	7 25 43				
13	13 42.2	54.9		171 10.2 <sup>154</sup>		34.1	130	10 S 18	43	04	36 41	35 47				
14	28 42.4	55.9		185 44.5 <sup>153</sup>		-13 47.1	130	20 18	44	06	24 37	44 52				
15	43 42.6	56.9		200 18.7 <sup>152</sup>		-14 00.0	129	30 16	44	08	11 32	7 56 56				
16	58 42.8	57.9		214 52.9 <sup>152</sup>		12.8	128	35 14	44	09	19 03 29	8 02 60				
17	73 43.0	+2 58.8		229 27.0 <sup>151</sup>		-14 25.6	128	40 5 12	5 43	6 10	18 55 25	8 09 64				
18	88 43.2	+2 59.8		244 01.1 <sup>151</sup>		-14 38.4	128	45 5 08	5 43	6 12	18 45 21	8 18 67				
19	103 43.4	+3 00.8		258 35.0 <sup>149</sup>		-14 51.1	127	50 04	41	13	32 17	29 72				
20	118 43.6	01.8		273 08.9 <sup>149</sup>		-15 03.7	126	52 5 01	41	14	27 14	34 75				
21	133 43.8	02.8		287 42.8 <sup>149</sup>		16.3	126	54 4 59	40	15	20 12	39 78				
22	148 43.9	03.7		302 16.5 <sup>147</sup>		28.9	126	56 55	39	16	14 8	45 81				
23	163 44.1	04.7		316 50.2 <sup>147</sup>		41.3	124	58 52	38	17	18 06 4	52 85				
24	178 44.3	+3 05.7		331 23.9 <sup>147</sup>		-15 53.8	125	60 S 4 48	5 37	6 18	17 57 0	8 59 90				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 11 <sup>h</sup> 38.4 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 02 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 39 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	184 55.0		194 46.8	-5 46.8	209 25.0	-11 29.0	140 50.4	+15 54.8	199 55.1	-8 11.9						
1	199 57.5		209 46.4	45.7	224 25.6	28.3	155 52.4	54.9	214 57.3	11.8						
2	215 00.0		224 46.0	44.5	239 26.2	27.6	170 54.3	55.1	229 59.5	11.7						
3	230 02.4		239 45.6	43.3	254 26.8	26.9	185 56.3	55.2	245 01.7	11.6						
4	245 04.9		254 45.2	42.1	269 27.4	26.2	200 58.2	55.4	260 03.9	11.4						
5	260 07.3		269 44.8	-5 40.9	284 28.0	-11 25.5	216 00.1	+15 55.5	275 06.1	-8 11.3						
6	275 09.8		284 44.4	-5 39.8	299 28.6	-11 24.8	231 02.1	+15 55.7	290 08.2	-8 11.2						
7	290 12.3		299 44.0	38.6	314 29.2	24.1	246 04.0	55.8	305 10.4	11.1						
8	305 14.7		314 43.6	37.4	329 29.9	23.4	261 06.0	56.0	320 12.6	11.0						
9	320 17.2		329 43.2	36.2	344 30.5	22.7	276 07.9	56.2	335 14.8	10.9						
10	335 19.7		344 42.7	35.0	359 31.1	22.0	291 09.9	56.3	350 17.0	10.8						
11	350 22.1		359 42.3	-5 33.9	14 31.7	-11 21.3	306 11.8	+15 56.5	5 19.2	-8 10.7						
12	5 24.6		14 41.9	-5 32.7	29 32.3	-11 20.6	321 13.8	+15 56.6	20 21.4	-8 10.6						
13	20 27.1		29 41.5	31.5	44 32.9	19.9	336 15.7	56.8	35 23.6	10.5						
14	35 29.5		44 41.1	30.3	59 33.5	19.2	351 17.6	56.9	50 25.8	10.4						
15	50 32.0		59 40.7	29.1	74 34.1	18.5	6 19.6	57.1	65 28.0	10.3						
16	65 34.5		74 40.3	27.9	89 34.8	17.8	21 21.5	57.2	80 30.2	10.2						
17	80 36.9		89 39.9	-5 26.8	104 35.4	-11 17.1	36 23.5	+15 57.4	95 32.4	-8 10.1						
18	95 39.4		104 39.5	-5 25.6	119 36.0	-11 16.4	51 25.4	+15 57.6	110 34.6	-8 10.0						
19	110 41.8		119 39.1	24.4	134 36.6	15.7	66 27.4	57.7	125 36.8	09.9						
20	125 44.3		134 38.7	23.2	149 37.2	15.0	81 29.3	57.9	140 39.0	09.7						
21	140 46.8		149 38.3	22.0	164 37.8	14.4	96 31.2	58.0	155 41.2	09.6						
22	155 49.2		164 37.9	20.8	179 38.4	13.7	111 33.2	58.2	170 43.3	09.5						
23	170 51.7		179 37.5	19.6	194 39.0	13.0	126 35.1	58.3	185 45.5	09.4						
24	185 54.2		194 37.1	-5 18.5	209 39.7	-11 12.3	141 37.1	+15 58.5	200 47.7	-8 09.3						
Dif	—		-4	+12	+6	+7	+19	+2	+22	+1						

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 04.9 <sup>m</sup>			SD: 14.9' Edad: 17.6 <sup>d</sup> PMG: 1 <sup>h</sup> 58 <sup>m</sup> R°: 45 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 44.3	+3 05.7		331 23.9	145	-15 53.8	123	<b>60 N</b>	18 35	19 18	20 10	23 18 99	5 55 0	6 06 6			
1	193 44.5	06.7		345 57.4	145	-16 06.1	123	<b>58</b>	33	13	20 02	23 03 92	6 06 6	6 06 6			
2	208 44.7	07.6		0 30.9	145	18.5	124	<b>56</b>	31	09	19 55	22 50 86	16 9	16 9			
3	223 44.9	08.6		15 04.3	144	30.7	122	<b>54</b>	29	05	48	39 82	24 13	24 13			
4	238 45.1	09.6		29 37.6	143	42.9	122	<b>52</b>	28	19 02	43	29 78	32 16	32 16			
5	253 45.3	+3 10.6		44 10.8	142	-16 55.0	121	<b>50</b>	18 26	18 59	19 38	22 20 76	6 39 18	6 39 18			
6	268 45.5	+3 11.5		58 44.0	142	-17 07.1	121	<b>45</b>	18 23	18 53	19 28	22 01 71	6 53 24	6 53 24			
7	283 45.6	12.5		73 17.1	141	19.1	120	<b>40</b>	21	48	20	21 46 66	7 06 27	7 06 27			
8	298 45.8	13.5		87 50.1	140	31.0	119	<b>35</b>	18	44	14	33 63	16 31	16 31			
9	313 46.0	14.5		102 23.0	139	42.9	119	<b>30</b>	17	41	09	22 61	25 34	25 34			
10	328 46.2	15.4		116 55.9	139	-17 54.7	118	<b>20</b>	13	35	19 01	21 04 55	41 39	41 39			
11	343 46.4	+3 16.4		131 28.7	138	-18 06.4	117	<b>10 N</b>	18 11	18 32	18 56	20 47 52	7 55 43	7 55 43			
12	358 46.6	+3 17.4		146 01.3	136	-18 18.1	117	<b>0</b>	18 08	18 29	18 53	20 32 48	8 08 47	8 08 47			
13	13 46.8	18.4		160 34.0	137	29.7	116	<b>10 S</b>	06	27	51	17 45	22 50	22 50			
14	28 47.0	19.3		175 06.5	135	41.2	115	<b>20</b>	03	25	51	20 01 41	36 54	36 54			
15	43 47.2	20.3		189 38.9	134	-18 52.6	114	<b>30</b>	18 01	25	52	19 43 36	8 52 59	8 52 59			
16	58 47.3	21.3		204 11.3	134	-19 04.0	114	<b>35</b>	17 59	25	54	32 34	9 02 62	9 02 62			
17	73 47.5	+3 22.3		218 43.5	132	-19 15.3	113	<b>40</b>	17 58	18 25	18 56	19 20 31	9 13 65	9 13 65			
18	88 47.7	+3 23.2		233 15.7	132	-19 26.5	112	<b>45</b>	17 56	18 25	18 59	19 06 27	9 25 70	9 25 70			
19	103 47.9	24.2		247 47.8	131	37.7	112	<b>50</b>	54	26	19 03	18 49 21	41 75	41 75			
20	118 48.1	25.2		262 19.8	130	48.7	110	<b>52</b>	53	26	06	41 19	49 77	49 77			
21	133 48.3	26.1		276 51.7	129	-19 59.7	110	<b>54</b>	52	27	08	32 16	9 57 81	9 57 81			
22	148 48.5	27.1		291 23.6	129	-20 10.6	109	<b>56</b>	51	28	11	22 12	10 06 85	10 06 85			
23	163 48.7	28.1		305 55.3	127	21.4	108	<b>58</b>	49	28	14	18 10 8	17 89	17 89			
24	178 48.9	+3 29.1		320 27.0	127	-20 32.2	108	<b>60 S</b>	17 48	18 29	19 18	17 57 2	10 29 95	10 29 95			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 <sup>h</sup> 34.5 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 35 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	185 54.2	194 37.1	-5 18.5	209 39.7	-11 12.3	141 37.1	+15 58.5	200 47.7	-8 09.3	200 47.7
1	200 56.6	209 36.7	17.3	224 40.3	11.6	156 39.0	58.7	215 49.9	09.2	215 49.9
2	215 59.1	224 36.3	16.1	239 40.9	10.9	171 41.0	58.8	230 52.1	09.1	230 52.1
3	231 01.6	239 35.9	14.9	254 41.5	10.2	186 42.9	59.0	245 54.3	09.0	245 54.3
4	246 04.0	254 35.5	13.7	269 42.1	09.5	201 44.8	59.1	260 56.5	08.9	260 56.5
5	261 06.5	269 35.1	-5 12.5	284 42.7	-11 08.8	216 46.8	+15 59.3	275 58.7	-8 08.8	275 58.7
6	276 08.9	284 34.7	-5 11.3	299 43.3	-11 08.1	231 48.7	+15 59.4	291 00.9	-8 08.7	291 00.9
7	291 11.4	299 34.3	10.2	314 44.0	07.4	246 50.7	59.6	306 03.1	08.6	306 03.1
8	306 13.9	314 33.9	09.0	329 44.6	06.7	261 52.6	59.7	321 05.3	08.5	321 05.3
9	321 16.3	329 33.5	07.8	344 45.2	06.0	276 54.5	+15 59.9	336 07.5	08.4	336 07.5
10	336 18.8	344 33.1	06.6	359 45.8	05.3	291 56.5	+16 00.1	351 09.7	08.3	351 09.7
11	351 21.3	359 32.7	-5 05.4	14 46.4	-11 04.6	306 58.4	+16 00.2	6 11.9	-8 08.2	6 11.9
12	6 23.7	14 32.3	-5 04.2	29 47.0	-11 03.8	322 00.4	+16 00.4	21 14.1	-8 08.1	21 14.1
13	21 26.2	29 31.9	03.0	44 47.6	03.1	337 02.3	00.5	36 16.3	08.0	36 16.3
14	36 28.7	44 31.5	01.8	59 48.3	02.4	352 04.2	00.7	51 18.5	07.8	51 18.5
15	51 31.1	59 31.1	-5 00.6	74 48.9	01.7	7 06.2	00.8	66 20.7	07.7	66 20.7
16	66 33.6	74 30.7	-4 59.5	89 49.5	01.0	22 08.1	01.0	81 22.9	07.6	81 22.9
17	81 36.1	89 30.3	-4 58.3	104 50.1	-11 00.3	37 10.1	+16 01.1	96 25.1	-8 07.5	96 25.1
18	96 38.5	104 29.9	-4 57.1	119 50.7	-10 59.6	52 12.0	+16 01.3	111 27.2	-8 07.4	111 27.2
19	111 41.0	119 29.5	55.9	134 51.3	58.9	67 13.9	01.5	126 29.4	07.3	126 29.4
20	126 43.4	134 29.1	54.7	149 52.0	58.2	82 15.9	01.6	141 31.6	07.2	141 31.6
21	141 45.9	149 28.7	53.5	164 52.6	57.5	97 17.8	01.8	156 33.8	07.1	156 33.8
22	156 48.4	164 28.3	52.3	179 53.2	56.8	112 19.8	01.9	171 36.0	07.0	171 36.0
23	171 50.8	179 27.9	51.1	194 53.8	56.1	127 21.7	02.1	186 38.2	06.9	186 38.2
24	186 53.3	194 27.5	-4 49.9	209 54.4	-10 55.4	142 23.6	+16 02.2	201 40.4	-8 06.8	201 40.4

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 04.6 <sup>m</sup>			SD: 15.0' Edad: 18.6 <sup>d</sup> PMG: 2 <sup>h</sup> 43 <sup>m</sup> R <sup>o</sup> : 50 <sup>m</sup>				PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.4' 20 <sup>h</sup> : 55.6'	Náutico		Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m m	h m m m	h m m m		
0	178 48.9	+3 29.1		320 27.0	-20 32.2	106	60 N	3 58	4 51	5 33	** ** *	5 55	3		
1	193 49.0	30.0		334 58.5 <sup>125</sup>	42.8	106	58	4 07	4 55	35	** ** *	6 12	10		
2	208 49.2	31.0		349 30.0 <sup>125</sup>	-20 53.4	106	56	14	5 00	37	** ** *	25	16		
3	223 49.4	32.0		4 01.4 <sup>124</sup>	-21 03.9	105	54	20	03	39	** ** *	37	20		
4	238 49.6	33.0		18 32.7 <sup>123</sup>	14.2	103	52	26	07	41	23 47	77	48 22		
5	253 49.8	+3 33.9		33 03.8 <sup>121</sup>	-21 24.5	103	50	4 31	5 10	5 42	23 36	74	6 57 25		
6	268 50.0	+3 34.9		47 34.9 <sup>121</sup>	-21 34.8	103	45	4 41	5 16	5 46	23 12	69	7 17 30		
7	283 50.2	35.9		62 06.0 <sup>121</sup>	44.9	101	40	49	21	48	22 52	67	33 34		
8	298 50.4	36.8		76 36.9 <sup>119</sup>	-21 54.9	100	35	4 55	25	51	36	64	47 37		
9	313 50.5	37.8		91 07.7 <sup>118</sup>	-22 04.8	99	30	5 00	29	53	22 23	61	7 59 40		
10	328 50.7	38.8		105 38.4 <sup>117</sup>	14.7	99	20	08	34	56	21 59	58	8 20 44		
11	343 50.9	+3 39.8		120 09.0 <sup>116</sup>	-22 24.4	97	10 N	5 13	5 38	5 59	21 39	55	8 38 47		
12	358 51.1	+3 40.7		134 39.6 <sup>116</sup>	-22 34.1	97	0	5 17	5 41	6 01	21 20	53	8 55 50		
13	13 51.3	41.7		149 10.0 <sup>114</sup>	43.6	95	10 S	18	43	04	21 02	50	9 12 53		
14	28 51.5	42.7		163 40.4 <sup>114</sup>	-22 53.1	95	20	19	44	06	20 42	47	30 57		
15	43 51.7	43.7		178 10.6 <sup>112</sup>	-23 02.4	93	30	17	45	09	19	44	9 51 61		
16	58 51.9	44.6		192 40.8 <sup>112</sup>	11.6	92	35	16	45	11	20 06	41	10 04 63		
17	73 52.1	+3 45.6		207 10.8 <sup>110</sup>	-23 20.8	92	40	5 14	5 45	6 12	19 51	38	10 18 66		
18	88 52.2	+3 46.6		221 40.8 <sup>110</sup>	-23 29.8	90	45	5 11	5 45	6 14	19 33	35	10 35 70		
19	103 52.4	47.5		236 10.6 <sup>108</sup>	38.7	89	50	07	44	17	10	31	10 56 75		
20	118 52.6	48.5		250 40.4 <sup>108</sup>	47.5	88	52	05	44	18	19 00	27	11 06 78		
21	133 52.8	49.5		265 10.1 <sup>107</sup>	-23 56.2	87	54	02	44	19	18 48	24	18 81		
22	148 53.0	50.4		279 39.7 <sup>106</sup>	-24 04.8	86	56	5 00	43	20	34	21	31 85		
23	163 53.2	51.4		294 09.1 <sup>104</sup>	13.3	85	58	4 56	42	21	18 18	15	11 46 91		
24	178 53.4	+3 52.4		308 38.5 <sup>104</sup>	-24 21.7	84	60 S	4 53	5 41	6 23	17 59	7	12 04 100		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 <sup>h</sup> 30.6 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.2 PMG: 10 <sup>h</sup> 00 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 32 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	186 53.3	194 27.5	-4 49.9	209 54.4	-10 55.4	142 23.6	+16 02.2	201 40.4	-8 06.8	
1	201 55.8	209 27.1	48.7	224 55.0	54.7	157 25.6	02.4	216 42.6	06.7	
2	216 58.2	224 26.7	47.5	239 55.7	54.0	172 27.5	02.6	231 44.8	06.6	
3	232 00.7	239 26.3	46.3	254 56.3	53.3	187 29.5	02.7	246 47.0	06.5	
4	247 03.2	254 25.9	45.2	269 56.9	52.6	202 31.4	02.9	261 49.2	06.4	
5	262 05.6	269 25.5	-4 44.0	284 57.5	-10 51.9	217 33.3	+16 03.0	276 51.4	-8 06.3	
6	277 08.1	284 25.1	-4 42.8	299 58.1	-10 51.2	232 35.3	+16 03.2	291 53.6	-8 06.2	
7	292 10.6	299 24.7	41.6	314 58.7	50.5	247 37.2	03.3	306 55.8	06.1	
8	307 13.0	314 24.4	40.4	329 59.4	49.8	262 39.2	03.5	321 58.0	05.9	
9	322 15.5	329 24.0	39.2	345 00.0	49.1	277 41.1	03.6	337 00.2	05.8	
10	337 17.9	344 23.6	38.0	0 00.6	48.4	292 43.0	03.8	352 02.4	05.7	
11	352 20.4	359 23.2	-4 36.8	15 01.2	-10 47.7	307 45.0	+16 04.0	7 04.6	-8 05.6	
12	7 22.9	14 22.8	-4 35.6	30 01.8	-10 47.0	322 46.9	+16 04.1	22 06.8	-8 05.5	
13	22 25.3	29 22.4	34.4	45 02.5	46.3	337 48.8	04.3	37 09.0	05.4	
14	37 27.8	44 22.0	33.2	60 03.1	45.6	352 50.8	04.4	52 11.2	05.3	
15	52 30.3	59 21.6	32.0	75 03.7	44.8	7 52.7	04.6	67 13.4	05.2	
16	67 32.7	74 21.2	30.8	90 04.3	44.1	22 54.7	04.7	82 15.6	05.1	
17	82 35.2	89 20.8	-4 29.6	105 04.9	-10 43.4	37 56.6	+16 04.9	97 17.8	-8 05.0	
18	97 37.7	104 20.4	-4 28.4	120 05.6	-10 42.7	52 58.5	+16 05.1	112 20.0	-8 04.9	
19	112 40.1	119 20.0	27.2	135 06.2	42.0	68 00.5	05.2	127 22.2	04.8	
20	127 42.6	134 19.6	26.0	150 06.8	41.3	83 02.4	05.4	142 24.3	04.7	
21	142 45.0	149 19.2	24.8	165 07.4	40.6	98 04.3	05.5	157 26.5	04.6	
22	157 47.5	164 18.8	23.6	180 08.0	39.9	113 06.3	05.7	172 28.7	04.5	
23	172 50.0	179 18.4	22.4	195 08.7	39.2	128 08.2	05.8	187 30.9	04.4	
24	187 52.4	194 18.1	-4 21.3	210 09.3	-10 38.5	143 10.1	+16 06.0	202 33.1	-8 04.3	

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16.0' PMG: 12 <sup>h</sup> 04.3 <sup>m</sup>			SD: 15.2' Edad: 19.6 <sup>d</sup> PMG: 3 <sup>h</sup> 33 <sup>m</sup> R°: 53 <sup>m</sup>					PHE { 4 <sup>h</sup> : 55.8' 12 <sup>h</sup> : 56.0' 20 <sup>h</sup> : 56.2'		Civil	Náutico	Hora	R°	Hora	R°		
	hG ☉	Dec		hG ☾	Dif	Dec			Dif	h	m	h	m	h	m	h	m	
0	178	53.4	+3 52.4	308	38.5	-24 21.7	83	60 N	18 40	19 23	20 16	0 57	101	5 58	10			
1	193	53.6	53.4	323	07.8	30.0	81	58	37	18	20 07	35	90	6 22	20			
2	208	53.7	54.3	337	37.0	38.1	80	56	35	13	19 59	16	84	41	26			
3	223	53.9	55.3	352	06.1	46.1	80	54	33	09	53	0 01	80	6 57	30			
4	238	54.1	56.3	6	35.1	-24 54.1	80	52	31	05	47	** ** *	** ** *	7 10	33			
5	253	54.3	+3 57.2	21	03.9	-25 01.8	77	50	18 29	19 02	19 41	** ** *	** ** *	7 22	36			
6	268	54.5	+3 58.2	35	32.7	-25 09.5	77	45	18 26	18 55	19 31	** ** *	** ** *	7 47	40			
7	283	54.7	+3 59.2	50	01.4	17.1	76	40	23	50	22	23 59	63	8 07	43			
8	298	54.9	+4 00.1	64	30.1	24.5	74	35	20	45	15	40	62	24	45			
9	313	55.1	01.1	78	58.6	31.8	73	30	18	42	10	23 24	61	8 39	47			
10	328	55.2	02.1	93	27.0	39.0	72	20	14	36	19 02	22 57	59	9 04	49			
11	343	55.4	+4 03.1	107	55.3	-25 46.0	70	10 N	18 11	18 32	18 56	22 34	58	9 25	52			
12	358	55.6	+4 04.0	122	23.5	-25 53.0	68	0	18 08	18 28	18 52	22 13	56	9 45	54			
13	13	55.8	05.0	136	51.7	-25 59.8	66	10 S	05	26	50	21 52	54	10 05	57			
14	28	56.0	06.0	151	19.7	-26 06.4	66	20	18 02	24	49	29	53	27	59			
15	43	56.2	06.9	165	47.6	13.0	66	30	17 58	22	50	21 03	50	10 52	61			
16	58	56.4	07.9	180	15.5	19.4	64	35	57	22	51	20 47	50	11 07	63			
17	73	56.6	+4 08.9	194	43.3	-26 25.6	62	40	17 55	18 22	18 53	20 29	48	11 24	65			
18	88	56.7	+4 09.8	209	10.9	-26 31.8	62	45	17 52	18 21	18 55	20 08	45	11 45	68			
19	103	56.9	10.8	223	38.5	37.8	60	50	50	22	18 59	19 41	42	12 11	72			
20	118	57.1	11.8	238	06.0	43.6	58	52	48	22	19 01	27	41	24	73			
21	133	57.3	12.7	252	33.4	49.3	57	54	47	22	03	19 12	39	39	76			
22	148	57.5	13.7	267	00.7	-26 54.9	56	56	45	22	06	18 55	35	12 56	80			
23	163	57.7	14.7	281	27.9	-27 00.4	55	58	44	23	08	33	30	13 17	85			
24	178	57.9	+4 15.6	295	55.0	-27 05.7	53	60 S	17 42	18 23	19 12	18 06	20	13 44	95			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 11 <sup>h</sup> 26.6 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 03 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 28 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	187	52.4	194	18.1	-4 21.3	210	09.3	-10 38.5	143	10.1	+16 06.0	202	33.1	-8 04.3				
1	202	54.9	209	17.7	20.1	225	09.9	37.8	158	12.1	06.1	217	35.3	04.2				
2	217	57.4	224	17.3	18.9	240	10.5	37.1	173	14.0	06.3	232	37.5	04.1				
3	232	59.8	239	16.9	17.7	255	11.1	36.4	188	16.0	06.5	247	39.7	03.9				
4	248	02.3	254	16.5	16.5	270	11.8	35.7	203	17.9	06.6	262	41.9	03.8				
5	263	04.8	269	16.1	-4 15.3	285	12.4	-10 34.9	218	19.8	+16 06.8	277	44.1	-8 03.7				
6	278	07.2	284	15.7	-4 14.1	300	13.0	-10 34.2	233	21.8	+16 06.9	292	46.3	-8 03.6				
7	293	09.7	299	15.3	12.9	315	13.6	33.5	248	23.7	07.1	307	48.5	03.5				
8	308	12.2	314	14.9	11.7	330	14.2	32.8	263	25.6	07.2	322	50.7	03.4				
9	323	14.6	329	14.5	10.5	345	14.9	32.1	278	27.6	07.4	337	52.9	03.3				
10	338	17.1	344	14.1	09.3	0	15.5	31.4	293	29.5	07.6	352	55.1	03.2				
11	353	19.5	359	13.7	-4 08.1	15	16.1	-10 30.7	308	31.4	+16 07.7	7	57.3	-8 03.1				
12	8	22.0	14	13.4	-4 06.9	30	16.7	-10 30.0	323	33.4	+16 07.9	22	59.5	-8 03.0				
13	23	24.5	29	13.0	05.7	45	17.3	29.3	338	35.3	08.0	38	01.7	02.9				
14	38	26.9	44	12.6	04.5	60	18.0	28.6	353	37.2	08.2	53	03.9	02.8				
15	53	29.4	59	12.2	03.3	75	18.6	27.8	8	39.2	08.3	68	06.1	02.7				
16	68	31.9	74	11.8	02.1	90	19.2	27.1	23	41.1	08.5	83	08.3	02.6				
17	83	34.3	89	11.4	-4 00.9	105	19.8	-10 26.4	38	43.0	+16 08.6	98	10.5	-8 02.5				
18	98	36.8	104	11.0	-3 59.7	120	20.5	-10 25.7	53	45.0	+16 08.8	113	12.7	-8 02.4				
19	113	39.3	119	10.6	58.5	135	21.1	25.0	68	46.9	09.0	128	14.9	02.3				
20	128	41.7	134	10.2	57.3	150	21.7	24.3	83	48.8	09.1	143	17.1	02.2				
21	143	44.2	149	09.9	56.1	165	22.3	23.6	98	50.8	09.3	158	19.3	02.1				
22	158	46.7	164	09.5	54.9	180	23.0	22.9	113	52.7	09.4	173	21.5	02.0				
23	173	49.1	179	09.1	53.7	195	23.6	22.2	128	54.6	09.6	188	23.7	01.9				
24	188	51.6	194	08.7	-3 52.4	210	24.2	-10 21.5	143	56.6	+16 09.7	203	25.9	-8 01.8				
Dif	—		-4		+12		+6		+7		+19		+2		+22		+1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 04.0 <sup>m</sup>			SD: 15.3' Edad: 20.6 <sup>d</sup> PMG: 4 <sup>h</sup> 26 <sup>m</sup> R°: 57 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.4' 12 <sup>h</sup> : 56.6' 20 <sup>h</sup> : 56.8'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	178 57.9	+4 15.6		295 55.0	81	-27 05.7	51	60 N	3 51	4 44	5 27	2 38 87	6 08 32			
1	193 58.0	16.6		310 22.1	80	10.8	51	58	4 00	50	30	2 05 77	6 42 41			
2	208 58.2	17.6		324 49.1	78	15.9	48	56	08 54	32	1 40 74	7 07 45				
3	223 58.4	18.5		339 15.9	78	20.7	47	54	15 4 58	34	21 70	27 47				
4	238 58.6	19.5		353 42.7	77	25.4	46	52	21 5 02	36	1 04 69	43 49				
5	253 58.8	+4 20.5		8 09.4	77	-27 30.0	44	50	4 26	5 05	5 38	0 50 67	7 58 50			
6	268 59.0	+4 21.4		22 36.1	75	-27 34.4	43	45	4 37	5 12	5 42	0 21 65	8 27 52			
7	283 59.2	22.4		37 02.6	75	38.7	42	40	46 18	45	** ** *	** ** *	8 50 53			
8	298 59.4	23.4		51 29.1	74	42.9	39	35	52 22	48	** ** *	** ** *	9 09 54			
9	313 59.5	24.3		65 55.5	74	46.8	38	30	4 58 26	50	** ** *	** ** *	26 54			
10	328 59.7	25.3		80 21.8	73	50.6	37	20	5 06 32	54	23 56 58	9 53 56				
11	343 59.9	+4 26.3		94 48.0	72	-27 54.3	35	10 N	5 12	5 37	5 58	23 32 58	10 17 57			
12	359 00.1	+4 27.2		109 14.2	71	-27 57.8	34	0	5 16	5 40	6 01	23 09 59	10 39 58			
13	14 00.3	28.2		123 40.3	70	-28 01.2	32	10 S	18 43	04	22 46 59	11 02 58				
14	29 00.5	29.2		138 06.3	70	04.4	30	20	19 45	07	22 22 59	26 58				
15	44 00.7	30.1		152 32.3	70	07.4	29	30	19 46	10	21 53 59	11 53 60				
16	59 00.8	31.1		166 58.1	68	10.3	27	35	18 47	12	37 59	12 10 60				
17	74 01.0	+4 32.1		181 24.0	69	-28 13.0	26	40	5 16	5 47	6 14	21 17 59	12 29 61			
18	89 01.2	+4 33.0		195 49.7	67	-28 15.6	24	45	5 13	5 48	6 17	20 53 59	12 53 61			
19	104 01.4	34.0		210 15.4	66	18.0	23	50	10 47	20	23 59	13 23 61				
20	119 01.6	35.0		224 41.0	66	20.3	20	52	08 47	21	20 08 58	37 63				
21	134 01.8	35.9		239 06.6	66	22.3	19	54	06 47	22	19 51 58	13 55 62				
22	149 02.0	36.9		253 32.0	64	24.2	18	56	04 47	24	30 57	14 16 63				
23	164 02.1	37.9		267 57.5	65	26.0	16	58	5 01 47	26	19 03 57	14 42 64				
24	179 02.3	+4 38.8		282 22.9	64	-28 27.6	16	60 S	4 58	5 46	6 28	18 26 55	15 19 67			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 <sup>h</sup> 22.7 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 58 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 25 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	188 51.6	194 08.7	-3 52.4	210 24.2	-10 21.5	143 56.6	+16 09.7	203 25.9	-8 01.8	
1	203 54.0	209 08.3	51.2	225 24.8	20.7	158 58.5	09.9	218 28.1	01.6	
2	218 56.5	224 07.9	50.0	240 25.5	20.0	174 00.4	10.1	233 30.3	01.5	
3	233 59.0	239 07.5	48.8	255 26.1	19.3	189 02.4	10.2	248 32.5	01.4	
4	249 01.4	254 07.1	47.6	270 26.7	18.6	204 04.3	10.4	263 34.7	01.3	
5	264 03.9	269 06.7	-3 46.4	285 27.3	-10 17.9	219 06.2	+16 10.5	278 36.9	-8 01.2	
6	279 06.4	284 06.4	-3 45.2	300 27.9	-10 17.2	234 08.2	+16 10.7	293 39.1	-8 01.1	
7	294 08.8	299 06.0	44.0	315 28.6	16.5	249 10.1	10.8	308 41.3	01.0	
8	309 11.3	314 05.6	42.8	330 29.2	15.8	264 12.0	11.0	323 43.5	00.9	
9	324 13.8	329 05.2	41.6	345 29.8	15.0	279 14.0	11.1	338 45.7	00.8	
10	339 16.2	344 04.8	40.4	0 30.4	14.3	294 15.9	11.3	353 47.9	00.7	
11	354 18.7	359 04.4	-3 39.2	15 31.1	-10 13.6	309 17.8	+16 11.5	8 50.1	-8 00.6	
12	9 21.2	14 04.0	-3 38.0	30 31.7	-10 12.9	324 19.8	+16 11.6	23 52.3	-8 00.5	
13	24 23.6	29 03.7	36.8	45 32.3	12.2	339 21.7	11.8	38 54.5	00.4	
14	39 26.1	44 03.3	35.6	60 32.9	11.5	354 23.6	11.9	53 56.7	00.3	
15	54 28.5	59 02.9	34.4	75 33.6	10.8	9 25.6	12.1	68 58.9	00.2	
16	69 31.0	74 02.5	33.2	90 34.2	10.0	24 27.5	12.2	84 01.1	00.1	
17	84 33.5	89 02.1	-3 32.0	105 34.8	-10 09.3	39 29.4	+16 12.4	99 03.3	-8 00.0	
18	99 35.9	104 01.7	-3 30.8	120 35.5	-10 08.6	54 31.4	+16 12.6	114 05.5	-7 59.9	
19	114 38.4	119 01.3	29.6	135 36.1	07.9	69 33.3	12.7	129 07.7	59.8	
20	129 40.9	134 01.0	28.4	150 36.7	07.2	84 35.2	12.9	144 09.9	59.7	
21	144 43.3	149 00.6	27.2	165 37.3	06.5	99 37.2	13.0	159 12.1	59.6	
22	159 45.8	164 00.2	25.9	180 38.0	05.8	114 39.1	13.2	174 14.3	59.5	
23	174 48.3	178 59.8	24.7	195 38.6	05.0	129 41.0	13.3	189 16.5	59.4	
24	189 50.7	193 59.4	-3 23.5	210 39.2	-10 04.3	144 42.9	+16 13.5	204 18.7	-7 59.3	

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 03.7 <sup>m</sup>			SD: 15.5' Edad: 21.6 <sup>d</sup> PMG: 5 <sup>h</sup> 23 <sup>m</sup> R°: 59 <sup>m</sup>					PHE { 4 <sup>h</sup> : 57.1' 12 <sup>h</sup> : 57.3' 20 <sup>h</sup> : 57.6'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec			Dif							
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m	
0	179 02.3	+ 4 38.8	282 22.9	63	-28 27.6	14	<b>60 N</b>	18 45	19 28	20 22	4 05 44	6 40 79				
1	194 02.5	39.8	296 48.2	63	29.0	14	<b>58</b>	42	22	12	3 22 51	7 23 72				
2	209 02.7	40.7	311 13.5	63	30.3	13	<b>56</b>	39	17	20 04	2 54 52	7 52 70				
3	224 02.9	41.7	325 38.7	62	31.3	10	<b>54</b>	37	13	19 57	31 54	8 14 68				
4	239 03.1	42.7	340 03.8	61	32.2	9	<b>52</b>	35	09	51	2 13 55	32 68				
5	254 03.3	+ 4 43.6	354 29.0	62	-28 33.0	8	<b>50</b>	18 33	19 05	19 45	1 57 56	8 48 66				
6	269 03.4	+ 4 44.6	8 54.0	60	-28 33.6	6	<b>45</b>	18 28	18 58	19 33	1 26 57	9 19 65				
7	284 03.6	45.6	23 19.0	60	34.0	4	<b>40</b>	25	52	24	1 02 57	9 43 64				
8	299 03.8	46.5	37 44.0	60	34.2	2	<b>35</b>	22	47	17	0 42 57	10 03 63				
9	314 04.0	47.5	52 09.0	60	34.3	1	<b>30</b>	19	43	11	0 25 58	20 63				
10	329 04.2	48.4	66 33.9	59	34.2	1	<b>20</b>	14	37	19 02	** ** *	10 49 61				
11	344 04.4	+ 4 49.4	80 58.7	58	-28 33.9	3	<b>10 N</b>	18 11	18 32	18 56	** ** *	11 14 60				
12	359 04.5	+ 4 50.4	95 23.6	59	-28 33.4	5	<b>0</b>	18 07	18 28	18 52	** ** *	11 37 59				
13	14 04.7	51.3	109 48.3	57	32.8	6	<b>10 S</b>	04	25	49	23 45 61	12 00 58				
14	29 04.9	52.3	124 13.1	58	32.0	8	<b>20</b>	18 00	22	48	23 21 63	24 57				
15	44 05.1	53.3	138 37.8	57	31.0	10	<b>30</b>	17 56	20	48	22 52 66	12 53 55				
16	59 05.3	54.2	153 02.5	57	29.9	11	<b>35</b>	54	19	48	36 66	13 10 54				
17	74 05.5	+ 4 55.2	167 27.2	57	-28 28.5	14	<b>40</b>	17 51	18 18	18 50	22 16 68	13 30 52				
18	89 05.7	+ 4 56.1	181 51.8	56	-28 27.0	15	<b>45</b>	17 49	18 18	18 52	21 52 71	13 54 51				
19	104 05.8	57.1	196 16.5	57	25.3	17	<b>50</b>	45	17	55	22 74	14 24 49				
20	119 06.0	58.1	210 41.1	56	23.5	18	<b>52</b>	44	17	56	21 06 76	40 46				
21	134 06.2	+ 4 59.0	225 05.7	56	21.4	21	<b>54</b>	42	17	18 58	20 49 78	14 57 45				
22	149 06.4	+ 5 00.0	239 30.2	55	19.2	22	<b>56</b>	40	17	19 00	27 81	15 19 42				
23	164 06.6	00.9	253 54.8	56	16.8	24	<b>58</b>	38	17	03	20 00 86	15 46 38				
24	179 06.8	+ 5 01.9	268 19.3	55	-28 14.3	25	<b>60 S</b>	17 36	18 17	19 06	19 21 96	16 26 27				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 <sup>h</sup> 18.8 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 57 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 19 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 21 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	189 50.7	193 59.4	- 3 23.5	210 39.2	- 10 04.3	144 42.9	+ 16 13.5	204 18.7	- 7 59.3	
1	204 53.2	208 59.0	22.3	225 39.8	03.6	159 44.9	13.7	219 20.9	59.2	
2	219 55.6	223 58.6	21.1	240 40.5	02.9	174 46.8	13.8	234 23.1	59.0	
3	234 58.1	238 58.3	19.9	255 41.1	02.2	189 48.7	14.0	249 25.3	58.9	
4	250 00.6	253 57.9	18.7	270 41.7	01.5	204 50.7	14.1	264 27.5	58.8	
5	265 03.0	268 57.5	- 3 17.5	285 42.3	- 10 00.7	219 52.6	+ 16 14.3	279 29.7	- 7 58.7	
6	280 05.5	283 57.1	- 3 16.3	300 43.0	- 10 00.0	234 54.5	+ 16 14.4	294 31.9	- 7 58.6	
7	295 08.0	298 56.7	15.1	315 43.6	- 9 59.3	249 56.5	14.6	309 34.1	58.5	
8	310 10.4	313 56.3	13.9	330 44.2	58.6	264 58.4	14.7	324 36.3	58.4	
9	325 12.9	328 56.0	12.7	345 44.9	57.9	280 00.3	14.9	339 38.5	58.3	
10	340 15.4	343 55.6	11.5	0 45.5	57.2	295 02.2	15.1	354 40.7	58.2	
11	355 17.8	358 55.2	- 3 10.2	15 46.1	- 9 56.4	310 04.2	+ 16 15.2	9 42.9	- 7 58.1	
12	10 20.3	13 54.8	- 3 09.0	30 46.7	- 9 55.7	325 06.1	+ 16 15.4	24 45.1	- 7 58.0	
13	25 22.8	28 54.4	07.8	45 47.4	55.0	340 08.0	15.5	39 47.3	57.9	
14	40 25.2	43 54.0	06.6	60 48.0	54.3	355 10.0	15.7	54 49.5	57.8	
15	55 27.7	58 53.7	05.4	75 48.6	53.6	10 11.9	15.8	69 51.7	57.7	
16	70 30.1	73 53.3	04.2	90 49.3	52.9	25 13.8	16.0	84 53.9	57.6	
17	85 32.6	88 52.9	- 3 03.0	105 49.9	- 9 52.1	40 15.7	+ 16 16.2	99 56.1	- 7 57.5	
18	100 35.1	103 52.5	- 3 01.8	120 50.5	- 9 51.4	55 17.7	+ 16 16.3	114 58.3	- 7 57.4	
19	115 37.5	118 52.1	- 3 00.6	135 51.1	50.7	70 19.6	16.5	130 00.5	57.3	
20	130 40.0	133 51.7	- 2 59.4	150 51.8	50.0	85 21.5	16.6	145 02.7	57.2	
21	145 42.5	148 51.4	58.1	165 52.4	49.3	100 23.5	16.8	160 04.9	57.1	
22	160 44.9	163 51.0	56.9	180 53.0	48.5	115 25.4	16.9	175 07.1	57.0	
23	175 47.4	178 50.6	55.7	195 53.7	47.8	130 27.3	17.1	190 09.3	56.9	
24	190 49.9	193 50.2	- 2 54.5	210 54.3	- 9 47.1	145 29.2	+ 16 17.3	205 11.5	- 7 56.8	

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.0' PMG: 12 <sup>h</sup> 03.4 <sup>m</sup>		SD: 15.7' Edad: 22.6 <sup>d</sup>		PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 58.4'			R <sup>o</sup> : 59 <sup>m</sup>			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
0	179 06.8	+5 01.9	268 19.3	55	-28 14.3	28	60 N	3 44	4 38	5 21	4 49 15	7 59 109		
1	194 06.9	02.9	282 43.8	55	11.5	29	58	3 54	44	24	4 13 25	8 35 97		
2	209 07.1	03.8	297 08.4	56	08.6	31	56	4 02	49	27	3 46 32	9 02 90		
3	224 07.3	04.8	311 32.9	55	05.5	32	54	09	53	29	25 36	22 86		
4	239 07.5	05.7	325 57.4	55	-28 02.2	33	52	16	4 57	32	3 08 39	40 82		
5	254 07.7	+5 06.7	340 21.9	55	-27 58.8	34	50	4 21	5 01	5 34	2 53 41	9 54 80		
6	269 07.9	+5 07.7	354 46.4	55	-27 55.2	36	45	4 33	5 08	5 38	2 23 45	10 24 75		
7	284 08.0	08.6	9 10.8	54	51.3	39	40	42	14	42	1 59 48	10 47 72		
8	299 08.2	09.6	23 35.3	55	47.4	39	35	49	19	45	39 51	11 06 70		
9	314 08.4	10.5	37 59.8	55	43.2	42	30	4 55	24	48	1 23 52	23 67		
10	329 08.6	11.5	52 24.3	55	38.8	44	20	5 04	30	52	0 54 55	11 50 64		
11	344 08.8	+5 12.5	66 48.9	56	-27 34.3	45	10 N	5 11	5 35	5 56	0 30 57	12 14 61		
12	359 09.0	+5 13.4	81 13.4	55	-27 29.6	47	0	5 15	5 39	6 00	0 08 59	12 36 58		
13	14 09.1	14.4	95 37.9	55	24.8	48	10 S	18	43	04	** ** *	12 58 55		
14	29 09.3	15.3	110 02.5	56	19.7	51	20	20	45	07	** ** *	13 21 53		
15	44 09.5	16.3	124 27.0	55	14.5	52	30	20	48	11	23 58 69	13 48 49		
16	59 09.7	17.3	138 51.6	56	09.1	54	35	19	48	14	42 72	14 04 47		
17	74 09.9	+5 18.2	153 16.2	56	-27 03.5	56	40	5 18	5 49	6 16	23 24 75	14 22 45		
18	89 10.1	+5 19.2	167 40.8	56	-26 57.7	58	45	5 16	5 50	6 19	23 03 79	14 45 40		
19	104 10.2	20.1	182 05.4	56	51.8	59	50	13	51	23	22 36 84	15 13 35		
20	119 10.4	21.1	196 30.1	57	45.7	61	52	12	51	24	22 88	26 33		
21	134 10.6	22.0	210 54.7	56	39.4	63	54	10	51	26	22 07 91	15 42 30		
22	149 10.8	23.0	225 19.4	57	33.0	64	56	08	51	28	21 48 96	16 01 25		
23	164 11.0	24.0	239 44.2	58	26.3	67	58	05	51	30	21 26 102	24 18		
24	179 11.2	+5 24.9	254 08.9	57	-26 19.5	68	60 S	5 03	5 51	6 33	20 57 112	16 53 9		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 <sup>h</sup> 14.8 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 05 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 56 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 16 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	190 49.9	193 50.2	-2 54.5	210 54.3	-9 47.1	145 29.2	+16 17.3	205 11.5	-7 56.8	
1	205 52.3	208 49.8	53.3	225 54.9	46.4	160 31.2	17.4	220 13.7	56.7	
2	220 54.8	223 49.5	52.1	240 55.6	45.7	175 33.1	17.6	235 15.9	56.6	
3	235 57.3	238 49.1	50.9	255 56.2	44.9	190 35.0	17.7	250 18.1	56.5	
4	250 59.7	253 48.7	49.7	270 56.8	44.2	205 36.9	17.9	265 20.3	56.4	
5	266 02.2	268 48.3	-2 48.5	285 57.4	-9 43.5	220 38.9	+16 18.0	280 22.5	-7 56.3	
6	281 04.6	283 47.9	-2 47.2	300 58.1	-9 42.8	235 40.8	+16 18.2	295 24.7	-7 56.2	
7	296 07.1	298 47.6	46.0	315 58.7	42.1	250 42.7	18.3	310 26.9	56.1	
8	311 09.6	313 47.2	44.8	330 59.3	41.3	265 44.7	18.5	325 29.1	55.9	
9	326 12.0	328 46.8	43.6	346 00.0	40.6	280 46.6	18.7	340 31.3	55.8	
10	341 14.5	343 46.4	42.4	1 00.6	39.9	295 48.5	18.8	355 33.5	55.7	
11	356 17.0	358 46.0	-2 41.2	16 01.2	-9 39.2	310 50.4	+16 19.0	10 35.7	-7 55.6	
12	11 19.4	13 45.7	-2 40.0	31 01.9	-9 38.5	325 52.4	+16 19.1	25 37.9	-7 55.5	
13	26 21.9	28 45.3	38.8	46 02.5	37.7	340 54.3	19.3	40 40.1	55.4	
14	41 24.4	43 44.9	37.5	61 03.1	37.0	355 56.2	19.4	55 42.3	55.3	
15	56 26.8	58 44.5	36.3	76 03.8	36.3	10 58.1	19.6	70 44.5	55.2	
16	71 29.3	73 44.1	35.1	91 04.4	35.6	26 00.1	19.8	85 46.7	55.1	
17	86 31.8	88 43.8	-2 33.9	106 05.0	-9 34.9	41 02.0	+16 19.9	100 48.9	-7 55.0	
18	101 34.2	103 43.4	-2 32.7	121 05.7	-9 34.1	56 03.9	+16 20.1	115 51.1	-7 54.9	
19	116 36.7	118 43.0	31.5	136 06.3	33.4	71 05.8	20.2	130 53.3	54.8	
20	131 39.1	133 42.6	30.3	151 06.9	32.7	86 07.8	20.4	145 55.5	54.7	
21	146 41.6	148 42.2	29.0	166 07.6	32.0	101 09.7	20.5	160 57.7	54.6	
22	161 44.1	163 41.9	27.8	181 08.2	31.2	116 11.6	20.7	175 59.9	54.5	
23	176 46.5	178 41.5	26.6	196 08.8	30.5	131 13.5	20.9	191 02.1	54.4	
24	191 49.0	193 41.1	-2 25.4	211 09.5	-9 29.8	146 15.5	+16 21.0	206 04.3	-7 54.3	

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 03.1 <sup>m</sup>			SD: 15.9' Edad: 23.6 <sup>d</sup> PMG: 7 <sup>h</sup> 21 <sup>m</sup> R°: 57 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.7' 12 <sup>h</sup> : 58.9' 20 <sup>h</sup> : 59.2'	Civíl	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	m	h m	m	
0	179 11.2	+5 24.9	254 08.9	58	-26 19.5	69	60 N	18 50	19 33	20 28	5 04	4	9 48	114	
1	194 11.3	25.9	268 33.7	58	12.6	72	58	46	27	18	4 38	13	10 12	106	
2	209 11.5	26.8	282 58.5	58	-26 05.4	73	56	43	22	09	18	19	32	99	
3	224 11.7	27.8	297 23.4	59	-25 58.1	75	54	40	17	20 01	4 01	24	10 48	95	
4	239 11.9	28.7	311 48.3	59	50.6	75	52	38	13	19 55	3 47	27	11 02	91	
5	254 12.1	+5 29.7	326 13.2	59	-25 42.9	77	50	18 36	19 09	19 49	3 34	31	11 14	88	
6	269 12.2	+5 30.7	340 38.1	59	-25 35.1	78	45	18 31	19 01	19 36	3 08	36	11 39	82	
7	284 12.4	31.6	355 03.1	60	27.1	80	40	27	18 54	27	2 47	41	11 59	77	
8	299 12.6	32.6	9 28.2	61	19.0	81	35	23	49	19	30	43	12 16	73	
9	314 12.8	33.5	23 53.2	60	10.6	84	30	20	44	13	2 15	46	30	70	
10	329 13.0	34.5	38 18.3	61	-25 02.1	85	20	15	37	19 03	1 49	51	12 54	65	
11	344 13.2	+5 35.4	52 43.5	62	-24 53.5	86	10 N	18 10	18 32	18 56	1 27	55	13 15	61	
12	359 13.3	+5 36.4	67 08.7	62	-24 44.6	89	0	18 06	18 27	18 51	1 07	57	13 34	57	
13	14 13.5	37.3	81 33.9	62	35.6	90	10 S	18 02	23	48	0 46	61	13 53	53	
14	29 13.7	38.3	95 59.2	63	26.5	91	20	17 58	20	46	0 24	64	14 14	48	
15	44 13.9	39.2	110 24.6	64	17.2	93	30	54	18	45	** ** *	***	37	43	
16	59 14.1	40.2	124 50.0	64	-24 07.7	95	35	51	16	46	** ** *	***	14 51	40	
17	74 14.2	+5 41.2	139 15.4	64	-23 58.1	96	40	17 48	18 15	18 47	** ** *	***	15 07	36	
18	89 14.4	+5 42.1	153 40.9	65	-23 48.3	98	45	17 45	18 14	18 48	** ** *	***	15 25	32	
19	104 14.6	43.1	168 06.4	65	38.3	100	50	41	13	51	** ** *	***	48	26	
20	119 14.8	44.0	182 32.0	66	28.2	101	52	39	13	52	23 50	92	15 59	23	
21	134 15.0	45.0	196 57.6	66	17.9	103	54	37	12	53	38	96	16 12	19	
22	149 15.1	45.9	211 23.3	67	-23 07.5	104	56	35	12	55	24	101	26	15	
23	164 15.3	46.9	225 49.1	68	-22 56.9	106	58	33	12	18 57	23 08	106	16 42	10	
24	179 15.5	+5 47.8	240 14.9	68	-22 46.2	107	60 S	17 30	18 12	19 00	22 49	113	17 02	3	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG		Mag.: -3.8		Mag.: +1.2		Mag.: -2.1		Mag.: +1.1						
	11 <sup>h</sup> 10.9 <sup>m</sup>		PMG: 11 <sup>h</sup> 06 <sup>m</sup>		PMG: 9 <sup>h</sup> 55 <sup>m</sup>		PMG: 14 <sup>h</sup> 13 <sup>m</sup>		PMG: 10 <sup>h</sup> 14 <sup>m</sup>						
h	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	191 49.0	193 41.1	-2 25.4	211 09.5	-9 29.8	146 15.5	+16 21.0	206 04.3	-7 54.3						
1	206 51.5	208 40.7	24.2	226 10.1	29.1	161 17.4	21.2	221 06.5	54.2						
2	221 53.9	223 40.3	23.0	241 10.7	28.4	176 19.3	21.3	236 08.7	54.1						
3	236 56.4	238 40.0	21.8	256 11.4	27.6	191 21.2	21.5	251 10.9	54.0						
4	251 58.9	253 39.6	20.5	271 12.0	26.9	206 23.2	21.6	266 13.1	53.9						
5	267 01.3	268 39.2	-2 19.3	286 12.6	-9 26.2	221 25.1	+16 21.8	281 15.3	-7 53.8						
6	282 03.8	283 38.8	-2 18.1	301 13.3	-9 25.5	236 27.0	+16 21.9	296 17.5	-7 53.7						
7	297 06.3	298 38.5	16.9	316 13.9	24.7	251 28.9	22.1	311 19.7	53.6						
8	312 08.7	313 38.1	15.7	331 14.5	24.0	266 30.9	22.3	326 21.9	53.5						
9	327 11.2	328 37.7	14.5	346 15.2	23.3	281 32.8	22.4	341 24.1	53.4						
10	342 13.6	343 37.3	13.3	1 15.8	22.6	296 34.7	22.6	356 26.3	53.3						
11	357 16.1	358 36.9	-2 12.0	16 16.4	-9 21.8	311 36.6	+16 22.7	11 28.5	-7 53.2						
12	12 18.6	13 36.6	-2 10.8	31 17.1	-9 21.1	326 38.6	+16 22.9	26 30.7	-7 53.1						
13	27 21.0	28 36.2	09.6	46 17.7	20.4	341 40.5	23.0	41 32.9	53.0						
14	42 23.5	43 35.8	08.4	61 18.3	19.7	356 42.4	23.2	56 35.1	52.9						
15	57 26.0	58 35.4	07.2	76 19.0	18.9	11 44.3	23.4	71 37.3	52.8						
16	72 28.4	73 35.1	06.0	91 19.6	18.2	26 46.2	23.5	86 39.6	52.7						
17	87 30.9	88 34.7	-2 04.7	106 20.2	-9 17.5	41 48.2	+16 23.7	101 41.8	-7 52.6						
18	102 33.4	103 34.3	-2 03.5	121 20.9	-9 16.8	56 50.1	+16 23.8	116 44.0	-7 52.5						
19	117 35.8	118 33.9	02.3	136 21.5	16.0	71 52.0	24.0	131 46.2	52.4						
20	132 38.3	133 33.6	-2 01.1	151 22.1	15.3	86 53.9	24.1	146 48.4	52.3						
21	147 40.7	148 33.2	-1 59.9	166 22.8	14.6	101 55.9	24.3	161 50.6	52.2						
22	162 43.2	163 32.8	58.6	181 23.4	13.9	116 57.8	24.5	176 52.8	52.1						
23	177 45.7	178 32.4	57.4	196 24.1	13.1	131 59.7	24.6	191 55.0	52.0						
24	192 48.1	193 32.0	-1 56.2	211 24.7	-9 12.4	147 01.6	+16 24.8	206 57.2	-7 51.9						
Dif	—	-4	+12	+6	+7	+19	+2	+22	+1						

UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 02.8 <sup>m</sup>			SD: 16.2' Edad: 24.6 <sup>d</sup> PMG: 8 <sup>h</sup> 18 <sup>m</sup> R <sup>o</sup> : 55 <sup>m</sup>				PHE { 4 <sup>h</sup> : 59.5' 12 <sup>h</sup> : 59.7' 20 <sup>h</sup> : 60.0'	Náutico		Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	179 15.5	+5 47.8	240 14.9	68	-22 46.2	109	60 N	3 37	4 32	5 15	5 08 1	11 42 113			
1	194 15.7	48.8	254 40.7	69	35.3	110	58	47	38	19	4 51 8	11 58 106			
2	209 15.9	49.7	269 06.6	70	24.3	111	56	3 56	43	22	37 12	12 11 101			
3	224 16.1	50.7	283 32.6	71	13.1	112	54	4 04	48	25	25 16	23 96			
4	239 16.2	51.6	297 58.6	72	-22 01.8	113	52	11	53	27	14 20	33 93			
5	254 16.4	+5 52.6	312 24.7	73	-21 50.3	114	50	4 17	4 56	5 29	4 05 22	12 42 90			
6	269 16.6	+5 53.5	326 50.8	74	-21 38.6	115	45	4 29	5 05	5 34	3 44 29	13 01 83			
7	284 16.8	54.5	341 17.0	75	26.9	116	40	39	11	39	28 33	16 78			
8	299 17.0	55.4	355 43.2	76	15.0	117	35	47	17	42	13 38	29 74			
9	314 17.1	56.4	10 09.5	77	-21 02.9	118	30	4 53	21	45	3 01 41	40 70			
10	329 17.3	57.4	24 35.9	78	-20 50.7	119	20	5 03	29	51	2 40 46	13 59 64			
11	344 17.5	+5 58.3	39 02.3	79	-20 38.4	120	10 N	5 10	5 34	5 55	2 22 51	14 16 59			
12	359 17.7	+5 59.3	53 28.8	80	-20 25.9	121	0	5 15	5 39	6 00	2 04 56	14 31 54			
13	14 17.8	+6 00.2	67 55.3	81	13.3	122	10 S	18	43	04	1 47 60	14 46 49			
14	29 18.0	01.2	82 21.9	82	-20 00.5	123	20	20	46	08	28 65	15 02 44			
15	44 18.2	02.1	96 48.6	83	-19 47.7	124	30	21	49	13	1 07 70	20 39			
16	59 18.4	03.1	111 15.3	84	34.7	125	35	21	50	15	0 54 74	31 35			
17	74 18.6	+6 04.0	125 42.1	85	-19 21.5	126	40	5 20	5 51	6 18	0 39 78	15 43 31			
18	89 18.7	+6 05.0	140 08.9	86	-19 08.2	127	45	5 18	5 52	6 22	0 22 83	15 57 26			
19	104 18.9	05.9	154 35.8	87	-18 54.8	128	50	16	54	26	0 00 89	16 14 20			
20	119 19.1	06.9	169 02.7	88	41.3	129	52	15	54	28	** ** *	22 17			
21	134 19.3	07.8	183 29.7	89	27.6	130	54	14	54	30	** ** *	31 14			
22	149 19.5	08.8	197 56.8	90	13.9	131	56	12	55	32	** ** *	41 10			
23	164 19.6	09.7	212 23.9	91	-18 00.0	132	58	10	55	35	** ** *	16 52 6			
24	179 19.8	+6 10.6	226 51.1	92	-17 45.9	133	60 S	5 07	5 56	6 37	** ** *	17 05 1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 <sup>h</sup> 07.0 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 06 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.1 PMG: 14 <sup>h</sup> 10 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 11 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	192 48.1	193 32.0	-1 56.2	211 24.7	-9 12.4	147 01.6	+16 24.8	206 57.2	-7 51.9	
1	207 50.6	208 31.7	55.0	226 25.3	11.7	162 03.5	24.9	221 59.4	51.7	
2	222 53.1	223 31.3	53.8	241 26.0	11.0	177 05.5	25.1	237 01.6	51.6	
3	237 55.5	238 30.9	52.6	256 26.6	10.2	192 07.4	25.2	252 03.8	51.5	
4	252 58.0	253 30.5	51.3	271 27.2	09.5	207 09.3	25.4	267 06.0	51.4	
5	268 00.5	268 30.2	-1 50.1	286 27.9	-9 08.8	222 11.2	+16 25.5	282 08.2	-7 51.3	
6	283 02.9	283 29.8	-1 48.9	301 28.5	-9 08.0	237 13.2	+16 25.7	297 10.4	-7 51.2	
7	298 05.4	298 29.4	47.7	316 29.2	07.3	252 15.1	25.9	312 12.6	51.1	
8	313 07.9	313 29.0	46.5	331 29.8	06.6	267 17.0	26.0	327 14.8	51.0	
9	328 10.3	328 28.7	45.3	346 30.4	05.9	282 18.9	26.2	342 17.0	50.9	
10	343 12.8	343 28.3	44.0	1 31.1	05.1	297 20.8	26.3	357 19.2	50.8	
11	358 15.2	358 27.9	-1 42.8	16 31.7	-9 04.4	312 22.8	+16 26.5	12 21.4	-7 50.7	
12	13 17.7	13 27.5	-1 41.6	31 32.3	-9 03.7	327 24.7	+16 26.6	27 23.6	-7 50.6	
13	28 20.2	28 27.2	40.4	46 33.0	03.0	342 26.6	26.8	42 25.8	50.5	
14	43 22.6	43 26.8	39.2	61 33.6	02.2	357 28.5	27.0	57 28.0	50.4	
15	58 25.1	58 26.4	37.9	76 34.3	01.5	12 30.4	27.1	72 30.2	50.3	
16	73 27.6	73 26.0	36.7	91 34.9	00.8	27 32.4	27.3	87 32.5	50.2	
17	88 30.0	88 25.7	-1 35.5	106 35.5	-9 00.0	42 34.3	+16 27.4	102 34.7	-7 50.1	
18	103 32.5	103 25.3	-1 34.3	121 36.2	-8 59.3	57 36.2	+16 27.6	117 36.9	-7 50.0	
19	118 35.0	118 24.9	33.1	136 36.8	58.6	72 38.1	27.7	132 39.1	49.9	
20	133 37.4	133 24.5	31.8	151 37.4	57.8	87 40.0	27.9	147 41.3	49.8	
21	148 39.9	148 24.2	30.6	166 38.1	57.1	102 42.0	28.1	162 43.5	49.7	
22	163 42.4	163 23.8	29.4	181 38.7	56.4	117 43.9	28.2	177 45.7	49.6	
23	178 44.8	178 23.4	28.2	196 39.4	55.7	132 45.8	28.4	192 47.9	49.5	
24	193 47.3	193 23.0	-1 27.0	211 40.0	-8 54.9	147 47.7	+16 28.5	207 50.1	-7 49.4	
Dif	-	-4	+12	+6	+7	+19	+2	+22	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 16.0'		SD: 16.4'		Edad: 25.6 <sup>d</sup>				PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.6'	R <sup>o</sup> : 52 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>									
	PMG: 12 <sup>h</sup> 02.5 <sup>m</sup>		PMG: 9 <sup>h</sup> 13 <sup>m</sup>		R <sup>o</sup> : 52 <sup>m</sup>					Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>							
h	g	Dec	g	Dif	Dec	Dif	h	m	h	m	h	m	h	m									
0	179	19.8	+6	10.6	226	51.1	82	-17	45.9	141	60 N	18	55	19	39	20	35	5	09	0	13	35	109
1	194	20.0		11.6	241	18.3	83		31.8	141	58	51	32	23	4	59	4	44	4	44	104		
2	209	20.2		12.5	255	45.6	83		17.5	143	56	47	26	14	49	9	52	100					
3	224	20.4		13.5	270	12.9	83	-17	03.2	145	54	44	21	20	06	41	12	13	59	96			
4	239	20.5		14.4	284	40.3	84	-16	48.7	145	52	41	16	19	59	34	15	14	06	92			
5	254	20.7	+6	15.4	299	07.8	85	-16	34.1	146	50	18	39	19	12	19	52	4	27	18	14	12	89
6	269	20.9	+6	16.3	313	35.3	85	-16	19.4	147	45	18	33	19	03	19	39	4	13	24	14	24	83
7	284	21.1		17.3	328	02.8	85	-16	04.5	149	40	29	18	56	29	4	01	29	34	78			
8	299	21.2		18.2	342	30.5	87	-15	49.6	149	35	25	50	21	3	51	33	43	73				
9	314	21.4		19.2	356	58.1	86		34.6	150	30	21	46	14	42	36	14	50	70				
10	329	21.6		20.1	11	25.9	88		19.4	152	20	15	38	19	04	26	43	15	03	64			
11	344	21.8	+6	21.1	25	53.6	87	-15	04.2	152	10 N	18	10	18	32	18	56	3	13	48	15	15	57
12	359	22.0	+6	22.0	40	21.5	89	-14	48.8	154	0	18	06	18	27	18	51	3	00	53	15	25	52
13	14	22.1		23.0	54	49.3	88		33.4	154	10 S	18	01	22	47	2	47	58	35	47			
14	29	22.3		23.9	69	17.3	90		17.8	156	20	17	57	19	44	33	64	46	42				
15	44	22.5		24.9	83	45.3	90	-14	02.2	156	30	51	15	43	17	70	15	59	35				
16	59	22.7		25.8	98	13.3	90	-13	46.5	157	35	48	14	43	2	08	74	16	06	31			
17	74	22.8	+6	26.7	112	41.4	91	-13	30.6	159	40	17	45	18	12	18	43	1	57	78	16	14	27
18	89	23.0	+6	27.7	127	09.5	91	-13	14.7	159	45	17	41	18	11	18	45	1	45	83	16	23	23
19	104	23.2		28.6	141	37.7	92	-12	58.7	160	50	37	09	46	29	90	34	17					
20	119	23.4		29.6	156	05.9	92		42.6	161	52	35	08	47	22	93	39	14					
21	134	23.5		30.5	170	34.2	93		26.4	162	54	32	08	49	14	96	45	11					
22	149	23.7		31.5	185	02.5	93	-12	10.2	162	56	30	07	50	1	05	100	51	8				
23	164	23.9		32.4	199	30.8	93	-11	53.8	164	58	27	06	52	0	54	105	16	58	4			
24	179	24.1	+6	33.4	213	59.2	94	-11	37.4	164	60 S	17	24	18	06	18	54	0	42	111	17	06	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG		Mag.: -3.8		Mag.: +1.2		Mag.: -2.0		Mag.: +1.1									
	11 <sup>h</sup> 03.0 <sup>m</sup>		PMG: 11 <sup>h</sup> 07 <sup>m</sup>		PMG: 9 <sup>h</sup> 53 <sup>m</sup>		PMG: 14 <sup>h</sup> 07 <sup>m</sup>		PMG: 10 <sup>h</sup> 07 <sup>m</sup>									
h	g	h	g	h	g	h	g	h	g									
0	193	47.3	193	23.0	-1	27.0	211	40.0	-8	54.9	147	47.7	+16	28.5	207	50.1	-7	49.4
1	208	49.7	208	22.7		25.7	226	40.6		54.2	162	49.6		28.7	222	52.3		49.3
2	223	52.2	223	22.3		24.5	241	41.3		53.5	177	51.6		28.8	237	54.5		49.2
3	238	54.7	238	21.9		23.3	256	41.9		52.7	192	53.5		29.0	252	56.7		49.1
4	253	57.1	253	21.6		22.1	271	42.6		52.0	207	55.4		29.1	267	58.9		49.0
5	268	59.6	268	21.2	-1	20.9	286	43.2	-8	51.3	222	57.3	+16	29.3	283	01.1	-7	48.9
6	284	02.1	283	20.8	-1	19.6	301	43.8	-8	50.6	237	59.2	+16	29.5	298	03.3	-7	48.8
7	299	04.5	298	20.4		18.4	316	44.5		49.8	253	01.2		29.6	313	05.5		48.7
8	314	07.0	313	20.1		17.2	331	45.1		49.1	268	03.1		29.8	328	07.7		48.6
9	329	09.5	328	19.7		16.0	346	45.8		48.4	283	05.0		29.9	343	09.9		48.5
10	344	11.9	343	19.3		14.8	1	46.4		47.6	298	06.9		30.1	358	12.2		48.4
11	359	14.4	358	18.9	-1	13.5	16	47.0	-8	46.9	313	08.8	+16	30.2	13	14.4	-7	48.3
12	14	16.8	13	18.6	-1	12.3	31	47.7	-8	46.2	328	10.7	+16	30.4	28	16.6	-7	48.2
13	29	19.3	28	18.2		11.1	46	48.3		45.4	343	12.7		30.6	43	18.8		48.1
14	44	21.8	43	17.8		09.9	61	49.0		44.7	358	14.6		30.7	58	21.0		48.0
15	59	24.2	58	17.4		08.6	76	49.6		44.0	13	16.5		30.9	73	23.2		47.9
16	74	26.7	73	17.1		07.4	91	50.3		43.2	28	18.4		31.0	88	25.4		47.8
17	89	29.2	88	16.7	-1	06.2	106	50.9	-8	42.5	43	20.3	+16	31.2	103	27.6	-7	47.7
18	104	31.6	103	16.3	-1	05.0	121	51.5	-8	41.8	58	22.3	+16	31.3	118	29.8	-7	47.6
19	119	34.1	118	16.0		03.8	136	52.2		41.0	73	24.2		31.5	133	32.0		47.5
20	134	36.6	133	15.6		02.5	151	52.8		40.3	88	26.1		31.7	148	34.2		47.4
21	149	39.0	148	15.2		01.3	166	53.5		39.6	103	28.0		31.8	163	36.4		47.3
22	164	41.5	163	14.8	-1	00.1	181	54.1		38.8	118	29.9		32.0	178	38.6		47.2
23	179	44.0	178	14.5	-0	58.9	196	54.7		38.1	133	31.8		32.1	193	40.8		47.1
24	194	46.4	193	14.1	-0	57.6	211	55.4	-8	37.4	148	33.8	+16	32.3	208	43.0	-7	47.0

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 02.3 <sup>m</sup>			SD: 16.5' Edad: 26.6 <sup>d</sup> PMG: 10 <sup>h</sup> 05 <sup>m</sup> R°: 51 <sup>m</sup>				PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.9' 20 <sup>h</sup> : 61.0'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	179 24.1	+6 33.4	213 59.2	95	-11 37.4	165	<b>60 N</b>	3 29	4 25	5 09	5 09 -1	15 24 107			
1	194 24.2	34.3	228 27.7	94	20.9	166	<b>58</b>	40	32	13	5 03 3	28 103			
2	209 24.4	35.2	242 56.1	94	-11 04.3	166	<b>56</b>	50	38	16	4 58 7	32 98			
3	224 24.6	36.2	257 24.7	96	-10 47.6	167	<b>54</b>	3 58	43	20	53 10	35 95			
4	239 24.8	37.1	271 53.2	95	30.9	167	<b>52</b>	4 05	48	23	49 13	38 92			
5	254 25.0	+6 38.1	286 21.8	96	-10 14.1	168	<b>50</b>	4 12	4 52	5 25	4 45 16	15 41 89			
6	269 25.1	+6 39.0	300 50.4	96	-9 57.2	169	<b>45</b>	4 25	5 01	5 31	4 37 21	15 47 83			
7	284 25.3	40.0	315 19.1	97	40.3	169	<b>40</b>	35	08	35	30 26	52 78			
8	299 25.5	40.9	329 47.8	97	23.2	171	<b>35</b>	44	14	39	24 30	15 56 73			
9	314 25.7	41.8	344 16.6	98	-9 06.2	170	<b>30</b>	4 50	19	43	18 34	16 00 69			
10	329 25.8	42.8	358 45.3	97	-8 49.0	172	<b>20</b>	5 01	27	49	09 40	07 62			
11	344 26.0	+6 43.7	13 14.1	98	-8 31.8	172	<b>10 N</b>	5 08	5 33	5 54	4 01 46	16 12 57			
12	359 26.2	+6 44.7	27 43.0	99	-8 14.6	172	<b>0</b>	5 14	5 38	5 59	3 53 51	16 17 51			
13	14 26.4	45.6	42 11.8	98	-7 57.3	173	<b>10 S</b>	18	43	6 04	45 57	22 46			
14	29 26.5	46.6	56 40.7	99	39.9	174	<b>20</b>	21	46	08	37 62	28 40			
15	44 26.7	47.5	71 09.7	100	22.5	174	<b>30</b>	22	50	14	27 69	34 33			
16	59 26.9	48.4	85 38.6	99	-7 05.0	175	<b>35</b>	22	52	17	22 73	37 30			
17	74 27.1	+6 49.4	100 07.6	100	-6 47.5	175	<b>40</b>	5 22	5 53	6 20	3 15 78	16 41 26			
18	89 27.2	+6 50.3	114 36.6	100	-6 30.0	175	<b>45</b>	5 21	5 55	6 24	3 08 83	16 46 20			
19	104 27.4	51.3	129 05.6	100	-6 12.3	177	<b>50</b>	19	57	29	2 59 89	51 15			
20	119 27.6	52.2	143 34.7	101	-5 54.7	177	<b>52</b>	18	57	31	55 92	53 13			
21	134 27.8	53.1	158 03.7	100	37.0	176	<b>54</b>	17	58	34	50 95	56 10			
22	149 27.9	54.1	172 32.8	101	19.3	177	<b>56</b>	16	5 59	36	45 99	16 59 6			
23	164 28.1	55.0	187 01.9	101	-5 01.5	178	<b>58</b>	14	6 00	39	39 103	17 02 3			
24	179 28.3	+6 56.0	201 31.0	101	-4 43.7	178	<b>60 S</b>	5 12	6 00	6 42	2 33 107	17 06 -1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 <sup>h</sup> 59.1 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 07 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.0 PMG: 14 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 04 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	194 46.4	193 14.1	-0 57.6	211 55.4	-8 37.4	148 33.8	+16 32.3	208 43.0	-7 47.0	
1	209 48.9	208 13.7	56.4	226 56.0	36.6	163 35.7	32.4	223 45.3	46.9	
2	224 51.3	223 13.4	55.2	241 56.7	35.9	178 37.6	32.6	238 47.5	46.8	
3	239 53.8	238 13.0	54.0	256 57.3	35.2	193 39.5	32.7	253 49.7	46.7	
4	254 56.3	253 12.6	52.8	271 58.0	34.5	208 41.4	32.9	268 51.9	46.6	
5	269 58.7	268 12.2	-0 51.5	286 58.6	-8 33.7	223 43.3	+16 33.1	283 54.1	-7 46.5	
6	285 01.2	283 11.9	-0 50.3	301 59.2	-8 33.0	238 45.3	+16 33.2	298 56.3	-7 46.4	
7	300 03.7	298 11.5	49.1	316 59.9	32.3	253 47.2	33.4	313 58.5	46.3	
8	315 06.1	313 11.1	47.9	332 00.5	31.5	268 49.1	33.5	329 00.7	46.2	
9	330 08.6	328 10.7	46.6	347 01.2	30.8	283 51.0	33.7	344 02.9	46.1	
10	345 11.1	343 10.4	45.4	2 01.8	30.0	298 52.9	33.8	359 05.1	46.0	
11	0 13.5	358 10.0	-0 44.2	17 02.5	-8 29.3	313 54.8	+16 34.0	14 07.3	-7 45.9	
12	15 16.0	13 09.6	-0 43.0	32 03.1	-8 28.6	328 56.7	+16 34.2	29 09.5	-7 45.8	
13	30 18.5	28 09.3	41.8	47 03.8	27.8	343 58.7	34.3	44 11.7	45.7	
14	45 20.9	43 08.9	40.5	62 04.4	27.1	359 00.6	34.5	59 13.9	45.6	
15	60 23.4	58 08.5	39.3	77 05.0	26.4	14 02.5	34.6	74 16.2	45.5	
16	75 25.8	73 08.1	38.1	92 05.7	25.6	29 04.4	34.8	89 18.4	45.4	
17	90 28.3	88 07.8	-0 36.9	107 06.3	-8 24.9	44 06.3	+16 34.9	104 20.6	-7 45.3	
18	105 30.8	103 07.4	-0 35.6	122 07.0	-8 24.2	59 08.2	+16 35.1	119 22.8	-7 45.2	
19	120 33.2	118 07.0	34.4	137 07.6	23.4	74 10.2	35.3	134 25.0	45.1	
20	135 35.7	133 06.7	33.2	152 08.3	22.7	89 12.1	35.4	149 27.2	45.0	
21	150 38.2	148 06.3	32.0	167 08.9	22.0	104 14.0	35.6	164 29.4	44.9	
22	165 40.6	163 05.9	30.7	182 09.6	21.2	119 15.9	35.7	179 31.6	44.8	
23	180 43.1	178 05.5	29.5	197 10.2	20.5	134 17.8	35.9	194 33.8	44.7	
24	195 45.6	193 05.2	-0 28.3	212 10.8	-8 19.8	149 19.7	+16 36.0	209 36.0	-7 44.6	

Dif	—	-4	+12	+6	+7	+19	+2	+22	+1
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UT	SOL		LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 02.0 <sup>m</sup>		SD: 16.6' Edad: 27.6 <sup>d</sup> PMG: 10 <sup>h</sup> 56 <sup>m</sup> R°: 51 <sup>m</sup>					PHE { 4 <sup>h</sup> : 61.1' 12 <sup>h</sup> : 61.1' 20 <sup>h</sup> : 61.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec			Dif	h	m	h	m	h	m	h
0	179 28.3	+6 56.0	201 31.0	102	-4 43.7	178	60 N	19 00	19 44	20 41	5 08	-1	17 11	107	
1	194 28.4	56.9	216 00.2	102	25.9	178	58	18 55	37	29	06	3	11	102	
2	209 28.6	57.8	230 29.3	101	-4 08.0	179	56	51	30	19	05	6	10	99	
3	224 28.8	58.8	244 58.5	102	-3 50.1	179	54	48	25	10	03	10	10	95	
4	239 29.0	+6 59.7	259 27.7	102	32.2	179	52	45	20	20 03	02	12	10	92	
5	254 29.1	+7 00.7	273 56.9	102	-3 14.2	180	50	18 42	19 15	19 56	5 01	15	17 10	89	
6	269 29.3	+7 01.6	288 26.1	102	-2 56.3	179	45	18 36	19 06	19 42	4 58	21	17 10	83	
7	284 29.5	02.5	302 55.3	102	38.3	180	40	31	18 58	31	56	25	10	77	
8	299 29.7	03.5	317 24.5	102	20.3	180	35	26	52	23	54	30	09	74	
9	314 29.8	04.4	331 53.8	103	-2 02.3	180	30	23	47	15	52	34	09	70	
10	329 30.0	05.3	346 23.0	102	-1 44.2	181	20	16	38	19 04	49	40	09	63	
11	344 30.2	+7 06.3	0 52.2	102	-1 26.2	180	10 N	18 10	18 32	18 56	4 47	45	17 09	56	
12	359 30.4	+7 07.2	15 21.5	103	-1 08.1	181	0	18 05	18 26	18 50	4 44	51	17 08	52	
13	14 30.5	08.2	29 50.7	102	-0 50.0	181	10 S	18 00	21	46	42	56	08	46	
14	29 30.7	09.1	44 20.0	103	31.9	181	20	17 55	17	43	39	63	08	40	
15	44 30.9	10.0	58 49.2	102	-0 13.8	181	30	49	13	41	36	70	07	34	
16	59 31.0	11.0	73 18.5	103	+0 04.2	180	35	46	11	40	35	73	07	30	
17	74 31.2	+7 11.9	87 47.7	102	+0 22.3	181	40	17 42	18 09	18 40	4 33	77	17 07	25	
18	89 31.4	+7 12.8	102 17.0	103	+0 40.4	181	45	17 38	18 07	18 41	4 31	82	17 06	21	
19	104 31.6	13.8	116 46.2	102	+0 58.5	181	50	33	05	42	28	89	06	15	
20	119 31.7	14.7	131 15.4	102	+1 16.6	181	52	30	04	43	27	91	06	12	
21	134 31.9	15.6	145 44.6	102	34.7	181	54	28	03	44	25	95	06	9	
22	149 32.1	16.6	160 13.8	102	+1 52.7	180	56	25	02	45	24	98	05	7	
23	164 32.2	17.5	174 43.0	102	+2 10.8	181	58	22	01	46	22	103	05	3	
24	179 32.4	+7 18.4	189 12.2	102	+2 28.8	180	60 S	17 18	18 00	18 48	4 20	107	17 05	-1	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 10 <sup>h</sup> 55.2 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 08 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.0 PMG: 14 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.1 PMG: 10 <sup>h</sup> 00 <sup>m</sup>						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
0	195 45.6	193 05.2	-0 28.3	212 10.8	-8 19.8	149 19.7	+16 36.0	209 36.0	-7 44.6						
1	210 48.0	208 04.8	27.1	227 11.5	19.0	164 21.6	36.2	224 38.2	44.5						
2	225 50.5	223 04.4	25.8	242 12.1	18.3	179 23.6	36.3	239 40.4	44.4						
3	240 52.9	238 04.1	24.6	257 12.8	17.6	194 25.5	36.5	254 42.7	44.3						
4	255 55.4	253 03.7	23.4	272 13.4	16.8	209 27.4	36.7	269 44.9	44.2						
5	270 57.9	268 03.3	-0 22.2	287 14.1	-8 16.1	224 29.3	+16 36.8	284 47.1	-7 44.1						
6	286 00.3	283 03.0	-0 20.9	302 14.7	-8 15.3	239 31.2	+16 37.0	299 49.3	-7 44.0						
7	301 02.8	298 02.6	19.7	317 15.4	14.6	254 33.1	37.1	314 51.5	43.9						
8	316 05.3	313 02.2	18.5	332 16.0	13.9	269 35.0	37.3	329 53.7	43.8						
9	331 07.7	328 01.8	17.3	347 16.7	13.1	284 36.9	37.4	344 55.9	43.7						
10	346 10.2	343 01.5	16.1	2 17.3	12.4	299 38.9	37.6	359 58.1	43.6						
11	1 12.7	358 01.1	-0 14.8	17 18.0	-8 11.7	314 40.8	+16 37.8	15 00.3	-7 43.5						
12	16 15.1	13 00.7	-0 13.6	32 18.6	-8 10.9	329 42.7	+16 37.9	30 02.5	-7 43.4						
13	31 17.6	28 00.4	12.4	47 19.2	10.2	344 44.6	38.1	45 04.7	43.3						
14	46 20.1	43 00.0	11.2	62 19.9	09.4	359 46.5	38.2	60 07.0	43.2						
15	61 22.5	57 59.6	09.9	77 20.5	08.7	14 48.4	38.4	75 09.2	43.1						
16	76 25.0	72 59.2	08.7	92 21.2	08.0	29 50.3	38.5	90 11.4	43.0						
17	91 27.4	87 58.9	-0 07.5	107 21.8	-8 07.2	44 52.2	+16 38.7	105 13.6	-7 42.9						
18	106 29.9	102 58.5	-0 06.3	122 22.5	-8 06.5	59 54.2	+16 38.8	120 15.8	-7 42.8						
19	121 32.4	117 58.1	05.0	137 23.1	05.8	74 56.1	39.0	135 18.0	42.7						
20	136 34.8	132 57.8	03.8	152 23.8	05.0	89 58.0	39.2	150 20.2	42.6						
21	151 37.3	147 57.4	02.6	167 24.4	04.3	104 59.9	39.3	165 22.4	42.5						
22	166 39.8	162 57.0	01.4	182 25.1	03.5	120 01.8	39.5	180 24.6	42.4						
23	181 42.2	177 56.7	-0 00.1	197 25.7	02.8	135 03.7	39.6	195 26.8	42.3						
24	196 44.7	192 56.3	+0 01.1	212 26.4	-8 02.1	150 05.6	+16 39.8	210 29.1	-7 42.2						
Dif	—	-4	+12	+6	+7	+19	+2	+22	+1						

UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.0'			SD: 16.6'				Náutico	Civil		Hora	R°	Hora	R°
	PMG: 12 <sup>h</sup> 01.7 <sup>m</sup>			Edad: 28.6 <sup>d</sup>										
hG ☉	Dec		hG ☾	Dif	Dec	Dif								
0	179 32.4	+7 18.4	189 12.2		+2 28.8	180	60 N	3 22	4 19	5 03	5 07	0	18 58	110
1	194 32.6	19.4	203 41.4	102	+2 46.8	180	58	34	26	07	09	4	53	105
2	209 32.8	20.3	218 10.6	102	+3 04.8	180	56	44	32	11	11	7	49	100
3	224 32.9	21.2	232 39.7	101	22.8	180	54	3 53	38	15	13	10	45	97
4	239 33.1	22.2	247 08.9	102	40.8	180	52	4 00	43	18	14	13	42	93
5	254 33.3	+7 23.1	261 38.0	101	+3 58.7	179	50	4 07	4 48	5 21	5 16	16	18 39	90
6	269 33.4	+7 24.0	276 07.1	101	+4 16.6	179	45	4 21	4 57	5 27	5 19	21	18 33	83
7	284 33.6	25.0	290 36.2	100	34.5	179	40	32	5 05	32	21	27	27	79
8	299 33.8	25.9	305 05.2	101	+4 52.4	179	35	41	11	37	24	30	23	74
9	314 34.0	26.8	319 34.2	100	+5 10.2	178	30	48	16	41	26	34	19	70
10	329 34.1	27.8	334 03.3	101	28.0	178	20	4 59	25	47	29	41	12	63
11	344 34.3	+7 28.7	348 32.2	99	+5 45.8	178	10 N	5 07	5 32	5 53	5 32	47	18 05	58
12	359 34.5	+7 29.6	3 01.2	100	+6 03.5	177	0	5 13	5 38	5 58	5 35	52	18 00	52
13	14 34.6	30.6	17 30.1	99	21.2	177	10 S	18	42	6 04	38	58	17 54	47
14	29 34.8	31.5	31 59.1	100	38.8	176	20	21	47	09	42	63	48	42
15	44 35.0	32.4	46 27.9	98	+6 56.4	176	30	23	51	15	46	69	41	35
16	59 35.1	33.4	60 56.8	99	+7 13.9	175	35	24	53	19	48	73	37	32
17	74 35.3	+7 34.3	75 25.6	98	+7 31.4	175	40	5 24	5 55	6 22	5 50	78	17 32	28
18	89 35.5	+7 35.2	89 54.4	98	+7 48.9	175	45	5 23	5 57	6 27	5 53	83	17 27	23
19	104 35.7	36.2	104 23.2	98	+8 06.3	174	50	22	6 00	32	57	89	21	17
20	119 35.8	37.1	118 51.9	97	23.6	173	52	22	01	35	5 58	93	18	15
21	134 36.0	38.0	133 20.6	97	40.9	173	54	21	02	37	6 00	96	15	11
22	149 36.2	38.9	147 49.2	96	+8 58.1	172	56	20	03	40	02	100	12	8
23	164 36.3	39.9	162 17.9	97	+9 15.3	172	58	18	04	43	05	103	08	4
24	179 36.5	+7 40.8	176 46.4	95	+9 32.4	171	60 S	5 17	6 05	6 47	6 07	109	17 04	-1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +1.2		Mag.: -2.0		Mag.: +1.1	
	10 <sup>h</sup> 51.2 <sup>m</sup>		PMG: 11 <sup>h</sup> 09 <sup>m</sup>		PMG: 9 <sup>h</sup> 50 <sup>m</sup>		PMG: 13 <sup>h</sup> 58 <sup>m</sup>		PMG: 9 <sup>h</sup> 57 <sup>m</sup>	
hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	196 44.7	192 56.3	+0 01.1	212 26.4	-8 02.1	150 05.6	+16 39.8	210 29.1	-7 42.2	
1	211 47.2	207 55.9	02.3	227 27.0	01.3	165 07.5	39.9	225 31.3	42.1	
2	226 49.6	222 55.5	03.5	242 27.7	-8 00.6	180 09.5	40.1	240 33.5	42.0	
3	241 52.1	237 55.2	04.8	257 28.3	-7 59.8	195 11.4	40.3	255 35.7	41.9	
4	256 54.5	252 54.8	06.0	272 29.0	59.1	210 13.3	40.4	270 37.9	41.8	
5	271 57.0	267 54.4	+0 07.2	287 29.6	-7 58.4	225 15.2	+16 40.6	285 40.1	-7 41.7	
6	286 59.5	282 54.1	+0 08.4	302 30.3	-7 57.6	240 17.1	+16 40.7	300 42.3	-7 41.6	
7	302 01.9	297 53.7	09.7	317 30.9	56.9	255 19.0	40.9	315 44.5	41.5	
8	317 04.4	312 53.3	10.9	332 31.6	56.2	270 20.9	41.0	330 46.7	41.4	
9	332 06.9	327 53.0	12.1	347 32.2	55.4	285 22.8	41.2	345 49.0	41.3	
10	347 09.3	342 52.6	13.3	2 32.9	54.7	300 24.7	41.3	0 51.2	41.2	
11	2 11.8	357 52.2	+0 14.6	17 33.5	-7 53.9	315 26.7	+16 41.5	15 53.4	-7 41.1	
12	17 14.3	12 51.8	+0 15.8	32 34.2	-7 53.2	330 28.6	+16 41.7	30 55.6	-7 41.0	
13	32 16.7	27 51.5	17.0	47 34.8	52.5	345 30.5	41.8	45 57.8	40.9	
14	47 19.2	42 51.1	18.2	62 35.5	51.7	0 32.4	42.0	61 00.0	40.8	
15	62 21.7	57 50.7	19.5	77 36.1	51.0	15 34.3	42.1	76 02.2	40.7	
16	77 24.1	72 50.4	20.7	92 36.8	50.2	30 36.2	42.3	91 04.4	40.6	
17	92 26.6	87 50.0	+0 21.9	107 37.4	-7 49.5	45 38.1	+16 42.4	106 06.6	-7 40.5	
18	107 29.0	102 49.6	+0 23.1	122 38.1	-7 48.8	60 40.0	+16 42.6	121 08.9	-7 40.4	
19	122 31.5	117 49.3	24.4	137 38.7	48.0	75 41.9	42.8	136 11.1	40.3	
20	137 34.0	132 48.9	25.6	152 39.4	47.3	90 43.8	42.9	151 13.3	40.2	
21	152 36.4	147 48.5	26.8	167 40.0	46.5	105 45.8	43.1	166 15.5	40.1	
22	167 38.9	162 48.1	28.0	182 40.7	45.8	120 47.7	43.2	181 17.7	40.0	
23	182 41.4	177 47.8	29.3	197 41.3	45.0	135 49.6	43.4	196 19.9	39.9	
24	197 43.8	192 47.4	+0 30.5	212 42.0	-7 44.3	150 51.5	+16 43.5	211 22.1	-7 39.8	

Dif									
	—	-4	+12	+6	+7	+19	+2	+22	+1

UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 01.4 <sup>m</sup>			SD: 16.6' Edad: 0.2 <sup>d</sup> PMG: 12 <sup>h</sup> 40 <sup>m</sup> R°: 54 <sup>m</sup>					PHE { 4 <sup>h</sup> : 60.8' 12 <sup>h</sup> : 60.6' 20 <sup>h</sup> : 60.4'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec				Dif					
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	h m	h m	h m	
0	179 36.5	+7 40.8	176 46.4	+9 32.4	171	60 N	19 04	19 49	20 48	5 07	0	20 48	113		
1	194 36.7	41.7	191 15.0	+9 49.5	169	58	19 00	19 42	20 48	5 13	5	20 48	106		
2	209 36.8	42.7	205 43.5	+10 06.4	170	56	18 55	19 35	20 48	5 18	9	20 48	102		
3	224 37.0	43.6	220 12.0	+10 23.4	168	54	18 52	19 29	20 48	5 23	13	20 48	97		
4	239 37.2	44.5	234 40.4	+10 40.2	168	52	18 48	19 24	20 48	5 27	16	20 48	93		
5	254 37.3	+7 45.4	249 08.8	+10 57.0	168	50	18 45	19 19	20 00	5 32	18	20 09	90		
6	269 37.5	+7 46.4	263 37.1	+11 13.7	167	45	18 38	19 09	19 45	5 40	25	19 56	84		
7	284 37.7	47.3	278 05.4	+11 30.3	166	40	18 33	19 01	19 34	5 48	29	19 56	78		
8	299 37.8	48.2	292 33.6	+11 46.8	165	35	18 28	18 54	19 24	5 54	34	19 56	74		
9	314 38.0	49.2	307 01.8	+12 03.3	165	30	18 24	18 48	19 17	6 00	37	19 56	70		
10	329 38.2	50.1	321 30.0	+12 19.7	164	20	18 17	18 39	19 05	6 10	43	19 56	65		
11	344 38.3	+7 51.0	335 58.1	+12 36.0	163	10 N	18 10	18 32	18 56	6 19	48	19 03	60		
12	359 38.5	+7 51.9	350 26.2	+12 52.2	162	0	18 05	18 26	18 50	6 27	54	18 52	55		
13	14 38.7	52.9	4 54.2	+13 08.3	161	10 S	17 59	18 20	18 45	6 36	58	18 52	50		
14	29 38.8	53.8	19 22.2	+13 24.3	160	20	17 53	18 15	18 41	6 45	64	18 52	45		
15	44 39.0	54.7	33 50.1	+13 40.3	160	30	17 47	18 11	18 39	6 55	71	18 52	40		
16	59 39.2	55.6	48 17.9	+13 56.1	158	35	17 43	18 08	18 38	7 01	74	18 52	35		
17	74 39.3	+7 56.6	62 45.8	+14 11.9	158	40	17 39	18 06	18 37	7 08	79	18 00	32		
18	89 39.5	+7 57.5	77 13.5	+14 27.6	157	45	17 34	18 04	18 37	7 16	84	17 50	27		
19	104 39.7	58.4	91 41.2	+14 43.1	155	50	17 28	18 01	18 38	7 26	91	17 50	21		
20	119 39.8	+7 59.3	106 08.9	+14 58.6	155	52	17 26	18 00	18 39	7 31	94	17 50	17		
21	134 40.0	+8 00.3	120 36.5	+15 14.0	154	54	17 23	17 58	18 39	7 36	97	17 50	15		
22	149 40.2	01.2	135 04.1	+15 29.2	152	56	17 20	17 57	18 40	7 42	101	17 50	10		
23	164 40.3	02.1	149 31.6	+15 44.4	150	58	17 16	17 56	18 41	7 48	106	17 50	6		
24	179 40.5	+8 03.0	163 59.0	+15 59.4	150	60 S	17 12	17 54	18 42	7 56	111	17 03	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 <sup>h</sup> 47.3 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 09 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 49 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 55 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 53 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	197 43.8	192 47.4	+0 30.5	212 42.0	-7 44.3	150 51.5	+16 43.5	211 22.1	-7 39.8	
1	212 46.3	207 47.0	31.7	227 42.6	43.6	165 53.4	43.7	226 24.3	39.7	
2	227 48.8	222 46.7	33.0	242 43.3	42.8	180 55.3	43.8	241 26.5	39.6	
3	242 51.2	237 46.3	34.2	257 43.9	42.1	195 57.2	44.0	256 28.8	39.5	
4	257 53.7	252 45.9	35.4	272 44.6	41.3	210 59.1	44.2	271 31.0	39.4	
5	272 56.1	267 45.6	+0 36.6	287 45.2	-7 40.6	226 01.0	+16 44.3	286 33.2	-7 39.3	
6	287 58.6	282 45.2	+0 37.9	302 45.9	-7 39.9	241 02.9	+16 44.5	301 35.4	-7 39.2	
7	303 01.1	297 44.8	39.1	317 46.5	39.1	256 04.8	44.6	316 37.6	39.1	
8	318 03.5	312 44.5	40.3	332 47.2	38.4	271 06.8	44.8	331 39.8	39.0	
9	333 06.0	327 44.1	41.5	347 47.8	37.6	286 08.7	44.9	346 42.0	38.9	
10	348 08.5	342 43.7	42.8	2 48.5	36.9	301 10.6	45.1	1 44.2	38.8	
11	3 10.9	357 43.3	+0 44.0	17 49.1	-7 36.1	316 12.5	+16 45.3	16 46.5	-7 38.8	
12	18 13.4	12 43.0	+0 45.2	32 49.8	-7 35.4	331 14.4	+16 45.4	31 48.7	-7 38.7	
13	33 15.9	27 42.6	46.4	47 50.5	34.7	346 16.3	45.6	46 50.9	38.6	
14	48 18.3	42 42.2	47.7	62 51.1	33.9	1 18.2	45.7	61 53.1	38.5	
15	63 20.8	57 41.9	48.9	77 51.8	33.2	16 20.1	45.9	76 55.3	38.4	
16	78 23.3	72 41.5	50.1	92 52.4	32.4	31 22.0	46.0	91 57.5	38.3	
17	93 25.7	87 41.1	+0 51.3	107 53.1	-7 31.7	46 23.9	+16 46.2	106 59.7	-7 38.2	
18	108 28.2	102 40.8	+0 52.6	122 53.7	-7 30.9	61 25.8	+16 46.3	122 01.9	-7 38.1	
19	123 30.6	117 40.4	53.8	137 54.4	30.2	76 27.7	46.5	137 04.2	38.0	
20	138 33.1	132 40.0	55.0	152 55.0	29.5	91 29.6	46.7	152 06.4	37.9	
21	153 35.6	147 39.7	56.2	167 55.7	28.7	106 31.6	46.8	167 08.6	37.8	
22	168 38.0	162 39.3	57.5	182 56.3	28.0	121 33.5	47.0	182 10.8	37.7	
23	183 40.5	177 38.9	58.7	197 57.0	27.2	136 35.4	47.1	197 13.0	37.6	
24	198 43.0	192 38.5	+0 59.9	212 57.6	-7 26.5	151 37.3	+16 47.3	212 15.2	-7 37.5	
Dif	—	-4	+12	+7	+7	+19	+2	+22	+1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 12 <sup>h</sup> 01.2 <sup>m</sup>			SD: 16.4' Edad: 1.2 <sup>d</sup> PMG: 13 <sup>h</sup> 34 <sup>m</sup> R°: 56 <sup>m</sup>					PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.0' 20 <sup>h</sup> : 59.7'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "		° / ' / "	' / "	' / "	' / "	°	h m	h m	h m	h m	m	h m	m	
0	179 40.5	+8 03.0		163 59.0	84	+15 59.4	150	60 N	3 14	4 12	4 57	5 07	2	22 41	113	
1	194 40.7	04.0		178 26.4	84	+16 14.4	148	58	27	20	5 02	18	8	24	105	
2	209 40.8	04.9		192 53.7	83	29.2	148	56	38	27	06	27	13	22 11	98	
3	224 41.0	05.8		207 21.0	83	43.9	147	54	47	33	10	36	17	21 59	94	
4	239 41.2	06.7		221 48.2	82	+16 58.5	146	52	3 55	38	14	43	21	48	91	
5	254 41.3	+8 07.6		236 15.4	82	+17 13.0	145	50	4 02	4 43	5 17	5 50	24	21 39	87	
6	269 41.5	+8 08.6		250 42.5	81	+17 27.4	144	45	4 17	4 53	5 24	6 05	30	21 20	81	
7	284 41.7	09.5		265 09.6	81	41.6	142	40	28	5 02	29	17	35	21 04	77	
8	299 41.8	10.4		279 36.6	80	+17 55.8	142	35	38	08	34	28	38	20 51	73	
9	314 42.0	11.3		294 03.5	79	+18 09.8	140	30	45	14	38	37	41	39	70	
10	329 42.2	12.3		308 30.4	79	23.7	139	20	4 57	23	46	6 53	47	20	65	
11	344 42.3	+8 13.2		322 57.2	78	+18 37.4	137	10 N	5 06	5 31	5 52	7 07	52	20 03	61	
12	359 42.5	+8 14.1		337 24.0	78	+18 51.0	136	0	5 13	5 37	5 58	7 21	56	19 47	57	
13	14 42.7	15.0		351 50.7	77	+19 04.5	135	10 S	18	42	6 04	34	61	31	54	
14	29 42.8	15.9		6 17.4	77	17.9	134	20	22	47	10	7 49	65	19 15	49	
15	44 43.0	16.9		20 44.0	76	31.2	133	30	24	52	16	8 06	70	18 56	44	
16	59 43.2	17.8		35 10.5	75	44.3	131	35	25	55	20	15	74	44	42	
17	74 43.3	+8 18.7		49 37.0	75	+19 57.2	129	40	5 26	5 57	6 24	8 27	78	18 32	37	
18	89 43.5	+8 19.6		64 03.4	74	+20 10.1	129	45	5 26	6 00	6 29	8 40	83	18 17	33	
19	104 43.6	20.5		78 29.8	74	22.8	127	50	25	03	35	8 57	89	17 59	27	
20	119 43.8	21.4		92 56.1	73	35.3	125	52	25	04	38	9 05	92	50	24	
21	134 44.0	22.4		107 22.4	73	+20 47.8	125	54	24	05	41	13	97	41	20	
22	149 44.1	23.3		121 48.6	72	+21 00.1	123	56	24	07	44	23	101	30	16	
23	164 44.3	24.2		136 14.8	72	12.2	121	58	23	08	48	34	107	18	10	
24	179 44.5	+8 25.1		150 40.9	71	+21 24.2	120	60 S	5 21	6 10	6 52	9 47	115	17 04	3	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 10 <sup>h</sup> 43.4 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 10 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 50 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "						
0	198 43.0		192 38.5	+0 59.9	212 57.6	-7 26.5	151 37.3	+16 47.3	212 15.2	-7 37.5						
1	213 45.4		207 38.2	+1 01.1	227 58.3	25.7	166 39.2	47.4	227 17.4	37.4						
2	228 47.9		222 37.8	02.4	242 59.0	25.0	181 41.1	47.6	242 19.7	37.3						
3	243 50.4		237 37.4	03.6	257 59.6	24.2	196 43.0	47.7	257 21.9	37.2						
4	258 52.8		252 37.1	04.8	273 00.3	23.5	211 44.9	47.9	272 24.1	37.1						
5	273 55.3		267 36.7	+1 06.0	288 00.9	-7 22.8	226 46.8	+16 48.1	287 26.3	-7 37.0						
6	288 57.8		282 36.3	+1 07.3	303 01.6	-7 22.0	241 48.7	+16 48.2	302 28.5	-7 36.9						
7	304 00.2		297 36.0	08.5	318 02.2	21.3	256 50.6	48.4	317 30.7	36.8						
8	319 02.7		312 35.6	09.7	333 02.9	20.5	271 52.5	48.5	332 32.9	36.7						
9	334 05.1		327 35.2	10.9	348 03.5	19.8	286 54.4	48.7	347 35.2	36.6						
10	349 07.6		342 34.8	12.2	3 04.2	19.0	301 56.3	48.8	2 37.4	36.5						
11	4 10.1		357 34.5	+1 13.4	18 04.8	-7 18.3	316 58.2	+16 49.0	17 39.6	-7 36.4						
12	19 12.5		12 34.1	+1 14.6	33 05.5	-7 17.5	332 00.2	+16 49.1	32 41.8	-7 36.3						
13	34 15.0		27 33.7	15.8	48 06.2	16.8	347 02.1	49.3	47 44.0	36.2						
14	49 17.5		42 33.4	17.1	63 06.8	16.1	2 04.0	49.5	62 46.2	36.1						
15	64 19.9		57 33.0	18.3	78 07.5	15.3	17 05.9	49.6	77 48.4	36.0						
16	79 22.4		72 32.6	19.5	93 08.1	14.6	32 07.8	49.8	92 50.7	35.9						
17	94 24.9		87 32.3	+1 20.7	108 08.8	-7 13.8	47 09.7	+16 49.9	107 52.9	-7 35.8						
18	109 27.3		102 31.9	+1 22.0	123 09.4	-7 13.1	62 11.6	+16 50.1	122 55.1	-7 35.7						
19	124 29.8		117 31.5	23.2	138 10.1	12.3	77 13.5	50.2	137 57.3	35.6						
20	139 32.2		132 31.2	24.4	153 10.8	11.6	92 15.4	50.4	152 59.5	35.5						
21	154 34.7		147 30.8	25.6	168 11.4	10.8	107 17.3	50.6	168 01.7	35.4						
22	169 37.2		162 30.4	26.9	183 12.1	10.1	122 19.2	50.7	183 03.9	35.3						
23	184 39.6		177 30.0	28.1	198 12.7	09.3	137 21.1	50.9	198 06.2	35.2						
24	199 42.1		192 29.7	+1 29.3	213 13.4	-7 08.6	152 23.0	+16 51.0	213 08.4	-7 35.1						
Dif	—		-4	+12	+7	+7	+19	+2	+22	+1						

UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 12 <sup>h</sup> 00.9 <sup>m</sup>			SD: 16.2' Edad: 2.2 <sup>d</sup> PMG: 14 <sup>h</sup> 30 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.4' 12 <sup>h</sup> : 59.1' 20 <sup>h</sup> : 58.8'	R°: 59 <sup>m</sup>	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec										
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	m	h m	m		
0	179 44.5	+8 25.1	150 40.9	70	+21 24.2	118	<b>60 N</b>	19 09	19 55	20 54	5 09	6	** **	***		
1	194 44.6	26.0	165 06.9	70	36.0	117	<b>58</b>	04	47	41	26	15	** **	***		
2	209 44.8	27.0	179 32.9	69	47.7	116	<b>56</b>	19 00	39	29	40	21	23 49	88		
3	224 45.0	27.9	193 58.8	69	+21 59.3	114	<b>54</b>	18 55	33	20	5 53	25	33	84		
4	239 45.1	28.8	208 24.7	69	+22 10.7	112	<b>52</b>	52	27	11	6 04	29	19	80		
5	254 45.3	+8 29.7	222 50.6	68	+22 21.9	111	<b>50</b>	18 48	19 22	20 04	6 14	31	23 06	79		
6	269 45.4	+8 30.6	237 16.4	67	+22 33.0	110	<b>45</b>	18 41	19 11	19 48	6 35	37	22 41	74		
7	284 45.6	31.5	251 42.1	67	44.0	108	<b>40</b>	35	19 03	36	6 52	41	21	71		
8	299 45.8	32.5	266 07.8	66	+22 54.8	106	<b>35</b>	30	18 56	26	7 06	44	22 04	69		
9	314 45.9	33.4	280 33.4	66	+23 05.4	105	<b>30</b>	25	49	18	18	47	21 49	67		
10	329 46.1	34.3	294 59.0	65	15.9	103	<b>20</b>	17	40	19 06	40	51	25	64		
11	344 46.2	+8 35.2	309 24.5	65	+23 26.2	102	<b>10 N</b>	18 10	18 32	18 57	7 59	55	21 04	61		
12	359 46.4	+8 36.1	323 50.0	65	+23 36.4	100	<b>0</b>	18 04	18 25	18 49	8 17	58	20 44	59		
13	14 46.6	37.0	338 15.5	64	46.4	98	<b>10 S</b>	17 58	19	44	35	61	25	56		
14	29 46.7	37.9	352 40.9	63	+23 56.2	97	<b>20</b>	52	14	40	8 54	65	20 04	53		
15	44 46.9	38.9	7 06.2	63	+24 05.9	95	<b>30</b>	44	09	36	9 16	69	19 40	50		
16	59 47.1	39.8	21 31.6	62	15.4	94	<b>35</b>	40	06	35	29	72	26	47		
17	74 47.2	+8 40.7	35 56.8	62	+24 24.8	92	<b>40</b>	17 36	18 03	18 34	9 45	74	19 09	45		
18	89 47.4	+8 41.6	50 22.1	62	+24 34.0	90	<b>45</b>	17 31	18 00	18 34	10 03	78	18 50	42		
19	104 47.5	42.5	64 47.3	61	43.0	89	<b>50</b>	24	17 57	34	26	84	26	37		
20	119 47.7	43.4	79 12.4	61	+24 51.9	87	<b>52</b>	21	55	34	37	87	14	34		
21	134 47.9	44.3	93 37.6	60	+25 00.6	85	<b>54</b>	18	54	35	10 50	90	18 01	31		
22	149 48.0	45.3	108 02.6	60	09.1	84	<b>56</b>	15	52	35	11 04	95	17 46	26		
23	164 48.2	46.2	122 27.7	61	17.5	82	<b>58</b>	11	51	36	21	102	28	20		
24	179 48.3	+8 47.1	136 52.7	60	+25 25.7	80	<b>60 S</b>	17 06	17 49	18 37	11 42	113	17 07	9		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 <sup>h</sup> 39.4 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 10 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 46 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	199 42.1	192 29.7	+1 29.3	213 13.4	-7 08.6	152 23.0	+16 51.0	213 08.4	-7 35.1	
1	214 44.6	207 29.3	30.5	228 14.0	07.8	167 24.9	51.2	228 10.6	35.0	
2	229 47.0	222 28.9	31.8	243 14.7	07.1	182 26.8	51.3	243 12.8	35.0	
3	244 49.5	237 28.6	33.0	258 15.4	06.4	197 28.7	51.5	258 15.0	34.9	
4	259 52.0	252 28.2	34.2	273 16.0	05.6	212 30.6	51.6	273 17.2	34.8	
5	274 54.4	267 27.8	+1 35.4	288 16.7	-7 04.9	227 32.5	+16 51.8	288 19.5	-7 34.7	
6	289 56.9	282 27.5	+1 36.7	303 17.3	-7 04.1	242 34.4	+16 52.0	303 21.7	-7 34.6	
7	304 59.4	297 27.1	37.9	318 18.0	03.4	257 36.3	52.1	318 23.9	34.5	
8	320 01.8	312 26.7	39.1	333 18.6	02.6	272 38.2	52.3	333 26.1	34.4	
9	335 04.3	327 26.3	40.3	348 19.3	01.9	287 40.1	52.4	348 28.3	34.3	
10	350 06.7	342 26.0	41.6	3 20.0	01.1	302 42.1	52.6	3 30.5	34.2	
11	5 09.2	357 25.6	+1 42.8	18 20.6	-7 00.4	317 44.0	+16 52.7	18 32.8	-7 34.1	
12	20 11.7	12 25.2	+1 44.0	33 21.3	-6 59.6	332 45.9	+16 52.9	33 35.0	-7 34.0	
13	35 14.1	27 24.9	45.2	48 21.9	58.9	347 47.8	53.0	48 37.2	33.9	
14	50 16.6	42 24.5	46.5	63 22.6	58.1	2 49.7	53.2	63 39.4	33.8	
15	65 19.1	57 24.1	47.7	78 23.3	57.4	17 51.6	53.4	78 41.6	33.7	
16	80 21.5	72 23.8	48.9	93 23.9	56.6	32 53.5	53.5	93 43.8	33.6	
17	95 24.0	87 23.4	+1 50.1	108 24.6	-6 55.9	47 55.4	+16 53.7	108 46.1	-7 33.5	
18	110 26.5	102 23.0	+1 51.4	123 25.2	-6 55.1	62 57.3	+16 53.8	123 48.3	-7 33.4	
19	125 28.9	117 22.6	52.6	138 25.9	54.4	77 59.2	54.0	138 50.5	33.3	
20	140 31.4	132 22.3	53.8	153 26.5	53.6	93 01.1	54.1	153 52.7	33.2	
21	155 33.9	147 21.9	55.0	168 27.2	52.9	108 03.0	54.3	168 54.9	33.1	
22	170 36.3	162 21.5	56.3	183 27.9	52.1	123 04.9	54.4	183 57.1	33.0	
23	185 38.8	177 21.2	57.5	198 28.5	51.4	138 06.8	54.6	198 59.4	32.9	
24	200 41.2	192 20.8	+1 58.7	213 29.2	-6 50.6	153 08.7	+16 54.8	214 01.6	-7 32.8	

Dif	—	-4	+12	+7	+7	+19	+2	+22	+1
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UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna						
	SD: 16.0' PMG: 12 <sup>h</sup> 00.4 <sup>m</sup>			SD: 15.7' Edad: 4.2 <sup>d</sup> PMG: 16 <sup>h</sup> 27 <sup>m</sup> R <sup>o</sup> : 57 <sup>m</sup>					PHE { 4 <sup>h</sup> : 57.6' 12 <sup>h</sup> : 57.3' 20 <sup>h</sup> : 57.0'	Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>				
	hG ☉	Dec		hG ☾	Dif	Dec				Dif	h	m	h	m	h	m	h	m		
0	179	52.1	+9 08.9	122	47.3	+27 50.2	38	<b>60 N</b>	19	14	20	00	21	01	5	33	50	2	19	72
1	194	52.3	09.8	137	12.0	54.0	37	<b>58</b>	09	19	51	20	47	6	09	53	1	43	68	
2	209	52.5	10.7	151	36.8	58	37	<b>56</b>	19	04	44	35	35	55	1	17	67			
3	224	52.6	11.6	166	01.5	57	34	<b>54</b>	18	59	37	24	6	56	55	0	57	65		
4	239	52.8	12.5	180	26.3	58	33	<b>52</b>	55	31	15	7	13	56	39	65				
5	254	52.9	+9 13.4	194	51.0	57	32	<b>50</b>	18	51	19	25	20	07	7	28	56	0	25	64
6	269	53.1	+9 14.3	209	15.8	58	29	<b>45</b>	18	43	19	14	19	51	7	58	57	**	**	***
7	284	53.2	15.2	223	40.6	58	28	<b>40</b>	37	19	05	38	8	22	57	**	**	***		
8	299	53.4	16.1	238	05.4	58	26	<b>35</b>	31	18	57	28	4	1	58	**	**	***		
9	314	53.5	17.0	252	30.3	59	24	<b>30</b>	26	51	20	8	58	57	23	57	53			
10	329	53.7	17.9	266	55.2	59	22	<b>20</b>	18	40	19	07	9	26	58	29	54			
11	344	53.9	+9 18.8	281	20.1	59	21	<b>10 N</b>	18	10	18	32	18	57	9	51	57	23	04	56
12	359	54.0	+9 19.7	295	45.0	59	19	<b>0</b>	18	04	18	25	18	49	10	13	58	22	41	56
13	14	54.2	20.6	310	10.0	60	17	<b>10 S</b>	17	57	18	43	10	36	58	22	18	57		
14	29	54.3	21.5	324	35.0	60	15	<b>20</b>	50	12	38	11	01	57	21	54	58			
15	44	54.5	22.4	339	00.0	60	14	<b>30</b>	42	06	34	29	57	25	59					
16	59	54.6	23.3	353	25.1	61	12	<b>35</b>	38	03	33	11	46	57	21	08	59			
17	74	54.8	+9 24.2	7	50.2	61	10	<b>40</b>	17	33	18	00	12	06	57	20	48	60		
18	89	54.9	+9 25.1	22	15.3	61	9	<b>45</b>	17	27	17	57	18	31	12	30	56	20	24	61
19	104	55.1	26.0	36	40.5	62	6	<b>50</b>	20	53	30	13	01	56	19	52	63			
20	119	55.3	26.9	51	05.8	63	6	<b>52</b>	17	51	30	17	55	37	63					
21	134	55.4	27.8	65	31.1	63	3	<b>54</b>	14	49	30	35	55	19	19	63				
22	149	55.6	28.7	79	56.4	63	2	<b>56</b>	10	47	30	13	57	54	18	56	65			
23	164	55.7	29.6	94	21.8	64	0	<b>58</b>	05	45	31	14	26	52	18	28	66			
24	179	55.9	+9 30.5	108	47.2	64	2	<b>60 S</b>	17	01	17	43	18	31	15	08	48	17	46	71

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG 10 <sup>h</sup> 31.6 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 11 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 45 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 39 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
0	201	40.4	192	11.9	+2 28.1	213	45.1	-6 32.7	153	54.3	+16 58.5	214	54.8	-7 30.5
1	216	42.8	207	11.5	29.3	228	45.7	31.9	168	56.2	58.6	229	57.0	30.4
2	231	45.3	222	11.2	30.5	243	46.4	31.2	183	58.1	58.8	244	59.2	30.3
3	246	47.8	237	10.8	31.7	258	47.0	30.4	199	00.0	59.0	260	01.5	30.2
4	261	50.2	252	10.4	33.0	273	47.7	29.6	214	01.9	59.1	275	03.7	30.2
5	276	52.7	267	10.0	+2 34.2	288	48.4	-6 28.9	229	03.8	+16 59.3	290	05.9	-7 30.1
6	291	55.2	282	09.7	+2 35.4	303	49.0	-6 28.1	244	05.7	+16 59.4	305	08.1	-7 30.0
7	306	57.6	297	09.3	36.6	318	49.7	27.4	259	07.6	59.6	320	10.3	29.9
8	322	00.1	312	08.9	37.9	333	50.4	26.6	274	09.5	59.7	335	12.6	29.8
9	337	02.6	327	08.5	39.1	348	51.0	25.9	289	11.4	+16 59.9	350	14.8	29.7
10	352	05.0	342	08.2	40.3	3	51.7	25.1	304	13.3	+17 00.0	5	17.0	29.6
11	7	07.5	357	07.8	+2 41.5	18	52.4	-6 24.4	319	15.2	+17 00.2	20	19.2	-7 29.5
12	22	10.0	12	07.4	+2 42.7	33	53.0	-6 23.6	334	17.1	+17 00.3	35	21.4	-7 29.4
13	37	12.4	27	07.1	44.0	48	53.7	22.9	349	19.0	00.5	50	23.7	29.3
14	52	14.9	42	06.7	45.2	63	54.3	22.1	4	20.9	00.7	65	25.9	29.2
15	67	17.3	57	06.3	46.4	78	55.0	21.4	19	22.8	00.8	80	28.1	29.1
16	82	19.8	72	05.9	47.6	93	55.7	20.6	34	24.7	01.0	95	30.3	29.0
17	97	22.3	87	05.6	+2 48.9	108	56.3	-6 19.9	49	26.6	+17 01.1	110	32.5	-7 28.9
18	112	24.7	102	05.2	+2 50.1	123	57.0	-6 19.1	64	28.5	+17 01.3	125	34.8	-7 28.8
19	127	27.2	117	04.8	51.3	138	57.7	18.4	79	30.4	01.4	140	37.0	28.7
20	142	29.7	132	04.5	52.5	153	58.3	17.6	94	32.3	01.6	155	39.2	28.6
21	157	32.1	147	04.1	53.7	168	59.0	16.9	109	34.2	01.7	170	41.4	28.5
22	172	34.6	162	03.7	55.0	183	59.7	16.1	124	36.1	01.9	185	43.6	28.4
23	187	37.1	177	03.3	56.2	199	00.3	15.4	139	38.0	02.1	200	45.9	28.4
24	202	39.5	192	03.0	+2 57.4	214	01.0	-6 14.6	154	39.9	+17 02.2	215	48.1	-7 28.3
Dif	—		-4		+12	+7		+8	+19		+2	+22		+1

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.9' PMG: 12 <sup>h</sup> 00.2 <sup>m</sup>			SD: 15.5' Edad: 5.2 <sup>d</sup> PMG: 17 <sup>h</sup> 24 <sup>m</sup> R <sup>o</sup> : 54 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.4' 20 <sup>h</sup> : 56.1'	Náutico		Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	179 55.9	+9 30.5	108 47.2	65	+28 33.7	3	60 N	2 58	3 59	4 45	6 23 85	3 31 30				
1	194 56.0	31.4	123 12.7	66	33.4	7	58	3 13	4 08	51	7 02 77	2 51 39				
2	209 56.2	32.3	137 38.2	65	32.9	5	56	25	16	4 56	30 72	24 42				
3	224 56.3	33.2	152 03.8	67	32.2	8	54	35	23	5 01	7 51 70	2 02 45				
4	239 56.5	34.1	166 29.5	67	31.4	8	52	45	29	05	8 09 68	1 44 47				
5	254 56.6	+9 35.0	180 55.2	67	+28 30.4	10	50	3 53	4 34	5 08	8 24 67	1 29 47				
6	269 56.8	+9 35.9	195 21.0	68	+28 29.3	11	45	4 09	4 46	5 16	8 55 64	0 58 50				
7	284 56.9	36.8	209 46.8	68	27.9	14	40	22	4 55	23	9 19 62	34 51				
8	299 57.1	37.7	224 12.7	69	26.5	14	35	32	5 03	29	39 60	0 14 53				
9	314 57.2	38.6	238 38.7	70	24.8	17	30	40	09	34	9 55 60	** ** *				
10	329 57.4	39.5	253 04.7	70	23.0	18	20	4 54	20	42	10 24 58	** ** *				
11	344 57.5	+9 40.4	267 30.8	71	+28 21.1	19	10 N	5 04	5 29	5 50	10 48 56	** ** *				
12	359 57.7	+9 41.3	281 57.0	72	+28 19.0	21	0	5 12	5 36	5 57	11 11 54	23 37 53				
13	14 57.9	42.2	296 23.2	72	16.7	23	10 S	18	42	6 04	34 52	23 15 55				
14	29 58.0	43.1	310 49.5	73	14.3	24	20	23	48	11	11 58 51	22 52 57				
15	44 58.2	44.0	325 15.9	74	11.7	26	30	27	55	19	12 26 49	24 60				
16	59 58.3	44.9	339 42.4	75	09.0	27	35	28	5 58	23	12 43 48	22 07 62				
17	74 58.5	+9 45.8	354 08.9	75	+28 06.1	29	40	5 30	6 01	6 28	13 03 45	21 48 64				
18	89 58.6	+9 46.7	8 35.5	76	+28 03.0	31	45	5 31	6 05	6 34	13 26 44	21 25 66				
19	104 58.8	47.6	23 02.2	77	+27 59.8	32	50	31	09	41	13 57 40	20 55 70				
20	119 58.9	48.4	37 29.0	78	56.5	33	52	31	10	45	14 12 38	40 72				
21	134 59.1	49.3	51 55.8	78	53.0	35	54	31	12	48	30 35	22 76				
22	149 59.2	50.2	66 22.8	80	49.4	36	56	31	14	52	14 51 32	20 01 79				
23	164 59.4	51.1	80 49.8	80	45.6	38	58	31	16	6 57	15 18 26	19 34 85				
24	179 59.5	+9 52.0	95 16.9	81	+27 41.6	40	60 S	5 31	6 19	7 01	15 56 15	18 57 96				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 <sup>h</sup> 27.6 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 12 <sup>m</sup>		Mag.: +1.2 PMG: 9 <sup>h</sup> 44 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 40 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 35 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	202 39.5	192 03.0	+2 57.4	214 01.0	-6 14.6	154 39.9	+17 02.2	215 48.1	-7 28.3	
1	217 42.0	207 02.6	58.6	229 01.7	13.9	169 41.8	02.4	230 50.3	28.2	
2	232 44.5	222 02.2	+2 59.8	244 02.3	13.1	184 43.7	02.5	245 52.5	28.1	
3	247 46.9	237 01.8	+3 01.1	259 03.0	12.3	199 45.6	02.7	260 54.8	28.0	
4	262 49.4	252 01.5	02.3	274 03.7	11.6	214 47.5	02.8	275 57.0	27.9	
5	277 51.8	267 01.1	+3 03.5	289 04.3	-6 10.8	229 49.4	+17 03.0	290 59.2	-7 27.8	
6	292 54.3	282 00.7	+3 04.7	304 05.0	-6 10.1	244 51.3	+17 03.1	306 01.4	-7 27.7	
7	307 56.8	297 00.4	05.9	319 05.7	09.3	259 53.2	03.3	321 03.6	27.6	
8	322 59.2	312 00.0	07.2	334 06.3	08.6	274 55.1	03.5	336 05.9	27.5	
9	338 01.7	326 59.6	08.4	349 07.0	07.8	289 57.0	03.6	351 08.1	27.4	
10	353 04.2	341 59.2	09.6	4 07.6	07.1	304 58.9	03.8	6 10.3	27.3	
11	8 06.6	356 58.9	+3 10.8	19 08.3	-6 06.3	320 00.8	+17 03.9	21 12.5	-7 27.2	
12	23 09.1	11 58.5	+3 12.0	34 09.0	-6 05.6	335 02.7	+17 04.1	36 14.7	-7 27.1	
13	38 11.6	26 58.1	13.3	49 09.6	04.8	350 04.6	04.2	51 17.0	27.0	
14	53 14.0	41 57.7	14.5	64 10.3	04.1	5 06.5	04.4	66 19.2	26.9	
15	68 16.5	56 57.4	15.7	79 11.0	03.3	20 08.4	04.5	81 21.4	26.8	
16	83 19.0	71 57.0	16.9	94 11.6	02.6	35 10.3	04.7	96 23.6	26.7	
17	98 21.4	86 56.6	+3 18.1	109 12.3	-6 01.8	50 12.2	+17 04.8	111 25.9	-7 26.7	
18	113 23.9	101 56.2	+3 19.4	124 13.0	-6 01.0	65 14.1	+17 05.0	126 28.1	-7 26.6	
19	128 26.3	116 55.9	20.6	139 13.6	-6 00.3	80 15.9	05.2	141 30.3	26.5	
20	143 28.8	131 55.5	21.8	154 14.3	-5 59.5	95 17.8	05.3	156 32.5	26.4	
21	158 31.3	146 55.1	23.0	169 15.0	58.8	110 19.7	05.5	171 34.7	26.3	
22	173 33.7	161 54.7	24.2	184 15.7	58.0	125 21.6	05.6	186 37.0	26.2	
23	188 36.2	176 54.4	25.5	199 16.3	57.3	140 23.5	05.8	201 39.2	26.1	
24	203 38.7	191 54.0	+3 26.7	214 17.0	-5 56.5	155 25.4	+17 05.9	216 41.4	-7 26.0	

Dif	—	-4	+12	+7	+8	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 15.3'		Edad: 6.2 <sup>d</sup>				PHE $\left\{ \begin{array}{l} 4^h: 55.9' \\ 12^h: 55.6' \\ 20^h: 55.4' \end{array} \right.$		R°: 50 <sup>m</sup>					
	PMG: 11 <sup>h</sup> 59.9 <sup>m</sup>		PMG: 18 <sup>h</sup> 18 <sup>m</sup>								Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		h m	h m	h m	m	h m	m	m		
0	179 59.5	+ 9 52.0	95 16.9	82	+27 41.6	40	<b>60 N</b>	19 19	20 06	21 09	7 48 97	4 01 10				
1	194 59.7	52.9	109 44.1	82	37.6	40	<b>58</b>	13	19 56	20 53	8 19 88	3 30 19				
2	209 59.8	53.8	124 11.3	82	33.4	42	<b>56</b>	08	48	40	8 42 82	3 06 25				
3	225 00.0	54.7	138 38.7	84	29.0	44	<b>54</b>	19 03	41	29	9 01 78	2 47 28				
4	240 00.1	55.6	153 06.1	84	24.5	45	<b>52</b>	18 58	35	20	17 75	31 31				
5	255 00.3	+ 9 56.5	167 33.7	86	+27 19.8	47	<b>50</b>	18 55	19 29	20 11	9 31 72	2 16 34				
6	270 00.4	+ 9 57.4	182 01.3	86	+27 15.1	47	<b>45</b>	18 46	19 17	19 54	9 59 68	1 48 38				
7	285 00.6	58.3	196 29.0	87	10.1	50	<b>40</b>	39	19 07	41	10 21 65	25 41				
8	300 00.7	+ 9 59.1	210 56.8	88	+27 05.1	50	<b>35</b>	33	18 59	30	39 62	1 07 43				
9	315 00.9	+ 10 00.0	225 24.7	89	+26 59.9	52	<b>30</b>	27	52	21	10 55 60	0 50 46				
10	330 01.0	00.9	239 52.7	90	54.6	53	<b>20</b>	18	41	19 07	11 22 56	23 48				
11	345 01.2	+ 10 01.8	254 20.7	90	+26 49.1	55	<b>10 N</b>	18 11	18 32	18 57	11 44 54	0 00 50				
12	0 01.3	+ 10 02.7	268 48.9	92	+26 43.5	56	<b>0</b>	18 03	18 24	18 49	12 05 51	** ** *				
13	15 01.5	03.6	283 17.2	93	37.8	57	<b>10 S</b>	17 56	17	42	26 48	** ** *				
14	30 01.6	04.5	297 45.5	93	31.9	59	<b>20</b>	49	11	37	12 49 45	23 49 55				
15	45 01.7	05.4	312 14.0	95	25.9	60	<b>30</b>	40	04	32	13 15 41	24 59				
16	60 01.9	06.3	326 42.5	95	19.8	61	<b>35</b>	35	18 01	30	31 39	23 09 62				
17	75 02.0	+ 10 07.1	341 11.2	97	+26 13.6	62	<b>40</b>	17 30	17 57	18 29	13 48 37	22 52 65				
18	90 02.2	+ 10 08.0	355 39.9	97	+26 07.2	64	<b>45</b>	17 24	17 53	18 27	14 10 33	22 31 69				
19	105 02.3	08.9	10 08.7	98	+26 00.8	64	<b>50</b>	16	49	26	37 28	22 05 74				
20	120 02.5	09.8	24 37.6	99	+25 54.1	67	<b>52</b>	13	47	26	14 50 26	21 52 76				
21	135 02.6	10.7	39 06.7	101	47.4	67	<b>54</b>	09	45	26	15 05 22	38 79				
22	150 02.8	11.6	53 35.8	101	40.6	68	<b>56</b>	05	43	26	23 18	21 20 84				
23	165 02.9	12.5	68 05.0	102	33.6	70	<b>58</b>	17 00	40	26	15 44 13	20 59 90				
24	180 03.1	+ 10 13.3	82 34.3	103	+25 26.5	71	<b>60 S</b>	16 55	17 38	18 26	16 11 5	20 33 97				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +1.2		Mag.: -2.0		Mag.: +1.1	
	10 <sup>h</sup> 23.7 <sup>m</sup>		PMG: 11 <sup>h</sup> 13 <sup>m</sup>		PMG: 9 <sup>h</sup> 42 <sup>m</sup>		PMG: 13 <sup>h</sup> 37 <sup>m</sup>		PMG: 9 <sup>h</sup> 32 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	203 38.7	191 54.0	+ 3 26.7	214 17.0	- 5 56.5	155 25.4	+ 17 05.9	216 41.4	- 7 26.0	
1	218 41.1	206 53.6	27.9	229 17.7	55.8	170 27.3	06.1	231 43.6	25.9	
2	233 43.6	221 53.2	29.1	244 18.3	55.0	185 29.2	06.2	246 45.9	25.8	
3	248 46.1	236 52.9	30.3	259 19.0	54.2	200 31.1	06.4	261 48.1	25.7	
4	263 48.5	251 52.5	31.5	274 19.7	53.5	215 33.0	06.5	276 50.3	25.6	
5	278 51.0	266 52.1	+ 3 32.8	289 20.3	- 5 52.7	230 34.9	+ 17 06.7	291 52.5	- 7 25.5	
6	293 53.5	281 51.7	+ 3 34.0	304 21.0	- 5 52.0	245 36.8	+ 17 06.9	306 54.8	- 7 25.4	
7	308 55.9	296 51.4	35.2	319 21.7	51.2	260 38.7	07.0	321 57.0	25.3	
8	323 58.4	311 51.0	36.4	334 22.3	50.5	275 40.6	07.2	336 59.2	25.3	
9	339 00.8	326 50.6	37.6	349 23.0	49.7	290 42.5	07.3	352 01.4	25.2	
10	354 03.3	341 50.2	38.8	4 23.7	49.0	305 44.4	07.5	7 03.6	25.1	
11	9 05.8	356 49.9	+ 3 40.1	19 24.3	- 5 48.2	320 46.3	+ 17 07.6	22 05.9	- 7 25.0	
12	24 08.2	11 49.5	+ 3 41.3	34 25.0	- 5 47.5	335 48.2	+ 17 07.8	37 08.1	- 7 24.9	
13	39 10.7	26 49.1	42.5	49 25.7	46.7	350 50.1	07.9	52 10.3	24.8	
14	54 13.2	41 48.7	43.7	64 26.3	45.9	5 52.0	08.1	67 12.5	24.7	
15	69 15.6	56 48.4	44.9	79 27.0	45.2	20 53.9	08.2	82 14.8	24.6	
16	84 18.1	71 48.0	46.1	94 27.7	44.4	35 55.8	08.4	97 17.0	24.5	
17	99 20.6	86 47.6	+ 3 47.4	109 28.4	- 5 43.7	50 57.6	+ 17 08.6	112 19.2	- 7 24.4	
18	114 23.0	101 47.2	+ 3 48.6	124 29.0	- 5 42.9	65 59.5	+ 17 08.7	127 21.4	- 7 24.3	
19	129 25.5	116 46.9	49.8	139 29.7	42.2	81 01.4	08.9	142 23.7	24.2	
20	144 27.9	131 46.5	51.0	154 30.4	41.4	96 03.3	09.0	157 25.9	24.1	
21	159 30.4	146 46.1	52.2	169 31.0	40.6	111 05.2	09.2	172 28.1	24.0	
22	174 32.9	161 45.7	53.4	184 31.7	39.9	126 07.1	09.3	187 30.3	23.9	
23	189 35.3	176 45.3	54.7	199 32.4	39.1	141 09.0	09.5	202 32.6	23.9	
24	204 37.8	191 45.0	+ 3 55.9	214 33.0	- 5 38.4	156 10.9	+ 17 09.6	217 34.8	- 7 23.8	

Dif	—	-4	+12	+7	+8	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 15.1'		Edad: 7.2 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.2' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 54.8'			R <sup>o</sup> : 45 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 59.7 <sup>m</sup>		PMG: 19 <sup>h</sup> 08 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /		° /		°	h m	h m	h m	h m m		h m m	h m m		
0	180 03.1	+10 13.3	82 34.3		+25 26.5	72	60 N	2 50	3 53	4 39	9 25 95		4 11 3			
1	195 03.2	14.2	97 03.7 <sup>104</sup>		19.3	73	58	3 06	4 02	45	9 47 88		3 49 10			
2	210 03.4	15.1	111 33.2 <sup>105</sup>		12.0	75	56	19	10	51	10 04 83		31 15			
3	225 03.5	16.0	126 02.8 <sup>106</sup>		+25 04.5	75	54	30	18	4 56	19 79		15 19			
4	240 03.7	16.9	140 32.5 <sup>107</sup>		+24 57.0	77	52	39	24	5 00	32 76		3 02 22			
5	255 03.8	+10 17.8	155 02.3 <sup>108</sup>		+24 49.3	77	50	3 48	4 30	5 04	10 43 74		2 50 24			
6	270 03.9	+10 18.6	169 32.2 <sup>109</sup>		+24 41.6	79	45	4 05	4 42	5 13	11 07 68		2 26 29			
7	285 04.1	19.5	184 02.1 <sup>109</sup>		33.7	80	40	18	4 52	20	26 64		2 06 33			
8	300 04.2	20.4	198 32.2 <sup>111</sup>		25.7	81	35	29	5 00	26	41 61		1 50 36			
9	315 04.4	21.3	213 02.4 <sup>112</sup>		17.6	82	30	38	07	32	11 55 58		36 38			
10	330 04.5	22.2	227 32.7 <sup>113</sup>		09.4	83	20	4 52	18	41	12 18 54		1 11 42			
11	345 04.7	+10 23.1	242 03.0 <sup>113</sup>		+24 01.1	85	10 N	5 03	5 28	5 49	12 38 50		0 50 46			
12	0 04.8	+10 23.9	256 33.5 <sup>115</sup>		+23 52.6	85	0	5 11	5 35	5 56	12 56 47		0 30 49			
13	15 05.0	24.8	271 04.1 <sup>116</sup>		44.1	86	10 S	18	42	6 04	13 14 44		0 10 52			
14	30 05.1	25.7	285 34.7 <sup>116</sup>		35.5	87	20	23	49	11	34 39		** ** *			
15	45 05.3	26.6	300 05.5 <sup>118</sup>		26.8	88	30	28	56	20	13 56 36		** ** *			
16	60 05.4	27.5	314 36.3 <sup>118</sup>		18.0	90	35	30	5 59	25	14 10 32		** ** *			
17	75 05.5	+10 28.3	329 07.2 <sup>119</sup>		+23 09.0	90	40	5 31	6 03	6 30	14 25 29		23 57 63			
18	90 05.7	+10 29.2	343 38.3 <sup>121</sup>		+23 00.0	91	45	5 33	6 07	6 37	14 43 25		23 40 67			
19	105 05.8	30.1	358 09.4 <sup>121</sup>		+22 50.9	92	50	34	12	44	15 05 20		19 72			
20	120 06.0	31.0	12 40.6 <sup>122</sup>		41.7	93	52	34	14	48	16 17		23 08 76			
21	135 06.1	31.9	27 11.9 <sup>123</sup>		32.4	94	54	35	16	52	27 15		22 57 79			
22	150 06.3	32.7	41 43.3 <sup>124</sup>		23.0	95	56	35	18	6 56	41 11		44 82			
23	165 06.4	33.6	56 14.8 <sup>125</sup>		13.5	96	58	35	21	7 01	15 57 7		29 87			
24	180 06.5	+10 34.5	70 46.4 <sup>126</sup>		+22 03.9		60 S	5 35	6 23	7 06	16 16 1		22 10 93			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +1.2		Mag.: -2.0		Mag.: +1.1	
	10 <sup>h</sup> 19.8 <sup>m</sup>		PMG: 11 <sup>h</sup> 13 <sup>m</sup>		PMG: 9 <sup>h</sup> 41 <sup>m</sup>		PMG: 13 <sup>h</sup> 34 <sup>m</sup>		PMG: 9 <sup>h</sup> 28 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	204 37.8	191 45.0	+3 55.9	214 33.0	-5 38.4	156 10.9	+17 09.6	217 34.8	-7 23.8	
1	219 40.3	206 44.6	57.1	229 33.7	37.6	171 12.8	09.8	232 37.0	23.7	
2	234 42.7	221 44.2	58.3	244 34.4	36.9	186 14.7	09.9	247 39.2	23.6	
3	249 45.2	236 43.8	+3 59.5	259 35.1	36.1	201 16.6	10.1	262 41.5	23.5	
4	264 47.7	251 43.5	+4 00.7	274 35.7	35.4	216 18.5	10.3	277 43.7	23.4	
5	279 50.1	266 43.1	+4 02.0	289 36.4	-5 34.6	231 20.4	+17 10.4	292 45.9	-7 23.3	
6	294 52.6	281 42.7	+4 03.2	304 37.1	-5 33.8	246 22.3	+17 10.6	307 48.1	-7 23.2	
7	309 55.1	296 42.3	04.4	319 37.7	33.1	261 24.2	10.7	322 50.4	23.1	
8	324 57.5	311 41.9	05.6	334 38.4	32.3	276 26.1	10.9	337 52.6	23.0	
9	340 00.0	326 41.6	06.8	349 39.1	31.6	291 27.9	11.0	352 54.8	22.9	
10	355 02.4	341 41.2	08.0	4 39.8	30.8	306 29.8	11.2	7 57.0	22.8	
11	10 04.9	356 40.8	+4 09.2	19 40.4	-5 30.1	321 31.7	+17 11.3	22 59.3	-7 22.7	
12	25 07.4	11 40.4	+4 10.5	34 41.1	-5 29.3	336 33.6	+17 11.5	38 01.5	-7 22.7	
13	40 09.8	26 40.1	11.7	49 41.8	28.5	351 35.5	11.6	53 03.7	22.6	
14	55 12.3	41 39.7	12.9	64 42.4	27.8	6 37.4	11.8	68 05.9	22.5	
15	70 14.8	56 39.3	14.1	79 43.1	27.0	21 39.3	12.0	83 08.2	22.4	
16	85 17.2	71 38.9	15.3	94 43.8	26.3	36 41.2	12.1	98 10.4	22.3	
17	100 19.7	86 38.5	+4 16.5	109 44.5	-5 25.5	51 43.1	+17 12.3	113 12.6	-7 22.2	
18	115 22.2	101 38.2	+4 17.7	124 45.1	-5 24.7	66 45.0	+17 12.4	128 14.9	-7 22.1	
19	130 24.6	116 37.8	18.9	139 45.8	24.0	81 46.9	12.6	143 17.1	22.0	
20	145 27.1	131 37.4	20.2	154 46.5	23.2	96 48.8	12.7	158 19.3	21.9	
21	160 29.6	146 37.0	21.4	169 47.1	22.5	111 50.7	12.9	173 21.5	21.8	
22	175 32.0	161 36.6	22.6	184 47.8	21.7	126 52.6	13.0	188 23.8	21.7	
23	190 34.5	176 36.3	23.8	199 48.5	21.0	141 54.4	13.2	203 26.0	21.6	
24	205 36.9	191 35.9	+4 25.0	214 49.2	-5 20.2	156 56.3	+17 13.3	218 28.2	-7 21.5	

Dif	—	-4	+12	+7	+8	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 59.5 <sup>m</sup>		SD: 14.9' Edad: 8.2 <sup>d</sup> PMG: 19 <sup>h</sup> 53 <sup>m</sup> R°: 43 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.7/ 12 <sup>h</sup> : 54.5/ 20 <sup>h</sup> : 54.4/		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	180 06.5	+10 34.5	70 46.4		+22 03.9	96	60 N	19 24	20 12	21 16	11 00	89	4 14	1		
1	195 06.7	35.4	85 18.1	127	+21 54.3	96	58	18	20 02	20 59	15 84	3 59	5			
2	210 06.8	36.2	99 49.8	127	44.5	98	56	12	19 53	46	27 81	46	9			
3	225 07.0	37.1	114 21.7	129	34.7	100	54	07	45	34	38 77	34	13			
4	240 07.1	38.0	128 53.6	129	24.7	100	52	19 02	38	24	48 74	24	15			
5	255 07.3	+10 38.9	143 25.7	131	+21 14.7	100	50	18 58	19 32	20 15	11 57	71	3 14	18		
6	270 07.4	+10 39.8	157 57.8	131	+21 04.6	101	45	18 48	19 19	19 57	12 15	66	2 55	23		
7	285 07.5	40.6	172 30.0	132	+20 54.4	102	40	41	09	43	30 62	39	27			
8	300 07.7	41.5	187 02.3	133	44.2	102	35	34	19 01	32	42 59	26	30			
9	315 07.8	42.4	201 34.7	134	33.8	104	30	29	18 53	23	12 53	56	2 14	32		
10	330 08.0	43.3	216 07.1	134	23.4	104	20	19	42	19 08	13 12	51	1 53	38		
11	345 08.1	+10 44.1	230 39.7	136	+20 12.9	105	10 N	18 11	18 32	18 57	13 28	47	1 36	41		
12	0 08.2	+10 45.0	245 12.3	136	+20 02.3	106	0	18 03	18 24	18 48	13 43	43	1 19	45		
13	15 08.4	45.9	259 45.0	137	+19 51.6	107	10 S	17 55	16	41	13 58	39	1 02	49		
14	30 08.5	46.8	274 17.8	138	40.9	107	20	47	09	35	14 13	36	0 44	53		
15	45 08.7	47.6	288 50.7	139	30.0	109	30	38	18 02	30	32 30	23	57			
16	60 08.8	48.5	303 23.7	140	19.2	108	35	33	17 58	28	42 28	0 11	60			
17	75 08.9	+10 49.4	317 56.7	140	+19 08.2	110	40	17 27	17 54	18 26	14 54	25	** ** *	** ** *		
18	90 09.1	+10 50.2	332 29.8	141	+18 57.2	110	45	17 20	17 50	18 24	15 08	21	** ** *	** ** *		
19	105 09.2	51.1	347 03.0	142	46.0	112	50	12	45	23	25 16	** ** *	** ** *			
20	120 09.4	52.0	1 36.3	143	34.9	111	52	08	43	22	33 14	** ** *	** ** *			
21	135 09.5	52.9	16 09.6	143	23.6	113	54	04	41	22	42 11	** ** *	** ** *			
22	150 09.6	53.7	30 43.1	145	12.3	113	56	17 00	38	21	15 52	8	** ** *	** ** *		
23	165 09.8	54.6	45 16.6	145	+18 00.9	114	58	16 55	35	21	16 04	4	23 56	83		
24	180 09.9	+10 55.5	59 50.2	146	+17 49.5	114	60 S	16 49	17 32	18 20	16 17	0	23 43	88		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 10 <sup>h</sup> 15.9 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 14 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 40 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 25 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	205 36.9	191 35.9	+4 25.0	214 49.2	-5 20.2	156 56.3	+17 13.3	218 28.2	-7 21.5							
1	220 39.4	206 35.5	26.2	229 49.8	19.4	171 58.2	13.5	233 30.4	21.5							
2	235 41.9	221 35.1	27.4	244 50.5	18.7	187 00.1	13.7	248 32.7	21.4							
3	250 44.3	236 34.7	28.6	259 51.2	17.9	202 02.0	13.8	263 34.9	21.3							
4	265 46.8	251 34.4	29.9	274 51.9	17.2	217 03.9	14.0	278 37.1	21.2							
5	280 49.3	266 34.0	+4 31.1	289 52.5	-5 16.4	232 05.8	+17 14.1	293 39.3	-7 21.1							
6	295 51.7	281 33.6	+4 32.3	304 53.2	-5 15.7	247 07.7	+17 14.3	308 41.6	-7 21.0							
7	310 54.2	296 33.2	33.5	319 53.9	14.9	262 09.6	14.4	323 43.8	20.9							
8	325 56.7	311 32.8	34.7	334 54.5	14.1	277 11.5	14.6	338 46.0	20.8							
9	340 59.1	326 32.5	35.9	349 55.2	13.4	292 13.4	14.7	353 48.3	20.7							
10	356 01.6	341 32.1	37.1	4 55.9	12.6	307 15.3	14.9	8 50.5	20.6							
11	11 04.0	356 31.7	+4 38.3	19 56.6	-5 11.9	322 17.1	+17 15.0	23 52.7	-7 20.5							
12	26 06.5	11 31.3	+4 39.5	34 57.2	-5 11.1	337 19.0	+17 15.2	38 54.9	-7 20.5							
13	41 09.0	26 30.9	40.8	49 57.9	10.3	352 20.9	15.3	53 57.2	20.4							
14	56 11.4	41 30.5	42.0	64 58.6	09.6	7 22.8	15.5	68 59.4	20.3							
15	71 13.9	56 30.2	43.2	79 59.3	08.8	22 24.7	15.7	84 01.6	20.2							
16	86 16.4	71 29.8	44.4	94 59.9	08.1	37 26.6	15.8	99 03.9	20.1							
17	101 18.8	86 29.4	+4 45.6	110 00.6	-5 07.3	52 28.5	+17 16.0	114 06.1	-7 20.0							
18	116 21.3	101 29.0	+4 46.8	125 01.3	-5 06.5	67 30.4	+17 16.1	129 08.3	-7 19.9							
19	131 23.8	116 28.6	48.0	140 02.0	05.8	82 32.3	16.3	144 10.5	19.8							
20	146 26.2	131 28.3	49.2	155 02.6	05.0	97 34.2	16.4	159 12.8	19.7							
21	161 28.7	146 27.9	50.4	170 03.3	04.3	112 36.1	16.6	174 15.0	19.6							
22	176 31.2	161 27.5	51.6	185 04.0	03.5	127 37.9	16.7	189 17.2	19.5							
23	191 33.6	176 27.1	52.8	200 04.7	02.7	142 39.8	16.9	204 19.5	19.4							
24	206 36.1	191 26.7	+4 54.1	215 05.3	-5 02.0	157 41.7	+17 17.0	219 21.7	-7 19.4							
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1							

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.9' PMG: 11 <sup>h</sup> 59.2 <sup>m</sup>			SD: 14.8' Edad: 9.2 <sup>d</sup> PMG: 20 <sup>h</sup> 36 <sup>m</sup> R°: 40 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
0	180	09.9	+10 55.5	59	50.2	+17 49.5	116	60 N	2 42	3 46	4 33	12 29	86	4 15	-1	
1	195	10.1	56.3	74	23.8 <sup>146</sup>	37.9	116	58	2 58	3 56	40	12 29	81	4 04	4	
2	210	10.2	57.2	88	57.5 <sup>147</sup>	26.4	115	56	3 12	4 05	46	12 29	77	3 55	7	
3	225	10.3	58.1	103	31.3 <sup>148</sup>	14.7	117	54	24	13	51	12 55	75	47	9	
4	240	10.5	58.9	118	05.2 <sup>149</sup>	+17 03.0	117	52	34	20	4 56	13 02	72	39	12	
5	255	10.6	+10 59.8	132	39.1 <sup>149</sup>	+16 51.2	118	50	3 43	4 26	5 00	13 08	70	3 32	15	
6	270	10.7	+11 00.7	147	13.1 <sup>150</sup>	+16 39.4	118	45	4 01	4 39	5 10	13 21	65	3 18	19	
7	285	10.9	01.6	161	47.2 <sup>151</sup>	27.5	119	40	15	49	17	13 21	61	3 06	23	
8	300	11.0	02.4	176	21.4 <sup>152</sup>	15.5	120	35	26	4 58	24	13 21	57	2 56	26	
9	315	11.2	03.3	190	55.6 <sup>152</sup>	+16 03.5	120	30	36	5 05	30	13 49	54	46	29	
10	330	11.3	04.2	205	29.8 <sup>152</sup>	+15 51.5	120	20	4 50	17	39	14 03	49	31	33	
11	345	11.4	+11 05.0	220	04.2 <sup>154</sup>	+15 39.3	122	10 N	5 02	5 27	5 48	14 15	45	2 17	38	
12	0	11.6	+11 05.9	234	38.6 <sup>154</sup>	+15 27.1	122	0	5 10	5 35	5 56	14 26	41	2 04	42	
13	15	11.7	06.8	249	13.0 <sup>154</sup>	14.9	122	10 S	18	42	6 04	14 26	37	1 51	46	
14	30	11.8	07.6	263	47.6 <sup>156</sup>	+15 02.6	123	20	24	50	12	14 49	32	37	50	
15	45	12.0	08.5	278	22.1 <sup>155</sup>	+14 50.3	123	30	29	5 57	21	15 02	28	20	56	
16	60	12.1	09.4	292	56.8 <sup>157</sup>	37.9	124	35	31	6 01	26	15 02	25	11	58	
17	75	12.3	+11 10.2	307	31.5 <sup>157</sup>	+14 25.4	125	40	5 33	6 05	6 32	15 19	21	1 00	61	
18	90	12.4	+11 11.1	322	06.3 <sup>158</sup>	+14 12.9	125	45	5 35	6 09	6 39	15 29	17	0 47	66	
19	105	12.5	11.9	336	41.1 <sup>158</sup>	+14 00.3	126	50	37	14	48	15 29	13	31	71	
20	120	12.7	12.8	351	16.0 <sup>159</sup>	+13 47.7	126	52	37	17	51	15 29	10	24	73	
21	135	12.8	13.7	5	50.9 <sup>159</sup>	35.1	126	54	38	19	6 56	15 53	8	16	76	
22	150	12.9	14.5	20	25.9 <sup>160</sup>	22.4	127	56	39	22	7 00	16 00	6	0 06	80	
23	165	13.1	15.4	35	00.9 <sup>160</sup>	+13 09.6	128	58	39	25	05	16 00	2	** ** *	** ** *	
24	180	13.2	+11 16.3	49	36.0 <sup>161</sup>	+12 56.8	128	60 S	5 39	6 28	7 11	16 17	-2	** ** *	** ** *	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 10 <sup>h</sup> 11.9 <sup>m</sup>		Mag.: -3.8 PMG: 11 <sup>h</sup> 15 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 21 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	206	36.1	191	26.7	+4 54.1	215	05.3	-5 02.0	157	41.7	+17 17.0	219	21.7	-7 19.4		
1	221	38.5	206	26.3	55.3	230	06.0	01.2	172	43.6	17.2	234	23.9	19.3		
2	236	41.0	221	26.0	56.5	245	06.7	-5 00.5	187	45.5	17.3	249	26.1	19.2		
3	251	43.5	236	25.6	57.7	260	07.4	-4 59.7	202	47.4	17.5	264	28.4	19.1		
4	266	45.9	251	25.2	+4 58.9	275	08.0	58.9	217	49.3	17.7	279	30.6	19.0		
5	281	48.4	266	24.8	+5 00.1	290	08.7	-4 58.2	232	51.2	+17 17.8	294	32.8	-7 18.9		
6	296	50.9	281	24.4	+5 01.3	305	09.4	-4 57.4	247	53.1	+17 18.0	309	35.1	-7 18.8		
7	311	53.3	296	24.0	02.5	320	10.1	56.7	262	55.0	18.1	324	37.3	18.7		
8	326	55.8	311	23.7	03.7	335	10.7	55.9	277	56.8	18.3	339	39.5	18.6		
9	341	58.3	326	23.3	04.9	350	11.4	55.1	292	58.7	18.4	354	41.7	18.5		
10	357	00.7	341	22.9	06.1	5	12.1	54.4	308	00.6	18.6	9	44.0	18.5		
11	12	03.2	356	22.5	+5 07.3	20	12.8	-4 53.6	323	02.5	+17 18.7	24	46.2	-7 18.4		
12	27	05.7	11	22.1	+5 08.5	35	13.4	-4 52.9	338	04.4	+17 18.9	39	48.4	-7 18.3		
13	42	08.1	26	21.7	09.7	50	14.1	52.1	353	06.3	19.0	54	50.7	18.2		
14	57	10.6	41	21.3	10.9	65	14.8	51.3	8	08.2	19.2	69	52.9	18.1		
15	72	13.0	56	21.0	12.2	80	15.5	50.6	23	10.1	19.3	84	55.1	18.0		
16	87	15.5	71	20.6	13.4	95	16.1	49.8	38	12.0	19.5	99	57.4	17.9		
17	102	18.0	86	20.2	+5 14.6	110	16.8	-4 49.1	53	13.8	+17 19.6	114	59.6	-7 17.8		
18	117	20.4	101	19.8	+5 15.8	125	17.5	-4 48.3	68	15.7	+17 19.8	130	01.8	-7 17.7		
19	132	22.9	116	19.4	17.0	140	18.2	47.5	83	17.6	20.0	145	04.0	17.6		
20	147	25.4	131	19.0	18.2	155	18.8	46.8	98	19.5	20.1	160	06.3	17.5		
21	162	27.8	146	18.6	19.4	170	19.5	46.0	113	21.4	20.3	175	08.5	17.5		
22	177	30.3	161	18.3	20.6	185	20.2	45.3	128	23.3	20.4	190	10.7	17.4		
23	192	32.8	176	17.9	21.8	200	20.9	44.5	143	25.2	20.6	205	13.0	17.3		
24	207	35.2	191	17.5	+5 23.0	215	21.6	-4 43.7	158	27.1	+17 20.7	220	15.2	-7 17.2		
Dif	—		-4		+12	+7		+8	+19		+2	+22		+1		



UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9'			SD: 14.8'						PHE { 4h: 54.1'							
	PMG: 11 <sup>h</sup> 59.0 <sup>m</sup>			Edad: 10.2 <sup>d</sup>						12h: 54.1'							
PMG: 21 <sup>h</sup> 16 <sup>m</sup>			R°: 39 <sup>m</sup>														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 13.2	+11 16.3	49 36.0		+12 56.8	128	60 N	19 29	20 17	21 24	13 55 82	4 14 -1					
1	195 13.3	17.1	64 11.1 <sup>161</sup>		44.0	129	58	22	20 07	21 06	14 00 79	08 2					
2	210 13.5	18.0	78 46.3 <sup>162</sup>		31.1	129	56	16	19 57	20 51	05 76	4 02 5					
3	225 13.6	18.8	93 21.6 <sup>163</sup>		18.2	130	54	10	49	39	10 73	3 56 8					
4	240 13.7	19.7	107 56.9 <sup>163</sup>		+12 05.2	130	52	05	42	28	14 71	51 10					
5	255 13.9	+11 20.6	122 32.2 <sup>163</sup>		+11 52.2	130	50	19 01	19 36	20 19	14 18 68	3 47 12					
6	270 14.0	+11 21.4	137 07.6 <sup>164</sup>		+11 39.2	130	45	18 51	19 22	20 00	14 26 63	3 37 16					
7	285 14.1	22.3	151 43.0 <sup>164</sup>		26.1	131	40	43	11	19 46	33 59	29 20					
8	300 14.3	23.2	166 18.5 <sup>165</sup>		+11 12.9	132	35	36	19 02	34	38 56	22 23					
9	315 14.4	24.0	180 54.0 <sup>165</sup>		+10 59.7	132	30	30	18 55	24	43 53	15 27					
10	330 14.5	24.9	195 29.5 <sup>165</sup>		46.5	132	20	20	42	19 09	14 52 48	3 04 32					
11	345 14.7	+11 25.7	210 05.1 <sup>166</sup>		+10 33.3	132	10 N	18 11	18 32	18 57	15 00 43	2 55 36					
12	0 14.8	+11 26.6	224 40.8 <sup>167</sup>		+10 20.0	133	0	18 02	18 23	18 48	15 07 39	2 46 40					
13	15 14.9	27.4	239 16.4 <sup>166</sup>		+10 06.7	133	10 S	17 54	16	40	14 35 37	44					
14	30 15.1	28.3	253 52.1 <sup>167</sup>		+ 9 53.3	134	20	46	08	34	21 31	27 48					
15	45 15.2	29.2	268 27.9 <sup>168</sup>		39.9	134	30	36	18 00	28	30 25	16 53					
16	60 15.3	30.0	283 03.7 <sup>168</sup>		26.5	134	35	30	17 56	26	35 22	09 57					
17	75 15.5	+11 30.9	297 39.5 <sup>168</sup>		+ 9 13.0	135	40	17 24	17 52	18 23	15 40 20	2 01 60					
18	90 15.6	+11 31.7	312 15.3 <sup>168</sup>		+ 8 59.5	135	45	17 17	17 47	18 21	15 46 16	1 53 64					
19	105 15.7	32.6	326 51.2 <sup>169</sup>		46.0	135	50	08	41	19	54 11	42 69					
20	120 15.9	33.4	341 27.1 <sup>169</sup>		32.4	136	52	04	39	18	15 57 10	37 71					
21	135 16.0	34.3	356 03.1 <sup>170</sup>		18.8	136	54	17 00	36	17	16 01 7	32 73					
22	150 16.1	35.2	10 39.1 <sup>170</sup>		+ 8 05.2	136	56	16 55	33	17	06 4	26 76					
23	165 16.3	36.0	25 15.1 <sup>170</sup>		+ 7 51.6	136	58	50	30	16	10 2	19 80					
24	180 16.4	+11 36.9	39 51.1 <sup>170</sup>		+ 7 37.9	137	60 S	16 44	17 27	18 15	16 15 -1	1 11 83					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1	
	10 <sup>h</sup> 08.0 <sup>m</sup>		PMG: 11 <sup>h</sup> 15 <sup>m</sup>		PMG: 9 <sup>h</sup> 38 <sup>m</sup>		PMG: 13 <sup>h</sup> 25 <sup>m</sup>		PMG: 9 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	207 35.2	191 17.5	+ 5 23.0	215 21.6	- 4 43.7	158 27.1	+ 17 20.7	220 15.2	- 7 17.2	
1	222 37.7	206 17.1	24.2	230 22.2	43.0	173 29.0	20.9	235 17.4	17.1	
2	237 40.1	221 16.7	25.4	245 22.9	42.2	188 30.8	21.0	250 19.7	17.0	
3	252 42.6	236 16.3	26.6	260 23.6	41.5	203 32.7	21.2	265 21.9	16.9	
4	267 45.1	251 15.9	27.8	275 24.3	40.7	218 34.6	21.3	280 24.1	16.8	
5	282 47.5	266 15.6	+ 5 29.0	290 24.9	- 4 39.9	233 36.5	+ 17 21.5	295 26.4	- 7 16.7	
6	297 50.0	281 15.2	+ 5 30.2	305 25.6	- 4 39.2	248 38.4	+ 17 21.6	310 28.6	- 7 16.6	
7	312 52.5	296 14.8	31.4	320 26.3	38.4	263 40.3	21.8	325 30.8	16.6	
8	327 54.9	311 14.4	32.6	335 27.0	37.6	278 42.2	21.9	340 33.1	16.5	
9	342 57.4	326 14.0	33.8	350 27.7	36.9	293 44.1	22.1	355 35.3	16.4	
10	357 59.9	341 13.6	35.0	5 28.3	36.1	308 45.9	22.3	10 37.5	16.3	
11	13 02.3	356 13.2	+ 5 36.2	20 29.0	- 4 35.4	323 47.8	+ 17 22.4	25 39.7	- 7 16.2	
12	28 04.8	11 12.8	+ 5 37.4	35 29.7	- 4 34.6	338 49.7	+ 17 22.6	40 42.0	- 7 16.1	
13	43 07.3	26 12.4	38.6	50 30.4	33.8	353 51.6	22.7	55 44.2	16.0	
14	58 09.7	41 12.1	39.8	65 31.0	33.1	8 53.5	22.9	70 46.4	15.9	
15	73 12.2	56 11.7	41.0	80 31.7	32.3	23 55.4	23.0	85 48.7	15.8	
16	88 14.6	71 11.3	42.2	95 32.4	31.6	38 57.3	23.2	100 50.9	15.8	
17	103 17.1	86 10.9	+ 5 43.4	110 33.1	- 4 30.8	53 59.2	+ 17 23.3	115 53.1	- 7 15.7	
18	118 19.6	101 10.5	+ 5 44.6	125 33.8	- 4 30.0	69 01.0	+ 17 23.5	130 55.4	- 7 15.6	
19	133 22.0	116 10.1	45.8	140 34.4	29.3	84 02.9	23.6	145 57.6	15.5	
20	148 24.5	131 09.7	47.0	155 35.1	28.5	99 04.8	23.8	160 59.8	15.4	
21	163 27.0	146 09.3	48.2	170 35.8	27.7	114 06.7	23.9	176 02.1	15.3	
22	178 29.4	161 08.9	49.4	185 36.5	27.0	129 08.6	24.1	191 04.3	15.2	
23	193 31.9	176 08.5	50.6	200 37.2	26.2	144 10.5	24.2	206 06.5	15.1	
24	208 34.4	191 08.2	+ 5 51.8	215 37.8	- 4 25.5	159 12.4	+ 17 24.4	221 08.8	- 7 15.0	
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 58.8 <sup>m</sup>			SD: 14.7' Edad: 11.2 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1' PMG: 21 <sup>h</sup> 55 <sup>m</sup> R°: 39 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "		° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	180 16.4	+ 11 36.9		39 51.1	170	+ 7 37.9	137	60 N	2 33	3 40	4 28	15 17 82	4 13 -1		
1	195 16.5	37.7		54 27.1		24.2	137	58	2 51	3 50	35	19 79	10 1		
2	210 16.6	38.6		69 03.2	171	+ 7 10.4	138	56	3 06	4 00	41	21 76	07 4		
3	225 16.8	39.4		83 39.3	171	+ 6 56.7	137	54	18	08	47	23 73	04 6		
4	240 16.9	40.3		98 15.5	172	42.9	138	52	29	15	52	25 70	4 01 9		
5	255 17.0	+ 11 41.1		112 51.6	171	+ 6 29.1	138	50	3 38	4 21	4 56	15 26 68	3 59 11		
6	270 17.2	+ 11 42.0		127 27.8	172	+ 6 15.3	138	45	3 57	4 35	5 06	15 29 64	3 53 16		
7	285 17.3	42.8		142 04.0	172	+ 6 01.4	139	40	4 12	46	14	32 59	49 19		
8	300 17.4	43.7		156 40.2	172	+ 5 47.5	139	35	24	4 55	21	34 56	45 23		
9	315 17.5	44.5		171 16.4	172	33.6	139	30	33	5 03	27	36 53	42 25		
10	330 17.7	45.4		185 52.7	173	19.7	139	20	4 49	15	38	40 48	36 30		
11	345 17.8	+ 11 46.3		200 28.9	172	+ 5 05.8	139	10 N	5 00	5 26	5 47	15 43 43	3 31 34		
12	0 17.9	+ 11 47.1		215 05.2	173	+ 4 51.8	140	0	5 10	5 34	5 55	15 46 39	3 26 39		
13	15 18.1	48.0		229 41.5	173	37.8	140	10 S	18	42	6 04	49 34	21 43		
14	30 18.2	48.8		244 17.8	173	23.8	140	20	24	50	13	52 30	15 48		
15	45 18.3	49.7		258 54.1	173	+ 4 09.8	140	30	30	5 58	22	55 26	09 53		
16	60 18.4	50.5		273 30.4	173	+ 3 55.8	140	35	33	6 02	28	15 57 23	06 55		
17	75 18.6	+ 11 51.3		288 06.8	174	+ 3 41.7	141	40	5 35	6 07	6 34	16 00 19	3 01 60		
18	90 18.7	+ 11 52.2		302 43.1	173	+ 3 27.7	140	45	5 37	6 12	6 42	16 02 16	2 57 63		
19	105 18.8	53.0		317 19.5	174	+ 3 13.6	141	50	40	17	51	05 11	51 68		
20	120 19.0	53.9		331 55.8	173	+ 2 59.5	141	52	41	20	55	07 9	48 71		
21	135 19.1	54.7		346 32.2	174	45.4	141	54	41	23	6 59	08 7	45 73		
22	150 19.2	55.6		1 08.6	174	31.3	141	56	42	26	7 04	10 4	42 75		
23	165 19.3	56.4		15 44.9	173	17.1	142	58	43	29	10	12 1	39 78		
24	180 19.5	+ 11 57.3		30 21.3	174	+ 2 03.0	141	60 S	5 44	6 32	7 16	16 14 -2	2 34 82		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1	
	10 <sup>h</sup> 04.1 <sup>m</sup>		PMG: 11 <sup>h</sup> 16 <sup>m</sup>		PMG: 9 <sup>h</sup> 37 <sup>m</sup>		PMG: 13 <sup>h</sup> 21 <sup>m</sup>		PMG: 9 <sup>h</sup> 14 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	208 34.4	191 08.2	+ 5 51.8	215 37.8	- 4 25.5	159 12.4	+ 17 24.4	221 08.8	- 7 15.0	
1	223 36.8	206 07.8	53.0	230 38.5	24.7	174 14.2	24.6	236 11.0	14.9	
2	238 39.3	221 07.4	54.2	245 39.2	23.9	189 16.1	24.7	251 13.2	14.9	
3	253 41.8	236 07.0	55.4	260 39.9	23.2	204 18.0	24.9	266 15.5	14.8	
4	268 44.2	251 06.6	56.6	275 40.6	22.4	219 19.9	25.0	281 17.7	14.7	
5	283 46.7	266 06.2	+ 5 57.8	290 41.2	- 4 21.6	234 21.8	+ 17 25.2	296 19.9	- 7 14.6	
6	298 49.1	281 05.8	+ 5 59.0	305 41.9	- 4 20.9	249 23.7	+ 17 25.3	311 22.2	- 7 14.5	
7	313 51.6	296 05.4	+ 6 00.2	320 42.6	20.1	264 25.6	25.5	326 24.4	14.4	
8	328 54.1	311 05.0	01.4	335 43.3	19.4	279 27.5	25.6	341 26.6	14.3	
9	343 56.5	326 04.6	02.6	350 44.0	18.6	294 29.3	25.8	356 28.9	14.2	
10	358 59.0	341 04.2	03.8	5 44.6	17.8	309 31.2	25.9	11 31.1	14.2	
11	14 01.5	356 03.9	+ 6 05.0	20 45.3	- 4 17.1	324 33.1	+ 17 26.1	26 33.3	- 7 14.1	
12	29 03.9	11 03.5	+ 6 06.2	35 46.0	- 4 16.3	339 35.0	+ 17 26.2	41 35.6	- 7 14.0	
13	44 06.4	26 03.1	07.4	50 46.7	15.5	354 36.9	26.4	56 37.8	13.9	
14	59 08.9	41 02.7	08.6	65 47.4	14.8	9 38.8	26.5	71 40.0	13.8	
15	74 11.3	56 02.3	09.8	80 48.0	14.0	24 40.7	26.7	86 42.3	13.7	
16	89 13.8	71 01.9	11.0	95 48.7	13.3	39 42.5	26.8	101 44.5	13.6	
17	104 16.2	86 01.5	+ 6 12.2	110 49.4	- 4 12.5	54 44.4	+ 17 27.0	116 46.7	- 7 13.5	
18	119 18.7	101 01.1	+ 6 13.4	125 50.1	- 4 11.7	69 46.3	+ 17 27.1	131 49.0	- 7 13.4	
19	134 21.2	116 00.7	14.6	140 50.8	11.0	84 48.2	27.3	146 51.2	13.4	
20	149 23.6	131 00.3	15.8	155 51.4	10.2	99 50.1	27.5	161 53.4	13.3	
21	164 26.1	145 59.9	17.0	170 52.1	09.4	114 52.0	27.6	176 55.7	13.2	
22	179 28.6	160 59.5	18.2	185 52.8	08.7	129 53.8	27.8	191 57.9	13.1	
23	194 31.0	175 59.1	19.3	200 53.5	07.9	144 55.7	27.9	207 00.2	13.0	
24	209 33.5	190 58.7	+ 6 20.5	215 54.2	- 4 07.2	159 57.6	+ 17 28.1	222 02.4	- 7 12.9	
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1	

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 58.6 <sup>m</sup>			SD: 14.7' Edad: 12.2 <sup>d</sup> PMG: 22 <sup>h</sup> 34 <sup>m</sup> R°: 40 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180 19.5	+11 57.3		30 21.3		+2 03.0	142	<b>60 N</b>	19 34	20 23	21 32	16 39 83	4 12 -2				
1	195 19.6	58.1		44 57.7 <sup>174</sup>		+1 48.8	142	<b>58</b>	27	12	21 13	38 79	11 2				
2	210 19.7	59.0		59 34.1 <sup>174</sup>		34.7	141	<b>56</b>	20	20 02	20 57	37 76	11 4				
3	225 19.8	+11 59.8		74 10.4 <sup>173</sup>		20.5	142	<b>54</b>	14	19 53	44	36 73	10 7				
4	240 20.0	+12 00.7		88 46.8 <sup>174</sup>		+1 06.3	142	<b>52</b>	09	46	33	35 71	10 9				
5	255 20.1	+12 01.5		103 23.2 <sup>174</sup>		+0 52.1	142	<b>50</b>	19 04	19 39	20 23	16 34 69	4 10 11				
6	270 20.2	+12 02.4		117 59.5 <sup>173</sup>		+0 37.9	142	<b>45</b>	18 54	19 25	20 03	16 33 64	4 09 15				
7	285 20.3	03.2		132 35.9 <sup>174</sup>		23.7	142	<b>40</b>	45	14	19 48	31 60	08 19				
8	300 20.5	04.0		147 12.2 <sup>173</sup>		+0 09.5	142	<b>35</b>	38	19 04	36	30 57	08 22				
9	315 20.6	04.9		161 48.6 <sup>174</sup>		-0 04.7	142	<b>30</b>	31	18 56	26	29 54	07 25				
10	330 20.7	05.7		176 24.9 <sup>173</sup>		18.9	142	<b>20</b>	20	43	19 10	28 48	06 31				
11	345 20.8	+12 06.6		191 01.3 <sup>174</sup>		-0 33.1	142	<b>10 N</b>	18 11	18 32	18 57	16 26 44	4 05 35				
12	0 21.0	+12 07.4		205 37.6 <sup>173</sup>		-0 47.3	142	<b>0</b>	18 02	18 23	18 48	16 25 39	4 05 39				
13	15 21.1	08.3		220 13.9 <sup>173</sup>		-1 01.6	143	<b>10 S</b>	17 53	15	40	23 36	04 43				
14	30 21.2	09.1		234 50.2 <sup>173</sup>		15.8	142	<b>20</b>	44	18 07	32	22 31	03 48				
15	45 21.3	09.9		249 26.5 <sup>173</sup>		30.0	142	<b>30</b>	34	17 58	26	21 25	02 53				
16	60 21.4	10.8		264 02.7 <sup>172</sup>		44.2	142	<b>35</b>	28	54	23	20 23	01 56				
17	75 21.6	+12 11.6		278 39.0 <sup>173</sup>		-1 58.5	143	<b>40</b>	17 21	17 49	18 21	16 19 19	4 01 59				
18	90 21.7	+12 12.5		293 15.2 <sup>172</sup>		-2 12.7	142	<b>45</b>	17 14	17 44	18 18	16 18 15	4 00 63				
19	105 21.8	13.3		307 51.4 <sup>172</sup>		26.9	142	<b>50</b>	04	38	15	16 11	3 59 68				
20	120 21.9	14.1		322 27.6 <sup>172</sup>		41.1	142	<b>52</b>	17 00	35	14	16 9	59 70				
21	135 22.1	15.0		337 03.8 <sup>172</sup>		-2 55.3	142	<b>54</b>	16 55	32	13	15 7	58 73				
22	150 22.2	15.8		351 40.0 <sup>172</sup>		-3 09.5	142	<b>56</b>	50	29	12	14 5	57 76				
23	165 22.3	16.7		6 16.1 <sup>171</sup>		23.7	142	<b>58</b>	44	25	11	13 2	57 79				
24	180 22.4	+12 17.5		20 52.2 <sup>171</sup>		-3 37.9	142	<b>60 S</b>	16 38	17 22	18 10	16 12 -1	3 56 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1		
	10 <sup>h</sup> 00.1 <sup>m</sup>	PMG: 11 <sup>h</sup> 16 <sup>m</sup>	PMG: 9 <sup>h</sup> 36 <sup>m</sup>	PMG: 13 <sup>h</sup> 18 <sup>m</sup>	PMG: 9 <sup>h</sup> 10 <sup>m</sup>						
hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "
0	209 33.5	190 58.7	+6 20.5	215 54.2	-4 07.2	159 57.6	+17 28.1	222 02.4	-7 12.9		
1	224 36.0	205 58.3	21.7	230 54.8	06.4	174 59.5	28.2	237 04.6	12.8		
2	239 38.4	220 57.9	22.9	245 55.5	05.6	190 01.4	28.4	252 06.9	12.7		
3	254 40.9	235 57.5	24.1	260 56.2	04.9	205 03.3	28.5	267 09.1	12.6		
4	269 43.4	250 57.1	25.3	275 56.9	04.1	220 05.2	28.7	282 11.3	12.6		
5	284 45.8	265 56.8	+6 26.5	290 57.6	-4 03.3	235 07.0	+17 28.8	297 13.6	-7 12.5		
6	299 48.3	280 56.4	+6 27.7	305 58.3	-4 02.6	250 08.9	+17 29.0	312 15.8	-7 12.4		
7	314 50.7	295 56.0	28.9	320 58.9	01.8	265 10.8	29.1	327 18.0	12.3		
8	329 53.2	310 55.6	30.1	335 59.6	01.0	280 12.7	29.3	342 20.3	12.2		
9	344 55.7	325 55.2	31.3	351 00.3	-4 00.3	295 14.6	29.4	357 22.5	12.1		
10	359 58.1	340 54.8	32.5	6 01.0	-3 59.5	310 16.5	29.6	12 24.7	12.0		
11	15 00.6	355 54.4	+6 33.7	21 01.7	-3 58.8	325 18.3	+17 29.7	27 27.0	-7 11.9		
12	30 03.1	10 54.0	+6 34.8	36 02.3	-3 58.0	340 20.2	+17 29.9	42 29.2	-7 11.9		
13	45 05.5	25 53.6	36.0	51 03.0	57.2	355 22.1	30.0	57 31.5	11.8		
14	60 08.0	40 53.2	37.2	66 03.7	56.5	10 24.0	30.2	72 33.7	11.7		
15	75 10.5	55 52.8	38.4	81 04.4	55.7	25 25.9	30.3	87 35.9	11.6		
16	90 12.9	70 52.4	39.6	96 05.1	54.9	40 27.8	30.5	102 38.2	11.5		
17	105 15.4	85 52.0	+6 40.8	111 05.8	-3 54.2	55 29.6	+17 30.7	117 40.4	-7 11.4		
18	120 17.8	100 51.6	+6 42.0	126 06.4	-3 53.4	70 31.5	+17 30.8	132 42.6	-7 11.3		
19	135 20.3	115 51.2	43.2	141 07.1	52.6	85 33.4	31.0	147 44.9	11.2		
20	150 22.8	130 50.8	44.4	156 07.8	51.9	100 35.3	31.1	162 47.1	11.2		
21	165 25.2	145 50.4	45.6	171 08.5	51.1	115 37.2	31.3	177 49.3	11.1		
22	180 27.7	160 50.0	46.7	186 09.2	50.3	130 39.1	31.4	192 51.6	11.0		
23	195 30.2	175 49.6	47.9	201 09.9	49.6	145 40.9	31.6	207 53.8	10.9		
24	210 32.6	190 49.2	+6 49.1	216 10.5	-3 48.8	160 42.8	+17 31.7	222 56.1	-7 10.8		
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1		

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15.9' PMG: 11 <sup>h</sup> 58.4 <sup>m</sup>			SD: 14.8' Edad: 13.2 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.5' PMG: 23 <sup>h</sup> 14 <sup>m</sup> R°: 42 <sup>m</sup>					Náutico			Civil		Hora R°		Hora R°			
	hG ☉	Dec		hG ☾	Dif	Dec			Dif										
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h	m	h	m	h	m	h	m			
0	180	22.4	+12 17.5	20	52.2	171	-3 37.9	142	<b>60 N</b>	2	24	3	33	4	22	18	02 86	4	10 -1
1	195	22.5	18.3	35	28.3	171	-3 52.1	142	<b>58</b>	44	44	29	17	57	83	13	2		
2	210	22.7	19.2	50	04.3	170	-4 06.3	142	<b>56</b>	2	59	3	54	36	53	79	15	5	
3	225	22.8	20.0	64	40.4	171	20.4	141	<b>54</b>	3	12	4	03	42	49	77	17	7	
4	240	22.9	20.8	79	16.4	170	34.6	142	<b>52</b>	24	10	48	46	74	19	10	19	10	
5	255	23.0	+12 21.7	93	52.4	170	-4 48.8	142	<b>50</b>	3	33	4	17	4	52	17	43 71	4	21 11
6	270	23.2	+12 22.5	108	28.3	169	-5 02.9	141	<b>45</b>	3	53	4	32	5	03	17	37 66	4	24 17
7	285	23.3	23.4	123	04.2	169	17.0	141	<b>40</b>	4	09	4	3	12	31	62	27	21	
8	300	23.4	24.2	137	40.1	169	31.1	141	<b>35</b>	21	4	52	19	27	58	30	24		
9	315	23.5	25.0	152	16.0	169	45.2	141	<b>30</b>	31	5	01	25	23	55	32	27		
10	330	23.6	25.9	166	51.8	168	-5 59.3	141	<b>20</b>	47	14	36	16	50	37	31			
11	345	23.8	+12 26.7	181	27.6	168	-6 13.4	141	<b>10 N</b>	4	59	5	25	5	46	17	10 45	4	40 36
12	0	23.9	+12 27.5	196	03.4	168	-6 27.4	140	<b>0</b>	5	09	5	34	5	55	17	04 42	4	44 40
13	15	24.0	28.4	210	39.1	167	41.4	140	<b>10 S</b>	18	42	6	04	16	59	37	47	45	
14	30	24.1	29.2	225	14.8	167	-6 55.5	141	<b>20</b>	25	51	13	53	33	51	49			
15	45	24.2	30.0	239	50.4	166	-7 09.5	140	<b>30</b>	31	5	59	24	46	28	55	54		
16	60	24.3	30.9	254	26.0	166	23.4	139	<b>35</b>	34	6	04	30	43	24	4	57	58	
17	75	24.5	+12 31.7	269	01.6	166	-7 37.4	140	<b>40</b>	5	37	6	09	6	36	16	38 22	5	00 61
18	90	24.6	+12 32.5	283	37.1	165	-7 51.3	139	<b>45</b>	5	40	6	14	6	44	16	33 18	5	03 65
19	105	24.7	33.4	298	12.6	165	-8 05.2	139	<b>50</b>	42	20	54	27	13	07	70			
20	120	24.8	34.2	312	48.0	164	19.1	139	<b>52</b>	44	23	6	58	25	10	09	72		
21	135	24.9	35.0	327	23.4	164	33.0	139	<b>54</b>	45	26	7	03	22	8	11	75		
22	150	25.1	35.9	341	58.7	163	-8 46.8	138	<b>56</b>	46	29	08	19	5	13	78			
23	165	25.2	36.7	356	34.0	163	-9 00.6	138	<b>58</b>	47	33	14	15	3	16	80			
24	180	25.3	+12 37.5	11	09.3	163	-9 14.4	138	<b>60 S</b>	5	48	6	37	7	21	16	11 -1	5	18 85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1	
	9 <sup>h</sup> 56.2 <sup>m</sup>		PMG: 11 <sup>h</sup> 17 <sup>m</sup>		PMG: 9 <sup>h</sup> 35 <sup>m</sup>		PMG: 13 <sup>h</sup> 15 <sup>m</sup>		PMG: 9 <sup>h</sup> 07 <sup>m</sup>	
h	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	210	32.6	190 49.2	+6 49.1	216 10.5	-3 48.8	160 42.8	+17 31.7	222 56.1	-7 10.8
1	225	35.1	205 48.8	50.3	231 11.2	48.1	175 44.7	31.9	237 58.3	10.7
2	240	37.6	220 48.4	51.5	246 11.9	47.3	190 46.6	32.0	253 00.5	10.6
3	255	40.0	235 48.0	52.7	261 12.6	46.5	205 48.5	32.2	268 02.8	10.5
4	270	42.5	250 47.6	53.9	276 13.3	45.8	220 50.4	32.3	283 05.0	10.5
5	285	45.0	265 47.2	+6 55.1	291 14.0	-3 45.0	235 52.2	+17 32.5	298 07.2	-7 10.4
6	300	47.4	280 46.8	+6 56.2	306 14.6	-3 44.2	250 54.1	+17 32.6	313 09.5	-7 10.3
7	315	49.9	295 46.4	57.4	321 15.3	43.5	265 56.0	32.8	328 11.7	10.2
8	330	52.3	310 46.0	58.6	336 16.0	42.7	280 57.9	32.9	343 14.0	10.1
9	345	54.8	325 45.6	+6 59.8	351 16.7	41.9	295 59.8	33.1	358 16.2	10.0
10	0	57.3	340 45.2	+7 01.0	6 17.4	41.2	311 01.7	33.2	13 18.4	09.9
11	15	59.7	355 44.8	+7 02.2	21 18.1	-3 40.4	326 03.5	+17 33.4	28 20.7	-7 09.9
12	31	02.2	10 44.4	+7 03.4	36 18.7	-3 39.6	341 05.4	+17 33.5	43 22.9	-7 09.8
13	46	04.7	25 44.0	04.5	51 19.4	38.9	356 07.3	33.7	58 25.2	09.7
14	61	07.1	40 43.6	05.7	66 20.1	38.1	11 09.2	33.8	73 27.4	09.6
15	76	09.6	55 43.2	06.9	81 20.8	37.3	26 11.1	34.0	88 29.6	09.5
16	91	12.1	70 42.8	08.1	96 21.5	36.6	41 13.0	34.1	103 31.9	09.4
17	106	14.5	85 42.4	+7 09.3	111 22.2	-3 35.8	56 14.8	+17 34.3	118 34.1	-7 09.3
18	121	17.0	100 42.0	+7 10.5	126 22.9	-3 35.1	71 16.7	+17 34.4	133 36.3	-7 09.2
19	136	19.4	115 41.6	11.6	141 23.5	34.3	86 18.6	34.6	148 38.6	09.2
20	151	21.9	130 41.1	12.8	156 24.2	33.5	101 20.5	34.8	163 40.8	09.1
21	166	24.4	145 40.7	14.0	171 24.9	32.8	116 22.4	34.9	178 43.1	09.0
22	181	26.8	160 40.3	15.2	186 25.6	32.0	131 24.2	35.1	193 45.3	08.9
23	196	29.3	175 39.9	16.4	201 26.3	31.2	146 26.1	35.2	208 47.5	08.8
24	211	31.8	190 39.5	+7 17.6	216 27.0	-3 30.5	161 28.0	+17 35.4	223 49.8	-7 08.7

Dif	—	-4	+12	+7	+8	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 58.2 <sup>m</sup>		SD: 14.9' Edad: 14.2 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.8'				PMG: 23 <sup>h</sup> 56 <sup>m</sup> R°: 45 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	180 25.3	+12 37.5	11 09.3	162	-9 14.4	138	60 N	19 39	20 29	21 40	19 28	92	4 09	-1		
1	195 25.4	38.3	25 44.5	162	28.2	138	58	31	17	19	20 87	15	2			
2	210 25.5	39.2	40 19.6	161	41.9	137	56	24	20 07	21 03	12 83	20	6			
3	225 25.6	40.0	54 54.7	161	-9 55.6	137	54	18	19 58	20 49	06 79	24	9			
4	240 25.8	40.8	69 29.8	161	-10 09.3	137	52	12	50	37	19 00	76	29	11		
5	255 25.9	+12 41.7	84 04.8	160	-10 22.9	136	50	19 07	19 42	20 27	18 54	74	4 32	14		
6	270 26.0	+12 42.5	98 39.7	159	-10 36.5	136	45	18 56	19 28	20 06	18 43	68	4 41	18		
7	285 26.1	43.3	113 14.6	159	-10 50.1	136	40	47	16	19 50	33 64	48	22			
8	300 26.2	44.1	127 49.5	159	-11 03.6	135	35	39	19 06	38	25 61	54	26			
9	315 26.3	45.0	142 24.2	157	17.1	135	30	33	18 57	27	18 58	4	59	29		
10	330 26.4	45.8	156 59.0	158	30.6	135	20	21	44	19 10	18 06	53	5 08	34		
11	345 26.6	+12 46.6	171 33.6	156	-11 44.0	134	10 N	18 11	18 32	18 58	17 55	49	5 16	39		
12	0 26.7	+12 47.4	186 08.2	156	-11 57.4	134	0	18 02	18 23	18 47	17 46	44	5 24	42		
13	15 26.8	48.3	200 42.8	156	-12 10.8	134	10 S	17 52	14	39	36 40	40	32	46		
14	30 26.9	49.1	215 17.2	154	24.1	133	20	43	18 05	31	26 35	40	51			
15	45 27.0	49.9	229 51.7	155	37.4	133	30	32	17 56	24	14 31	49	57			
16	60 27.1	50.7	244 26.0	153	-12 50.6	132	35	26	52	21	07 28	5	55	59		
17	75 27.2	+12 51.6	259 00.3	153	-13 03.8	132	40	17 19	17 46	18 18	17 00	24	6 01	63		
18	90 27.4	+12 52.4	273 34.5	152	-13 16.9	131	45	17 10	17 41	18 15	16 51	20	6 08	67		
19	105 27.5	53.2	288 08.7	152	30.0	131	50	17 01	34	12	40 16	17	72			
20	120 27.6	54.0	302 42.8	151	43.1	131	52	16 56	31	11	35 13	21	75			
21	135 27.7	54.9	317 16.8	150	-13 56.1	130	54	51	28	09	30 10	26	77			
22	150 27.8	55.7	331 50.8	150	-14 09.0	129	56	46	24	08	24 7	31	80			
23	165 27.9	56.5	346 24.6	148	21.9	129	58	39	21	07	18 3	36	85			
24	180 28.0	+12 57.3	0 58.5	149	-14 34.8	129	60 S	16 32	17 16	18 05	16 10	0	6 43	88		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 52.3 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 18 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 34 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 12 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 03 <sup>m</sup>	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	211 31.8	190 39.5	+7 17.6	216 27.0	-3 30.5	161 28.0	+17 35.4	223 49.8	-7 08.7	
1	226 34.2	205 39.1	18.7	231 27.6	29.7	176 29.9	35.5	238 52.0	08.6	
2	241 36.7	220 38.7	19.9	246 28.3	28.9	191 31.8	35.7	253 54.3	08.6	
3	256 39.2	235 38.3	21.1	261 29.0	28.2	206 33.7	35.8	268 56.5	08.5	
4	271 41.6	250 37.9	22.3	276 29.7	27.4	221 35.5	36.0	283 58.7	08.4	
5	286 44.1	265 37.5	+7 23.5	291 30.4	-3 26.6	236 37.4	+17 36.1	299 01.0	-7 08.3	
6	301 46.6	280 37.1	+7 24.6	306 31.1	-3 25.9	251 39.3	+17 36.3	314 03.2	-7 08.2	
7	316 49.0	295 36.7	25.8	321 31.8	25.1	266 41.2	36.4	329 05.5	08.1	
8	331 51.5	310 36.3	27.0	336 32.4	24.3	281 43.1	36.6	344 07.7	08.0	
9	346 53.9	325 35.9	28.2	351 33.1	23.6	296 44.9	36.7	359 09.9	08.0	
10	1 56.4	340 35.5	29.4	6 33.8	22.8	311 46.8	36.9	14 12.2	07.9	
11	16 58.9	355 35.1	+7 30.5	21 34.5	-3 22.0	326 48.7	+17 37.0	29 14.4	-7 07.8	
12	32 01.3	10 34.6	+7 31.7	36 35.2	-3 21.3	341 50.6	+17 37.2	44 16.7	-7 07.7	
13	47 03.8	25 34.2	32.9	51 35.9	20.5	356 52.5	37.3	59 18.9	07.6	
14	62 06.3	40 33.8	34.1	66 36.6	19.7	11 54.3	37.5	74 21.1	07.5	
15	77 08.7	55 33.4	35.2	81 37.2	19.0	26 56.2	37.6	89 23.4	07.4	
16	92 11.2	70 33.0	36.4	96 37.9	18.2	41 58.1	37.8	104 25.6	07.4	
17	107 13.7	85 32.6	+7 37.6	111 38.6	-3 17.4	57 00.0	+17 37.9	119 27.9	-7 07.3	
18	122 16.1	100 32.2	+7 38.8	126 39.3	-3 16.7	72 01.9	+17 38.1	134 30.1	-7 07.2	
19	137 18.6	115 31.8	39.9	141 40.0	15.9	87 03.7	38.2	149 32.4	07.1	
20	152 21.0	130 31.4	41.1	156 40.7	15.1	102 05.6	38.4	164 34.6	07.0	
21	167 23.5	145 31.0	42.3	171 41.4	14.4	117 07.5	38.5	179 36.8	06.9	
22	182 26.0	160 30.6	43.5	186 42.1	13.6	132 09.4	38.7	194 39.1	06.8	
23	197 28.4	175 30.1	44.7	201 42.7	12.9	147 11.3	38.8	209 41.3	06.8	
24	212 30.9	190 29.7	+7 45.8	216 43.4	-3 12.1	162 13.1	+17 39.0	224 43.6	-7 06.7	
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 14.9'		Edad: 15.2 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.2'			PMG: **h **m		R°: ***m		R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	180 28.0	+12 57.3	0 58.5	147	-14 34.8	128	60 N	2 15	3 26	4 16	21 00 98	4 08 0				
1	195 28.1	58.1	15 32.2	147	-14 47.6	128	58	36	39	24	20 47 91	17 5				
2	210 28.3	59.0	30 05.9	147	-15 00.3	127	56	2 53	49	31	35 86	26 8				
3	225 28.4	+12 59.8	44 39.5	146	13.0	127	54	3 07	3 58	38	25 82	33 12				
4	240 28.5	+13 00.6	59 13.0	145	25.7	127	52	18	4 06	43	16 79	40 15				
5	255 28.6	+13 01.4	73 46.4	144	-15 38.3	126	50	3 29	4 13	4 49	20 08 76	4 46 17				
6	270 28.7	+13 02.2	88 19.8	144	-15 50.8	125	45	3 49	4 28	5 00	19 51 71	4 59 23				
7	285 28.8	03.1	102 53.1	143	-16 03.3	125	40	4 05	4 40	09	37 67	5 10 27				
8	300 28.9	03.9	117 26.3	142	15.7	124	35	18	5 0	17	26 63	20 29				
9	315 29.0	04.7	131 59.5	142	28.0	123	30	29	4 58	23	19 16 60	28 32				
10	330 29.1	05.5	146 32.5	140	40.3	123	20	46	5 12	35	18 59 55	42 38				
11	345 29.2	+13 06.3	161 05.5	140	-16 52.6	123	10 N	4 58	5 24	5 45	18 44 51	5 55 41				
12	0 29.4	+13 07.1	175 38.4	139	-17 04.7	121	0	5 09	5 33	5 55	18 30 47	6 06 46				
13	15 29.5	08.0	190 11.3	139	16.8	121	0 S	18	42	6 04	16 44	18 50				
14	30 29.6	08.8	204 44.0	137	28.9	121	20	25	5 51	14	18 01 40	31 54				
15	45 29.7	09.6	219 16.6	136	40.8	119	30	32	6 00	25	17 45 35	46 58				
16	60 29.8	10.4	233 49.2	136	-17 52.7	119	35	35	05	31	35 32	6 54 62				
17	75 29.9	+13 11.2	248 21.7	135	-18 04.6	119	40	5 39	6 11	6 38	17 24 29	7 04 65				
18	90 30.0	+13 12.0	262 54.1	134	-18 16.3	117	45	5 42	6 16	6 47	17 11 25	7 15 70				
19	105 30.1	12.8	277 26.4	133	28.0	117	50	45	23	6 57	16 56 20	29 75				
20	120 30.2	13.7	291 58.7	133	39.6	116	52	47	26	7 01	48 18	36 78				
21	135 30.3	14.5	306 30.8	131	-18 51.2	116	54	48	29	06	40 15	43 81				
22	150 30.4	15.3	321 02.9	131	-19 02.6	114	56	49	33	12	31 11	7 51 85				
23	165 30.5	16.1	335 34.9	130	14.0	114	58	51	37	18	21 7	8 01 88				
24	180 30.7	+13 16.9	350 06.8	129	-19 25.3	113	60 S	5 52	6 41	7 25	16 10 1	8 11 95				
UT	ARIES	VENUS		MARTE		JUPITER		SATURNO								
	PMG	Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1								
	9 <sup>h</sup> 48.3 <sup>m</sup>	PMG: 11 <sup>h</sup> 18 <sup>m</sup>		PMG: 9 <sup>h</sup> 33 <sup>m</sup>		PMG: 13 <sup>h</sup> 09 <sup>m</sup>		PMG: 9 <sup>h</sup> 00 <sup>m</sup>								
hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "								
0	212 30.9	190 29.7	+7 45.8	216 43.4	-3 12.1	162 13.1	+17 39.0	224 43.6	-7 06.7							
1	227 33.4	205 29.3	47.0	231 44.1	11.3	177 15.0	39.1	239 45.8	06.6							
2	242 35.8	220 28.9	48.2	246 44.8	10.6	192 16.9	39.3	254 48.0	06.5							
3	257 38.3	235 28.5	49.3	261 45.5	09.8	207 18.8	39.4	269 50.3	06.4							
4	272 40.8	250 28.1	50.5	276 46.2	09.0	222 20.7	39.6	284 52.5	06.3							
5	287 43.2	265 27.7	+7 51.7	291 46.9	-3 08.3	237 22.5	+17 39.7	299 54.8	-7 06.2							
6	302 45.7	280 27.3	+7 52.9	306 47.6	-3 07.5	252 24.4	+17 39.9	314 57.0	-7 06.2							
7	317 48.2	295 26.9	54.0	321 48.2	06.7	267 26.3	40.0	329 59.3	06.1							
8	332 50.6	310 26.4	55.2	336 48.9	06.0	282 28.2	40.2	345 01.5	06.0							
9	347 53.1	325 26.0	56.4	351 49.6	05.2	297 30.1	40.3	0 03.7	05.9							
10	2 55.5	340 25.6	57.6	6 50.3	04.4	312 31.9	40.5	15 06.0	05.8							
11	17 58.0	355 25.2	+7 58.7	21 51.0	-3 03.7	327 33.8	+17 40.7	30 08.2	-7 05.7							
12	33 00.5	10 24.8	+7 59.9	36 51.7	-3 02.9	342 35.7	+17 40.8	45 10.5	-7 05.7							
13	48 02.9	25 24.4	+8 01.1	51 52.4	02.1	357 37.6	41.0	60 12.7	05.6							
14	63 05.4	40 24.0	02.2	66 53.1	01.4	12 39.5	41.1	75 15.0	05.5							
15	78 07.9	55 23.5	03.4	81 53.7	-3 00.6	27 41.3	41.3	90 17.2	05.4							
16	93 10.3	70 23.1	04.6	96 54.4	-2 59.8	42 43.2	41.4	105 19.4	05.3							
17	108 12.8	85 22.7	+8 05.8	111 55.1	-2 59.1	57 45.1	+17 41.6	120 21.7	-7 05.2							
18	123 15.3	100 22.3	+8 06.9	126 55.8	-2 58.3	72 47.0	+17 41.7	135 23.9	-7 05.1							
19	138 17.7	115 21.9	08.1	141 56.5	57.5	87 48.8	41.9	150 26.2	05.1							
20	153 20.2	130 21.5	09.3	156 57.2	56.8	102 50.7	42.0	165 28.4	05.0							
21	168 22.7	145 21.1	10.4	171 57.9	56.0	117 52.6	42.2	180 30.7	04.9							
22	183 25.1	160 20.6	11.6	186 58.6	55.2	132 54.5	42.3	195 32.9	04.8							
23	198 27.6	175 20.2	12.8	201 59.2	54.5	147 56.4	42.5	210 35.1	04.7							
24	213 30.0	190 19.8	+8 13.9	216 59.9	-2 53.7	162 58.2	+17 42.6	225 37.4	-7 04.6							
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 15.1'		Edad: 16.2 <sup>d</sup>				PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.4' 20 <sup>h</sup> : 55.6'		R <sup>o</sup> : 48 <sup>m</sup>					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /		° /		°	h m	h m	h m	h m m	h m m	h m m			
0	180 30.7	+13 16.9	350 06.8		-19 25.3	112	60 N	19 44	20 35	21 49	22 38 102	4 08 2				
1	195 30.8	17.7	4 38.5 <sup>127</sup>		36.5	112	58	36	22	27	18 92	22 9				
2	210 30.9	18.5	19 10.3 <sup>128</sup>		47.7	111	56	28	11	21 09	22 01 86	34 14				
3	225 31.0	19.3	33 41.9 <sup>126</sup>		-19 58.8	110	54	21	20 02	20 54	21 47 82	45 17				
4	240 31.1	20.2	48 13.4 <sup>125</sup>		-20 09.8	109	52	16	19 53	42	35 78	4 55 20				
5	255 31.2	+13 21.0	62 44.8 <sup>124</sup>		-20 20.7	108	50	19 10	19 46	20 31	21 24 76	5 03 23				
6	270 31.3	+13 21.8	77 16.2 <sup>124</sup>		-20 31.5	107	45	18 59	19 30	20 10	21 02 70	5 22 28				
7	285 31.4	22.6	91 47.4 <sup>122</sup>		42.2	106	40	49	18	19 53	20 44 67	37 32				
8	300 31.5	23.4	106 18.6 <sup>122</sup>		-20 52.8	106	35	41	19 08	40	29 64	5 49 36				
9	315 31.6	24.2	120 49.7 <sup>121</sup>		-21 03.4	105	30	34	18 59	29	20 16 62	6 00 38				
10	330 31.7	25.0	135 20.6 <sup>119</sup>		13.9	103	20	22	44	19 11	19 54 58	20 42				
11	345 31.8	+13 25.8	149 51.5 <sup>119</sup>		-21 24.2	103	10 N	18 11	18 33	18 58	19 35 55	6 36 46				
12	0 31.9	+13 26.6	164 22.3 <sup>118</sup>		-21 34.5	102	0	18 01	18 23	18 47	19 17 52	6 52 50				
13	15 32.0	27.4	178 53.0 <sup>117</sup>		44.7	101	10 S	17 52	13	38	19 00 48	7 08 53				
14	30 32.1	28.2	193 23.6 <sup>116</sup>		-21 54.8	100	20	41	18 04	30	18 41 45	25 57				
15	45 32.2	29.0	207 54.1 <sup>115</sup>		-22 04.8	99	30	30	17 54	23	20 41	44 61				
16	60 32.3	29.9	222 24.5 <sup>114</sup>		14.7	98	35	23	49	19	18 07 39	7 56 64				
17	75 32.4	+13 30.7	236 54.8 <sup>113</sup>		-22 24.5	97	40	17 16	17 44	18 16	17 53 36	8 09 67				
18	90 32.5	+13 31.5	251 25.0 <sup>112</sup>		-22 34.2	96	45	17 07	17 38	18 12	17 36 33	8 25 71				
19	105 32.6	32.3	265 55.2 <sup>112</sup>		43.8	95	50	16 57	30	08	16 27	44 76				
20	120 32.7	33.1	280 25.2 <sup>110</sup>		-22 53.3	94	52	52	27	07	17 06 25	8 54 78				
21	135 32.8	33.9	294 55.1 <sup>109</sup>		-23 02.7	92	54	47	24	05	16 55 22	9 04 82				
22	150 33.0	34.7	309 25.0 <sup>109</sup>		11.9	92	56	41	20	04	42 18	16 86				
23	165 33.1	35.5	323 54.7 <sup>107</sup>		21.1	91	58	34	16	02	28 13	29 92				
24	180 33.2	+13 36.3	338 24.4 <sup>107</sup>		-23 30.2		60 S	16 27	17 11	18 00	16 11 5	9 46 99				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1	
	9 <sup>h</sup> 44.4 <sup>m</sup>		PMG: 11 <sup>h</sup> 19 <sup>m</sup>		PMG: 9 <sup>h</sup> 32 <sup>m</sup>		PMG: 13 <sup>h</sup> 06 <sup>m</sup>		PMG: 8 <sup>h</sup> 56 <sup>m</sup>	
	hG ♂	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	213 30.0	190 19.8	+ 8 13.9	216 59.9	- 2 53.7	162 58.2	+ 17 42.6	225 37.4	- 7 04.6	
1	228 32.5	205 19.4	15.1	232 00.6	52.9	178 00.1	42.8	240 39.6	04.6	
2	243 35.0	220 19.0	16.3	247 01.3	52.2	193 02.0	42.9	255 41.9	04.5	
3	258 37.4	235 18.6	17.4	262 02.0	51.4	208 03.9	43.1	270 44.1	04.4	
4	273 39.9	250 18.1	18.6	277 02.7	50.6	223 05.8	43.2	285 46.4	04.3	
5	288 42.4	265 17.7	+ 8 19.8	292 03.4	- 2 49.9	238 07.6	+ 17 43.4	300 48.6	- 7 04.2	
6	303 44.8	280 17.3	+ 8 20.9	307 04.1	- 2 49.1	253 09.5	+ 17 43.5	315 50.9	- 7 04.1	
7	318 47.3	295 16.9	22.1	322 04.8	48.3	268 11.4	43.7	330 53.1	04.1	
8	333 49.8	310 16.5	23.3	337 05.4	47.6	283 13.3	43.8	345 55.3	04.0	
9	348 52.2	325 16.0	24.4	352 06.1	46.8	298 15.1	44.0	0 57.6	03.9	
10	3 54.7	340 15.6	25.6	7 06.8	46.0	313 17.0	44.1	15 59.8	03.8	
11	18 57.2	355 15.2	+ 8 26.8	22 07.5	- 2 45.3	328 18.9	+ 17 44.3	31 02.1	- 7 03.7	
12	33 59.6	10 14.8	+ 8 27.9	37 08.2	- 2 44.5	343 20.8	+ 17 44.4	46 04.3	- 7 03.6	
13	49 02.1	25 14.4	29.1	52 08.9	43.7	358 22.7	44.6	61 06.6	03.5	
14	64 04.5	40 13.9	30.2	67 09.6	43.0	13 24.5	44.7	76 08.8	03.5	
15	79 07.0	55 13.5	31.4	82 10.3	42.2	28 26.4	44.9	91 11.1	03.4	
16	94 09.5	70 13.1	32.6	97 11.0	41.4	43 28.3	45.0	106 13.3	03.3	
17	109 11.9	85 12.7	+ 8 33.7	112 11.7	- 2 40.7	58 30.2	+ 17 45.2	121 15.6	- 7 03.2	
18	124 14.4	100 12.3	+ 8 34.9	127 12.3	- 2 39.9	73 32.0	+ 17 45.3	136 17.8	- 7 03.1	
19	139 16.9	115 11.8	36.1	142 13.0	39.1	88 33.9	45.5	151 20.0	03.0	
20	154 19.3	130 11.4	37.2	157 13.7	38.4	103 35.8	45.6	166 22.3	03.0	
21	169 21.8	145 11.0	38.4	172 14.4	37.6	118 37.7	45.8	181 24.5	02.9	
22	184 24.3	160 10.6	39.5	187 15.1	36.8	133 39.5	45.9	196 26.8	02.8	
23	199 26.7	175 10.1	40.7	202 15.8	36.1	148 41.4	46.1	211 29.0	02.7	
24	214 29.2	190 09.7	+ 8 41.9	217 16.5	- 2 35.3	163 43.3	+ 17 46.2	226 31.3	- 7 02.6	

Dif	—	-4	+12	+7	+8	+19	+2	+22	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 57.7 <sup>m</sup>		SD: 15.2' Edad: 17.2 <sup>d</sup> PMG: 1 <sup>h</sup> 29 <sup>m</sup>		R <sup>o</sup> : 53 <sup>m</sup>			PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 55.9' 20 <sup>h</sup> : 56.1'			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	m	h m	m
0	180 33.2	+13 36.3	338 24.4		-23 30.2	89	60 N	2 06	3 20	4 11	** **	4 10	7	
1	195 33.3	37.1	352 53.9	105	39.1	89	58	28	33	19	23 50	83	31 16	
2	210 33.4	37.9	7 23.4	105	48.0	89	56	2 46	44	27	27 78		4 48 22	
3	225 33.5	38.7	21 52.7	103	-23 56.7	87	54	3 01	3 53	33	23 09	74	5 02 27	
4	240 33.6	39.5	36 22.0	103	-24 05.3	86	52	13	4 02	39	22 53	73	15 30	
5	255 33.7	+13 40.3	50 51.2	102	-24 13.8	85	50	3 24	4 09	4 45	22 40	70	5 26 33	
6	270 33.8	+13 41.1	65 20.3	101	-24 22.2	84	45	3 46	4 25	4 56	22 12	67	5 50 37	
7	285 33.9	41.9	79 49.2	99	30.5	83	40	4 02	37	5 06	21 51	65	6 09 40	
8	300 34.0	42.7	94 18.1	99	38.7	82	35	16	48	14	33 63		25 42	
9	315 34.1	43.5	108 46.9	98	46.7	80	30	27	4 56	21	21 18	61	6 38 45	
10	330 34.2	44.3	123 15.6	97	-24 54.6	79	20	44	5 11	34	20 52	59	7 02 48	
11	345 34.3	+13 45.1	137 44.2	96	-25 02.4	78	10 N	4 57	5 23	5 44	20 30	57	7 22 51	
12	0 34.4	+13 45.9	152 12.7	95	-25 10.1	77	0	5 08	5 33	5 54	20 09	55	7 42 53	
13	15 34.5	46.7	166 41.1	94	17.6	75	10 S	18	43	6 04	19 48	54	8 01 56	
14	30 34.6	47.5	181 09.5	94	25.0	74	20	26	5 52	14	26 52		22 58	
15	45 34.7	48.3	195 37.7	92	32.3	73	30	33	6 01	26	19 01	49	8 45 62	
16	60 34.8	49.1	210 05.9	92	39.5	72	35	37	07	33	18 46	47	9 00 63	
17	75 34.9	+13 49.9	224 33.9	90	-25 46.5	70	40	5 41	6 12	6 40	18 29	45	9 16 66	
18	90 34.9	+13 50.7	239 01.9	90	-25 53.4	69	45	5 44	6 19	6 49	18 09	42	9 36 69	
19	105 35.0	51.5	253 29.8	89	-26 00.2	68	50	48	26	7 00	17 43	39	10 00 74	
20	120 35.1	52.3	267 57.5	87	06.8	66	52	50	29	05	31 36		12 76	
21	135 35.2	53.1	282 25.2	87	13.3	65	54	51	33	10	17 33		26 79	
22	150 35.3	53.8	296 52.8	86	19.7	64	56	53	37	16	17 00	30	10 42 83	
23	165 35.4	54.6	311 20.4	86	25.9	62	58	54	41	23	16 41	24	11 01 89	
24	180 35.5	+13 55.4	325 47.8	84	-26 32.0	61	60 S	5 56	6 46	7 30	16 16	15	11 25 98	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 40.5 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 20 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 30 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 03 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 53 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	214 29.2	190 09.7	+8 41.9	217 16.5	-2 35.3	163 43.3	+17 46.2	226 31.3	-7 02.6	
1	229 31.6	205 09.3	43.0	232 17.2	34.5	178 45.2	46.4	241 33.5	02.5	
2	244 34.1	220 08.9	44.2	247 17.9	33.7	193 47.1	46.5	256 35.8	02.5	
3	259 36.6	235 08.5	45.3	262 18.6	33.0	208 48.9	46.7	271 38.0	02.4	
4	274 39.0	250 08.0	46.5	277 19.2	32.2	223 50.8	46.8	286 40.3	02.3	
5	289 41.5	265 07.6	+8 47.7	292 19.9	-2 31.4	238 52.7	+17 47.0	301 42.5	-7 02.2	
6	304 44.0	280 07.2	+8 48.8	307 20.6	-2 30.7	253 54.6	+17 47.1	316 44.8	-7 02.1	
7	319 46.4	295 06.8	50.0	322 21.3	29.9	268 56.4	47.3	331 47.0	02.0	
8	334 48.9	310 06.3	51.1	337 22.0	29.1	283 58.3	47.4	346 49.3	02.0	
9	349 51.4	325 05.9	52.3	352 22.7	28.4	299 00.2	47.6	1 51.5	01.9	
10	4 53.8	340 05.5	53.4	7 23.4	27.6	314 02.1	47.7	16 53.7	01.8	
11	19 56.3	355 05.0	+8 54.6	22 24.1	-2 26.8	329 03.9	+17 47.9	31 56.0	-7 01.7	
12	34 58.8	10 04.6	+8 55.8	37 24.8	-2 26.1	344 05.8	+17 48.0	46 58.2	-7 01.6	
13	50 01.2	25 04.2	56.9	52 25.5	25.3	359 07.7	48.2	62 00.5	01.6	
14	65 03.7	40 03.8	58.1	67 26.2	24.5	14 09.6	48.3	77 02.7	01.5	
15	80 06.1	55 03.3	+8 59.2	82 26.8	23.8	29 11.4	48.5	92 05.0	01.4	
16	95 08.6	70 02.9	+9 00.4	97 27.5	23.0	44 13.3	48.6	107 07.2	01.3	
17	110 11.1	85 02.5	+9 01.5	112 28.2	-2 22.2	59 15.2	+17 48.8	122 09.5	-7 01.2	
18	125 13.5	100 02.1	+9 02.7	127 28.9	-2 21.5	74 17.1	+17 48.9	137 11.7	-7 01.1	
19	140 16.0	115 01.6	03.8	142 29.6	20.7	89 18.9	49.1	152 14.0	01.1	
20	155 18.5	130 01.2	05.0	157 30.3	19.9	104 20.8	49.2	167 16.2	01.0	
21	170 20.9	145 00.8	06.1	172 31.0	19.2	119 22.7	49.4	182 18.5	00.9	
22	185 23.4	160 00.3	07.3	187 31.7	18.4	134 24.6	49.5	197 20.7	00.8	
23	200 25.9	174 59.9	08.4	202 32.4	17.6	149 26.5	49.7	212 23.0	00.7	
24	215 28.3	189 59.5	+9 09.6	217 33.1	-2 16.9	164 28.3	+17 49.8	227 25.2	-7 00.6	
Dif	—	-4	+12	+7	+8	+19	+1	+22	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 57.6 <sup>m</sup>		SD: 15.3' Edad: 18.2 <sup>d</sup> PMG: 2 <sup>h</sup> 22 <sup>m</sup> R°: 56 <sup>m</sup>						PHE { 4 <sup>h</sup> : 56.2' 12 <sup>h</sup> : 56.4' 20 <sup>h</sup> : 56.6'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	180 35.5	+13 55.4	325 47.8	84	-26 32.0	60	60 N	19 49	20 41	21 58	0 20	93	4 17	23		
1	195 35.6	56.2	340 15.2	82	38.0	58	58	40	27	34	** ** *	** ** *	4 47	34		
2	210 35.7	57.0	354 42.4	82	43.8	56	56	32	16	21 15	** ** *	** ** *	5 10	39		
3	225 35.8	57.8	9 09.6	82	49.5	54	54	25	20 06	20 59	** ** *	** ** *	29	41		
4	240 35.9	58.6	23 36.7	81	-26 55.0	52	52	19	19 57	46	** ** *	** ** *	45	44		
5	255 36.0	+13 59.4	38 03.8	81	-27 00.4	50	50	19 13	19 49	20 35	23 50	59	5 59	45		
6	270 36.1	+14 00.2	52 30.7	79	-27 05.6	52	45	19 01	19 33	20 13	23 19	60	6 27	48		
7	285 36.2	01.0	66 57.6	79	10.7	51	40	18 51	20	19 55	22 56	59	6 49	50		
8	300 36.3	01.8	81 24.4	78	15.7	50	35	43	09	42	36	59	7 07	52		
9	315 36.4	02.6	95 51.1	77	20.5	48	30	35	19 00	30	22 19	59	23	53		
10	330 36.5	03.3	110 17.7	76	25.1	46	20	22	18 45	19 12	21 51	58	7 50	54		
11	345 36.6	+14 04.1	124 44.3	76	-27 29.6	45	10 N	18 11	18 33	18 58	21 27	58	8 13	56		
12	0 36.7	+14 04.9	139 10.8	75	-27 34.0	44	0	18 01	18 22	18 47	21 04	58	8 35	57		
13	15 36.8	05.7	153 37.2	74	38.2	42	10 S	17 51	12	37	20 42	57	8 57	58		
14	30 36.9	06.5	168 03.5	73	42.2	40	20	40	18 03	29	20 18	57	9 20	59		
15	45 37.0	07.3	182 29.8	73	46.1	39	30	28	17 53	21	19 50	56	9 47	61		
16	60 37.0	08.1	196 56.0	72	49.9	38	35	21	47	17	33	56	10 03	62		
17	75 37.1	+14 08.9	211 22.2	72	-27 53.4	35	40	17 13	17 41	18 13	19 14	56	10 22	62		
18	90 37.2	+14 09.7	225 48.3	71	-27 56.9	35	45	17 04	17 35	18 09	18 51	55	10 45	63		
19	105 37.3	10.4	240 14.3	70	-28 00.1	32	50	16 53	27	05	22	53	11 14	65		
20	120 37.4	11.2	254 40.3	70	03.2	31	52	48	24	03	18 07	53	28	66		
21	135 37.5	12.0	269 06.2	69	06.2	30	54	43	20	02	17 50	52	11 45	67		
22	150 37.6	12.8	283 32.0	68	09.0	28	56	36	16	18 00	30	50	12 05	69		
23	165 37.7	13.6	297 57.8	68	11.6	26	58	29	11	17 58	17 05	47	12 30	72		
24	180 37.8	+14 14.4	312 23.5	67	-28 14.1	25	60 S	16 22	17 06	17 56	16 31	42	13 03	78		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 <sup>h</sup> 36.5 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 20 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 29 <sup>m</sup>		Mag.: -2.0 PMG: 13 <sup>h</sup> 00 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	215 28.3	189 59.5	+9 09.6	217 33.1	-2 16.9	164 28.3	+17 49.8	227 25.2	-7 00.6	
1	230 30.8	204 59.1	10.7	232 33.8	16.1	179 30.2	50.0	242 27.5	00.6	
2	245 33.3	219 58.6	11.9	247 34.5	15.3	194 32.1	50.1	257 29.7	00.5	
3	260 35.7	234 58.2	13.0	262 35.1	14.6	209 34.0	50.3	272 32.0	00.4	
4	275 38.2	249 57.8	14.2	277 35.8	13.8	224 35.8	50.4	287 34.2	00.3	
5	290 40.6	264 57.3	+9 15.3	292 36.5	-2 13.0	239 37.7	+17 50.6	302 36.5	-7 00.2	
6	305 43.1	279 56.9	+9 16.5	307 37.2	-2 12.3	254 39.6	+17 50.7	317 38.7	-7 00.2	
7	320 45.6	294 56.5	17.6	322 37.9	11.5	269 41.5	50.9	332 41.0	00.1	
8	335 48.0	309 56.0	18.8	337 38.6	10.7	284 43.3	51.0	347 43.2	-7 00.0	
9	350 50.5	324 55.6	19.9	352 39.3	10.0	299 45.2	51.2	2 45.5	-6 59.9	
10	5 53.0	339 55.2	21.1	7 40.0	09.2	314 47.1	51.3	17 47.7	59.8	
11	20 55.4	354 54.7	+9 22.2	22 40.7	-2 08.4	329 49.0	+17 51.5	32 50.0	-6 59.7	
12	35 57.9	9 54.3	+9 23.4	37 41.4	-2 07.7	344 50.8	+17 51.6	47 52.2	-6 59.7	
13	51 00.4	24 53.9	24.5	52 42.1	06.9	359 52.7	51.8	62 54.5	59.6	
14	66 02.8	39 53.4	25.7	67 42.8	06.1	14 54.6	51.9	77 56.7	59.5	
15	81 05.3	54 53.0	26.8	82 43.5	05.3	29 56.4	52.1	92 59.0	59.4	
16	96 07.8	69 52.6	28.0	97 44.1	04.6	44 58.3	52.2	108 01.2	59.3	
17	111 10.2	84 52.1	+9 29.1	112 44.8	-2 03.8	60 00.2	+17 52.4	123 03.5	-6 59.3	
18	126 12.7	99 51.7	+9 30.3	127 45.5	-2 03.0	75 02.1	+17 52.5	138 05.7	-6 59.2	
19	141 15.1	114 51.3	31.4	142 46.2	02.3	90 03.9	52.7	153 08.0	59.1	
20	156 17.6	129 50.8	32.6	157 46.9	01.5	105 05.8	52.8	168 10.2	59.0	
21	171 20.1	144 50.4	33.7	172 47.6	00.7	120 07.7	52.9	183 12.5	58.9	
22	186 22.5	159 49.9	34.8	187 48.3	-2 00.0	135 09.6	53.1	198 14.7	58.8	
23	201 25.0	174 49.5	36.0	202 49.0	-1 59.2	150 11.4	53.2	213 17.0	58.8	
24	216 27.5	189 49.1	+9 37.1	217 49.7	-1 58.4	165 13.3	+17 53.4	228 19.2	-6 58.7	
Dif	—	-4	+11	+7	+8	+19	+1	+22	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 57.4 <sup>m</sup>		SD: 15.4' Edad: 19.2 <sup>d</sup> PMG: 3 <sup>h</sup> 18 <sup>m</sup> R°: 58 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.8' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 57.1'			Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° /	° /	° /		° /		°	h m	h m	h m	h m	m	h m	m
0	180 37.8	+ 14 14.4	312 23.5	67	- 28 14.1	23	<b>60 N</b>	1 56	3 13	4 05	1 53	58	4 40	64
1	195 37.9	15.1	326 49.2	66	16.4	21	<b>58</b>	2 20	27	14	1 13	59	5 21	62
2	210 38.0	15.9	341 14.8	66	18.5	20	<b>56</b>	3 39	38	22	0 45	59	5 49	62
3	225 38.0	16.7	355 40.4	66	20.5	18	<b>54</b>	2 55	48	29	23	60	6 10	62
4	240 38.1	17.5	10 05.9	65	22.3	17	<b>52</b>	3 08	3 57	35	0 06	59	29	61
5	255 38.2	+ 14 18.3	24 31.4	65	- 28 24.0	15	<b>50</b>	3 19	4 05	4 41	** **	***	6 44	61
6	270 38.3	+ 14 19.1	38 56.8	64	- 28 25.5	13	<b>45</b>	3 42	4 21	4 53	** **	***	7 15	60
7	285 38.4	19.8	53 22.2	64	26.8	11	<b>40</b>	3 59	34	5 03	23 55	50	39	60
8	300 38.5	20.6	67 47.6	64	27.9	10	<b>35</b>	4 13	45	12	35	52	7 59	60
9	315 38.6	21.4	82 12.9	63	28.9	8	<b>30</b>	24	4 54	20	23 18	53	8 16	59
10	330 38.7	22.2	96 38.1	62	29.7	7	<b>20</b>	43	5 10	32	22 49	56	8 44	60
11	345 38.8	+ 14 23.0	111 03.4	63	- 28 30.4	5	<b>10 N</b>	4 56	5 22	5 44	22 25	57	9 09	59
12	0 38.9	+ 14 23.7	125 28.6	62	- 28 30.9	3	<b>0</b>	5 08	5 33	5 54	22 02	58	9 32	58
13	15 38.9	24.5	139 53.8	62	31.2	1	<b>10 S</b>	18	43	6 04	21 39	60	9 55	57
14	30 39.0	25.3	154 18.9	61	31.3	0	<b>20</b>	26	5 52	15	21 15	61	10 19	57
15	45 39.1	26.1	168 44.0	61	31.3	2	<b>30</b>	34	6 03	27	20 46	63	10 48	56
16	60 39.2	26.8	183 09.1	61	31.1	4	<b>35</b>	38	08	34	29	64	11 05	55
17	75 39.3	+ 14 27.6	197 34.2	61	- 28 30.7	6	<b>40</b>	5 42	6 14	6 42	20 10	65	11 24	55
18	90 39.4	+ 14 28.4	211 59.2	60	- 28 30.1	7	<b>45</b>	5 46	6 21	6 52	19 46	66	11 48	54
19	105 39.5	29.2	226 24.2	60	29.4	9	<b>50</b>	51	29	7 03	15	69	12 19	52
20	120 39.5	30.0	240 49.2	60	28.5	10	<b>52</b>	52	32	08	19 00	69	34	51
21	135 39.6	30.7	255 14.2	60	27.5	12	<b>54</b>	54	36	14	18 42	71	12 52	50
22	150 39.7	31.5	269 39.2	60	26.3	14	<b>56</b>	56	40	20	18 20	74	13 14	48
23	165 39.8	32.3	284 04.1	59	24.9	16	<b>58</b>	5 58	45	27	17 52	78	13 42	44
24	180 39.9	+ 14 33.1	298 29.1	60	- 28 23.3		<b>60 S</b>	6 00	6 50	7 35	17 13	84	14 21	38

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 <sup>h</sup> 32.6 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 21 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 57 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 45 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	216 27.5	189 49.1	+ 9 37.1	217 49.7	- 1 58.4	165 13.3	+ 17 53.4	228 19.2	- 6 58.7	
1	231 29.9	204 48.6	38.3	232 50.4	57.7	180 15.2	53.5	243 21.5	58.6	
2	246 32.4	219 48.2	39.4	247 51.1	56.9	195 17.1	53.7	258 23.7	58.5	
3	261 34.9	234 47.8	40.6	262 51.8	56.1	210 18.9	53.8	273 26.0	58.4	
4	276 37.3	249 47.3	41.7	277 52.5	55.4	225 20.8	54.0	288 28.2	58.4	
5	291 39.8	264 46.9	+ 9 42.8	292 53.2	- 1 54.6	240 22.7	+ 17 54.1	303 30.5	- 6 58.3	
6	306 42.2	279 46.4	+ 9 44.0	307 53.9	- 1 53.8	255 24.6	+ 17 54.3	318 32.7	- 6 58.2	
7	321 44.7	294 46.0	45.1	322 54.5	53.1	270 26.4	54.4	333 35.0	58.1	
8	336 47.2	309 45.6	46.3	337 55.2	52.3	285 28.3	54.6	348 37.2	58.0	
9	351 49.6	324 45.1	47.4	352 55.9	51.5	300 30.2	54.7	3 39.5	58.0	
10	6 52.1	339 44.7	48.5	7 56.6	50.8	315 32.1	54.9	18 41.7	57.9	
11	21 54.6	354 44.2	+ 9 49.7	22 57.3	- 1 50.0	330 33.9	+ 17 55.0	33 44.0	- 6 57.8	
12	36 57.0	9 43.8	+ 9 50.8	37 58.0	- 1 49.2	345 35.8	+ 17 55.2	48 46.2	- 6 57.7	
13	51 59.5	24 43.4	51.9	52 58.7	48.5	0 37.7	55.3	63 48.5	57.6	
14	67 02.0	39 42.9	53.1	67 59.4	47.7	15 39.5	55.5	78 50.7	57.6	
15	82 04.4	54 42.5	54.2	83 00.1	46.9	30 41.4	55.6	93 53.0	57.5	
16	97 06.9	69 42.0	55.4	98 00.8	46.2	45 43.3	55.8	108 55.3	57.4	
17	112 09.4	84 41.6	+ 9 56.5	113 01.5	- 1 45.4	60 45.2	+ 17 55.9	123 57.5	- 6 57.3	
18	127 11.8	99 41.2	+ 9 57.6	128 02.2	- 1 44.6	75 47.0	+ 17 56.1	138 59.8	- 6 57.2	
19	142 14.3	114 40.7	58.8	143 02.9	43.8	90 48.9	56.2	154 02.0	57.2	
20	157 16.7	129 40.3	+ 9 59.9	158 03.6	43.1	105 50.8	56.4	169 04.3	57.1	
21	172 19.2	144 39.8	+ 10 01.0	173 04.3	42.3	120 52.7	56.5	184 06.5	57.0	
22	187 21.7	159 39.4	02.2	188 05.0	41.5	135 54.5	56.7	199 08.8	56.9	
23	202 24.1	174 38.9	03.3	203 05.7	40.8	150 56.4	56.8	214 11.0	56.8	
24	217 26.6	189 38.5	+ 10 04.4	218 06.3	- 1 40.0	165 58.3	+ 17 57.0	229 13.3	- 6 56.8	

Dif	—	-4	+11	+7	+8	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 57.3 <sup>m</sup>		SD: 15.6' Edad: 20.2 <sup>d</sup> PMG: 4 <sup>h</sup> 16 <sup>m</sup>		R <sup>o</sup> : 58 <sup>m</sup>				PHE { 4 <sup>h</sup> : 57.3' 12 <sup>h</sup> : 57.5' 20 <sup>h</sup> : 57.7'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	180 39.9	+14 33.1	298 29.1	59	-28 23.3	18	60 N	19 54	20 47	22 08	2 51	21	5 44	100		
1	195 40.0	33.8	312 54.0	59	21.5	19	58	45	33	21 41	2 12	32	6 23	89		
2	210 40.1	34.6	327 18.9	59	19.6	21	56	36	21	21	1 44	38	6 51	83		
3	225 40.1	35.4	341 43.9	60	17.5	21	54	29	10	21 05	23	40	7 12	80		
4	240 40.2	36.1	356 08.8	59	15.2	23	52	22	20 01	20 51	1 05	43	30	77		
5	255 40.3	+14 36.9	10 33.7	59	-28 12.8	24	50	19 16	19 53	20 39	0 49	45	7 45	75		
6	270 40.4	+14 37.7	24 58.6	59	-28 10.2	26	45	19 04	19 36	20 16	0 19	48	8 15	72		
7	285 40.5	38.5	39 23.5	59	07.4	28	40	18 53	22	19 58	** ** *	** ** *	39	69		
8	300 40.6	39.2	53 48.5	60	04.4	30	35	44	11	44	** ** *	** ** *	8 59	66		
9	315 40.7	40.0	68 13.4	59	-28 01.3	31	30	36	19 02	32	** ** *	** ** *	9 15	65		
10	330 40.7	40.8	82 38.3	59	-27 58.0	33	20	23	18 46	19 13	23 45	51	9 44	62		
11	345 40.8	+14 41.5	97 03.3	60	-27 54.5	35	10 N	18 11	18 33	18 59	23 22	54	10 08	60		
12	0 40.9	+14 42.3	111 28.3	60	-27 50.9	36	0	18 01	18 22	18 47	23 00	57	10 30	58		
13	15 41.0	43.1	125 53.2	59	47.1	38	10 S	17 50	12	37	22 39	60	10 52	56		
14	30 41.1	43.8	140 18.2	60	43.1	40	20	39	18 02	28	22 16	63	11 16	53		
15	45 41.1	44.6	154 43.2	60	38.9	42	30	26	17 51	19	21 49	67	11 44	50		
16	60 41.2	45.4	169 08.3	61	34.6	43	35	19	45	15	33	69	12 00	48		
17	75 41.3	+14 46.1	183 33.3	60	-27 30.1	45	40	17 11	17 39	18 11	21 15	71	12 19	46		
18	90 41.4	+14 46.9	197 58.4	61	-27 25.4	47	45	17 01	17 32	18 06	20 52	75	12 42	43		
19	105 41.5	47.7	212 23.5	61	20.5	49	50	16 50	24	02	24 79	79	13 11	39		
20	120 41.6	48.4	226 48.6	61	15.5	50	52	44	20	18 00	20 09	83	25	37		
21	135 41.6	49.2	241 13.7	61	10.3	52	54	38	16	17 58	19 53	86	13 42	33		
22	150 41.7	50.0	255 38.9	62	-27 05.0	53	56	32	12	56	34	90	14 02	29		
23	165 41.8	50.7	270 04.1	62	-26 59.5	55	58	25	07	53	19 10	96	26	23		
24	180 41.9	+14 51.5	284 29.4	63	-26 53.8	57	60 S	16 16	17 02	17 51	18 37	107	14 59	13		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 28.7 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 55 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	217 26.6	189 38.5	+10 04.4	218 06.3	-1 40.0	165 58.3	+17 57.0	229 13.3	-6 56.8	
1	232 29.1	204 38.0	05.6	233 07.0	39.2	181 00.1	57.1	244 15.5	56.7	
2	247 31.5	219 37.6	06.7	248 07.7	38.5	196 02.0	57.3	259 17.8	56.6	
3	262 34.0	234 37.2	07.8	263 08.4	37.7	211 03.9	57.4	274 20.0	56.5	
4	277 36.5	249 36.7	09.0	278 09.1	36.9	226 05.8	57.6	289 22.3	56.4	
5	292 38.9	264 36.3	+10 10.1	293 09.8	-1 36.2	241 07.6	+17 57.7	304 24.5	-6 56.4	
6	307 41.4	279 35.8	+10 11.2	308 10.5	-1 35.4	256 09.5	+17 57.9	319 26.8	-6 56.3	
7	322 43.9	294 35.4	12.4	323 11.2	34.6	271 11.4	58.0	334 29.1	56.2	
8	337 46.3	309 34.9	13.5	338 11.9	33.9	286 13.3	58.2	349 31.3	56.1	
9	352 48.8	324 34.5	14.6	353 12.6	33.1	301 15.1	58.3	4 33.6	56.0	
10	7 51.2	339 34.0	15.8	8 13.3	32.3	316 17.0	58.4	19 35.8	56.0	
11	22 53.7	354 33.6	+10 16.9	23 14.0	-1 31.6	331 18.9	+17 58.6	34 38.1	-6 55.9	
12	37 56.2	9 33.1	+10 18.0	38 14.7	-1 30.8	346 20.7	+17 58.7	49 40.3	-6 55.8	
13	52 58.6	24 32.7	19.1	53 15.4	30.0	1 22.6	58.9	64 42.6	55.7	
14	68 01.1	39 32.2	20.3	68 16.1	29.3	16 24.5	59.0	79 44.8	55.6	
15	83 03.6	54 31.8	21.4	83 16.8	28.5	31 26.4	59.2	94 47.1	55.6	
16	98 06.0	69 31.3	22.5	98 17.5	27.7	46 28.2	59.3	109 49.3	55.5	
17	113 08.5	84 30.9	+10 23.7	113 18.2	-1 26.9	61 30.1	+17 59.5	124 51.6	-6 55.4	
18	128 11.0	99 30.4	+10 24.8	128 18.9	-1 26.2	76 32.0	+17 59.6	139 53.9	-6 55.3	
19	143 13.4	114 30.0	25.9	143 19.6	25.4	91 33.8	59.8	154 56.1	55.2	
20	158 15.9	129 29.5	27.0	158 20.3	24.6	106 35.7	+17 59.9	169 58.4	55.2	
21	173 18.4	144 29.1	28.2	173 20.9	23.9	121 37.6	+18 00.1	185 00.6	55.1	
22	188 20.8	159 28.6	29.3	188 21.6	23.1	136 39.5	00.2	200 02.9	55.0	
23	203 23.3	174 28.2	30.4	203 22.3	22.3	151 41.3	00.4	215 05.1	54.9	
24	218 25.7	189 27.7	+10 31.5	218 23.0	-1 21.6	166 43.2	+18 00.5	230 07.4	-6 54.8	
Dif	—	-4	+11	+7	+8	+19	+1	+23	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 57.1 <sup>m</sup>		SD: 15.8' Edad: 21.2 <sup>d</sup> PMG: 5 <sup>h</sup> 14 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 58.3'			R°: 57 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m			
0	180 41.9	+14 51.5	284 29.4	62	-26 53.8	59	60 N	1 45	3 07	3 59	3 12	7	7 24	111		
1	195 42.0	52.3	298 54.6	62	47.9	58	58	2 12	21	4 09	2 44	16	7 52	102		
2	210 42.0	53.0	313 19.9	63	41.9	60	56	33	33	17	22	22	8 14	95		
3	225 42.1	53.8	327 45.3	64	35.7	62	54	2 49	44	25	2 03	27	32	90		
4	240 42.2	54.6	342 10.7	64	29.4	63	52	3 03	3 53	31	1 48	30	8 47	86		
5	255 42.3	+14 55.3	356 36.1	64	-26 22.8	66	50	3 14	4 01	4 37	1 34	33	9 00	83		
6	270 42.3	+14 56.1	11 01.5	64	-26 16.1	67	45	3 38	4 18	4 50	1 07	38	9 27	78		
7	285 42.4	56.8	25 27.0	65	09.3	68	40	3 56	32	5 01	0 45	42	9 48	73		
8	300 42.5	57.6	39 52.6	66	-26 02.3	70	35	4 10	43	10	27	45	10 05	71		
9	315 42.6	58.4	54 18.2	66	-25 55.1	72	30	22	4 52	18	0 11	47	20	68		
10	330 42.7	59.1	68 43.8	66	47.8	73	20	41	5 08	31	***	***	10 46	63		
11	345 42.7	+14 59.9	83 09.5	67	-25 40.3	75	10 N	4 56	5 21	5 43	***	***	11 08	59		
12	0 42.8	+15 00.6	97 35.2	67	-25 32.6	77	0	5 07	5 32	5 54	23 57	55	11 28	56		
13	15 42.9	01.4	112 01.0	68	24.8	78	10 S	18	43	6 04	39	58	11 48	52		
14	30 43.0	02.2	126 26.8	68	16.9	79	20	27	5 53	16	23 19	63	12 09	49		
15	45 43.0	02.9	140 52.7	69	08.7	82	30	35	6 04	29	22 56	68	34	44		
16	60 43.1	03.7	155 18.6	69	-25 00.4	83	35	40	10	36	42	71	12 48	42		
17	75 43.2	+15 04.4	169 44.6	70	-24 52.0	84	40	5 44	6 16	6 44	22 26	75	13 05	38		
18	90 43.3	+15 05.2	184 10.6	70	-24 43.4	86	45	5 49	6 23	6 54	22 07	79	13 25	34		
19	105 43.3	05.9	198 36.7	71	34.7	87	50	53	32	7 06	21 43	86	13 50	28		
20	120 43.4	06.7	213 02.8	71	25.8	89	52	55	35	11	32	88	14 02	25		
21	135 43.5	07.5	227 29.0	72	16.7	91	54	5 57	39	17	19	92	15	22		
22	150 43.6	08.2	241 55.3	73	-24 07.5	92	56	6 00	44	24	21 04	96	31	17		
23	165 43.6	09.0	256 21.6	73	-23 58.1	94	58	02	49	31	20 46	102	14 49	12		
24	180 43.7	+15 09.7	270 48.0	74	-23 48.6	95	60 S	6 04	6 54	7 40	20 24	110	15 12	5		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 24.7 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 26 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	218 25.7	189 27.7	+10 31.5	218 23.0	-1 21.6	166 43.2	+18 00.5	230 07.4	-6 54.8	54.8
1	233 28.2	204 27.3	32.6	233 23.7	20.8	181 45.1	00.7	245 09.6	54.8	54.7
2	248 30.7	219 26.8	33.8	248 24.4	20.0	196 46.9	00.8	260 11.9	54.7	54.6
3	263 33.1	234 26.4	34.9	263 25.1	19.3	211 48.8	01.0	275 14.2	54.6	54.5
4	278 35.6	249 25.9	36.0	278 25.8	18.5	226 50.7	01.1	290 16.4	54.5	54.4
5	293 38.1	264 25.4	+10 37.1	293 26.5	-1 17.7	241 52.6	+18 01.3	305 18.7	-6 54.4	54.4
6	308 40.5	279 25.0	+10 38.3	308 27.2	-1 17.0	256 54.4	+18 01.4	320 20.9	-6 54.4	54.3
7	323 43.0	294 24.5	39.4	323 27.9	16.2	271 56.3	01.6	335 23.2	54.3	54.2
8	338 45.5	309 24.1	40.5	338 28.6	15.4	286 58.2	01.7	350 25.4	54.2	54.1
9	353 47.9	324 23.6	41.6	353 29.3	14.7	302 00.0	01.9	5 27.7	54.1	54.1
10	8 50.4	339 23.2	42.7	8 30.0	13.9	317 01.9	02.0	20 30.0	54.1	54.0
11	23 52.9	354 22.7	+10 43.9	23 30.7	-1 13.1	332 03.8	+18 02.1	35 32.2	-6 54.0	53.9
12	38 55.3	9 22.3	+10 45.0	38 31.4	-1 12.4	347 05.7	+18 02.3	50 34.5	-6 53.9	53.8
13	53 57.8	24 21.8	46.1	53 32.1	11.6	2 07.5	02.4	65 36.7	53.8	53.7
14	69 00.2	39 21.3	47.2	68 32.8	10.8	17 09.4	02.6	80 39.0	53.7	53.6
15	84 02.7	54 20.9	48.3	83 33.5	10.1	32 11.3	02.7	95 41.2	53.6	53.5
16	99 05.2	69 20.4	49.5	98 34.2	09.3	47 13.1	02.9	110 43.5	53.6	53.5
17	114 07.6	84 20.0	+10 50.6	113 34.9	-1 08.5	62 15.0	+18 03.0	125 45.8	-6 53.5	53.4
18	129 10.1	99 19.5	+10 51.7	128 35.6	-1 07.7	77 16.9	+18 03.2	140 48.0	-6 53.4	53.3
19	144 12.6	114 19.1	52.8	143 36.3	07.0	92 18.7	03.3	155 50.3	53.3	53.3
20	159 15.0	129 18.6	53.9	158 37.0	06.2	107 20.6	03.5	170 52.5	53.3	53.2
21	174 17.5	144 18.1	55.0	173 37.7	05.4	122 22.5	03.6	185 54.8	53.2	53.1
22	189 20.0	159 17.7	56.1	188 38.4	04.7	137 24.4	03.8	200 57.0	53.1	53.0
23	204 22.4	174 17.2	57.3	203 39.1	03.9	152 26.2	03.9	215 59.3	53.0	53.0
24	219 24.9	189 16.8	+10 58.4	218 39.8	-1 03.1	167 28.1	+18 04.1	231 01.6	-6 53.0	53.0
Dif	—	-5	+11	+7	+8	+19	+1	+23	+1	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 15.9' PMG: 11 <sup>h</sup> 57.0 <sup>m</sup>		SD: 15.9' Edad: 22.2 <sup>d</sup> PMG: 6 <sup>h</sup> 11 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.5' 12 <sup>h</sup> : 58.7' 20 <sup>h</sup> : 58.9'				R°: 53 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m							
0	180	43.7	+15	09.7	270	48.0	-23	48.6	96	60 N	19	59	20	53	22	19	3	19	2	9	15	110	
1	195	43.8		10.5	285	14.4	74	39.0	98	58	49	38	21	49	3	00	8			34	102		
2	210	43.9		11.2	299	40.9	75	29.2	100	56	40	25	28		2	44	13			9	49	97	
3	225	43.9		12.0	314	07.4	75	19.2	100	54	33	14	21	10		30	18			10	02	93	
4	240	44.0		12.7	328	34.0	76	-23	09.2	52	26	20	05	20	56	18	21			13	90		
5	255	44.1	+15	13.5	343	00.7	77	-22	58.9	50	19	19	19	56	20	43	2	07	24	10	23	87	
6	270	44.2	+15	14.2	357	27.4	77	-22	48.5	45	19	06	19	39	20	19	1	45	30	10	45	80	
7	285	44.2		15.0	11	54.2	78	38.0	105	40	18	55	25	20	00		27	34		11	01	76	
8	300	44.3		15.7	26	21.1	79	27.4	106	35	46	13	19	46	1	12	38			16	71		
9	315	44.4		16.5	40	48.0	79	16.6	108	30	38	19	03	33	0	58	41			28	68		
10	330	44.4		17.2	55	14.9	79	-22	05.6	20	24	18	47	19	14	36	46			11	49	62	
11	345	44.5	+15	18.0	69	42.0	81	-21	54.6	10 N	18	12	18	34	18	59	0	16	50	12	07	57	
12	0	44.6	+15	18.7	84	09.1	81	-21	43.4	0	18	00	18	22	18	47	**	**	**	**	12	24	53
13	15	44.7		19.5	98	36.2	81	32.0	114	10 S	17	49	11	36		**	**	**	**	40	49		
14	30	44.7		20.2	113	03.5	83	20.6	114	20	38	18	00	27		**	**	**	**	12	58	44	
15	45	44.8		21.0	127	30.7	82	-21	09.0	30	24	17	49	18		**	**	**	**	13	18	39	
16	60	44.9		21.7	141	58.1	84	-20	57.2	35	17	43	13	23	53	71			30	35			
17	75	44.9	+15	22.5	156	25.5	84	-20	45.4	40	17	08	17	37	18	09	23	41	75	13	43	32	
18	90	45.0	+15	23.2	170	53.0	85	-20	33.4	45	16	58	17	29	18	04	23	26	81	13	59	27	
19	105	45.1		24.0	185	20.5	85	21.2	122	50	46	20	17	59		09	86			14	18	21	
20	120	45.1		24.7	199	48.1	86	-20	09.0	52	41	16	57		23	00	90			27	18		
21	135	45.2		25.4	214	15.8	87	-19	56.6	54	34	12	54		22	51	93			37	15		
22	150	45.3		26.2	228	43.5	87	44.1	125	56	28	08	52		40	97			14	48	12		
23	165	45.4		26.9	243	11.3	88	31.5	126	58	20	17	03	49		28	102			15	01	7	
24	180	45.4	+15	27.7	257	39.1	88	-19	18.8	60 S	16	11	16	57	17	47	22	14	107	15	17	1	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO														
	PMG 9 <sup>h</sup> 20.8 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 23 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 25 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 35 <sup>m</sup>														
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec													
0	219	24.9	189	16.8	+10	58.4	218	39.8	-1	03.1	167	28.1	+18	04.1	231	01.6	-6	53.0					
1	234	27.4	204	16.3	+10	59.5	233	40.5		02.4	182	30.0		04.2	246	03.8		52.9					
2	249	29.8	219	15.8	+11	00.6	248	41.1		01.6	197	31.8		04.4	261	06.1		52.8					
3	264	32.3	234	15.4		01.7	263	41.8		00.8	212	33.7		04.5	276	08.3		52.7					
4	279	34.7	249	14.9		02.8	278	42.5	-1	00.1	227	35.6		04.7	291	10.6		52.6					
5	294	37.2	264	14.4	+11	03.9	293	43.2	-0	59.3	242	37.4	+18	04.8	306	12.9	-6	52.6					
6	309	39.7	279	14.0	+11	05.0	308	43.9	-0	58.5	257	39.3	+18	04.9	321	15.1	-6	52.5					
7	324	42.1	294	13.5		06.2	323	44.6		57.8	272	41.2		05.1	336	17.4		52.4					
8	339	44.6	309	13.1		07.3	338	45.3		57.0	287	43.1		05.2	351	19.6		52.3					
9	354	47.1	324	12.6		08.4	353	46.0		56.2	302	44.9		05.4	6	21.9		52.3					
10	9	49.5	339	12.1		09.5	8	46.7		55.5	317	46.8		05.5	21	24.2		52.2					
11	24	52.0	354	11.7	+11	10.6	23	47.4	-0	54.7	332	48.7	+18	05.7	36	26.4	-6	52.1					
12	39	54.5	9	11.2	+11	11.7	38	48.1	-0	53.9	347	50.5	+18	05.8	51	28.7	-6	52.0					
13	54	56.9	24	10.7		12.8	53	48.8		53.2	2	52.4		06.0	66	30.9		52.0					
14	69	59.4	39	10.3		13.9	68	49.5		52.4	17	54.3		06.1	81	33.2		51.9					
15	85	01.8	54	09.8		15.0	83	50.2		51.6	32	56.1		06.3	96	35.5		51.8					
16	100	04.3	69	09.3		16.1	98	50.9		50.9	47	58.0		06.4	111	37.7		51.7					
17	115	06.8	84	08.9	+11	17.2	113	51.6	-0	50.1	62	59.9	+18	06.6	126	40.0	-6	51.6					
18	130	09.2	99	08.4	+11	18.3	128	52.3	-0	49.3	78	01.7	+18	06.7	141	42.2	-6	51.6					
19	145	11.7	114	07.9		19.4	143	53.0		48.6	93	03.6		06.9	156	44.5		51.5					
20	160	14.2	129	07.5		20.6	158	53.7		47.8	108	05.5		07.0	171	46.8		51.4					
21	175	16.6	144	07.0		21.7	173	54.4		47.0	123	07.4		07.2	186	49.0		51.3					
22	190	19.1	159	06.5		22.8	188	55.1		46.2	138	09.2		07.3	201	51.3		51.3					
23	205	21.6	174	06.1		23.9	203	55.8		45.5	153	11.1		07.4	216	53.5		51.2					
24	220	24.0	189	05.6	+11	25.0	218	56.5	-0	44.7	168	13.0	+18	07.6	231	55.8	-6	51.1					
Dif	—		-5		+11		+7		+8		+19		+1		+23		+1						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 56.9 <sup>m</sup>		SD: 16.1' Edad: 23.2 <sup>d</sup> PMG: 7 <sup>h</sup> 04 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 59.3' 20 <sup>h</sup> : 59.5'			R°: 52 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m	
0	180 45.4	+15 27.7	257 39.1	89	-19 18.8	129	60 N	1 34	3 00	3 54	3 21	0	11 05	106
1	195 45.5	28.4	272 07.0	89	-19 05.9	129	58	2 04	15	4 04	3 08	5	16	101
2	210 45.6	29.2	286 35.0	90	-18 53.0	129	56	26	28	13	2 57	10	26	97
3	225 45.6	29.9	301 03.0	90	39.9	131	54	43	39	21	48	12	35	93
4	240 45.7	30.6	315 31.1	91	26.7	132	52	2 58	49	28	39	16	43	89
5	255 45.8	+15 31.4	329 59.3	92	-18 13.3	134	50	3 10	3 57	4 34	2 31	19	11 50	86
6	270 45.8	+15 32.1	344 27.5	92	-17 59.9	134	45	3 34	4 15	4 47	2 15	24	12 05	80
7	285 45.9	32.9	358 55.8	93	46.4	135	40	3 53	29	4 58	2 01	29	17	75
8	300 46.0	33.6	13 24.1	93	32.7	137	35	4 08	41	5 08	1 50	33	27	71
9	315 46.0	34.3	27 52.5	94	19.0	137	30	20	4 51	16	39	37	36	67
10	330 46.1	35.1	42 20.9	94	-17 05.1	139	20	40	5 07	30	22	42	12 51	61
11	345 46.2	+15 35.8	56 49.4	95	-16 51.1	140	10 N	4 55	5 20	5 42	1 06	48	13 04	56
12	0 46.2	+15 36.6	71 18.0	96	-16 37.0	141	0	5 07	5 32	5 53	0 52	52	13 17	51
13	15 46.3	37.3	85 46.6	96	22.9	141	10 S	18	43	6 05	37	57	29	46
14	30 46.4	38.0	100 15.3	97	-16 08.6	143	20	27	5 54	16	22	61	42	41
15	45 46.4	38.8	114 44.0	97	-15 54.2	144	30	37	6 05	30	0 04	67	13 57	34
16	60 46.5	39.5	129 12.8	98	39.7	145	35	41	11	38	** ** *	** ** *	14 05	31
17	75 46.5	+15 40.2	143 41.6	98	-15 25.1	146	40	5 46	6 18	6 46	** ** *	** ** *	14 15	27
18	90 46.6	+15 41.0	158 10.5	99	-15 10.5	146	45	5 51	6 26	6 56	** ** *	** ** *	14 26	22
19	105 46.7	41.7	172 39.4	99	-14 55.7	148	50	56	34	7 09	** ** *	** ** *	39	17
20	120 46.7	42.5	187 08.4	100	40.9	148	52	5 58	38	14	** ** *	** ** *	45	15
21	135 46.8	43.2	201 37.5	101	25.9	150	54	6 00	43	21	** ** *	** ** *	14 52	12
22	150 46.9	43.9	216 06.5	100	-14 10.9	150	56	03	47	28	** ** *	** ** *	15 00	8
23	165 46.9	44.7	230 35.7	102	-13 55.7	152	58	06	53	36	** ** *	** ** *	08	5
24	180 47.0	+15 45.4	245 04.9	102	-13 40.5	152	60 S	6 08	6 58	7 44	** ** *	** ** *	15 18	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 16.9 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 24 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 46 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 31 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	220 24.0	189 05.6	+11 25.0	218 56.5	-0 44.7	168 13.0	+18 07.6	231 55.8	-6 51.1	
1	235 26.5	204 05.1	26.1	233 57.2	43.9	183 14.8	07.7	246 58.1	51.0	
2	250 29.0	219 04.6	27.2	248 57.9	43.2	198 16.7	07.9	262 00.3	50.9	
3	265 31.4	234 04.2	28.3	263 58.6	42.4	213 18.6	08.0	277 02.6	50.9	
4	280 33.9	249 03.7	29.4	278 59.3	41.6	228 20.4	08.2	292 04.8	50.8	
5	295 36.3	264 03.2	+11 30.5	294 00.0	-0 40.9	243 22.3	+18 08.3	307 07.1	-6 50.7	
6	310 38.8	279 02.8	+11 31.6	309 00.7	-0 40.1	258 24.2	+18 08.5	322 09.4	-6 50.6	
7	325 41.3	294 02.3	32.7	324 01.4	39.3	273 26.0	08.6	337 11.6	50.6	
8	340 43.7	309 01.8	33.8	339 02.1	38.6	288 27.9	08.8	352 13.9	50.5	
9	355 46.2	324 01.3	34.9	354 02.8	37.8	303 29.8	08.9	7 16.2	50.4	
10	10 48.7	339 00.9	36.0	9 03.5	37.0	318 31.6	09.1	22 18.4	50.3	
11	25 51.1	354 00.4	+11 37.1	24 04.2	-0 36.3	333 33.5	+18 09.2	37 20.7	-6 50.3	
12	40 53.6	8 59.9	+11 38.2	39 04.9	-0 35.5	348 35.4	+18 09.3	52 22.9	-6 50.2	
13	55 56.1	23 59.5	39.3	54 05.6	34.7	3 37.2	09.5	67 25.2	50.1	
14	70 58.5	38 59.0	40.4	69 06.3	34.0	18 39.1	09.6	82 27.5	50.0	
15	86 01.0	53 58.5	41.5	84 07.0	33.2	33 41.0	09.8	97 29.7	50.0	
16	101 03.5	68 58.0	42.6	99 07.7	32.4	48 42.9	09.9	112 32.0	49.9	
17	116 05.9	83 57.6	+11 43.6	114 08.4	-0 31.7	63 44.7	+18 10.1	127 34.3	-6 49.8	
18	131 08.4	98 57.1	+11 44.7	129 09.1	-0 30.9	78 46.6	+18 10.2	142 36.5	-6 49.7	
19	146 10.8	113 56.6	45.8	144 09.8	30.1	93 48.5	10.4	157 38.8	49.7	
20	161 13.3	128 56.1	46.9	159 10.5	29.4	108 50.3	10.5	172 41.0	49.6	
21	176 15.8	143 55.6	48.0	174 11.2	28.6	123 52.2	10.7	187 43.3	49.5	
22	191 18.2	158 55.2	49.1	189 11.9	27.8	138 54.1	10.8	202 45.6	49.4	
23	206 20.7	173 54.7	50.2	204 12.6	27.1	153 55.9	11.0	217 47.8	49.4	
24	221 23.2	188 54.2	+11 51.3	219 13.3	-0 26.3	168 57.8	+18 11.1	232 50.1	-6 49.3	

Dif	—	-5	+11	+7	+8	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 56.8 <sup>m</sup>		SD: 16.2' Edad: 24.2 <sup>d</sup> PMG: 7 <sup>h</sup> 56 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.6' 12 <sup>h</sup> : 59.8' 20 <sup>h</sup> : 59.9'				R°: 50 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	180 47.0	+15 45.4	245 04.9	102	-13 40.5	153	20 04	20 59	22 31	3 21	-1	12 51	104			
1	195 47.0	46.1	259 34.1	102	25.2	153	19 53	43	21 58	13 4		12 57	99			
2	210 47.1	46.8	274 03.4	103	-13 09.8	154	44	30	34	07 7		13 03	95			
3	225 47.2	47.6	288 32.7	103	-12 54.4	154	36	19	16	3 00	11	08 91				
4	240 47.2	48.3	303 02.1	104	38.8	156	29	09	21 01	2 55	13	12 89				
5	255 47.3	+15 49.0	317 31.5	104	-12 23.2	156	19 22	20 00	20 48	2 50	16	13 16	86			
6	270 47.4	+15 49.8	332 00.9	104	-12 07.5	157	19 09	19 41	20 22	2 39	22	13 25	80			
7	285 47.4	50.5	346 30.4	105	-11 51.7	158	18 57	27	20 03	30 26		32 75				
8	300 47.5	51.2	0 59.9	105	35.9	158	35	47	15	19 48	23 30	38 70				
9	315 47.5	52.0	15 29.5	106	19.9	160	30	39	19 04	35	16 33	43 67				
10	330 47.6	52.7	29 59.1	106	-11 03.9	160	20	24	18 48	19 15	2 04	40	13 52 61			
11	345 47.7	+15 53.4	44 28.8	107	-10 47.9	160	10 N	18 12	18 34	18 59	1 54	45	14 00 55			
12	0 47.7	+15 54.1	58 58.4	106	-10 31.7	162	0	18 00	18 22	18 47	1 44	50	14 08 49			
13	15 47.8	54.9	73 28.2	108	-10 15.5	162	0 S	17 49	18 11	36	34 55	15 44				
14	30 47.8	55.6	87 57.9	107	-9 59.2	163	20	37	17 59	26	23 61	23 39				
15	45 47.9	56.3	102 27.7	108	42.9	163	30	23	48	16	11 67	31 33				
16	60 47.9	57.0	116 57.5	108	26.5	164	35	15	41	11	1 04 71	36 30				
17	75 48.0	+15 57.8	131 27.3	108	-9 10.0	165	40	17 06	17 34	18 06	0 56	75	14 42 25			
18	90 48.1	+15 58.5	145 57.2	109	-8 53.5	165	45	16 55	17 26	18 01	0 47	80	14 48 21			
19	105 48.1	59.2	160 27.1	109	37.0	165	50	43	17	17 56	35 86	14 56 15				
20	120 48.2	+15 59.9	174 57.0	109	20.3	167	52	37	13	53	30 89	15 00 12				
21	135 48.2	+16 00.7	189 27.0	110	-8 03.6	167	54	30	09	51	24 92	04 9				
22	150 48.3	01.4	203 57.0	110	-7 46.9	167	56	23	17 04	48	17 96	08 6				
23	165 48.3	02.1	218 27.0	110	30.1	168	58	15	16 58	45	10 100	13 3				
24	180 48.4	+16 02.8	232 57.0	110	-7 13.3	168	60 S	16 06	16 52	17 42	0 01 105	15 18 -1				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 12.9 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 23 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 27 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	221 23.2	188 54.2	+11 51.3	219 13.3	-0 26.3	168 57.8	+18 11.1	232 50.1	-6 49.3	
1	236 25.6	203 53.7	52.4	234 14.0	25.5	183 59.7	11.2	247 52.4	49.2	
2	251 28.1	218 53.3	53.5	249 14.7	24.8	199 01.5	11.4	262 54.6	49.1	
3	266 30.6	233 52.8	54.6	264 15.4	24.0	214 03.4	11.5	277 56.9	49.0	
4	281 33.0	248 52.3	55.7	279 16.1	23.2	229 05.3	11.7	292 59.2	49.0	
5	296 35.5	263 51.8	+11 56.7	294 16.8	-0 22.5	244 07.1	+18 11.8	308 01.4	-6 48.9	
6	311 37.9	278 51.3	+11 57.8	309 17.5	-0 21.7	259 09.0	+18 12.0	323 03.7	-6 48.8	
7	326 40.4	293 50.9	+11 58.9	324 18.2	20.9	274 10.9	12.1	338 05.9	48.7	
8	341 42.9	308 50.4	+12 00.0	339 18.9	20.2	289 12.7	12.3	353 08.2	48.7	
9	356 45.3	323 49.9	01.1	354 19.6	19.4	304 14.6	12.4	8 10.5	48.6	
10	11 47.8	338 49.4	02.2	9 20.3	18.6	319 16.5	12.6	23 12.7	48.5	
11	26 50.3	353 48.9	+12 03.3	24 21.0	-0 17.9	334 18.3	+18 12.7	38 15.0	-6 48.4	
12	41 52.7	8 48.4	+12 04.4	39 21.7	-0 17.1	349 20.2	+18 12.9	53 17.3	-6 48.4	
13	56 55.2	23 48.0	05.4	54 22.4	16.3	4 22.1	13.0	68 19.5	48.3	
14	71 57.7	38 47.5	06.5	69 23.1	15.6	19 23.9	13.1	83 21.8	48.2	
15	87 00.1	53 47.0	07.6	84 23.8	14.8	34 25.8	13.3	98 24.1	48.1	
16	102 02.6	68 46.5	08.7	99 24.5	14.0	49 27.7	13.4	113 26.3	48.1	
17	117 05.1	83 46.0	+12 09.8	114 25.2	-0 13.3	64 29.5	+18 13.6	128 28.6	-6 48.0	
18	132 07.5	98 45.5	+12 10.9	129 25.9	-0 12.5	79 31.4	+18 13.7	143 30.9	-6 47.9	
19	147 10.0	113 45.1	11.9	144 26.6	11.7	94 33.3	13.9	158 33.1	47.8	
20	162 12.4	128 44.6	13.0	159 27.3	11.0	109 35.1	14.0	173 35.4	47.8	
21	177 14.9	143 44.1	14.1	174 28.0	10.2	124 37.0	14.2	188 37.7	47.7	
22	192 17.4	158 43.6	15.2	189 28.7	09.4	139 38.9	14.3	203 39.9	47.6	
23	207 19.8	173 43.1	16.3	204 29.4	08.7	154 40.7	14.5	218 42.2	47.5	
24	222 22.3	188 42.6	+12 17.4	219 30.1	-0 07.9	169 42.6	+18 14.6	233 44.5	-6 47.5	

Dif	—	-5	+11	+7	+8	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 16.3'		Edad: 25.2 <sup>d</sup>			PHE { 4 <sup>h</sup> : 60.0' 12 <sup>h</sup> : 60.2' 20 <sup>h</sup> : 60.2'			PMG: 8 <sup>h</sup> 46 <sup>m</sup>		R <sup>o</sup> : 49 <sup>m</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	180 48.4	+16 02.8	232 57.0	-7 13.3	169	60 N	1 22	2 54	3 49	3 20	-1	14 35	103			
1	195 48.5	03.6	247 27.0	-6 56.4	169	58	1 55	3 09	3 59	17	3	36	100			
2	210 48.5	04.3	261 57.1	39.4	170	56	2 19	23	4 09	14	6	38	95			
3	225 48.6	05.0	276 27.2	22.5	169	54	2 37	34	17	11	9	39	93			
4	240 48.6	05.7	290 57.3	-6 05.4	171	52	2 52	44	24	08	12	41	89			
5	255 48.7	+16 06.4	305 27.4	-5 48.4	170	50	3 05	3 53	4 30	3 06	14	14	42 86			
6	270 48.7	+16 07.2	319 57.5	-5 31.3	171	45	3 31	4 12	4 44	3 01	20	14	45 80			
7	285 48.8	07.9	334 27.7	-5 14.1	172	40	3 50	26	4 56	2 56	25	47	75			
8	300 48.8	08.6	348 57.8	-4 56.9	172	35	4 06	38	5 06	53	29	48	71			
9	315 48.9	09.3	3 28.0	39.7	172	30	18	4 49	14	49	33	50	67			
10	330 49.0	10.0	17 58.2	22.5	172	20	38	5 06	29	44	38	53	60			
11	345 49.0	+16 10.7	32 28.4	-4 05.2	173	10 N	4 54	5 20	5 42	2 39	44	14	55 55			
12	0 49.1	+16 11.5	46 58.6	-3 47.9	173	0	5 07	5 32	5 53	2 34	49	14	57 50			
13	15 49.1	12.2	61 28.8	30.6	173	10 S	18	43	6 05	29	55	14	59 45			
14	30 49.2	12.9	75 59.0	-3 13.2	174	20	28	5 54	17	24	60	15	02 38			
15	45 49.2	13.6	90 29.2	-2 55.8	174	30	38	6 06	31	18	67	04	32			
16	60 49.3	14.3	104 59.4	38.4	174	35	43	13	39	15	70	06	28			
17	75 49.3	+16 15.0	119 29.6	-2 21.0	174	40	5 48	6 20	6 48	2 11	75	15	07 25			
18	90 49.4	+16 15.7	133 59.8	-2 03.5	175	45	5 53	6 28	6 59	2 07	79	15	09 20			
19	105 49.4	16.5	148 30.0	-1 46.0	175	50	5 59	37	7 12	2 01	86	11	15			
20	120 49.5	17.2	163 00.2	28.6	174	52	6 01	41	18	1 59	88	12	12			
21	135 49.5	17.9	177 30.4	-1 11.0	176	54	04	46	24	56	92	13	9			
22	150 49.6	18.6	192 00.6	-0 53.5	175	56	06	51	32	53	95	14	7			
23	165 49.6	19.3	206 30.8	36.0	175	58	09	6 56	40	50	99	16	2			
24	180 49.7	+16 20.0	221 01.0	-0 18.5	175	60 S	6 12	7 03	7 49	1 46	103	15	17 -1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 09.0 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 40 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 24 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	222 22.3	188 42.6	+12 17.4	219 30.1	-0 07.9	169 42.6	+18 14.6	233 44.5	-6 47.5	
1	237 24.8	203 42.1	18.4	234 30.8	07.1	184 44.5	14.7	248 46.7	47.4	
2	252 27.2	218 41.6	19.5	249 31.5	06.4	199 46.3	14.9	263 49.0	47.3	
3	267 29.7	233 41.2	20.6	264 32.2	05.6	214 48.2	15.0	278 51.3	47.3	
4	282 32.2	248 40.7	21.7	279 32.9	04.8	229 50.1	15.2	293 53.5	47.2	
5	297 34.6	263 40.2	+12 22.7	294 33.6	-0 04.1	244 51.9	+18 15.3	308 55.8	-6 47.1	
6	312 37.1	278 39.7	+12 23.8	309 34.3	-0 03.3	259 53.8	+18 15.5	323 58.1	-6 47.0	
7	327 39.6	293 39.2	24.9	324 35.0	02.5	274 55.7	15.6	339 00.3	47.0	
8	342 42.0	308 38.7	26.0	339 35.7	01.8	289 57.5	15.8	354 02.6	46.9	
9	357 44.5	323 38.2	27.0	354 36.4	01.0	304 59.4	15.9	9 04.9	46.8	
10	12 46.9	338 37.7	28.1	9 37.1	-0 00.2	320 01.3	16.0	24 07.1	46.7	
11	27 49.4	353 37.2	+12 29.2	24 37.8	+0 00.5	335 03.1	+18 16.2	39 09.4	-6 46.7	
12	42 51.9	8 36.7	+12 30.3	39 38.5	+0 01.3	350 05.0	+18 16.3	54 11.7	-6 46.6	
13	57 54.3	23 36.2	31.3	54 39.2	02.1	5 06.9	16.5	69 13.9	46.5	
14	72 56.8	38 35.8	32.4	69 39.9	02.8	20 08.7	16.6	84 16.2	46.4	
15	87 59.3	53 35.3	33.5	84 40.6	03.6	35 10.6	16.8	99 18.5	46.4	
16	103 01.7	68 34.8	34.6	99 41.3	04.4	50 12.5	16.9	114 20.7	46.3	
17	118 04.2	83 34.3	+12 35.6	114 42.0	+0 05.1	65 14.3	+18 17.1	129 23.0	-6 46.2	
18	133 06.7	98 33.8	+12 36.7	129 42.7	+0 05.9	80 16.2	+18 17.2	144 25.3	-6 46.1	
19	148 09.1	113 33.3	37.8	144 43.4	06.7	95 18.1	17.4	159 27.5	46.1	
20	163 11.6	128 32.8	38.8	159 44.1	07.4	110 19.9	17.5	174 29.8	46.0	
21	178 14.0	143 32.3	39.9	174 44.8	08.2	125 21.8	17.6	189 32.1	45.9	
22	193 16.5	158 31.8	41.0	189 45.5	09.0	140 23.6	17.8	204 34.3	45.8	
23	208 19.0	173 31.3	42.0	204 46.2	09.7	155 25.5	17.9	219 36.6	45.8	
24	223 21.4	188 30.8	+12 43.1	219 46.9	+0 10.5	170 27.4	+18 18.1	234 38.9	-6 45.7	
Dif	—	-5	+11	+7	+8	+19	+1	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 56.6 <sup>m</sup>		SD: 16.4' Edad: 26.2 <sup>d</sup> PMG: 9 <sup>h</sup> 35 <sup>m</sup> R°: 50 <sup>m</sup>						PHE { 4 <sup>h</sup> : 60.3' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.4'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	180 49.7	+16 20.0	221 01.0		-0 18.5	176	60 N	20 09	21 05	22 44	3 19	0	16 18	106		
1	195 49.7	20.7	235 31.2	<sup>112</sup>	-0 00.9	176	58	19 58	20 49	22 06	20 3	0	16 101			
2	210 49.8	21.4	250 01.3	<sup>111</sup>	+0 16.6	175	56	48	35	21 41	20 6	6	13 98			
3	225 49.8	22.1	264 31.5	<sup>112</sup>	34.2	175	54	40	23	21	20 10	10	12 93			
4	240 49.9	22.8	279 01.6	<sup>111</sup>	+0 51.7	175	52	32	12	21 05	20 13	10	10 90			
5	255 49.9	+16 23.6	293 31.7	<sup>111</sup>	+1 09.3	176	50	19 25	20 03	20 52	3 20	15	16 08	88		
6	270 50.0	+16 24.3	308 01.8	<sup>111</sup>	+1 26.8	175	45	19 11	19 44	20 25	3 21	20	16 05	81		
7	285 50.0	25.0	322 31.9	<sup>111</sup>	+1 44.4	176	40	18 59	29	20 05	21 25	25	16 02	76		
8	300 50.1	25.7	337 02.0	<sup>111</sup>	+2 01.9	175	35	49	16	19 50	22 29	29	15 59	72		
9	315 50.1	26.4	351 32.0	<sup>110</sup>	19.5	176	30	40	19 06	37	22 33	33	57 68			
10	330 50.2	27.1	6 02.0	<sup>110</sup>	37.0	175	20	25	18 48	16	22 39	39	53 62			
11	345 50.2	+16 27.8	20 32.0	<sup>110</sup>	+2 54.5	175	10 N	18 12	18 34	19 00	3 23	44	15 50	56		
12	0 50.3	+16 28.5	35 02.0	<sup>110</sup>	+3 12.0	175	0	18 00	18 22	18 47	3 23	50	15 47	50		
13	15 50.3	29.2	49 32.0	<sup>110</sup>	29.5	175	10 S	17 48	18 10	35	24 55	55	44 45			
14	30 50.4	29.9	64 01.9	<sup>109</sup>	+3 47.0	175	20	36	17 58	25	24 61	40	40 40			
15	45 50.4	30.6	78 31.8	<sup>109</sup>	+4 04.5	175	30	21	46	15	25 68	68	36 34			
16	60 50.5	31.3	93 01.7	<sup>109</sup>	21.9	174	35	13	39	10	25 72	72	34 30			
17	75 50.5	+16 32.0	107 31.5	<sup>108</sup>	+4 39.4	175	40	17 04	17 32	18 04	3 26	76	15 32	26		
18	90 50.5	+16 32.7	122 01.3	<sup>108</sup>	+4 56.8	174	45	16 53	17 24	17 59	3 26	81	15 29	21		
19	105 50.6	33.4	136 31.1	<sup>108</sup>	+5 14.1	173	50	40	14	53	27 87	87	26 15			
20	120 50.6	34.1	151 00.8	<sup>107</sup>	31.5	174	52	33	10	50	27 90	90	24 13			
21	135 50.7	34.8	165 30.5	<sup>107</sup>	+5 48.8	173	54	27	05	47	28 93	93	22 10			
22	150 50.7	35.5	180 00.2	<sup>107</sup>	+6 06.1	173	56	19	17 00	45	28 96	96	21 6			
23	165 50.8	36.2	194 29.8	<sup>106</sup>	23.3	172	58	11	16 54	41	29 100	100	18 4			
24	180 50.8	+16 36.9	208 59.4	<sup>106</sup>	+6 40.6	173	60 S	16 01	16 48	17 38	3 29	105	15 16	-1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 05.1 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 37 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 20 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	223 21.4	188 30.8	+12 43.1	219 46.9	+0 10.5	170 27.4	+18 18.1	234 38.9	-6 45.7	
1	238 23.9	203 30.3	44.2	234 47.6	11.3	185 29.2	18.2	249 41.1	45.6	
2	253 26.4	218 29.8	45.2	249 48.3	12.0	200 31.1	18.4	264 43.4	45.6	
3	268 28.8	233 29.3	46.3	264 49.0	12.8	215 33.0	18.5	279 45.7	45.5	
4	283 31.3	248 28.8	47.4	279 49.7	13.6	230 34.8	18.7	294 48.0	45.4	
5	298 33.8	263 28.3	+12 48.4	294 50.4	+0 14.3	245 36.7	+18 18.8	309 50.2	-6 45.3	
6	313 36.2	278 27.8	+12 49.5	309 51.1	+0 15.1	260 38.6	+18 18.9	324 52.5	-6 45.3	
7	328 38.7	293 27.3	50.6	324 51.8	15.9	275 40.4	19.1	339 54.8	45.2	
8	343 41.2	308 26.8	51.6	339 52.5	16.6	290 42.3	19.2	354 57.0	45.1	
9	358 43.6	323 26.3	52.7	354 53.2	17.4	305 44.2	19.4	9 59.3	45.0	
10	13 46.1	338 25.8	53.8	9 53.9	18.2	320 46.0	19.5	25 01.6	45.0	
11	28 48.5	353 25.3	+12 54.8	24 54.6	+0 18.9	335 47.9	+18 19.7	40 03.8	-6 44.9	
12	43 51.0	8 24.8	+12 55.9	39 55.3	+0 19.7	350 49.8	+18 19.8	55 06.1	-6 44.8	
13	58 53.5	23 24.3	56.9	54 56.0	20.5	5 51.6	20.0	70 08.4	44.8	
14	73 55.9	38 23.8	58.0	69 56.7	21.2	20 53.5	20.1	85 10.7	44.7	
15	88 58.4	53 23.3	+12 59.1	84 57.4	22.0	35 55.4	20.2	100 12.9	44.6	
16	104 00.9	68 22.8	+13 00.1	99 58.1	22.8	50 57.2	20.4	115 15.2	44.5	
17	119 03.3	83 22.3	+13 01.2	114 58.8	+0 23.5	65 59.1	+18 20.5	130 17.5	-6 44.5	
18	134 05.8	98 21.8	+13 02.2	129 59.5	+0 24.3	81 00.9	+18 20.7	145 19.7	-6 44.4	
19	149 08.3	113 21.3	03.3	145 00.2	25.1	96 02.8	20.8	160 22.0	44.3	
20	164 10.7	128 20.8	04.4	160 00.9	25.8	111 04.7	21.0	175 24.3	44.2	
21	179 13.2	143 20.3	05.4	175 01.6	26.6	126 06.5	21.1	190 26.5	44.2	
22	194 15.6	158 19.8	06.5	190 02.4	27.3	141 08.4	21.3	205 28.8	44.1	
23	209 18.1	173 19.3	07.5	205 03.1	28.1	156 10.3	21.4	220 31.1	44.0	
24	224 20.6	188 18.8	+13 08.6	220 03.8	+0 28.9	171 12.1	+18 21.5	235 33.4	-6 44.0	
Dif	—	-5	+11	+7	+8	+19	+1	+23	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 56.6 <sup>m</sup>		SD: 16.5' Edad: 27.2 <sup>d</sup> PMG: 10 <sup>h</sup> 25 <sup>m</sup>		R°: 53 <sup>m</sup>			PHE { 4 <sup>h</sup> : 60.4' 12 <sup>h</sup> : 60.3' 20 <sup>h</sup> : 60.3'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	180 50.8	+16 36.9	208 59.4	+6 40.6	172	60 N	1 08	2 47	3 44	3 19	-1	18 04	110			
1	195 50.9	37.6	223 29.0	+6 57.8	172	58	1 46	3 04	3 55	23 4		17 57	104			
2	210 50.9	38.3	237 58.5	+7 14.9	171	56	2 12	18	4 04	26 8		51 100				
3	225 50.9	39.0	252 28.0	+7 32.0	171	54	3 1	30	13	30 11		45 96				
4	240 51.0	39.7	266 57.4	+7 49.1	171	52	2 47	40	20	33 14		40 93				
5	255 51.0	+16 40.4	281 26.8	+8 06.1	170	50	3 01	3 50	4 27	3 35	17	17 36	89			
6	270 51.1	+16 41.1	295 56.1	+8 23.1	170	45	3 27	4 09	4 42	3 41	23	17 26	83			
7	285 51.1	41.8	310 25.4	+8 40.0	169	40	3 47	24	4 54	46 28		18 78				
8	300 51.2	42.5	324 54.7	+8 56.9	169	35	4 03	36	5 04	51 31		11 74				
9	315 51.2	43.2	339 23.9	+9 13.7	168	30	16	4 47	13	3 55	35	17 05	70			
10	330 51.2	43.9	353 53.0	+9 30.5	168	20	37	5 05	28	4 01	42	16 55	63			
11	345 51.3	+16 44.6	8 22.1	+9 47.2	167	10 N	4 53	5 19	5 41	4 07	47	16 46	58			
12	0 51.3	+16 45.3	22 51.2	+10 03.9	167	0	5 06	5 32	5 53	4 13	52	16 37	54			
13	15 51.4	46.0	37 20.1	+10 20.5	166	10 S	18	43	6 05	19 57		29 48				
14	30 51.4	46.7	51 49.1	+10 37.1	166	20	29	5 55	18	25 63		20 43				
15	45 51.5	47.4	66 18.0	+10 53.5	164	30	39	6 07	32	33 69		10 37				
16	60 51.5	48.0	80 46.8	+11 10.0	165	35	44	14	41	37 73		16 04	34			
17	75 51.5	+16 48.7	95 15.6	+11 26.3	163	40	5 49	6 22	6 50	4 42	77	15 58	29			
18	90 51.6	+16 49.4	109 44.3	+11 42.6	163	45	5 55	6 30	7 01	4 47	82	15 50	25			
19	105 51.6	50.1	124 12.9	+11 58.8	162	50	6 01	40	15	54 89		41 19				
20	120 51.7	50.8	138 41.5	+12 15.0	162	52	04	44	21	4 57	92	37 16				
21	135 51.7	51.5	153 10.1	+12 31.0	160	54	07	49	28	5 01	95	32 13				
22	150 51.7	52.2	167 38.5	+12 47.0	160	56	09	6 54	35	04 99		27 9				
23	165 51.8	52.9	182 07.0	+13 03.0	160	58	13	7 00	44	09 103		22 5				
24	180 51.8	+16 53.6	196 35.3	+13 18.8	158	60 S	6 16	7 07	7 54	5 14	108	15 15	1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 <sup>h</sup> 01.1 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 27 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 19 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 34 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 17 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	224 20.6	188 18.8	+13 08.6	220 03.8	+0 28.9	171 12.1	+18 21.5	235 33.4	-6 44.0	
1	239 23.0	203 18.3	09.6	235 04.5	29.6	186 14.0	21.7	250 35.6	43.9	
2	254 25.5	218 17.7	10.7	250 05.2	30.4	201 15.9	21.8	265 37.9	43.8	
3	269 28.0	233 17.2	11.7	265 05.9	31.2	216 17.7	22.0	280 40.2	43.7	
4	284 30.4	248 16.7	12.8	280 06.6	31.9	231 19.6	22.1	295 42.4	43.7	
5	299 32.9	263 16.2	+13 13.8	295 07.3	+0 32.7	246 21.5	+18 22.3	310 44.7	-6 43.6	
6	314 35.4	278 15.7	+13 14.9	310 08.0	+0 33.5	261 23.3	+18 22.4	325 47.0	-6 43.5	
7	329 37.8	293 15.2	15.9	325 08.7	34.2	276 25.2	22.5	340 49.3	43.5	
8	344 40.3	308 14.7	17.0	340 09.4	35.0	291 27.0	22.7	355 51.5	43.4	
9	359 42.8	323 14.2	18.0	355 10.1	35.8	306 28.9	22.8	10 53.8	43.3	
10	14 45.2	338 13.7	19.1	10 10.8	36.5	321 30.8	23.0	25 56.1	43.2	
11	29 47.7	353 13.2	+13 20.1	25 11.5	+0 37.3	336 32.6	+18 23.1	40 58.4	-6 43.2	
12	44 50.1	8 12.7	+13 21.2	40 12.2	+0 38.1	351 34.5	+18 23.3	56 00.6	-6 43.1	
13	59 52.6	23 12.1	22.2	55 12.9	38.8	6 36.4	23.4	71 02.9	43.0	
14	74 55.1	38 11.6	23.3	70 13.6	39.6	21 38.2	23.6	86 05.2	43.0	
15	89 57.5	53 11.1	24.3	85 14.3	40.4	36 40.1	23.7	101 07.4	42.9	
16	105 00.0	68 10.6	25.4	100 15.0	41.1	51 42.0	23.8	116 09.7	42.8	
17	120 02.5	83 10.1	+13 26.4	115 15.7	+0 41.9	66 43.8	+18 24.0	131 12.0	-6 42.7	
18	135 04.9	98 09.6	+13 27.5	130 16.4	+0 42.6	81 45.7	+18 24.1	146 14.3	-6 42.7	
19	150 07.4	113 09.1	28.5	145 17.1	43.4	96 47.5	24.3	161 16.5	42.6	
20	165 09.9	128 08.5	29.6	160 17.8	44.2	111 49.4	24.4	176 18.8	42.5	
21	180 12.3	143 08.0	30.6	175 18.5	44.9	126 51.3	24.6	191 21.1	42.5	
22	195 14.8	158 07.5	31.6	190 19.2	45.7	141 53.1	24.7	206 23.4	42.4	
23	210 17.2	173 07.0	32.7	205 19.9	46.5	156 55.0	24.8	221 25.6	42.3	
24	225 19.7	188 06.5	+13 33.7	220 20.6	+0 47.2	171 56.9	+18 25.0	236 27.9	-6 42.2	
Dif	—	-5	+10	+7	+8	+19	+1	+23	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 56.5 <sup>m</sup>		SD: 16.4' Edad: 28.2 <sup>d</sup> PMG: 11 <sup>h</sup> 18 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.1' 20 <sup>h</sup> : 59.9'				R°: 55 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	180 51.8	+16 53.6	196 35.3	93	+13 18.8	158	60 N	20 14	21 12	23 00	3 18	1	19 54	114		
1	195 51.8	54.2	211 03.6	93	34.6	158	58	20 02	20 54	22 15	27 6		41	107		
2	210 51.9	54.9	225 31.8	92	+13 50.2	156	56	19 52	39	21 48	34 11		31	100		
3	225 51.9	55.6	240 00.0	92	+14 05.8	155	54	43	27	27	41 14		21	96		
4	240 52.0	56.3	254 28.1	91	21.3	155	52	36	16	21 10	47 18		13	92		
5	255 52.0	+16 57.0	268 56.1	90	+14 36.7	154	50	19 28	20 06	20 56	3 52	21	19 05	89		
6	270 52.0	+16 57.7	283 24.1	90	+14 52.1	154	45	19 13	19 47	20 29	4 04	27	18 49	83		
7	285 52.1	58.4	297 51.9	88	+15 07.3	152	40	19 01	31	20 08	14 31		36	78		
8	300 52.1	59.0	312 19.8	89	22.4	151	35	18 51	18	19 52	22 36		25	74		
9	315 52.1	+16 59.7	326 47.5	87	37.5	151	30	42	19 07	38	30 39		18 15	71		
10	330 52.2	+17 00.4	341 15.2	87	+15 52.4	149	20	26	18 49	17	43 44		17 58	66		
11	345 52.2	+17 01.1	355 42.8	86	+16 07.3	149	10 N	18 12	18 35	19 00	4 54	50	17 44	61		
12	0 52.2	+17 01.8	10 10.4	86	+16 22.0	147	0	18 00	18 22	18 47	5 05	55	17 31	56		
13	15 52.3	02.5	24 37.9	85	36.6	146	10 S	17 48	18 10	35	16 59		17 52			
14	30 52.3	03.1	39 05.3	84	+16 51.2	146	20	35	17 58	24	28 64		17 03	47		
15	45 52.4	03.8	53 32.6	83	+17 05.6	144	30	20	45	13	42 70		16 47	41		
16	60 52.4	04.5	67 59.9	83	19.9	143	35	11	38	08	50 74		38	38		
17	75 52.4	+17 05.2	82 27.1	82	+17 34.1	142	40	17 01	17 30	18 02	5 59	78	16 27	34		
18	90 52.5	+17 05.8	96 54.2	81	+17 48.2	141	45	16 50	17 21	17 57	6 09	84	16 15	29		
19	105 52.5	06.5	111 21.2	80	+18 02.2	140	50	36	11	50	23 89		16 00	23		
20	120 52.5	07.2	125 48.2	80	16.0	138	52	30	07	47	29 93		15 53	20		
21	135 52.6	07.9	140 15.1	79	29.8	138	54	23	17 02	44	36 96		45	17		
22	150 52.6	08.6	154 42.0	79	43.4	136	56	15	16 56	41	43 101		36	13		
23	165 52.6	09.2	169 08.7	77	+18 56.9	135	58	16 06	50	38	6 52	106	27	7		
24	180 52.7	+17 09.9	183 35.4	77	+19 10.3	134	60 S	15 56	16 43	17 34	7 02	113	15 16	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 <sup>h</sup> 57.2 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 18 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 13 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	225 19.7	188 06.5	+13 33.7	220 20.6	+0 47.2	171 56.9	+18 25.0	236 27.9	-6 42.2	
1	240 22.2	203 06.0	34.8	235 21.3	48.0	186 58.7	25.1	251 30.2	42.2	
2	255 24.6	218 05.5	35.8	250 22.0	48.8	202 00.6	25.3	266 32.5	42.1	
3	270 27.1	233 04.9	36.8	265 22.7	49.5	217 02.5	25.4	281 34.7	42.0	
4	285 29.6	248 04.4	37.9	280 23.4	50.3	232 04.3	25.6	296 37.0	42.0	
5	300 32.0	263 03.9	+13 38.9	295 24.1	+0 51.1	247 06.2	+18 25.7	311 39.3	-6 41.9	
6	315 34.5	278 03.4	+13 40.0	310 24.9	+0 51.8	262 08.0	+18 25.8	326 41.6	-6 41.8	
7	330 37.0	293 02.9	41.0	325 25.6	52.6	277 09.9	26.0	341 43.8	41.7	
8	345 39.4	308 02.3	42.0	340 26.3	53.3	292 11.8	26.1	356 46.1	41.7	
9	0 41.9	323 01.8	43.1	355 27.0	54.1	307 13.6	26.3	11 48.4	41.6	
10	15 44.4	338 01.3	44.1	10 27.7	54.9	322 15.5	26.4	26 50.7	41.5	
11	30 46.8	353 00.8	+13 45.1	25 28.4	+0 55.6	337 17.4	+18 26.6	41 52.9	-6 41.5	
12	45 49.3	8 00.3	+13 46.2	40 29.1	+0 56.4	352 19.2	+18 26.7	56 55.2	-6 41.4	
13	60 51.7	22 59.7	47.2	55 29.8	57.2	7 21.1	26.8	71 57.5	41.3	
14	75 54.2	37 59.2	48.2	70 30.5	57.9	22 22.9	27.0	86 59.8	41.3	
15	90 56.7	52 58.7	49.3	85 31.2	58.7	37 24.8	27.1	102 02.0	41.2	
16	105 59.1	67 58.2	50.3	100 31.9	+0 59.5	52 26.7	27.3	117 04.3	41.1	
17	121 01.6	82 57.6	+13 51.3	115 32.6	+1 00.2	67 28.5	+18 27.4	132 06.6	-6 41.0	
18	136 04.1	97 57.1	+13 52.4	130 33.3	+1 01.0	82 30.4	+18 27.6	147 08.9	-6 41.0	
19	151 06.5	112 56.6	53.4	145 34.0	01.7	97 32.3	27.7	162 11.1	40.9	
20	166 09.0	127 56.1	54.4	160 34.7	02.5	112 34.1	27.8	177 13.4	40.8	
21	181 11.5	142 55.5	55.5	175 35.4	03.3	127 36.0	28.0	192 15.7	40.8	
22	196 13.9	157 55.0	56.5	190 36.1	04.0	142 37.9	28.1	207 18.0	40.7	
23	211 16.4	172 54.5	57.5	205 36.8	04.8	157 39.7	28.3	222 20.2	40.6	
24	226 18.9	187 54.0	+13 58.5	220 37.5	+1 05.6	172 41.6	+18 28.4	237 22.5	-6 40.6	

Dif	—	-5	+10	+7	+8	+19	+1	+23	+1
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UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15.8' PMG: 11 <sup>h</sup> 56.5 <sup>m</sup>		SD: 16.3' Edad: 29.2 <sup>d</sup> PMG: 12 <sup>h</sup> 13 <sup>m</sup> R°: 58 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.8' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.4'									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m				
0	180 52.7	+17 09.9	183 35.4	76	+19 10.3	132	0 52	2 40	3 38	3 19	5	21 48	112				
1	195 52.7	10.6	198 02.0	76	23.5	131	1 37	2 58	3 50	33	11	28	102				
2	210 52.7	11.3	212 28.6	76	36.6	130	2 05	3 13	4 00	45	17	21 11	96				
3	225 52.7	11.9	226 55.1	75	+19 49.6	129	25	25	09	3 55	21	20 57	91				
4	240 52.8	12.6	241 21.5	74	+20 02.5	127	42	36	17	4 05	24	45	88				
5	255 52.8	+17 13.3	255 47.8	73	+20 15.2	127	2 56	3 46	4 24	4 13	27	20 34	85				
6	270 52.8	+17 14.0	270 14.0	72	+20 27.9	127	3 24	4 06	4 39	4 31	33	20 12	79				
7	285 52.9	14.6	284 40.2	72	40.3	124	3 45	21	4 51	45	38	19 54	75				
8	300 52.9	15.3	299 06.3	71	+20 52.6	123	4 01	34	5 02	4 58	41	39	72				
9	315 52.9	16.0	313 32.4	71	+21 04.8	122	30	15	4 45	11	5 09	44	26 69				
10	330 53.0	16.6	327 58.4	70	16.9	121	20	36	5 03	27	27 50	19 04	65				
11	345 53.0	+17 17.3	342 24.3	69	+21 28.8	119	10 N	4 52	5 18	5 40	5 44	54	18 45	62			
12	0 53.0	+17 18.0	356 50.1	68	+21 40.6	118	0	5 06	5 31	5 53	6 00	57	18 27	59			
13	15 53.0	18.6	11 15.9	68	+21 52.2	116	10 S	18	44	6 05	15	62	18 09	56			
14	30 53.1	19.3	25 41.6	67	+22 03.7	115	20	29	5 56	19	32	66	17 50	52			
15	45 53.1	20.0	40 07.2	66	15.0	113	30	40	6 09	34	6 52	71	28	48			
16	60 53.1	20.7	54 32.8	66	26.2	112	35	45	16	42	7 04	73	16	45			
17	75 53.2	+17 21.3	68 58.3	65	+22 37.2	110	40	5 51	6 23	6 52	7 17	77	17 01	42			
18	90 53.2	+17 22.0	83 23.7	64	+22 48.1	109	45	5 57	6 32	7 04	7 33	81	16 44	38			
19	105 53.2	22.7	97 49.1	64	+22 58.8	107	50	6 04	43	18	7 52	88	23	32			
20	120 53.2	23.3	112 14.4	63	+23 09.4	106	52	06	47	24	8 02	91	13	29			
21	135 53.3	24.0	126 39.7	63	19.8	104	54	09	52	31	12	95	16	02	25		
22	150 53.3	24.6	141 04.8	61	30.1	103	56	13	6 58	39	24	100	15	49	21		
23	165 53.3	25.3	155 30.0	62	40.2	101	58	16	7 04	48	38	106	34	15			
24	180 53.4	+17 26.0	169 55.0	60	+23 50.1	99	60 S	6 20	7 11	7 58	8 55	115	15	17	6		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 <sup>h</sup> 53.3 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 28 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 09 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	226 18.9	187 54.0	+13 58.5	220 37.5	+1 05.6	172 41.6	+18 28.4	237 22.5	-6 40.6	
1	241 21.3	202 53.4	+13 59.6	235 38.2	06.3	187 43.4	28.6	252 24.8	40.5	
2	256 23.8	217 52.9	+14 00.6	250 38.9	07.1	202 45.3	28.7	267 27.1	40.4	
3	271 26.2	232 52.4	01.6	265 39.6	07.9	217 47.2	28.8	282 29.4	40.3	
4	286 28.7	247 51.9	02.6	280 40.3	08.6	232 49.0	29.0	297 31.6	40.3	
5	301 31.2	262 51.3	+14 03.7	295 41.0	+1 09.4	247 50.9	+18 29.1	312 33.9	-6 40.2	
6	316 33.6	277 50.8	+14 04.7	310 41.8	+1 10.1	262 52.7	+18 29.3	327 36.2	-6 40.1	
7	331 36.1	292 50.3	05.7	325 42.5	10.9	277 54.6	29.4	342 38.5	40.1	
8	346 38.6	307 49.7	06.7	340 43.2	11.7	292 56.5	29.6	357 40.7	40.0	
9	1 41.0	322 49.2	07.8	355 43.9	12.4	307 58.3	29.7	12 43.0	39.9	
10	16 43.5	337 48.7	08.8	10 44.6	13.2	323 00.2	29.8	27 45.3	39.9	
11	31 46.0	352 48.1	+14 09.8	25 45.3	+1 14.0	338 02.1	+18 30.0	42 47.6	-6 39.8	
12	46 48.4	7 47.6	+14 10.8	40 46.0	+1 14.7	353 03.9	+18 30.1	57 49.9	-6 39.7	
13	61 50.9	22 47.1	11.8	55 46.7	15.5	8 05.8	30.3	72 52.1	39.7	
14	76 53.4	37 46.5	12.9	70 47.4	16.2	23 07.6	30.4	87 54.4	39.6	
15	91 55.8	52 46.0	13.9	85 48.1	17.0	38 09.5	30.5	102 56.7	39.5	
16	106 58.3	67 45.5	14.9	100 48.8	17.8	53 11.4	30.7	117 59.0	39.4	
17	122 00.7	82 44.9	+14 15.9	115 49.5	+1 18.5	68 13.2	+18 30.8	133 01.3	-6 39.4	
18	137 03.2	97 44.4	+14 16.9	130 50.2	+1 19.3	83 15.1	+18 31.0	148 03.5	-6 39.3	
19	152 05.7	112 43.9	18.0	145 50.9	20.1	98 17.0	31.1	163 05.8	39.2	
20	167 08.1	127 43.3	19.0	160 51.6	20.8	113 18.8	31.3	178 08.1	39.2	
21	182 10.6	142 42.8	20.0	175 52.3	21.6	128 20.7	31.4	193 10.4	39.1	
22	197 13.1	157 42.3	21.0	190 53.0	22.3	143 22.5	31.5	208 12.7	39.0	
23	212 15.5	172 41.7	22.0	205 53.7	23.1	158 24.4	31.7	223 14.9	39.0	
24	227 18.0	187 41.2	+14 23.0	220 54.4	+1 23.9	173 26.3	+18 31.8	238 17.2	-6 38.9	
Dif	—	-5	+10	+7	+8	+19	+1	+23	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 15.8'		SD: 16.2'		Edad: 0.9 <sup>d</sup>				PHE $\left\{ \begin{array}{l} 4^h: 59.2' \\ 12^h: 58.9' \\ 20^h: 58.7' \end{array} \right.$		R°: 60 <sup>m</sup>												
	PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>		PMG: 13 <sup>h</sup> 11 <sup>m</sup>								Civil	Náutico	Hora	R°	Hora	R°							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		h m	h m	h m	h m	m	m	h m	m								
0	180	53.4	+17	26.0	169	55.0	+23	50.1	98	60 N	20	19	21	18	23	22	3	24	11	23	40	92	
1	195	53.4		26.6	184	20.0		+23	59.9	58	20	07	21	00	22	25	3	44	22	23	10	83	
2	210	53.4		27.3	198	45.0		+24	09.5	56	19	56	20	44	21	55	4	02	27	22	47	79	
3	225	53.4		28.0	213	09.9			19.0	54	47		31		33		16	32		28	77		
4	240	53.5		28.6	227	34.7			28.3	52	39		20		15		29	35		22	13	74	
5	255	53.5	+17	29.3	241	59.5		+24	37.4	50	19	31	20	10	21	00	4	40	38	21	59	73	
6	270	53.5	+17	29.9	256	24.2		+24	46.4	45	19	16	19	49	20	32	5	04	43	21	31	70	
7	285	53.5		30.6	270	48.9		+24	55.2	40	19	03	33	20	10		23	46		21	09	68	
8	300	53.6		31.3	285	13.6		+25	03.8	35	18	52	20	19	54		39	49		20	51	67	
9	315	53.6		31.9	299	38.1			12.3	30	43		19	09	40		5	53	51		35	66	
10	330	53.6		32.6	314	02.7			20.6	20	27		18	50	18		6	17	54		20	09	64
11	345	53.6	+17	33.2	328	27.2		+25	28.7	10 N	18	13	18	35	19	01	6	38	57	19	47	61	
12	0	53.7	+17	33.9	342	51.6		+25	36.6	0	18	00	18	22	18	47	6	57	60	19	26	60	
13	15	53.7		34.6	357	16.0			44.4	10 S	17	47	18	09	35		7	17	62	19	05	58	
14	30	53.7		35.2	11	40.4			52.0	20	34		17	57	23		7	38	65	18	42	56	
15	45	53.7		35.9	26	04.7		+25	59.4	30	18		43		12		8	03	68		16	54	
16	60	53.7		36.5	40	29.0		+26	06.7	35	17	09	36		06		17	70		18	01	52	
17	75	53.8	+17	37.2	54	53.3		+26	13.8	40	16	59	17	28	18	01	8	34	72	17	43	51	
18	90	53.8	+17	37.8	69	17.5		+26	20.6	45	16	48	17	19	17	54	8	54	76	17	22	48	
19	105	53.8		38.5	83	41.7			27.4	50	33		08		47		9	20	80	16	55	45	
20	120	53.8		39.1	98	05.9			33.9	52	27		17	04	44		33	82		42	42		
21	135	53.9		39.8	112	30.0			40.3	54	19		16	58	41		9	47	85	27	40		
22	150	53.9		40.4	126	54.1			46.5	56	11		53		38		10	04	89	16	10	36	
23	165	53.9		41.1	141	18.2			52.5	58	16	02	46		34		24	96		15	49	30	
24	180	53.9	+17	41.7	155	42.3		+26	58.3	60 S	15	51	16	39	17	30	10	50	107	15	23	18	

UT	ARIETIS		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 <sup>h</sup> 49.4 <sup>m</sup>		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2									
	PMG: 11 <sup>h</sup> 30 <sup>m</sup>		PMG: 9 <sup>h</sup> 16 <sup>m</sup>		PMG: 12 <sup>h</sup> 25 <sup>m</sup>		PMG: 8 <sup>h</sup> 06 <sup>m</sup>											
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	227	18.0	187	41.2	+14	23.0	220	54.4	+1	23.9	173	26.3	+18	31.8	238	17.2	-6	38.9
1	242	20.5	202	40.7		24.0	235	55.1		24.6	188	28.1		32.0	253	19.5		38.8
2	257	22.9	217	40.1		25.0	250	55.9		25.4	203	30.0		32.1	268	21.8		38.8
3	272	25.4	232	39.6		26.1	265	56.6		26.1	218	31.8		32.2	283	24.1		38.7
4	287	27.8	247	39.0		27.1	280	57.3		26.9	233	33.7		32.4	298	26.3		38.6
5	302	30.3	262	38.5	+14	28.1	295	58.0	+1	27.7	248	35.6	+18	32.5	313	28.6	-6	38.6
6	317	32.8	277	38.0	+14	29.1	310	58.7	+1	28.4	263	37.4	+18	32.7	328	30.9	-6	38.5
7	332	35.2	292	37.4		30.1	325	59.4		29.2	278	39.3		32.8	343	33.2		38.4
8	347	37.7	307	36.9		31.1	341	00.1		30.0	293	41.2		33.0	358	35.5		38.4
9	2	40.2	322	36.3		32.1	356	00.8		30.7	308	43.0		33.1	13	37.7		38.3
10	17	42.6	337	35.8		33.1	11	01.5		31.5	323	44.9		33.2	28	40.0		38.2
11	32	45.1	352	35.3	+14	34.1	26	02.2	+1	32.2	338	46.7	+18	33.4	43	42.3	-6	38.1
12	47	47.6	7	34.7	+14	35.1	41	02.9	+1	33.0	353	48.6	+18	33.5	58	44.6	-6	38.1
13	62	50.0	22	34.2		36.1	56	03.6		33.8	8	50.5		33.7	73	46.9		38.0
14	77	52.5	37	33.6		37.1	71	04.3		34.5	23	52.3		33.8	88	49.1		37.9
15	92	55.0	52	33.1		38.1	86	05.0		35.3	38	54.2		33.9	103	51.4		37.9
16	107	57.4	67	32.6		39.2	101	05.7		36.0	53	56.0		34.1	118	53.7		37.8
17	122	59.9	82	32.0	+14	40.2	116	06.4	+1	36.8	68	57.9	+18	34.2	133	56.0	-6	37.7
18	138	02.3	97	31.5	+14	41.2	131	07.1	+1	37.6	83	59.8	+18	34.4	148	58.3	-6	37.7
19	153	04.8	112	30.9		42.2	146	07.8		38.3	99	01.6		34.5	164	00.5		37.6
20	168	07.3	127	30.4		43.2	161	08.6		39.1	114	03.5		34.6	179	02.8		37.5
21	183	09.7	142	29.8		44.2	176	09.3		39.9	129	05.3		34.8	194	05.1		37.5
22	198	12.2	157	29.3		45.2	191	10.0		40.6	144	07.2		34.9	209	07.4		37.4
23	213	14.7	172	28.7		46.2	206	10.7		41.4	159	09.1		35.1	224	09.7		37.3
24	228	17.1	187	28.2	+14	47.2	221	11.4	+1	42.1	174	10.9	+18	35.2	239	12.0	-6	37.3

Dif	—	-5	+10	+7	+8	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>		SD: 15.9' Edad: 1.9 <sup>d</sup> PMG: 14 <sup>h</sup> 11 <sup>m</sup> R°: 60 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 57.8'								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	180 53.9	+17 41.7	155 42.3	51	+26 58.3	56	0 30	2 34	3 33	3 35	33	**	**	***		
1	195 53.9	42.4	170 06.4	51	+27 03.9	56	1 27	2 53	45	4 06	42	**	**	***		
2	210 54.0	43.1	184 30.4	50	09.4	55	1 57	3 08	3 56	29	46	**	**	***		
3	225 54.0	43.7	198 54.4	50	14.7	51	2 20	21	4 05	4 48	48	23	45	55		
4	240 54.0	44.3	213 18.4	50	19.8	51	2 37	32	13	5 04	50	27	56	56		
5	255 54.0	+17 45.0	227 42.4	50	+27 24.7	49	2 52	3 42	4 21	5 18	51	23	12	56		
6	270 54.0	+17 45.6	242 06.4	50	+27 29.4	47	3 21	4 03	4 36	5 47	53	22	41	57		
7	285 54.0	46.3	256 30.4	50	34.0	46	42	19	4 49	6 09	55	22	17	58		
8	300 54.1	46.9	270 54.4	50	38.4	44	3 59	32	5 00	28	56	21	58	58		
9	315 54.1	47.6	285 18.3	49	42.5	41	4 13	4 44	10	6 44	57	41	58	58		
10	330 54.1	48.2	299 42.3	50	46.5	40	35	5 02	26	7 11	58	21	13	58		
11	345 54.1	+17 48.9	314 06.3	50	+27 50.4	39	4 52	5 18	5 40	7 35	59	20	48	59		
12	0 54.1	+17 49.5	328 30.3	50	+27 54.0	36	5 06	5 31	5 53	7 57	59	20	26	58		
13	15 54.2	50.2	342 54.2	49	+27 57.5	35	18	44	6 06	8 19	60	20	03	59		
14	30 54.2	50.8	357 18.2	50	+28 00.7	32	30	5 56	19	8 43	61	19	38	60		
15	45 54.2	51.5	11 42.2	50	03.8	31	30	41	6 10	9 11	62	19	10	59		
16	60 54.2	52.1	26 06.2	50	06.7	29	35	47	17	44	27	63	18	53	59	
17	75 54.2	+17 52.7	40 30.3	51	+28 09.5	28	40	5 53	6 25	6 54	9 46	63	18	34	59	
18	90 54.2	+17 53.4	54 54.3	50	+28 12.0	25	45	5 59	6 34	7 06	10 10	64	18	10	59	
19	105 54.3	54.0	69 18.4	51	14.4	24	50	6 06	45	20	40	65	17	40	58	
20	120 54.3	54.7	83 42.5	51	16.6	22	52	09	50	27	10 55	65	24	58		
21	135 54.3	55.3	98 06.6	51	18.6	20	54	12	6 55	35	11 12	66	17	07	57	
22	150 54.3	55.9	112 30.8	52	20.4	18	56	16	7 01	43	11 33	67	16	46	56	
23	165 54.3	56.6	126 54.9	51	22.0	16	58	20	08	7 52	12 00	68	16	19	55	
24	180 54.3	+17 57.2	141 19.1	52	+28 23.5	15	60 S	6 24	7 15	8 03	12 37	72	15	41	52	

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 <sup>h</sup> 45.4 <sup>m</sup>	Mag.: -3.9 PMG: 11 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 15 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.2 PMG: 8 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	228 17.1	187 28.2	+14 47.2	221 11.4	+1 42.1	174 10.9	+18 35.2	239 12.0	-6 37.3
1	243 19.6	202 27.6	48.2	236 12.1	42.9	189 12.8	35.4	254 14.2	37.2
2	258 22.1	217 27.1	49.1	251 12.8	43.7	204 14.7	35.5	269 16.5	37.1
3	273 24.5	232 26.5	50.1	266 13.5	44.4	219 16.5	35.6	284 18.8	37.1
4	288 27.0	247 26.0	51.1	281 14.2	45.2	234 18.4	35.8	299 21.1	37.0
5	303 29.5	262 25.4	+14 52.1	296 14.9	+1 45.9	249 20.2	+18 35.9	314 23.4	-6 36.9
6	318 31.9	277 24.9	+14 53.1	311 15.6	+1 46.7	264 22.1	+18 36.1	329 25.7	-6 36.9
7	333 34.4	292 24.3	54.1	326 16.3	47.5	279 24.0	36.2	344 27.9	36.8
8	348 36.8	307 23.8	55.1	341 17.0	48.2	294 25.8	36.3	359 30.2	36.7
9	3 39.3	322 23.2	56.1	356 17.7	49.0	309 27.7	36.5	14 32.5	36.7
10	18 41.8	337 22.7	57.1	11 18.4	49.7	324 29.5	36.6	29 34.8	36.6
11	33 44.2	352 22.1	+14 58.1	26 19.1	+1 50.5	339 31.4	+18 36.8	44 37.1	-6 36.5
12	48 46.7	7 21.6	+14 59.1	41 19.9	+1 51.3	354 33.3	+18 36.9	59 39.4	-6 36.5
13	63 49.2	22 21.0	+15 00.1	56 20.6	52.0	9 35.1	37.0	74 41.6	36.4
14	78 51.6	37 20.5	01.1	71 21.3	52.8	24 37.0	37.2	89 43.9	36.3
15	93 54.1	52 19.9	02.1	86 22.0	53.5	39 38.8	37.3	104 46.2	36.3
16	108 56.6	67 19.4	03.0	101 22.7	54.3	54 40.7	37.5	119 48.5	36.2
17	123 59.0	82 18.8	+15 04.0	116 23.4	+1 55.1	69 42.6	+18 37.6	134 50.8	-6 36.1
18	139 01.5	97 18.3	+15 05.0	131 24.1	+1 55.8	84 44.4	+18 37.7	149 53.1	-6 36.1
19	154 04.0	112 17.7	06.0	146 24.8	56.6	99 46.3	37.9	164 55.4	36.0
20	169 06.4	127 17.1	07.0	161 25.5	57.3	114 48.1	38.0	179 57.6	35.9
21	184 08.9	142 16.6	08.0	176 26.2	58.1	129 50.0	38.2	194 59.9	35.9
22	199 11.3	157 16.0	09.0	191 26.9	58.9	144 51.9	38.3	210 02.2	35.8
23	214 13.8	172 15.5	09.9	206 27.6	+1 59.6	159 53.7	38.4	225 04.5	35.7
24	229 16.3	187 14.9	+15 10.9	221 28.3	+2 00.4	174 55.6	+18 38.6	240 06.8	-6 35.7
Dif	—	-6	+10	+7	+8	+19	+1	+23	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.7'		Edad: 2.9 <sup>d</sup>				PHE { 4 <sup>h</sup> : 57.6' 12 <sup>h</sup> : 57.3' 20 <sup>h</sup> : 57.0'		R <sup>o</sup> : 56 <sup>m</sup>					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m m	h m m	h m m	h m m				
0	180 54.3	+17 57.2	141 19.1	53	+28 23.5	12	60 N	20 24	21 25	** **	4 08 74	1 12 49				
1	195 54.3	57.9	155 43.4	53	24.7	11	58	11	21 05	22 36	4 48 69	0 33 53				
2	210 54.4	58.5	170 07.6	52	25.8	10	56	20 00	20 49	22 02	5 15 67	0 06 54				
3	225 54.4	59.1	184 31.9	53	26.8	9	54	19 50	35	21 38	36 66	** ** *				
4	240 54.4	+17 59.8	198 56.3	54	27.5	7	52	42	23	20	5 54 65	** ** *				
5	255 54.4	+18 00.4	213 20.7	54	+28 28.1	6	50	19 34	20 13	21 04	6 09 65	** ** *				
6	270 54.4	+18 01.0	227 45.1	54	+28 28.4	3	45	19 18	19 52	20 35	6 40 63	23 38 44				
7	285 54.4	01.7	242 09.6	55	28.7	3	40	19 05	35	20 13	7 04 62	23 15 46				
8	300 54.4	02.3	256 34.1	55	28.7	0	35	18 54	22	19 56	24 61	22 56 48				
9	315 54.5	03.0	270 58.7	56	28.5	2	30	44	19 10	41	7 41 60	39 50				
10	330 54.5	03.6	285 23.3	56	28.2	3	20	28	18 51	19	8 09 59	22 11 52				
11	345 54.5	+18 04.2	299 48.0	57	+28 27.7	5	10 N	18 13	18 35	19 01	8 34 58	21 47 54				
12	0 54.5	+18 04.9	314 12.8	58	+28 27.1	6	0	18 00	18 22	18 47	8 56 58	21 24 56				
13	15 54.5	05.5	328 37.6	58	26.2	9	10 S	17 47	18 09	34	9 19 57	21 02 57				
14	30 54.5	06.1	343 02.4	58	25.2	10	20	33	17 56	22	9 44 55	20 38 59				
15	45 54.5	06.7	357 27.3	59	24.0	12	30	17	42	11	10 13 53	20 09 62				
16	60 54.5	07.4	11 52.3	60	22.7	13	35	17 08	35	18 05	30 53	19 52 63				
17	75 54.5	+18 08.0	26 17.4	61	+28 21.2	15	40	16 57	17 26	17 59	10 49 52	19 33 64				
18	90 54.6	+18 08.6	40 42.5	61	+28 19.5	17	45	16 45	17 17	17 52	11 14 50	19 09 66				
19	105 54.6	09.3	55 07.7	62	17.6	19	50	30	06	45	11 45 47	18 38 69				
20	120 54.6	09.9	69 33.0	63	15.6	20	52	24	17 01	42	12 00 46	22 71				
21	135 54.6	10.5	83 58.3	63	13.4	22	54	16	16 55	38	18 45	18 04 73				
22	150 54.6	11.1	98 23.7	64	11.1	23	56	16 07	49	35	12 40 42	17 42 76				
23	165 54.6	11.8	112 49.2	65	08.6	25	58	15 58	43	31	13 08 37	17 14 81				
24	180 54.6	+18 12.4	127 14.7	65	+28 05.9	27	60 S	15 47	16 35	17 27	13 49 28	16 33 91				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 8 <sup>h</sup> 41.5 <sup>m</sup>		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "						
0	229 16.3	187 14.9	+15 10.9	221 28.3	+2 00.4	174 55.6	+18 38.6	240 06.8	-6 35.7							
1	244 18.7	202 14.4	11.9	236 29.0	01.1	189 57.4	38.7	255 09.1	35.6							
2	259 21.2	217 13.8	12.9	251 29.7	01.9	204 59.3	38.9	270 11.4	35.5							
3	274 23.7	232 13.2	13.9	266 30.5	02.6	220 01.2	39.0	285 13.6	35.5							
4	289 26.1	247 12.7	14.8	281 31.2	03.4	235 03.0	39.1	300 15.9	35.4							
5	304 28.6	262 12.1	+15 15.8	296 31.9	+2 04.2	250 04.9	+18 39.3	315 18.2	-6 35.3							
6	319 31.1	277 11.6	+15 16.8	311 32.6	+2 04.9	265 06.7	+18 39.4	330 20.5	-6 35.3							
7	334 33.5	292 11.0	17.8	326 33.3	05.7	280 08.6	39.6	345 22.8	35.2							
8	349 36.0	307 10.4	18.8	341 34.0	06.4	295 10.5	39.7	0 25.1	35.1							
9	4 38.5	322 09.9	19.7	356 34.7	07.2	310 12.3	39.8	15 27.4	35.1							
10	19 40.9	337 09.3	20.7	11 35.4	08.0	325 14.2	40.0	30 29.6	35.0							
11	34 43.4	352 08.7	+15 21.7	26 36.1	+2 08.7	340 16.0	+18 40.1	45 31.9	-6 34.9							
12	49 45.8	7 08.2	+15 22.7	41 36.8	+2 09.5	355 17.9	+18 40.3	60 34.2	-6 34.9							
13	64 48.3	22 07.6	23.6	56 37.5	10.2	10 19.8	40.4	75 36.5	34.8							
14	79 50.8	37 07.1	24.6	71 38.2	11.0	25 21.6	40.5	90 38.8	34.8							
15	94 53.2	52 06.5	25.6	86 38.9	11.8	40 23.5	40.7	105 41.1	34.7							
16	109 55.7	67 05.9	26.6	101 39.6	12.5	55 25.3	40.8	120 43.4	34.6							
17	124 58.2	82 05.4	+15 27.5	116 40.4	+2 13.3	70 27.2	+18 41.0	135 45.7	-6 34.6							
18	140 00.6	97 04.8	+15 28.5	131 41.1	+2 14.0	85 29.1	+18 41.1	150 47.9	-6 34.5							
19	155 03.1	112 04.2	29.5	146 41.8	14.8	100 30.9	41.2	165 50.2	34.4							
20	170 05.6	127 03.7	30.4	161 42.5	15.5	115 32.8	41.4	180 52.5	34.4							
21	185 08.0	142 03.1	31.4	176 43.2	16.3	130 34.6	41.5	195 54.8	34.3							
22	200 10.5	157 02.5	32.4	191 43.9	17.1	145 36.5	41.7	210 57.1	34.2							
23	215 13.0	172 02.0	33.3	206 44.6	17.8	160 38.4	41.8	225 59.4	34.2							
24	230 15.4	187 01.4	+15 34.3	221 45.3	+2 18.6	175 40.2	+18 41.9	241 01.7	-6 34.1							
Dif	—	-6	+10	+7	+8	+19	+1	+23	+1							

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>			SD: 15.5' Edad: 3.9 <sup>d</sup> PMG: 16 <sup>h</sup> 07 <sup>m</sup> R°: 53 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.5' 20 <sup>h</sup> : 56.2'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180 54.6	+18 12.4	127 14.7	67	+28 05.9	28	<b>60 N</b>	** **	2 27	3 28	5 22 96	2 01 17				
1	195 54.6	13.0	141 40.4	67	03.1	28	<b>58</b>	1 16	2 47	41	5 57 86	1 26 27				
2	210 54.6	13.6	156 06.1	67	+28 00.1	30	<b>56</b>	1 50	3 03	3 52	6 22 81	1 00 33				
3	225 54.6	14.3	170 31.9	68	+27 56.9	32	<b>54</b>	2 14	17	4 02	42 77	0 40 36				
4	240 54.6	14.9	184 57.8	69	53.6	33	<b>52</b>	3 32	29	10	6 59 74	23 38				
5	255 54.7	+18 15.5	199 23.7	69	+27 50.1	35	<b>50</b>	2 48	3 39	4 18	7 14 72	0 08 41				
6	270 54.7	+18 16.1	213 49.8	71	+27 46.5	36	<b>45</b>	3 17	4 00	4 34	7 43 68	** ** *				
7	285 54.7	16.8	228 15.9	71	42.7	38	<b>40</b>	39	17	47	8 06 65	** ** *				
8	300 54.7	17.4	242 42.2	73	38.8	39	<b>35</b>	3 57	31	4 59	25 63	23 44 40				
9	315 54.7	18.0	257 08.5	73	34.7	41	<b>30</b>	4 11	4 42	5 08	8 41 61	29 42				
10	330 54.7	18.6	271 34.9	74	30.5	42	<b>20</b>	34	5 01	25	9 08 59	23 03 46				
11	345 54.7	+18 19.3	286 01.4	75	+27 26.1	44	<b>10 N</b>	4 51	5 17	5 39	9 32 56	22 41 49				
12	0 54.7	+18 19.9	300 28.0	76	+27 21.6	45	<b>0</b>	5 06	5 31	5 53	9 54 54	22 20 52				
13	15 54.7	20.5	314 54.7	77	16.9	47	<b>10 S</b>	19	44	6 06	10 16 51	21 59 55				
14	30 54.7	21.1	329 21.5	78	12.1	48	<b>20</b>	30	5 57	20	10 39 49	37 57				
15	45 54.7	21.7	343 48.4	79	07.1	50	<b>30</b>	42	6 11	36	11 06 46	21 11 61				
16	60 54.7	22.3	358 15.3	79	+27 02.0	51	<b>35</b>	48	19	45	23 43	20 55 63				
17	75 54.7	+18 23.0	12 42.4	81	+26 56.8	52	<b>40</b>	5 54	6 27	6 56	11 41 41	20 37 66				
18	90 54.7	+18 23.6	27 09.6	82	+26 51.4	54	<b>45</b>	6 01	6 37	7 08	12 04 38	20 15 69				
19	105 54.7	24.2	41 36.9	83	45.8	56	<b>50</b>	08	48	23	32 34	19 47 74				
20	120 54.7	24.8	56 04.3	84	40.2	56	<b>52</b>	12	53	30	12 46 31	33 77				
21	135 54.7	25.4	70 31.7	84	34.4	58	<b>54</b>	15	6 58	38	13 03 28	19 17 81				
22	150 54.7	26.0	84 59.3	86	28.4	60	<b>56</b>	19	7 04	47	22 24	18 58 85				
23	165 54.7	26.7	99 27.0	87	22.4	60	<b>58</b>	23	11	7 56	13 45 18	35 91				
24	180 54.8	+18 27.3	113 54.8	88	+26 16.2	62	<b>60 S</b>	6 27	7 19	8 08	14 17 8	18 04 100				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 <sup>h</sup> 37.6 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 13 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 16 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	230 15.4	187 01.4	+15 34.3	221 45.3	+2 18.6	175 40.2	+18 41.9	241 01.7	-6 34.1	
1	245 17.9	202 00.8	35.3	236 46.0	19.3	190 42.1	42.1	256 04.0	34.0	
2	260 20.3	217 00.3	36.2	251 46.7	20.1	205 43.9	42.2	271 06.2	34.0	
3	275 22.8	231 59.7	37.2	266 47.4	20.8	220 45.8	42.4	286 08.5	33.9	
4	290 25.3	246 59.1	38.2	281 48.1	21.6	235 47.7	42.5	301 10.8	33.8	
5	305 27.7	261 58.5	+15 39.1	296 48.8	+2 22.4	250 49.5	+18 42.6	316 13.1	-6 33.8	
6	320 30.2	276 58.0	+15 40.1	311 49.5	+2 23.1	265 51.4	+18 42.8	331 15.4	-6 33.7	
7	335 32.7	291 57.4	41.1	326 50.3	23.9	280 53.2	42.9	346 17.7	33.7	
8	350 35.1	306 56.8	42.0	341 51.0	24.6	295 55.1	43.1	1 20.0	33.6	
9	5 37.6	321 56.2	43.0	356 51.7	25.4	310 56.9	43.2	16 22.3	33.5	
10	20 40.1	336 55.7	43.9	11 52.4	26.1	325 58.8	43.3	31 24.6	33.5	
11	35 42.5	351 55.1	+15 44.9	26 53.1	+2 26.9	341 00.7	+18 43.5	46 26.8	-6 33.4	
12	50 45.0	6 54.5	+15 45.9	41 53.8	+2 27.7	356 02.5	+18 43.6	61 29.1	-6 33.3	
13	65 47.4	21 54.0	46.8	56 54.5	28.4	11 04.4	43.8	76 31.4	33.3	
14	80 49.9	36 53.4	47.8	71 55.2	29.2	26 06.2	43.9	91 33.7	33.2	
15	95 52.4	51 52.8	48.7	86 55.9	29.9	41 08.1	44.0	106 36.0	33.1	
16	110 54.8	66 52.2	49.7	101 56.6	30.7	56 10.0	44.2	121 38.3	33.1	
17	125 57.3	81 51.6	+15 50.6	116 57.3	+2 31.4	71 11.8	+18 44.3	136 40.6	-6 33.0	
18	140 59.8	96 51.1	+15 51.6	131 58.0	+2 32.2	86 13.7	+18 44.4	151 42.9	-6 32.9	
19	156 02.2	111 50.5	52.6	146 58.7	33.0	101 15.5	44.6	166 45.2	32.9	
20	171 04.7	126 49.9	53.5	161 59.5	33.7	116 17.4	44.7	181 47.5	32.8	
21	186 07.2	141 49.3	54.5	177 00.2	34.5	131 19.3	44.9	196 49.8	32.8	
22	201 09.6	156 48.8	55.4	192 00.9	35.2	146 21.1	45.0	211 52.0	32.7	
23	216 12.1	171 48.2	56.4	207 01.6	36.0	161 23.0	45.1	226 54.3	32.6	
24	231 14.6	186 47.6	+15 57.3	222 02.3	+2 36.7	176 24.8	+18 45.3	241 56.6	-6 32.6	

Dif	—	-6	+10	+7	+8	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.3 <sup>m</sup>		SD: 15.3' Edad: 4.9 <sup>d</sup> PMG: 17 <sup>h</sup> 00 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 55.7' 20 <sup>h</sup> : 55.5'				R°: 48 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	180 54.8	+18 27.3	113 54.8		+26 16.2	64	60 N	20 28	21 31	** **	6 58 98	2 18 6				
1	195 54.8	27.9	128 22.7	89	09.8	64	58	15	21 10	22 48	7 23 90	1 53 14				
2	210 54.8	28.5	142 50.6	89	+26 03.4	64	56	20 04	20 53	22 10	43 84	33 18				
3	225 54.8	29.1	157 18.7	91	+25 56.8	66	54	19 54	39	21 44	7 59 81	16 23				
4	240 54.8	29.7	171 46.9	92	50.0	68	52	45	27	25	8 13 78	1 01 26				
5	255 54.8	+18 30.3	186 15.2	93	+25 43.2	68	50	19 37	20 16	21 09	8 26 74	0 49 28				
6	270 54.8	+18 30.9	200 43.6	94	+25 36.2	70	45	19 21	19 55	20 38	8 51 70	0 22 34				
7	285 54.8	31.5	215 12.1	95	29.1	71	40	19 07	38	20 15	9 11 66	0 01 37				
8	300 54.8	32.2	229 40.8	97	21.9	72	35	18 55	23	19 57	28 63	** ** *				
9	315 54.8	32.8	244 09.5	97	14.6	73	30	45	19 12	43	9 42 61	** ** *				
10	330 54.8	33.4	258 38.3	98	+25 07.1	75	20	28	18 52	20	10 07 56	23 49 40				
11	345 54.8	+18 34.0	273 07.3	100	+24 59.5	76	10 N	18 14	18 36	19 02	10 28 52	23 30 43				
12	0 54.8	+18 34.6	287 36.3	100	+24 51.8	77	0	18 00	18 22	18 47	10 48 49	23 12 47				
13	15 54.8	35.2	302 05.4	101	44.0	78	10 S	17 46	18 08	34	11 07 46	22 54 50				
14	30 54.8	35.8	316 34.7	103	36.1	79	20	32	17 55	22	28 42	34 55				
15	45 54.8	36.4	331 04.0	103	28.1	80	30	16	41	10	11 52 38	22 12 59				
16	60 54.8	37.0	345 33.5	105	19.9	82	35	17 06	33	18 04	12 06 36	21 58 62				
17	75 54.8	+18 37.6	0 03.1	106	+24 11.7	82	40	16 55	17 24	17 57	12 22 33	21 43 65				
18	90 54.8	+18 38.2	14 32.8	107	+24 03.3	84	45	16 43	17 15	17 50	12 42 28	21 24 70				
19	105 54.8	38.8	29 02.5	107	+23 54.8	85	50	28	17 03	42	13 06 24	21 01 75				
20	120 54.8	39.4	43 32.4	109	46.3	85	52	20	16 58	39	17 21	20 50 77				
21	135 54.8	40.0	58 02.4	110	37.6	87	54	13	52	36	31 18	38 80				
22	150 54.8	40.6	72 32.5	111	28.8	88	56	16 04	46	32	13 46 14	23 84				
23	165 54.8	41.2	87 02.7	112	19.9	89	58	15 54	39	28	14 03 10	20 06 89				
24	180 54.8	+18 41.8	101 33.0	113	+23 10.9	90	60 S	15 42	16 31	17 23	14 25 3	19 44 97				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 <sup>h</sup> 33.6 <sup>m</sup>	Mag.: -3.9 PMG: 11 <sup>h</sup> 33 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 13 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 51 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	231 14.6	186 47.6	+15 57.3	222 02.3	+2 36.7	176 24.8	+18 45.3	241 56.6	-6 32.6
1	246 17.0	201 47.0	58.3	237 03.0	37.5	191 26.7	45.4	256 58.9	32.5
2	261 19.5	216 46.4	+15 59.2	252 03.7	38.2	206 28.5	45.6	272 01.2	32.4
3	276 21.9	231 45.9	+16 00.2	267 04.4	39.0	221 30.4	45.7	287 03.5	32.4
4	291 24.4	246 45.3	01.1	282 05.1	39.8	236 32.3	45.8	302 05.8	32.3
5	306 26.9	261 44.7	+16 02.1	297 05.8	+2 40.5	251 34.1	+18 46.0	317 08.1	-6 32.3
6	321 29.3	276 44.1	+16 03.0	312 06.5	+2 41.3	266 36.0	+18 46.1	332 10.4	-6 32.2
7	336 31.8	291 43.5	03.9	327 07.2	42.0	281 37.8	46.2	347 12.7	32.1
8	351 34.3	306 42.9	04.9	342 08.0	42.8	296 39.7	46.4	2 15.0	32.1
9	6 36.7	321 42.4	05.8	357 08.7	43.5	311 41.6	46.5	17 17.3	32.0
10	21 39.2	336 41.8	06.8	12 09.4	44.3	326 43.4	46.7	32 19.5	31.9
11	36 41.7	351 41.2	+16 07.7	27 10.1	+2 45.0	341 45.3	+18 46.8	47 21.8	-6 31.9
12	51 44.1	6 40.6	+16 08.7	42 10.8	+2 45.8	356 47.1	+18 46.9	62 24.1	-6 31.8
13	66 46.6	21 40.0	09.6	57 11.5	46.6	11 49.0	47.1	77 26.4	31.7
14	81 49.1	36 39.4	10.5	72 12.2	47.3	26 50.9	47.2	92 28.7	31.7
15	96 51.5	51 38.8	11.5	87 12.9	48.1	41 52.7	47.4	107 31.0	31.6
16	111 54.0	66 38.3	12.4	102 13.6	48.8	56 54.6	47.5	122 33.3	31.6
17	126 56.4	81 37.7	+16 13.4	117 14.3	+2 49.6	71 56.4	+18 47.6	137 35.6	-6 31.5
18	141 58.9	96 37.1	+16 14.3	132 15.0	+2 50.3	86 58.3	+18 47.8	152 37.9	-6 31.4
19	157 01.4	111 36.5	15.2	147 15.7	51.1	102 00.1	47.9	167 40.2	31.4
20	172 03.8	126 35.9	16.2	162 16.5	51.8	117 02.0	48.0	182 42.5	31.3
21	187 06.3	141 35.3	17.1	177 17.2	52.6	132 03.9	48.2	197 44.8	31.2
22	202 08.8	156 34.7	18.0	192 17.9	53.3	147 05.7	48.3	212 47.1	31.2
23	217 11.2	171 34.1	19.0	207 18.6	54.1	162 07.6	48.5	227 49.4	31.1
24	232 13.7	186 33.5	+16 19.9	222 19.3	+2 54.8	177 09.4	+18 48.6	242 51.7	-6 31.1
Dif	—	-6	+9	+7	+8	+19	+1	+23	+1

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15.8'		SD: 15.1'		Edad: 5.9 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 54.9'			R <sup>o</sup> : 44 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>			
	PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>		PMG: 17 <sup>h</sup> 48 <sup>m</sup>		R <sup>o</sup> : 44 <sup>m</sup>			Náutico Civil			Hora R <sup>o</sup>		Hora R <sup>o</sup>					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		h m	h m	h m	m	h m	m	h m	m			
0	180	54.8	+18	41.8	101	33.0	+23	10.9	91	60 N	** **	2 21	3 24	8 36	93	2 24	2	
1	195	54.7		42.4	116	03.4 <sup>114</sup>	+23	01.8	91	58	1 04	42	37	8 53	87	2 07	7	
2	210	54.7		43.0	130	33.9 <sup>115</sup>	+22	52.6	92	56	1 42	2 59	48	9 07	83	1 51	12	
3	225	54.7		43.6	145	04.5 <sup>116</sup>		43.4	94	54	2 08	3 13	3 58	20	79	39	15	
4	240	54.7		44.2	159	35.3 <sup>118</sup>		34.0	94	52	27	25	4 07	31	76	27	18	
5	255	54.7	+18	44.8	174	06.1 <sup>118</sup>	+22	24.5	95	50	2 44	3 36	4 15	9 40	74	1 17	20	
6	270	54.7	+18	45.4	188	37.0 <sup>119</sup>	+22	14.9	96	45	3 14	3 58	4 32	10 01	68	0 56	25	
7	285	54.7		46.0	203	08.0 <sup>120</sup>	+22	05.3	96	40	37	4 15	45	17	64	38	30	
8	300	54.7		46.6	217	39.1 <sup>121</sup>	+21	55.5	98	35	3 55	29	4 57	31	60	24	32	
9	315	54.7		47.2	232	10.4 <sup>123</sup>		45.7	98	30	4 10	4 41	5 07	10 43	57	0 11	35	
10	330	54.7		47.8	246	41.7 <sup>123</sup>		35.7	100	20	33	5 01	24	11 03	53	** **	** **	
11	345	54.7	+18	48.4	261	13.1 <sup>124</sup>	+21	25.7	100	10 N	4 51	5 17	5 39	11 20	49	** **	** **	
12	0	54.7	+18	49.0	275	44.6 <sup>125</sup>	+21	15.6	101	0	5 06	5 31	5 53	11 37	45	23 59	43	
13	15	54.7		49.6	290	16.2 <sup>126</sup>	+21	05.4	102	10 S	19	44	6 07	11 53	41	44	48	
14	30	54.7		50.2	304	47.9 <sup>127</sup>	+20	55.2	102	20	31	5 58	21	12 10	38	29	51	
15	45	54.7		50.8	319	19.8 <sup>129</sup>		44.8	104	30	43	6 12	37	30	33	11	56	
16	60	54.7		51.3	333	51.7 <sup>129</sup>		34.4	104	35	49	20	47	42	30	23 00	60	
17	75	54.7	+18	51.9	348	23.7 <sup>130</sup>	+20	23.8	106	40	5 56	6 29	6 58	12 55	26	22 48	63	
18	90	54.7	+18	52.5	2	55.7 <sup>130</sup>	+20	13.2	106	45	6 03	6 39	7 11	13 10	23	22 34	67	
19	105	54.7		53.1	17	27.9 <sup>132</sup>	+20	02.6	106	50	11	50	26	30	17	16	72	
20	120	54.6		53.7	32	00.2 <sup>133</sup>	+19	51.8	108	52	14	6 56	33	38	16	22 07	75	
21	135	54.6		54.3	46	32.6 <sup>134</sup>		41.0	108	54	18	7 01	41	13 49	12	21 58	78	
22	150	54.6		54.9	61	05.0 <sup>134</sup>		30.1	109	56	22	08	7 50	14 00	9	47	82	
23	165	54.6		55.5	75	37.6 <sup>136</sup>		19.1	110	58	26	15	8 00	13	5	35	85	
24	180	54.6	+18	56.1	90	10.2 <sup>136</sup>	+19	08.0	111	60 S	6 31	7 23	8 12	14 28	0	21 21	90	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2									
	8 <sup>h</sup> 29.7 <sup>m</sup>		PMG: 11 <sup>h</sup> 34 <sup>m</sup>		PMG: 9 <sup>h</sup> 10 <sup>m</sup>		PMG: 12 <sup>h</sup> 10 <sup>m</sup>		PMG: 7 <sup>h</sup> 47 <sup>m</sup>									
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	232	13.7	186	33.5	+16	19.9	222	19.3	+2	54.8	177	09.4	+18	48.6	242	51.7	-6	31.1
1	247	16.2	201	33.0		20.8	237	20.0		55.6	192	11.3		48.7	257	54.0		31.0
2	262	18.6	216	32.4		21.8	252	20.7		56.4	207	13.2		48.9	272	56.2		30.9
3	277	21.1	231	31.8		22.7	267	21.4		57.1	222	15.0		49.0	287	58.5		30.9
4	292	23.6	246	31.2		23.6	282	22.1		57.9	237	16.9		49.1	303	00.8		30.8
5	307	26.0	261	30.6	+16	24.6	297	22.8	+2	58.6	252	18.7	+18	49.3	318	03.1	-6	30.8
6	322	28.5	276	30.0	+16	25.5	312	23.5	+2	59.4	267	20.6	+18	49.4	333	05.4	-6	30.7
7	337	30.9	291	29.4		26.4	327	24.2	+3	00.1	282	22.4		49.6	348	07.7		30.6
8	352	33.4	306	28.8		27.4	342	25.0		00.9	297	24.3		49.7	3	10.0		30.6
9	7	35.9	321	28.2		28.3	357	25.7		01.6	312	26.2		49.8	18	12.3		30.5
10	22	38.3	336	27.6		29.2	12	26.4		02.4	327	28.0		50.0	33	14.6		30.4
11	37	40.8	351	27.0	+16	30.1	27	27.1	+3	03.1	342	29.9	+18	50.1	48	16.9	-6	30.4
12	52	43.3	6	26.4	+16	31.1	42	27.8	+3	03.9	357	31.7	+18	50.2	63	19.2	-6	30.3
13	67	45.7	21	25.8		32.0	57	28.5		04.6	12	33.6		50.4	78	21.5		30.3
14	82	48.2	36	25.2		32.9	72	29.2		05.4	27	35.4		50.5	93	23.8		30.2
15	97	50.7	51	24.6		33.8	87	29.9		06.1	42	37.3		50.7	108	26.1		30.1
16	112	53.1	66	24.0		34.8	102	30.6		06.9	57	39.2		50.8	123	28.4		30.1
17	127	55.6	81	23.4	+16	35.7	117	31.3	+3	07.7	72	41.0	+18	50.9	138	30.7	-6	30.0
18	142	58.1	96	22.8	+16	36.6	132	32.0	+3	08.4	87	42.9	+18	51.1	153	33.0	-6	30.0
19	158	00.5	111	22.2		37.5	147	32.8		09.2	102	44.7		51.2	168	35.3		29.9
20	173	03.0	126	21.6		38.4	162	33.5		09.9	117	46.6		51.3	183	37.6		29.8
21	188	05.4	141	21.0		39.4	177	34.2		10.7	132	48.5		51.5	198	39.9		29.8
22	203	07.9	156	20.4		40.3	192	34.9		11.4	147	50.3		51.6	213	42.2		29.7
23	218	10.4	171	19.8		41.2	207	35.6		12.2	162	52.2		51.7	228	44.5		29.7
24	233	12.8	186	19.2	+16	42.1	222	36.3	+3	12.9	177	54.0	+18	51.9	243	46.8	-6	29.6
Dif	—		-6		+9		+7		+8		+19		+1		+23		+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>		SD: 14.9' Edad: 6.9 <sup>d</sup> PMG: 18 <sup>h</sup> 32 <sup>m</sup>		PHE: $\begin{cases} 4^h: 54.8' \\ 12^h: 54.6' \\ 20^h: 54.5' \end{cases}$ R°: 41 <sup>m</sup>				Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	180 54.6	+18 56.1	90 10.2		+19 08.0	111	60 N	20 33	21 38	** **	10 09 87	2 26 0				
1	195 54.6	56.6	104 43.0 <sup>138</sup>		+18 56.9	112	58	19	21 16	23 01	20 83	14 4				
2	210 54.6	57.2	119 15.8 <sup>138</sup>		45.7	113	56	20 08	20 58	22 18	30 79	2 03 8				
3	225 54.6	57.8	133 48.7 <sup>139</sup>		34.4	113	54	19 57	43	21 50	39 76	1 54 10				
4	240 54.6	58.4	148 21.7 <sup>140</sup>		23.1	113	52	48	31	30	47 73	45 13				
5	255 54.6	+18 59.0	162 54.7 <sup>140</sup>		+18 11.7	114	50	19 40	20 20	21 13	10 54 70	1 37 16				
6	270 54.6	+18 59.6	177 27.9 <sup>142</sup>		+18 00.2	115	45	19 23	19 57	20 41	11 09 65	1 21 21				
7	285 54.5	+19 00.1	192 01.1 <sup>142</sup>		+17 48.7	115	40	19 09	40	20 18	21 61	1 08 24				
8	300 54.5	00.7	206 34.4 <sup>143</sup>		37.1	116	35	18 57	25	19 59	31 58	0 56 28				
9	315 54.5	01.3	221 07.8 <sup>144</sup>		25.4	117	30	47	19 13	44	40 55	46 31				
10	330 54.5	01.9	235 41.3 <sup>145</sup>		13.7	117	20	29	18 53	21	11 56 50	29 35				
11	345 54.5	+19 02.5	250 14.9 <sup>146</sup>		+17 01.9	118	10 N	18 14	18 36	19 03	12 09 46	0 13 40				
12	0 54.5	+19 03.0	264 48.5 <sup>146</sup>		+16 50.1	118	0	18 00	18 22	18 47	12 22 42	** ** *				
13	15 54.5	03.6	279 22.2 <sup>147</sup>		38.2	119	10 S	17 46	18 08	34	34 38	** ** *				
14	30 54.5	04.2	293 56.0 <sup>148</sup>		26.2	120	20	31	17 54	21	12 48 33	** ** *				
15	45 54.5	04.8	308 29.9 <sup>149</sup>		14.2	120	30	14	40	09	13 03 28	** ** *				
16	60 54.4	05.4	323 03.8 <sup>149</sup>		+16 02.1	121	35	17 05	32	18 02	12 25	** ** *				
17	75 54.4	+19 05.9	337 37.8 <sup>150</sup>		+15 50.0	121	40	16 54	17 23	17 56	13 21 23	23 51 61				
18	90 54.4	+19 06.5	352 11.9 <sup>151</sup>		+15 37.8	122	45	16 41	17 13	17 48	13 33 19	23 41 64				
19	105 54.4	07.1	6 46.1 <sup>152</sup>		25.5	123	50	25	17 01	40	47 14	28 70				
20	120 54.4	07.7	21 20.3 <sup>152</sup>		13.2	123	52	18	16 55	37	13 54 11	22 72				
21	135 54.4	08.2	35 54.6 <sup>153</sup>		+15 00.9	123	54	09	49	33	14 01 9	16 75				
22	150 54.4	08.8	50 29.0 <sup>154</sup>		+14 48.5	124	56	16 00	43	29	09 6	09 77				
23	165 54.4	09.4	65 03.4 <sup>154</sup>		36.0	125	58	15 50	36	24	18 3	23 00 82				
24	180 54.3	+19 10.0	79 37.9 <sup>155</sup>		+14 23.5	125	60 S	15 38	16 27	17 20	14 28 -1	22 51 85				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 8 <sup>h</sup> 25.8 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 07 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 44 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	233 12.8	186 19.2	+16 42.1	222 36.3	+3 12.9	177 54.0	+18 51.9	243 46.8	-6 29.6							
1	248 15.3	201 18.6	43.0	237 37.0	13.7	192 55.9	52.0	258 49.1	29.5							
2	263 17.8	216 18.0	43.9	252 37.7	14.4	207 57.7	52.2	273 51.4	29.5							
3	278 20.2	231 17.4	44.8	267 38.4	15.2	222 59.6	52.3	288 53.7	29.4							
4	293 22.7	246 16.8	45.8	282 39.1	15.9	238 01.5	52.4	303 55.9	29.3							
5	308 25.2	261 16.2	+16 46.7	297 39.8	+3 16.7	253 03.3	+18 52.6	318 58.2	-6 29.3							
6	323 27.6	276 15.6	+16 47.6	312 40.6	+3 17.4	268 05.2	+18 52.7	334 00.5	-6 29.2							
7	338 30.1	291 15.0	48.5	327 41.3	18.2	283 07.0	52.8	349 02.8	29.2							
8	353 32.5	306 14.4	49.4	342 42.0	18.9	298 08.9	53.0	4 05.1	29.1							
9	8 35.0	321 13.8	50.3	357 42.7	19.7	313 10.7	53.1	19 07.4	29.0							
10	23 37.5	336 13.2	51.2	12 43.4	20.4	328 12.6	53.3	34 09.7	29.0							
11	38 39.9	351 12.6	+16 52.1	27 44.1	+3 21.2	343 14.5	+18 53.4	49 12.0	-6 28.9							
12	53 42.4	6 12.0	+16 53.0	42 44.8	+3 21.9	358 16.3	+18 53.5	64 14.3	-6 28.9							
13	68 44.9	21 11.3	53.9	57 45.5	22.7	13 18.2	53.7	79 16.6	28.8							
14	83 47.3	36 10.7	54.9	72 46.2	23.4	28 20.0	53.8	94 18.9	28.7							
15	98 49.8	51 10.1	55.8	87 46.9	24.2	43 21.9	53.9	109 21.2	28.7							
16	113 52.3	66 09.5	56.7	102 47.6	24.9	58 23.7	54.1	124 23.5	28.6							
17	128 54.7	81 08.9	+16 57.6	117 48.4	+3 25.7	73 25.6	+18 54.2	139 25.8	-6 28.6							
18	143 57.2	96 08.3	+16 58.5	132 49.1	+3 26.4	88 27.5	+18 54.3	154 28.1	-6 28.5							
19	158 59.7	111 07.7	+16 59.4	147 49.8	27.2	103 29.3	54.5	169 30.4	28.4							
20	174 02.1	126 07.1	+17 00.3	162 50.5	27.9	118 31.2	54.6	184 32.7	28.4							
21	189 04.6	141 06.5	01.2	177 51.2	28.7	133 33.0	54.8	199 35.0	28.3							
22	204 07.0	156 05.8	02.1	192 51.9	29.4	148 34.9	54.9	214 37.3	28.3							
23	219 09.5	171 05.2	03.0	207 52.6	30.2	163 36.7	55.0	229 39.6	28.2							
24	234 12.0	186 04.6	+17 03.9	222 53.3	+3 30.9	178 38.6	+18 55.2	244 41.9	-6 28.1							
Dif	—	-6	+9	+7	+8	+19	+1	+23	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 14.8'		Edad: 7.9 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.4' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.3'			PMG: 19 <sup>h</sup> 13 <sup>m</sup>		R°: 40 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m				
0	180 54.3	+19 10.0	79 37.9	+14 23.5	126 60 N	** **	2 14	3 19	11 36 83	2 26 -1						
1	195 54.3	10.5	94 12.4 <sup>155</sup>	+14 10.9	126 58	0 51	36	33	43 80	18 3						
2	210 54.3	11.1	108 47.1 <sup>157</sup>	+13 58.3	126 56	1 35	2 54	45	49 77	11 5						
3	225 54.3	11.7	123 21.8 <sup>157</sup>	45.7	126 54	2 02	3 09	3 55	11 55 73	2 04 9						
4	240 54.3	12.3	137 56.5 <sup>157</sup>	33.0	127 52	23	22	4 04	12 00 71	1 58 11						
5	255 54.3	+19 12.8	152 31.3 <sup>158</sup>	+13 20.2	128 50	2 39	3 33	4 12	12 04 69	1 53 13						
6	270 54.3	+19 13.4	167 06.2 <sup>159</sup>	+13 07.4	128 45	3 11	3 55	4 29	12 14 64	1 42 17						
7	285 54.2	14.0	181 41.1 <sup>159</sup>	+12 54.6	128 40	35	4 13	44	22 60	32 21						
8	300 54.2	14.5	196 16.1 <sup>160</sup>	41.7	129 35	3 53	27	4 55	29 57	24 24						
9	315 54.2	15.1	210 51.1 <sup>160</sup>	28.8	129 30	4 08	4 40	5 06	35 54	17 27						
10	330 54.2	15.7	225 26.2 <sup>161</sup>	15.9	129 20	32	5 00	23	46 48	1 04 32						
11	345 54.2	+19 16.2	240 01.3 <sup>161</sup>	+12 02.9	130 10 N	4 50	5 16	5 39	12 55 44	0 53 36						
12	0 54.2	+19 16.8	254 36.5 <sup>162</sup>	+11 49.8	131 0	5 06	5 31	5 53	13 04 39	0 42 41						
13	15 54.1	17.4	269 11.8 <sup>163</sup>	36.7	131 0 S	19	45	6 07	12 36	32 44						
14	30 54.1	17.9	283 47.1 <sup>163</sup>	23.6	131 20	32	5 58	22	21 32	20 50						
15	45 54.1	18.5	298 22.4 <sup>163</sup>	+11 10.5	131 30	44	6 13	39	31 27	07 54						
16	60 54.1	19.1	312 57.8 <sup>164</sup>	+10 57.3	132 35	51	21	6 48	37 24	0 00 57						
17	75 54.1	+19 19.6	327 33.3 <sup>165</sup>	+10 44.0	133 40	5 58	6 30	7 00	13 44 20	** ** **						
18	90 54.0	+19 20.2	342 08.8 <sup>165</sup>	+10 30.8	132 45	6 05	6 41	7 13	13 52 16	** ** **						
19	105 54.0	20.7	356 44.3 <sup>165</sup>	17.5	133 50	13	53	29	14 01 12	** ** **						
20	120 54.0	21.3	11 19.9 <sup>166</sup>	+10 04.1	134 52	17	6 58	36	05 10	** ** **						
21	135 54.0	21.9	25 55.5 <sup>166</sup>	+ 9 50.8	133 54	21	7 04	44	10 7	** ** **						
22	150 54.0	22.4	40 31.2 <sup>167</sup>	37.4	134 56	25	11	7 54	15 5	** ** **						
23	165 53.9	23.0	55 06.9 <sup>167</sup>	23.9	135 58	29	18	8 04	21 2	** ** **						
24	180 53.9	+19 23.6	69 42.6 <sup>167</sup>	+ 9 10.5	134 60 S	6 34	7 26	8 16	14 27 -1	** ** **						
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 8 <sup>h</sup> 21.8 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 36 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.0 PMG: 12 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 40 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	234 12.0	186 04.6	+17 03.9	222 53.3	+3 30.9	178 38.6	+18 55.2	244 41.9	-6 28.1							
1	249 14.4	201 04.0	04.8	237 54.0	31.7	193 40.5	55.3	259 44.2	28.1							
2	264 16.9	216 03.4	05.7	252 54.7	32.4	208 42.3	55.4	274 46.5	28.0							
3	279 19.4	231 02.8	06.6	267 55.4	33.2	223 44.2	55.6	289 48.8	28.0							
4	294 21.8	246 02.2	07.5	282 56.2	33.9	238 46.0	55.7	304 51.1	27.9							
5	309 24.3	261 01.5	+17 08.3	297 56.9	+3 34.7	253 47.9	+18 55.8	319 53.4	-6 27.9							
6	324 26.8	276 00.9	+17 09.2	312 57.6	+3 35.4	268 49.7	+18 56.0	334 55.7	-6 27.8							
7	339 29.2	291 00.3	10.1	327 58.3	36.2	283 51.6	56.1	349 58.0	27.7							
8	354 31.7	305 59.7	11.0	342 59.0	36.9	298 53.5	56.2	5 00.3	27.7							
9	9 34.2	320 59.1	11.9	357 59.7	37.7	313 55.3	56.4	20 02.6	27.6							
10	24 36.6	335 58.5	12.8	13 00.4	38.4	328 57.2	56.5	35 04.9	27.6							
11	39 39.1	350 57.8	+17 13.7	28 01.1	+3 39.2	343 59.0	+18 56.7	50 07.2	-6 27.5							
12	54 41.5	5 57.2	+17 14.6	43 01.8	+3 39.9	359 00.9	+18 56.8	65 09.5	-6 27.4							
13	69 44.0	20 56.6	15.5	58 02.5	40.7	14 02.7	56.9	80 11.8	27.4							
14	84 46.5	35 56.0	16.4	73 03.3	41.4	29 04.6	57.1	95 14.1	27.3							
15	99 48.9	50 55.4	17.2	88 04.0	42.2	44 06.5	57.2	110 16.5	27.3							
16	114 51.4	65 54.7	18.1	103 04.7	42.9	59 08.3	57.3	125 18.8	27.2							
17	129 53.9	80 54.1	+17 19.0	118 05.4	+3 43.7	74 10.2	+18 57.5	140 21.1	-6 27.1							
18	144 56.3	95 53.5	+17 19.9	133 06.1	+3 44.4	89 12.0	+18 57.6	155 23.4	-6 27.1							
19	159 58.8	110 52.9	20.8	148 06.8	45.2	104 13.9	57.7	170 25.7	27.0							
20	175 01.3	125 52.2	21.7	163 07.5	45.9	119 15.7	57.9	185 28.0	27.0							
21	190 03.7	140 51.6	22.6	178 08.2	46.7	134 17.6	58.0	200 30.3	26.9							
22	205 06.2	155 51.0	23.4	193 08.9	47.4	149 19.5	58.1	215 32.6	26.9							
23	220 08.6	170 50.4	24.3	208 09.6	48.2	164 21.3	58.3	230 34.9	26.8							
24	235 11.1	185 49.8	+17 25.2	223 10.3	+3 48.9	179 23.2	+18 58.4	245 37.2	-6 26.7							
Dif	—	-6	+9	+7	+7	+19	+1	+23	+1							



UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 15.8' PMG: 11 <sup>h</sup> 56.4 <sup>m</sup>			SD: 14.8' Edad: 8.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2' PMG: 19 <sup>h</sup> 53 <sup>m</sup> R°: 39 <sup>m</sup>						Civil		Náutico		Hora R°		Hora R°								
	hG ☉	Dec		hG ☾	Dif	Dec				Dif	h	m	h	m	h	m	h	m						
0	180	53.9	+19	23.6	69	42.6	168	+9	10.5	135	60 N	20	38	21	44	** **	12	59	82	2	25	-1		
1	195	53.9		24.1	84	18.4	168	+8	57.0	135	58	23	21	23	19		13	03	78	21		1		
2	210	53.9		24.7	98	54.2	168		43.4	136	56	11	21	03	22	26		06	75	16		5		
3	225	53.9		25.2	113	30.0	168		29.9	135	54	20	01	20	47	21	56		08	73	13		7	
4	240	53.8		25.8	128	05.9	169		16.3	136	52	19	51	34	34				11	70	09		9	
5	255	53.8	+19	26.3	142	41.8	169	+8	02.7	136	50	19	43	20	23	21	17		13	13	68	2	06	11
6	270	53.8	+19	26.9	157	17.8	170	+7	49.1	136	45	19	25	20	00	20	44		13	18	63	1	59	16
7	285	53.8		27.5	171	53.8	170		35.4	137	40	19	11	19	42	20			22	59		53	20	
8	300	53.8		28.0	186	29.8	170		21.7	137	35	18	59	27	20	01			26	56		48	23	
9	315	53.7		28.6	201	05.8	170	+7	08.0	137	30	18	48	19	14	19	46		29	53		44	26	
10	330	53.7		29.1	215	41.9	171	+6	54.2	138	20	30	30	18	54	22			34	48		36	31	
11	345	53.7	+19	29.7	230	18.0	171	+6	40.5	137	10 N	18	14	18	37	19	03		13	39	43	1	29	36
12	0	53.7	+19	30.2	244	54.1	171	+6	26.7	138	0	18	00	18	22	18	47		13	43	39	1	23	39
13	15	53.7		30.8	259	30.2	171	+6	12.9	138	10 S	17	46	18	08	34			48	35		16	44	
14	30	53.6		31.3	274	06.4	172	+5	59.1	138	20	31	17	54	21				53	30		10	47	
15	45	53.6		31.9	288	42.6	172		45.2	139	30	13		39	08				13	58	25	1	01	54
16	60	53.6		32.4	303	18.8	172		31.3	139	35	17	03	30	18	01			14	01	22	0	57	56
17	75	53.6	+19	33.0	317	55.0	172	+5	17.4	139	40	16	52	17	21	17	54		14	04	19	0	52	59
18	90	53.5	+19	33.5	332	31.3	173	+5	03.5	139	45	16	39	17	11	17	47		14	08	16	0	45	64
19	105	53.5		34.1	347	07.5	172	+4	49.6	139	50	22		16	58	38			13	11		38	68	
20	120	53.5		34.6	1	43.8	173		35.7	139	52	15		53	34				15	9		34	71	
21	135	53.5		35.2	16	20.1	173		21.7	140	54	16	06	47	30	17	7		31	7		31	72	
22	150	53.4		35.7	30	56.4	173	+4	07.7	140	56	15	57	40	26				20	4		26	76	
23	165	53.4		36.3	45	32.7	173	+3	53.7	140	58	46		32	21				23	2		02	78	
24	180	53.4	+19	36.8	60	09.1	174	+3	39.7	140	60 S	15	34	16	24	17	16		14	26	-1	0	16	82
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO												
	PMG 8 <sup>h</sup> 17.9 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 37 <sup>m</sup>			Mag.: +1.1 PMG: 9 <sup>h</sup> 07 <sup>m</sup>			Mag.: -2.0 PMG: 12 <sup>h</sup> 01 <sup>m</sup>			Mag.: +1.2 PMG: 7 <sup>h</sup> 36 <sup>m</sup>												
	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /												
0	235	11.1	185	49.8	+17	25.2	223	10.3	+3	48.9	179	23.2	+18	58.4	245	37.2	-6	26.7						
1	250	13.6	200	49.1		26.1	238	11.1		49.7	194	25.0		58.5	260	39.5		26.7						
2	265	16.0	215	48.5		26.9	253	11.8		50.4	209	26.9		58.7	275	41.8		26.6						
3	280	18.5	230	47.9		27.8	268	12.5		51.2	224	28.7		58.8	290	44.1		26.6						
4	295	21.0	245	47.2		28.7	283	13.2		51.9	239	30.6		59.0	305	46.4		26.5						
5	310	23.4	260	46.6	+17	29.6	298	13.9	+3	52.6	254	32.5	+18	59.1	320	48.7	-6	26.5						
6	325	25.9	275	46.0	+17	30.5	313	14.6	+3	53.4	269	34.3	+18	59.2	335	51.0	-6	26.4						
7	340	28.4	290	45.4		31.3	328	15.3		54.1	284	36.2		59.4	350	53.3		26.3						
8	355	30.8	305	44.7		32.2	343	16.0		54.9	299	38.0		59.5	5	55.6		26.3						
9	10	33.3	320	44.1		33.1	358	16.7		55.6	314	39.9		59.6	20	57.9		26.2						
10	25	35.8	335	43.5		33.9	13	17.4		56.4	329	41.7		59.8	36	00.2		26.2						
11	40	38.2	350	42.8	+17	34.8	28	18.2	+3	57.1	344	43.6	+18	59.9	51	02.5	-6	26.1						
12	55	40.7	5	42.2	+17	35.7	43	18.9	+3	57.9	359	45.5	+19	00.0	66	04.8	-6	26.0						
13	70	43.1	20	41.6		36.6	58	19.6		58.6	14	47.3		00.2	81	07.1		26.0						
14	85	45.6	35	40.9		37.4	73	20.3	+3	59.4	29	49.2		00.3	96	09.4		25.9						
15	100	48.1	50	40.3		38.3	88	21.0	+4	00.1	44	51.0		00.4	111	11.7		25.9						
16	115	50.5	65	39.7		39.2	103	21.7		00.9	59	52.9		00.6	126	14.0		25.8						
17	130	53.0	80	39.1	+17	40.0	118	22.4	+4	01.6	74	54.7	+19	00.7	141	16.4	-6	25.8						
18	145	55.5	95	38.4	+17	40.9	133	23.1	+4	02.4	89	56.6	+19	00.8	156	18.7	-6	25.7						
19	160	57.9	110	37.8		41.8	148	23.8		03.1	104	58.4		01.0	171	21.0		25.6						
20	176	00.4	125	37.1		42.6	163	24.5		03.8	120	00.3		01.1	186	23.3		25.6						
21	191	02.9	140	36.5		43.5	178	25.3		04.6	135	02.2		01.2	201	25.6		25.5						
22	206	05.3	155	35.9		44.3	193	26.0		05.3	150	04.0		01.4	216	27.9		25.5						
23	221	07.8	170	35.2		45.2	208	26.7		06.1	165	05.9		01.5	231	30.2		25.4						
24	236	10.2	185	34.6	+17	46.1	223	27.4	+4	06.8	180	07.7	+19	01.6	246	32.5	-6	25.4						
Dif	—		-6		+9		+7		+7		+19		+1		+23		+1							

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 11 <sup>h</sup> 56.5 <sup>m</sup>			SD: 14.8' Edad: 9.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.3' PMG: 20 <sup>h</sup> 32 <sup>m</sup> R°: 39 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "		° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m		
0	180 53.4 +19 36.8	60 09.1	+3 39.7	140	60 N	** **	2 08	3 15	14 21 82	2 24 -1					
1	195 53.4 37.4	74 45.4 <sup>173</sup>	25.7	140	58	0 33	31	29	21 78	22 2					
2	210 53.3 37.9	89 21.8 <sup>174</sup>	+3 11.7	141	56	1 27	2 50	41	21 76	21 4					
3	225 53.3 38.4	103 58.1 <sup>173</sup>	+2 57.6	140	54	1 56	3 05	3 52	21 73	20 6					
4	240 53.3 39.0	118 34.5 <sup>174</sup>	43.6	141	52	2 18	18	4 01	21 71	18 9					
5	255 53.3 +19 39.5	133 10.9 <sup>174</sup>	+2 29.5	141	50	2 36	3 30	4 10	14 21 68	2 17 11					
6	270 53.2 +19 40.1	147 47.2 <sup>173</sup>	+2 15.4	141	45	3 08	3 53	4 27	14 21 64	2 15 15					
7	285 53.2 40.6	162 23.6 <sup>174</sup>	+2 01.3	141	40	32	4 11	42	21 60	13 19					
8	300 53.2 41.2	177 00.0 <sup>174</sup>	+1 47.2	141	35	3 51	26	4 54	22 56	11 23					
9	315 53.1 41.7	191 36.4 <sup>174</sup>	33.1	141	30	4 07	38	5 05	22 53	10 25					
10	330 53.1 42.2	206 12.8 <sup>174</sup>	19.0	141	20	31	4 59	23	22 48	07 30					
11	345 53.1 +19 42.8	220 49.2 <sup>174</sup>	+1 04.8	142	10 N	4 50	5 16	5 38	14 22 44	2 05 34					
12	0 53.1 +19 43.3	235 25.5 <sup>173</sup>	+0 50.7	141	0	5 05	5 31	5 53	14 22 40	2 02 39					
13	15 53.0 43.8	250 01.9 <sup>174</sup>	36.6	141	10 S	19	45	6 07	23 35	2 00 43					
14	30 53.0 44.4	264 38.3 <sup>174</sup>	22.4	142	20	32	5 59	23	23 30	1 57 48					
15	45 53.0 44.9	279 14.7 <sup>174</sup>	+0 08.3	141	30	45	6 14	40	23 26	55 52					
16	60 52.9 45.5	293 51.0 <sup>173</sup>	-0 05.9	142	35	52	23	6 50	23 23	53 56					
17	75 52.9 +19 46.0	308 27.4 <sup>174</sup>	-0 20.0	141	40	5 59	6 32	7 01	14 23 20	1 51 59					
18	90 52.9 +19 46.5	323 03.7 <sup>173</sup>	-0 34.2	142	45	6 07	6 43	7 15	14 24 15	1 49 63					
19	105 52.9 47.1	337 40.0 <sup>173</sup>	-0 48.4	142	50	15	6 55	31	24 11	46 68					
20	120 52.8 47.6	352 16.4 <sup>174</sup>	-1 02.5	141	52	19	7 01	39	24 9	45 70					
21	135 52.8 48.1	6 52.7 <sup>173</sup>	16.7	142	54	23	07	48	24 7	43 73					
22	150 52.8 48.7	21 29.0 <sup>173</sup>	30.9	142	56	28	14	7 57	24 5	42 75					
23	165 52.7 49.2	36 05.3 <sup>173</sup>	45.0	141	58	32	22	8 08	25 1	40 78					
24	180 52.7 +19 49.7	50 41.5 <sup>172</sup>	-1 59.2	142	60 S	6 37	7 30	8 21	14 25 -2	1 38 82					

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2	
	8 <sup>h</sup> 14.0 <sup>m</sup>	PMG: 11 <sup>h</sup> 38 <sup>m</sup>		PMG: 9 <sup>h</sup> 06 <sup>m</sup>		PMG: 11 <sup>h</sup> 58 <sup>m</sup>		PMG: 7 <sup>h</sup> 33 <sup>m</sup>	
hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	236 10.2	185 34.6	+17 46.1	223 27.4	+4 06.8	180 07.7	+19 01.6	246 32.5	-6 25.4
1	251 12.7	200 34.0	46.9	238 28.1	07.6	195 09.6	01.8	261 34.8	25.3
2	266 15.2	215 33.3	47.8	253 28.8	08.3	210 11.4	01.9	276 37.1	25.3
3	281 17.6	230 32.7	48.6	268 29.5	09.1	225 13.3	02.0	291 39.4	25.2
4	296 20.1	245 32.1	49.5	283 30.2	09.8	240 15.2	02.2	306 41.7	25.1
5	311 22.6	260 31.4	+17 50.4	298 30.9	+4 10.6	255 17.0	+19 02.3	321 44.0	-6 25.1
6	326 25.0	275 30.8	+17 51.2	313 31.6	+4 11.3	270 18.9	+19 02.4	336 46.3	-6 25.0
7	341 27.5	290 30.1	52.1	328 32.4	12.0	285 20.7	02.6	351 48.6	25.0
8	356 30.0	305 29.5	52.9	343 33.1	12.8	300 22.6	02.7	6 51.0	24.9
9	11 32.4	320 28.9	53.8	358 33.8	13.5	315 24.4	02.8	21 53.3	24.9
10	26 34.9	335 28.2	54.6	13 34.5	14.3	330 26.3	03.0	36 55.6	24.8
11	41 37.4	350 27.6	+17 55.5	28 35.2	+4 15.0	345 28.2	+19 03.1	51 57.9	-6 24.7
12	56 39.8	5 26.9	+17 56.3	43 35.9	+4 15.8	0 30.0	+19 03.2	67 00.2	-6 24.7
13	71 42.3	20 26.3	57.2	58 36.6	16.5	15 31.9	03.4	82 02.5	24.6
14	86 44.7	35 25.6	58.0	73 37.3	17.3	30 33.7	03.5	97 04.8	24.6
15	101 47.2	50 25.0	58.9	88 38.0	18.0	45 35.6	03.6	112 07.1	24.5
16	116 49.7	65 24.4	+17 59.7	103 38.7	18.7	60 37.4	03.8	127 09.4	24.5
17	131 52.1	80 23.7	+18 00.6	118 39.5	+4 19.5	75 39.3	+19 03.9	142 11.7	-6 24.4
18	146 54.6	95 23.1	+18 01.4	133 40.2	+4 20.2	90 41.2	+19 04.0	157 14.0	-6 24.4
19	161 57.1	110 22.4	02.3	148 40.9	21.0	105 43.0	04.2	172 16.3	24.3
20	176 59.5	125 21.8	03.1	163 41.6	21.7	120 44.9	04.3	187 18.7	24.2
21	192 02.0	140 21.1	04.0	178 42.3	22.5	135 46.7	04.4	202 21.0	24.2
22	207 04.5	155 20.5	04.8	193 43.0	23.2	150 48.6	04.6	217 23.3	24.1
23	222 06.9	170 19.8	05.6	208 43.7	23.9	165 50.4	04.7	232 25.6	24.1
24	237 09.4	185 19.2	+18 06.5	223 44.4	+4 24.7	180 52.3	+19 04.8	247 27.9	-6 24.0

Dif	—	-6	+9	+7	+7	+19	+1	+23	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.5 <sup>m</sup>		SD: 14.8' Edad: 10.9 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.5'				PMG: 21 <sup>h</sup> 11 <sup>m</sup> R°: 41 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	180 52.7	+19 49.7	50 41.5	-1 59.2	142	142	20 42	21 51	** **	15 43	85	2 23	-2			
1	195 52.7	50.3	65 17.8 <sup>173</sup>	-2 13.4	141	141	58 27	26	** **	39 82	24	2	2			
2	210 52.6	50.8	79 54.0 <sup>172</sup>	27.5	141	141	56 15	21 07	22 34	37 78	25	5				
3	225 52.6	51.3	94 30.2 <sup>172</sup>	41.7	142	142	54 20	20 51	22 02	34 75	26	7				
4	240 52.6	51.8	109 06.4 <sup>172</sup>	-2 55.8	141	141	52 19	19 54	38 21	32 72	27	10				
5	255 52.5	+19 52.4	123 42.6 <sup>172</sup>	-3 10.0	142	142	50 19	19 46	20 26	21 21	15 29	71	2 28	12		
6	270 52.5	+19 52.9	138 18.7 <sup>171</sup>	-3 24.1	141	141	45 19	19 27	20 02	20 47	15 25	65	2 30	16		
7	285 52.5	53.4	152 54.9 <sup>172</sup>	38.3	142	142	40 13	19 44	22	21 61	32	20				
8	300 52.5	54.0	167 31.0 <sup>171</sup>	-3 52.4	141	141	35 19	19 00	29 20	20 03	18 57	34	23			
9	315 52.4	54.5	182 07.0 <sup>170</sup>	-4 06.5	141	141	30 18	18 49	19 16	19 48	15 54	35	26			
10	330 52.4	55.0	196 43.1 <sup>171</sup>	20.6	141	141	20 31	18 55	23	10 49	37	31				
11	345 52.4	+19 55.5	211 19.1 <sup>170</sup>	-4 34.7	141	141	10 N 18	18 15	18 37	19 04	15 06	44	2 39	36		
12	0 52.3	+19 56.1	225 55.1 <sup>170</sup>	-4 48.8	141	141	0 18	18 00	18 22	18 48	15 02	40	2 41	40		
13	15 52.3	56.6	240 31.0 <sup>169</sup>	-5 02.9	141	141	10 S 17	17 45	18 08	33	14 58	36	43	44		
14	30 52.2	57.1	255 07.0 <sup>170</sup>	17.0	141	141	20 30	17 53	20	53 32	45	48				
15	45 52.2	57.6	269 42.9 <sup>169</sup>	31.0	140	140	30 12	38	07	49 26	47	54				
16	60 52.2	58.2	284 18.7 <sup>168</sup>	45.1	141	141	35 17	02 29	18 00	46 24	49	56				
17	75 52.1	+19 58.7	298 54.5 <sup>168</sup>	-5 59.1	140	140	40 16	16 50	17 20	17 53	14 43	20	2 50	60		
18	90 52.1	+19 59.2	313 30.3 <sup>168</sup>	-6 13.1	140	140	45 16	16 37	17 09	17 45	14 39	17	2 52	64		
19	105 52.1	+19 59.7	328 06.1 <sup>168</sup>	27.1	140	140	50 20	16 56	36	35 12	54	69				
20	120 52.0	+20 00.2	342 41.8 <sup>167</sup>	41.1	140	140	52 12	50	32	33 10	55	71				
21	135 52.0	00.8	357 17.5 <sup>167</sup>	-6 55.1	140	140	54 16	03 44	28	31 8	56	74				
22	150 52.0	01.3	11 53.1 <sup>166</sup>	-7 09.0	139	139	56 15	54 37	24	29 5	57	77				
23	165 51.9	01.8	26 28.7 <sup>166</sup>	23.0	140	140	58 42	29	19	26 2	2 58	80				
24	180 51.9	+20 02.3	41 04.2 <sup>165</sup>	-7 36.9	139	139	60 S 15	15 30	16 20	17 13	14 23	-1	3 00	83		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 <sup>h</sup> 10.0 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 39 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 05 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 55 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 29 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	237 09.4	185 19.2	+18 06.5	223 44.4	+4 24.7	180 52.3	+19 04.8	247 27.9	-6 24.0	
1	252 11.9	200 18.5	07.3	238 45.1	25.4	195 54.1	05.0	262 30.2	24.0	
2	267 14.3	215 17.9	08.2	253 45.8	26.2	210 56.0	05.1	277 32.5	23.9	
3	282 16.8	230 17.2	09.0	268 46.6	26.9	225 57.9	05.2	292 34.8	23.9	
4	297 19.2	245 16.6	09.8	283 47.3	27.7	240 59.7	05.4	307 37.1	23.8	
5	312 21.7	260 15.9	+18 10.7	298 48.0	+4 28.4	256 01.6	+19 05.5	322 39.4	-6 23.7	
6	327 24.2	275 15.3	+18 11.5	313 48.7	+4 29.1	271 03.4	+19 05.6	337 41.8	-6 23.7	
7	342 26.6	290 14.6	12.4	328 49.4	29.9	286 05.3	05.8	352 44.1	23.6	
8	357 29.1	305 14.0	13.2	343 50.1	30.6	301 07.1	05.9	7 46.4	23.6	
9	12 31.6	320 13.3	14.0	358 50.8	31.4	316 09.0	06.0	22 48.7	23.5	
10	27 34.0	335 12.7	14.9	13 51.5	32.1	331 10.9	06.2	37 51.0	23.5	
11	42 36.5	350 12.0	+18 15.7	28 52.2	+4 32.9	346 12.7	+19 06.3	52 53.3	-6 23.4	
12	57 39.0	5 11.4	+18 16.5	43 52.9	+4 33.6	1 14.6	+19 06.4	67 55.6	-6 23.4	
13	72 41.4	20 10.7	17.4	58 53.7	34.3	16 16.4	06.6	82 57.9	23.3	
14	87 43.9	35 10.1	18.2	73 54.4	35.1	31 18.3	06.7	98 00.2	23.3	
15	102 46.3	50 09.4	19.0	88 55.1	35.8	46 20.1	06.8	113 02.6	23.2	
16	117 48.8	65 08.7	19.8	103 55.8	36.6	61 22.0	07.0	128 04.9	23.1	
17	132 51.3	80 08.1	+18 20.7	118 56.5	+4 37.3	76 23.8	+19 07.1	143 07.2	-6 23.1	
18	147 53.7	95 07.4	+18 21.5	133 57.2	+4 38.0	91 25.7	+19 07.2	158 09.5	-6 23.0	
19	162 56.2	110 06.8	22.3	148 57.9	38.8	106 27.6	07.4	173 11.8	23.0	
20	177 58.7	125 06.1	23.1	163 58.6	39.5	121 29.4	07.5	188 14.1	22.9	
21	193 01.1	140 05.5	24.0	178 59.3	40.3	136 31.3	07.6	203 16.4	22.9	
22	208 03.6	155 04.8	24.8	194 00.0	41.0	151 33.1	07.8	218 18.7	22.8	
23	223 06.1	170 04.1	25.6	209 00.8	41.7	166 35.0	07.9	233 21.0	22.8	
24	238 08.5	185 03.5	+18 26.4	224 01.5	+4 42.5	181 36.8	+19 08.0	248 23.4	-6 22.7	

Dif	—	-7	+8	+7	+7	+19	+1	+23	+1
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UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 11 <sup>h</sup> 56.6 <sup>m</sup>			SD: 14.9' Edad: 11.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.8' PMG: 21 <sup>h</sup> 52 <sup>m</sup> R°: 44 <sup>m</sup>					Náutico	Civil		Hora R°	Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m							h m	h m m
0	180 51.9	+20 02.3	41 04.2		- 7 36.9	139	60 N	h m	h m	h m	h m m	h m m	h m m		
1	195 51.9	02.8	55 39.7 <sup>165</sup>		- 7 50.8	138	58	** **	2 02	3 10	17 08 90	2 21 -1			
2	210 51.8	03.3	70 15.2 <sup>165</sup>		- 8 04.6	138	56	** **	26	25	17 01 85	26 2			
3	225 51.8	03.9	84 50.6 <sup>164</sup>		18.5	139	54	1 18	2 45	38	16 55 81	30 5			
4	240 51.7	04.4	99 26.0 <sup>164</sup>		32.3	138	52	1 50	3 01	49	49 78	33 9			
5	255 51.7	+20 04.9	114 01.3 <sup>163</sup>		- 8 46.1	138	50	2 13	15	3 58	44 76	37 11			
6	270 51.7	+20 05.4	128 36.6 <sup>163</sup>		- 8 59.9	138	45	2 32	3 27	4 07	16 40 73	2 40 13			
7	285 51.6	05.9	143 11.8 <sup>162</sup>		- 9 13.6	137	40	3 06	3 50	4 25	16 30 68	2 46 18			
8	300 51.6	06.4	157 46.9 <sup>161</sup>		27.4	138	35	30	4 09	40	22 64	52 22			
9	315 51.6	06.9	172 22.0 <sup>161</sup>		41.1	137	30	3 50	24	4 53	15 60	2 57 25			
10	330 51.5	07.5	186 57.1 <sup>161</sup>		- 9 54.7	136	20	4 05	37	5 04	16 09 57	3 01 28			
11	345 51.5	+20 08.0	201 32.1 <sup>160</sup>		- 10 08.4	137	10 N	30	4 58	22	15 59 52	08 33			
12	0 51.4	+20 08.5	216 07.0 <sup>159</sup>		- 10 22.0	136	0	4 49	5 16	5 38	15 50 48	3 15 37			
13	15 51.4	09.0	230 41.9 <sup>159</sup>		35.6	136	10 S	5 05	5 31	5 53	15 42 43	3 21 41			
14	30 51.4	09.5	245 16.8 <sup>159</sup>		- 10 49.1	135	20	20	5 45	6 08	34 39	27 46			
15	45 51.3	10.0	259 51.5 <sup>157</sup>		- 11 02.6	135	30	33	6 00	23	25 35	33 51			
16	60 51.3	10.5	274 26.3 <sup>158</sup>		16.1	135	35	46	16	41	15 30	41 56			
17	75 51.2	+20 11.0	289 00.9 <sup>156</sup>		- 11 29.6	135	40	5 53	24	6 51	10 26	45 59			
18	90 51.2	+20 11.5	303 35.5 <sup>156</sup>		- 11 43.0	134	45	6 01	6 34	7 03	15 03 24	3 50 62			
19	105 51.2	12.0	318 10.0 <sup>155</sup>		- 11 56.3	133	50	6 09	6 45	7 17	14 56 19	3 56 66			
20	120 51.1	12.5	332 44.5 <sup>155</sup>		- 12 09.7	134	52	18	6 58	34	47 15	4 03 71			
21	135 51.1	13.0	347 18.9 <sup>154</sup>		23.0	133	54	21	7 03	42	43 12	06 74			
22	150 51.0	13.5	1 53.2 <sup>153</sup>		36.2	132	56	26	10	7 51	39 9	10 76			
23	165 51.0	14.0	16 27.5 <sup>153</sup>		- 12 49.5	133	58	30	17	8 01	34 7	14 79			
24	180 51.0	+20 14.5	31 01.6 <sup>151</sup>		- 13 02.6	131	60 S	35	25	12	28 4	18 83			
								6 41	7 34	8 25	14 22 0	4 23 87			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 <sup>h</sup> 06.1 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 40 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 25 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	238 08.5	185 03.5	+ 18 26.4	224 01.5	+ 4 42.5	181 36.8	+ 19 08.0	248 23.4	- 6 22.7	
1	253 11.0	200 02.8	27.3	239 02.2	43.2	196 38.7	08.2	263 25.7	22.7	
2	268 13.5	215 02.2	28.1	254 02.9	44.0	211 40.6	08.3	278 28.0	22.6	
3	283 15.9	230 01.5	28.9	269 03.6	44.7	226 42.4	08.4	293 30.3	22.6	
4	298 18.4	245 00.8	29.7	284 04.3	45.4	241 44.3	08.6	308 32.6	22.5	
5	313 20.8	260 00.2	+ 18 30.5	299 05.0	+ 4 46.2	256 46.1	+ 19 08.7	323 34.9	- 6 22.4	
6	328 23.3	274 59.5	+ 18 31.3	314 05.7	+ 4 46.9	271 48.0	+ 19 08.8	338 37.2	- 6 22.4	
7	343 25.8	289 58.8	32.2	329 06.4	47.7	286 49.8	09.0	353 39.6	22.3	
8	358 28.2	304 58.2	33.0	344 07.1	48.4	301 51.7	09.1	8 41.9	22.3	
9	13 30.7	319 57.5	33.8	359 07.9	49.1	316 53.5	09.2	23 44.2	22.2	
10	28 33.2	334 56.9	34.6	14 08.6	49.9	331 55.4	09.4	38 46.5	22.2	
11	43 35.6	349 56.2	+ 18 35.4	29 09.3	+ 4 50.6	346 57.3	+ 19 09.5	53 48.8	- 6 22.1	
12	58 38.1	4 55.5	+ 18 36.2	44 10.0	+ 4 51.4	1 59.1	+ 19 09.6	68 51.1	- 6 22.1	
13	73 40.6	19 54.9	37.0	59 10.7	52.1	17 01.0	09.8	83 53.4	22.0	
14	88 43.0	34 54.2	37.8	74 11.4	52.8	32 02.8	09.9	98 55.8	22.0	
15	103 45.5	49 53.5	38.7	89 12.1	53.6	47 04.7	10.0	113 58.1	21.9	
16	118 47.9	64 52.9	39.5	104 12.8	54.3	62 06.5	10.1	129 00.4	21.9	
17	133 50.4	79 52.2	+ 18 40.3	119 13.5	+ 4 55.1	77 08.4	+ 19 10.3	144 02.7	- 6 21.8	
18	148 52.9	94 51.5	+ 18 41.1	134 14.2	+ 4 55.8	92 10.2	+ 19 10.4	159 05.0	- 6 21.8	
19	163 55.3	109 50.9	41.9	149 15.0	56.5	107 12.1	10.5	174 07.3	21.7	
20	178 57.8	124 50.2	42.7	164 15.7	57.3	122 14.0	10.7	189 09.6	21.6	
21	194 00.3	139 49.5	43.5	179 16.4	58.0	137 15.8	10.8	204 12.0	21.6	
22	209 02.7	154 48.8	44.3	194 17.1	58.8	152 17.7	10.9	219 14.3	21.5	
23	224 05.2	169 48.2	45.1	209 17.8	+ 4 59.5	167 19.5	11.1	234 16.6	21.5	
24	239 07.7	184 47.5	+ 18 45.9	224 18.5	+ 5 00.2	182 21.4	+ 19 11.2	249 18.9	- 6 21.4	
Dif	—	-7	+8	+7	+7	+19	+1	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.8'		SD: 15.0'		Edad: 12.9 <sup>d</sup>				PHE { 4 <sup>h</sup> : 55.0' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 55.3'	R <sup>o</sup> : 48 <sup>m</sup>		R <sup>o</sup>		R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 56.6 <sup>m</sup>		PMG: 22 <sup>h</sup> 36 <sup>m</sup>									Civil		Náutico	
hG	Dec	hG	Dif	Dec	Dif	h	m	h	m	h	m	h	m		
0	180 51.0	+ 20 14.5	31 01.6	152	- 13 02.6	132	60 N	20 47	21 58	** **	** **	18 38	96	2 20	0
1	195 50.9	15.1	45 35.8	150	15.8	131	58	31	32	** **	** **	26 91		28	4
2	210 50.9	15.6	60 09.8	150	28.9	130	56	18	21 11	22 43		16 86		35	8
3	225 50.8	16.1	74 43.8	149	41.9	130	54	20 07	20 55	22 08		07 82		42	11
4	240 50.8	16.6	89 17.7	148	- 13 54.9	130	52	19 57	41	21 44		18 00	78	48	13
5	255 50.7	+ 20 17.1	103 51.5	148	- 14 07.9	130	50	19 48	20 29	21 25		17 53	76	2 53	16
6	270 50.7	+ 20 17.6	118 25.3	147	- 14 20.8	129	45	19 29	20 05	20 50		17 38	70	3 04	21
7	285 50.7	18.1	132 59.0	146	33.6	128	40	14	19 46	25		26 66		14	25
8	300 50.6	18.6	147 32.6	145	46.4	128	35	19 02	30	20 05		15 63		22	28
9	315 50.6	19.0	162 06.1	145	- 14 59.2	128	30	18 50	19 17	19 49		17 06	60	29	31
10	330 50.5	19.5	176 39.6	145	- 15 11.9	127	20	32	18 56	24		16 51	55	41	37
11	345 50.5	+ 20 20.0	191 12.9	143	- 15 24.6	127	10 N	18 15	18 38	19 04		16 38	50	3 52	41
12	0 50.4	+ 20 20.5	205 46.2	143	- 15 37.1	125	0	18 00	18 22	18 48		16 25	47	4 02	45
13	15 50.4	21.0	220 19.4	142	- 15 49.7	126	10 S	17 45	18 08	33		13 43		13	49
14	30 50.3	21.5	234 52.6	142	- 16 02.2	125	20	29	17 53	20		16 00	38	24	53
15	45 50.3	22.0	249 25.6	140	14.6	124	30	11	37	18 06		15 45	34	37	58
16	60 50.3	22.5	263 58.6	140	27.0	124	35	17 01	28	17 59		36 31		44	61
17	75 50.2	+ 20 23.0	278 31.5	139	- 16 39.3	123	40	16 49	17 18	17 52		15 27	27	4 52	65
18	90 50.2	+ 20 23.5	293 04.3	138	- 16 51.5	122	45	16 35	17 07	17 43		15 15	24	5 02	69
19	105 50.1	24.0	307 37.0	137	- 17 03.7	122	50	18	16 54	34		15 02	18	14	75
20	120 50.1	24.5	322 09.6	136	15.8	121	52	10	48	30		14 55	16	20	77
21	135 50.0	25.0	336 42.1	135	27.9	121	54	16 01	42	26		48 14		26	80
22	150 50.0	25.5	351 14.6	135	39.9	120	56	15 51	34	21		41 9		33	84
23	165 49.9	26.0	5 46.9	133	- 17 51.8	119	58	39	26	16		32 6		41	88
24	180 49.9	+ 20 26.4	20 19.2	133	- 18 03.7	119	60 S	15 26	16 17	17 10		14 22	1	5 50	92

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2	
	8 <sup>h</sup> 02.2 <sup>m</sup>		PMG: 11 <sup>h</sup> 41 <sup>m</sup>		PMG: 9 <sup>h</sup> 02 <sup>m</sup>		PMG: 11 <sup>h</sup> 49 <sup>m</sup>		PMG: 7 <sup>h</sup> 22 <sup>m</sup>	
hG	Dec	hG	Dec	hG	Dec	hG	Dec	hG	Dec	
0	239 07.7	184 47.5	+ 18 45.9	224 18.5	+ 5 00.2	182 21.4	+ 19 11.2	249 18.9	- 6 21.4	
1	254 10.1	199 46.8	46.7	239 19.2	01.0	197 23.2	11.3	264 21.2	21.4	
2	269 12.6	214 46.2	47.5	254 19.9	01.7	212 25.1	11.5	279 23.5	21.3	
3	284 15.1	229 45.5	48.3	269 20.6	02.4	227 26.9	11.6	294 25.9	21.3	
4	299 17.5	244 44.8	49.1	284 21.3	03.2	242 28.8	11.7	309 28.2	21.2	
5	314 20.0	259 44.1	+ 18 49.9	299 22.1	+ 5 03.9	257 30.7	+ 19 11.9	324 30.5	- 6 21.2	
6	329 22.4	274 43.5	+ 18 50.7	314 22.8	+ 5 04.7	272 32.5	+ 19 12.0	339 32.8	- 6 21.1	
7	344 24.9	289 42.8	51.5	329 23.5	05.4	287 34.4	12.1	354 35.1	21.1	
8	359 27.4	304 42.1	52.3	344 24.2	06.1	302 36.2	12.3	9 37.4	21.0	
9	14 29.8	319 41.4	53.1	359 24.9	06.9	317 38.1	12.4	24 39.8	21.0	
10	29 32.3	334 40.8	53.9	14 25.6	07.6	332 39.9	12.5	39 42.1	20.9	
11	44 34.8	349 40.1	+ 18 54.7	29 26.3	+ 5 08.3	347 41.8	+ 19 12.6	54 44.4	- 6 20.9	
12	59 37.2	4 39.4	+ 18 55.4	44 27.0	+ 5 09.1	2 43.6	+ 19 12.8	69 46.7	- 6 20.8	
13	74 39.7	19 38.7	56.2	59 27.7	09.8	17 45.5	12.9	84 49.0	20.8	
14	89 42.2	34 38.1	57.0	74 28.4	10.5	32 47.4	13.0	99 51.3	20.7	
15	104 44.6	49 37.4	57.8	89 29.2	11.3	47 49.2	13.2	114 53.7	20.7	
16	119 47.1	64 36.7	58.6	104 29.9	12.0	62 51.1	13.3	129 56.0	20.6	
17	134 49.6	79 36.0	+ 18 59.4	119 30.6	+ 5 12.8	77 52.9	+ 19 13.4	144 58.3	- 6 20.6	
18	149 52.0	94 35.3	+ 19 00.2	134 31.3	+ 5 13.5	92 54.8	+ 19 13.6	160 00.6	- 6 20.5	
19	164 54.5	109 34.7	01.0	149 32.0	14.2	107 56.6	13.7	175 02.9	20.4	
20	179 56.9	124 34.0	01.7	164 32.7	15.0	122 58.5	13.8	190 05.2	20.4	
21	194 59.4	139 33.3	02.5	179 33.4	15.7	138 00.3	14.0	205 07.6	20.3	
22	210 01.9	154 32.6	03.3	194 34.1	16.4	153 02.2	14.1	220 09.9	20.3	
23	225 04.3	169 31.9	04.1	209 34.8	17.2	168 04.1	14.2	235 12.2	20.2	
24	240 06.8	184 31.2	+ 19 04.9	224 35.5	+ 5 17.9	183 05.9	+ 19 14.3	250 14.5	- 6 20.2	
Dif	—	-7	+8	+7	+7	+19	+1	+23	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.7 <sup>m</sup>		SD: 15.1' Edad: 13.9 <sup>d</sup> PMG: 23 <sup>h</sup> 24 <sup>m</sup>		R°: 52 <sup>m</sup>			PHE { 4 <sup>h</sup> : 55.4' 12 <sup>h</sup> : 55.6' 20 <sup>h</sup> : 55.7'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	180 49.9	+20 26.4	20 19.2		-18 03.7	117	60 N	** **	1 55	3 06	20 14	102	2 20	2		
1	195 49.8	26.9	34 51.3	131	15.4	117	58	** **	2 21	21	19 57	93	32	8		
2	210 49.8	27.4	49 23.4	131	27.2	118	56	1 10	41	35	42 88		43	12		
3	225 49.7	27.9	63 55.4	130	38.8	116	54	1 45	2 58	46	29 84		2 53	15		
4	240 49.7	28.4	78 27.3	129	-18 50.4	116	52	2 09	3 12	3 56	18 80		3 01	19		
5	255 49.6	+20 28.9	92 59.1	128	-19 01.9	115	50	2 28	3 24	4 05	19 09	77	3 09	21		
6	270 49.6	+20 29.4	107 30.8	127	-19 13.3	114	45	3 03	3 48	4 24	18 48	72	3 25	26		
7	285 49.5	29.8	122 02.4	126	24.6	113	40	28	4 07	39	32 68		39	30		
8	300 49.5	30.3	136 33.9	125	35.9	113	35	3 48	23	4 52	18 65		3 50	34		
9	315 49.4	30.8	151 05.4	125	47.1	112	30	4 04	36	5 03	18 06	62	4 00	37		
10	330 49.4	31.3	165 36.7	123	-19 58.2	111	20	29	4 58	22	17 46	58	18	41		
11	345 49.3	+20 31.8	180 07.9	122	-20 09.2	110	10 N	4 49	5 15	5 38	17 28	54	4 33	45		
12	0 49.3	+20 32.3	194 39.0	121	-20 20.1	109	0	5 05	5 31	5 53	17 12	51	4 47	49		
13	15 49.2	32.7	209 10.1	121	31.0	109	10 S	20	5 46	6 08	16 56	47	5 02	52		
14	30 49.2	33.2	223 41.0	119	41.7	107	20	34	6 01	24	38 44		17	56		
15	45 49.1	33.7	238 11.8	118	-20 52.4	107	30	47	17	42	19 39		35	61		
16	60 49.1	34.2	252 42.6	118	-21 03.0	106	35	5 55	26	6 53	16 07	37	45	64		
17	75 49.0	+20 34.7	267 13.2	116	-21 13.5	105	40	6 02	6 35	7 05	15 54	34	5 57	67		
18	90 49.0	+20 35.1	281 43.7	115	-21 23.9	104	45	6 10	6 47	7 19	15 39	30	6 11	72		
19	105 48.9	35.6	296 14.2	115	34.2	103	50	20	7 00	36	20 25		29	76		
20	120 48.9	36.1	310 44.5	113	44.4	102	52	24	06	45	11 23		37	79		
21	135 48.8	36.6	325 14.7	112	-21 54.5	101	54	28	12	7 54	15 02	19	46	83		
22	150 48.8	37.0	339 44.9	112	-22 04.5	100	56	33	20	8 04	14 50	16	6 57	86		
23	165 48.7	37.5	354 14.9	110	14.4	99	58	38	28	15	38 10		7 09	91		
24	180 48.7	+20 38.0	8 44.8	109	-22 24.3	99	60 S	6 44	7 37	8 29	14 23	4	7 22	99		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 58.2 <sup>m</sup>	Mag.: -3.9 PMG: 11 <sup>h</sup> 42 <sup>m</sup>		Mag.: +1.1 PMG: 9 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 46 <sup>m</sup>		Mag.: +1.2 PMG: 7 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	240 06.8	184 31.2	+19 04.9	224 35.5	+5 17.9	183 05.9	+19 14.3	250 14.5	-6 20.2
1	255 09.3	199 30.6	05.6	239 36.3	18.6	198 07.8	14.5	265 16.8	20.1
2	270 11.7	214 29.9	06.4	254 37.0	19.4	213 09.6	14.6	280 19.2	20.1
3	285 14.2	229 29.2	07.2	269 37.7	20.1	228 11.5	14.7	295 21.5	20.0
4	300 16.7	244 28.5	08.0	284 38.4	20.8	243 13.3	14.9	310 23.8	20.0
5	315 19.1	259 27.8	+19 08.8	299 39.1	+5 21.6	258 15.2	+19 15.0	325 26.1	-6 19.9
6	330 21.6	274 27.1	+19 09.5	314 39.8	+5 22.3	273 17.0	+19 15.1	340 28.4	-6 19.9
7	345 24.1	289 26.4	10.3	329 40.5	23.0	288 18.9	15.3	355 30.8	19.8
8	0 26.5	304 25.8	11.1	344 41.2	23.8	303 20.8	15.4	10 33.1	19.8
9	15 29.0	319 25.1	11.8	359 41.9	24.5	318 22.6	15.5	25 35.4	19.7
10	30 31.4	334 24.4	12.6	14 42.6	25.2	333 24.5	15.6	40 37.7	19.7
11	45 33.9	349 23.7	+19 13.4	29 43.4	+5 26.0	348 26.3	+19 15.8	55 40.0	-6 19.6
12	60 36.4	4 23.0	+19 14.2	44 44.1	+5 26.7	3 28.2	+19 15.9	70 42.4	-6 19.6
13	75 38.8	19 22.3	14.9	59 44.8	27.4	18 30.0	16.0	85 44.7	19.5
14	90 41.3	34 21.6	15.7	74 45.5	28.2	33 31.9	16.2	100 47.0	19.5
15	105 43.8	49 20.9	16.5	89 46.2	28.9	48 33.7	16.3	115 49.3	19.4
16	120 46.2	64 20.2	17.2	104 46.9	29.6	63 35.6	16.4	130 51.6	19.4
17	135 48.7	79 19.6	+19 18.0	119 47.6	+5 30.4	78 37.5	+19 16.6	145 54.0	-6 19.3
18	150 51.2	94 18.9	+19 18.8	134 48.3	+5 31.1	93 39.3	+19 16.7	160 56.3	-6 19.3
19	165 53.6	109 18.2	19.5	149 49.0	31.8	108 41.2	16.8	175 58.6	19.2
20	180 56.1	124 17.5	20.3	164 49.7	32.6	123 43.0	16.9	191 00.9	19.2
21	195 58.5	139 16.8	21.0	179 50.5	33.3	138 44.9	17.1	206 03.3	19.1
22	211 01.0	154 16.1	21.8	194 51.2	34.0	153 46.7	17.2	221 05.6	19.1
23	226 03.5	169 15.4	22.6	209 51.9	34.8	168 48.6	17.3	236 07.9	19.0
24	241 05.9	184 14.7	+19 23.3	224 52.6	+5 35.5	183 50.4	+19 17.5	251 10.2	-6 19.0
Dif	—	-7	+8	+7	+7	+19	+1	+23	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 56.8 <sup>m</sup>		SD: 15.2' Edad: 14.9 <sup>d</sup> PMG: **h ***m		PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 56.1' 20 <sup>h</sup> : 56.3'				R°: ***m							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 48.7	+20 38.0	8 44.8	-22 24.3	97	60 N	20 51	22 04	** **	21 56 99	2 22 5	5				
1	195 48.6	38.5	23 14.7 <sup>109</sup>	34.0	97	58	35	21 37	** **	30 88	40 13	13				
2	210 48.6	38.9	37 44.4 <sup>107</sup>	43.6	96	56	22	21 16	22 53	21 10 82	2 55 19	19				
3	225 48.5	39.4	52 14.0 <sup>106</sup>	-22 53.1	95	54	10	20 59	22 14	20 53 79	3 08 23	26				
4	240 48.5	39.9	66 43.5 <sup>105</sup>	-23 02.5	94	52	20 00	44	21 49	38 76	20 26	23				
5	255 48.4	+20 40.3	81 12.9 <sup>104</sup>	-23 11.8	93	50	19 51	20 32	21 29	20 26 74	3 30 29	29				
6	270 48.4	+20 40.8	95 42.3 <sup>104</sup>	-23 21.0	92	45	19 32	20 07	20 53	20 00 70	3 51 35	35				
7	285 48.3	41.3	110 11.5 <sup>102</sup>	30.1	91	40	16	19 48	27	19 40 67	4 09 38	38				
8	300 48.3	41.8	124 40.6 <sup>101</sup>	39.1	90	35	19 03	32	20 07	23 64	24 40	43				
9	315 48.2	42.2	139 09.6 <sup>100</sup>	47.9	88	30	18 52	19 18	19 51	19 08 63	37 43	40				
10	330 48.1	42.7	153 38.5 <sup>99</sup>	-23 56.7	88	20	32	18 56	25	18 44 59	4 59 46	46				
11	345 48.1	+20 43.2	168 07.3 <sup>98</sup>	-24 05.3	86	10 N	18 16	18 38	19 05	18 22 58	5 18 50	50				
12	0 48.0	+20 43.6	182 36.0 <sup>97</sup>	-24 13.8	85	0	18 00	18 22	18 48	18 03 55	5 36 53	53				
13	15 48.0	44.1	197 04.6 <sup>96</sup>	22.2	84	10 S	17 45	18 08	33	17 43 53	5 54 56	56				
14	30 47.9	44.6	211 33.1 <sup>95</sup>	30.5	83	20	29	17 52	19	17 22 51	6 13 59	59				
15	45 47.9	45.0	226 01.5 <sup>94</sup>	38.6	81	30	10	36	18 05	16 58 47	36 62	62				
16	60 47.8	45.5	240 29.8 <sup>93</sup>	46.6	80	35	17 00	27	17 58	44 45	6 49 65	65				
17	75 47.8	+20 45.9	254 58.0 <sup>92</sup>	-24 54.6	80	40	16 48	17 17	17 50	16 28 43	7 04 68	68				
18	90 47.7	+20 46.4	269 26.1 <sup>91</sup>	-25 02.3	77	45	16 33	17 06	17 42	16 09 40	7 23 71	71				
19	105 47.6	46.9	283 54.1 <sup>90</sup>	10.0	77	50	16	16 52	32	15 45 35	45 76	76				
20	120 47.6	47.3	298 22.0 <sup>89</sup>	17.5	75	52	16 07	46	28	34 32	7 56 79	79				
21	135 47.5	47.8	312 49.8 <sup>88</sup>	24.9	74	54	15 58	39	24	21 29	8 09 82	82				
22	150 47.5	48.3	327 17.6 <sup>88</sup>	32.2	73	56	48	32	19	15 06 26	23 86	86				
23	165 47.4	48.7	341 45.2 <sup>86</sup>	39.3	71	58	36	24	14	14 48 20	8 40 92	92				
24	180 47.4	+20 49.2	356 12.7 <sup>85</sup>	-25 46.3	70	60 S	15 22	16 14	17 08	14 27 11	9 01 101	101				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.2	
	7 <sup>h</sup> 54.3 <sup>m</sup>	PMG: 11 <sup>h</sup> 44 <sup>m</sup>		PMG: 9 <sup>h</sup> 00 <sup>m</sup>		PMG: 11 <sup>h</sup> 43 <sup>m</sup>		PMG: 7 <sup>h</sup> 14 <sup>m</sup>	
hG ♂	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	241 05.9	184 14.7	+19 23.3	224 52.6	+5 35.5	183 50.4	+19 17.5	251 10.2	-6 19.0
1	256 08.4	199 14.0	24.1	239 53.3	36.2	198 52.3	17.6	266 12.5	18.9
2	271 10.9	214 13.3	24.8	254 54.0	37.0	213 54.2	17.7	281 14.9	18.9
3	286 13.3	229 12.6	25.6	269 54.7	37.7	228 56.0	17.9	296 17.2	18.8
4	301 15.8	244 11.9	26.4	284 55.4	38.4	243 57.9	18.0	311 19.5	18.8
5	316 18.3	259 11.2	+19 27.1	299 56.1	+5 39.2	258 59.7	+19 18.1	326 21.8	-6 18.7
6	331 20.7	274 10.5	+19 27.9	314 56.8	+5 39.9	274 01.6	+19 18.2	341 24.2	-6 18.7
7	346 23.2	289 09.8	28.6	329 57.6	40.6	289 03.4	18.4	356 26.5	18.6
8	1 25.7	304 09.1	29.4	344 58.3	41.4	304 05.3	18.5	11 28.8	18.6
9	16 28.1	319 08.4	30.1	359 59.0	42.1	319 07.1	18.6	26 31.1	18.5
10	31 30.6	334 07.7	30.9	14 59.7	42.8	334 09.0	18.8	41 33.5	18.5
11	46 33.0	349 07.0	+19 31.6	30 00.4	+5 43.6	349 10.9	+19 18.9	56 35.8	-6 18.4
12	61 35.5	4 06.3	+19 32.4	45 01.1	+5 44.3	4 12.7	+19 19.0	71 38.1	-6 18.4
13	76 38.0	19 05.6	33.1	60 01.8	45.0	19 14.6	19.1	86 40.4	18.3
14	91 40.4	34 04.9	33.9	75 02.5	45.8	34 16.4	19.3	101 42.7	18.3
15	106 42.9	49 04.2	34.6	90 03.2	46.5	49 18.3	19.4	116 45.1	18.2
16	121 45.4	64 03.5	35.3	105 03.9	47.2	64 20.1	19.5	131 47.4	18.2
17	136 47.8	79 02.8	+19 36.1	120 04.7	+5 47.9	79 22.0	+19 19.7	146 49.7	-6 18.1
18	151 50.3	94 02.1	+19 36.8	135 05.4	+5 48.7	94 23.8	+19 19.8	161 52.0	-6 18.1
19	166 52.8	109 01.4	37.6	150 06.1	49.4	109 25.7	19.9	176 54.4	18.0
20	181 55.2	124 00.7	38.3	165 06.8	50.1	124 27.6	20.0	191 56.7	18.0
21	196 57.7	139 00.0	39.1	180 07.5	50.9	139 29.4	20.2	206 59.0	17.9
22	212 00.2	153 59.3	39.8	195 08.2	51.6	154 31.3	20.3	222 01.3	17.9
23	227 02.6	168 58.6	40.5	210 08.9	52.3	169 33.1	20.4	237 03.7	17.9
24	242 05.1	183 57.9	+19 41.3	225 09.6	+5 53.1	184 35.0	+19 20.6	252 06.0	-6 17.8

Dif	—	-7	+7	+7	+7	+19	+1	+23	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 11 <sup>h</sup> 56.9 <sup>m</sup>		SD: 15.4' Edad: 15.9 <sup>d</sup>		PHE { 4 <sup>h</sup> : 56.4' 12 <sup>h</sup> : 56.6' 20 <sup>h</sup> : 56.8'			PMG: 0 <sup>h</sup> 16 <sup>m</sup> R°: 56 <sup>m</sup>			Salida de Luna		Puesta de Luna	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	
0	180 47.4	+20 49.2	356 12.7	84	-25 46.3	69	60 N	** **	1 49	3 02	23 35 73	2 27 17		
1	195 47.3	49.6	10 40.1	84	53.2	69	58	** **	2 16	18	22 58 69	2 53 28		
2	210 47.2	50.1	25 07.5	84	-25 59.9	67	56	1 00	37	32	32 67	3 14 33		
3	225 47.2	50.5	39 34.7	82	-26 06.5	66	54	1 39	2 55	43	22 12 65	31 37		
4	240 47.1	51.0	54 01.8	81	13.0	65	52	2 05	3 09	3 53	21 54 65	46 40		
5	255 47.1	+20 51.5	68 28.9	81	-26 19.3	63	50	2 24	3 21	4 03	21 40 64	3 59 42		
6	270 47.0	+20 51.9	82 55.9	80	-26 25.5	62	45	3 01	3 46	4 22	21 10 63	4 26 45		
7	285 46.9	52.4	97 22.7	78	31.5	60	40	27	4 06	37	20 47 62	4 47 47		
8	300 46.9	52.8	111 49.5	78	37.4	59	35	3 47	22	4 50	27 62	5 04 50		
9	315 46.8	53.3	126 16.2	77	43.1	57	30	4 03	35	5 02	20 11 61	20 50		
10	330 46.8	53.7	140 42.8	76	48.7	56	20	29	4 57	21	19 43 60	5 45 54		
11	345 46.7	+20 54.2	155 09.4	76	-26 54.2	55	10 N	4 49	5 15	5 38	19 20 59	6 08 55		
12	0 46.6	+20 54.6	169 35.8	74	-26 59.5	53	0	5 05	5 31	5 53	18 58 58	6 29 56		
13	15 46.6	55.1	184 02.2	74	-27 04.6	51	10 S	20	5 46	6 09	36 57	6 50 58		
14	30 46.5	55.5	198 28.5	73	09.6	50	20	34	6 01	25	18 13 56	7 12 60		
15	45 46.5	56.0	212 54.7	72	14.5	49	30	48	18	44	17 45 55	38 62		
16	60 46.4	56.4	227 20.8	71	19.2	47	35	5 56	27	6 54	29 54	7 54 63		
17	75 46.3	+20 56.9	241 46.8	70	-27 23.7	45	40	6 04	6 37	7 07	17 11 53	8 12 65		
18	90 46.3	+20 57.3	256 12.8	70	-27 28.1	44	45	6 12	6 48	7 21	16 49 51	8 34 66		
19	105 46.2	57.8	270 38.7	69	32.4	42	50	22	7 02	39	20 49	9 01 70		
20	120 46.1	58.2	285 04.5	68	36.4	41	52	26	08	47	16 06 48	15 71		
21	135 46.1	58.7	299 30.3	68	40.3	39	54	30	15	7 56	15 50 47	31 72		
22	150 46.0	59.1	313 56.0	67	44.1	38	56	35	23	8 07	32 43	9 49 76		
23	165 46.0	+20 59.6	328 21.6	66	47.7	36	58	41	31	19	15 08 40	10 12 80		
24	180 45.9	+21 00.0	342 47.1	65	-27 51.1	34	60 S	6 47	7 40	8 33	14 38 32	10 42 88		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 50.4 <sup>m</sup>	Mag.: -3.9 PMG: 11 <sup>h</sup> 45 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 40 <sup>m</sup>		Mag.: +1.1 PMG: 7 <sup>h</sup> 10 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	242 05.1	183 57.9	+19 41.3	225 09.6	+5 53.1	184 35.0	+19 20.6	252 06.0	-6 17.8
1	257 07.5	198 57.2	42.0	240 10.3	53.8	199 36.8	20.7	267 08.3	17.8
2	272 10.0	213 56.5	42.7	255 11.0	54.5	214 38.7	20.8	282 10.6	17.7
3	287 12.5	228 55.8	43.5	270 11.8	55.2	229 40.5	21.0	297 13.0	17.7
4	302 14.9	243 55.1	44.2	285 12.5	56.0	244 42.4	21.1	312 15.3	17.6
5	317 17.4	258 54.4	+19 44.9	300 13.2	+5 56.7	259 44.3	+19 21.2	327 17.6	-6 17.6
6	332 19.9	273 53.6	+19 45.7	315 13.9	+5 57.4	274 46.1	+19 21.3	342 20.0	-6 17.5
7	347 22.3	288 52.9	46.4	330 14.6	58.2	289 48.0	21.5	357 22.3	17.5
8	2 24.8	303 52.2	47.1	345 15.3	58.9	304 49.8	21.6	12 24.6	17.4
9	17 27.3	318 51.5	47.9	0 16.0	+5 59.6	319 51.7	21.7	27 26.9	17.4
10	32 29.7	333 50.8	48.6	15 16.7	+6 00.3	334 53.5	21.8	42 29.3	17.3
11	47 32.2	348 50.1	+19 49.3	30 17.4	+6 01.1	349 55.4	+19 22.0	57 31.6	-6 17.3
12	62 34.7	3 49.4	+19 50.0	45 18.1	+6 01.8	4 57.2	+19 22.1	72 33.9	-6 17.2
13	77 37.1	18 48.7	50.8	60 18.8	02.5	19 59.1	22.2	87 36.2	17.2
14	92 39.6	33 48.0	51.5	75 19.6	03.2	35 00.9	22.4	102 38.6	17.1
15	107 42.0	48 47.2	52.2	90 20.3	04.0	50 02.8	22.5	117 40.9	17.1
16	122 44.5	63 46.5	52.9	105 21.0	04.7	65 04.7	22.6	132 43.2	17.0
17	137 47.0	78 45.8	+19 53.7	120 21.7	+6 05.4	80 06.5	+19 22.7	147 45.6	-6 17.0
18	152 49.4	93 45.1	+19 54.4	135 22.4	+6 06.2	95 08.4	+19 22.9	162 47.9	-6 16.9
19	167 51.9	108 44.4	55.1	150 23.1	06.9	110 10.2	23.0	177 50.2	16.9
20	182 54.4	123 43.7	55.8	165 23.8	07.6	125 12.1	23.1	192 52.5	16.9
21	197 56.8	138 43.0	56.5	180 24.5	08.3	140 13.9	23.3	207 54.9	16.8
22	212 59.3	153 42.2	57.3	195 25.2	09.1	155 15.8	23.4	222 57.2	16.8
23	228 01.8	168 41.5	58.0	210 25.9	09.8	170 17.6	23.5	237 59.5	16.7
24	243 04.2	183 40.8	+19 58.7	225 26.7	+6 10.5	185 19.5	+19 23.6	253 01.9	-6 16.7
Dif	—	-7	+7	+7	+7	+19	+1	+23	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 57.0 <sup>m</sup>		SD: 15.5' Edad: 16.9 <sup>d</sup> PMG: 1 <sup>h</sup> 12 <sup>m</sup> R <sup>o</sup> : 58 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.0' 12 <sup>h</sup> : 57.1' 20 <sup>h</sup> : 57.3'		Civil Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	180 45.9	+21 00.0	342 47.1	65	-27 51.1	33	60 N	20 55	22 11	** **	** **	** **	2 44	50		
1	195 45.8	00.4	357 12.6	65	54.4	31	58	39	21 42	** **	** **	** **	3 21	54		
2	210 45.8	00.9	11 38.0	64	-27 57.5	30	56	25	20	23 03	23 39	44	3 47	55		
3	225 45.7	01.3	26 03.4	64	-28 00.5	28	54	13	21 02	22 20	23 17	47	4 08	56		
4	240 45.6	01.8	40 28.7	63	03.3	26	52	20 02	20 48	21 53	22 59	49	26	56		
5	255 45.6	+21 02.2	54 53.9	62	-28 05.9	24	50	19 53	20 35	21 33	22 44	50	4 41	57		
6	270 45.5	+21 02.7	69 19.1	62	-28 08.3	23	45	19 34	20 09	20 55	22 13	52	5 11	57		
7	285 45.4	03.1	83 44.3	62	10.6	21	40	18	19 49	29	21 49	53	34	58		
8	300 45.4	03.5	98 09.4	61	12.7	20	35	19 04	33	20 09	29	55	5 54	58		
9	315 45.3	04.0	112 34.4	60	14.7	18	30	18 53	19 20	19 52	21 12	56	6 10	59		
10	330 45.3	04.4	126 59.4	60	16.5	16	20	33	18 57	26	20 43	57	6 39	58		
11	345 45.2	+21 04.8	141 24.3	59	-28 18.1	14	10 N	18 16	18 39	19 06	20 19	58	7 03	59		
12	0 45.1	+21 05.3	155 49.2	59	-28 19.5	13	0	18 01	18 23	18 49	19 56	59	7 25	59		
13	15 45.1	05.7	170 14.1	59	20.8	11	10 S	17 45	18 07	33	33	60	7 48	59		
14	30 45.0	06.2	184 38.9	58	21.9	9	20	29	17 52	19	19 09	60	8 12	59		
15	45 44.9	06.6	199 03.7	58	22.8	8	30	17 10	36	18 05	18 40	62	40	59		
16	60 44.9	07.0	213 28.5	58	23.6	6	35	16 59	26	17 57	23	63	8 57	59		
17	75 44.8	+21 07.5	227 53.2	57	-28 24.2	4	40	16 46	17 16	17 49	18 04	63	9 17	58		
18	90 44.7	+21 07.9	242 17.9	57	-28 24.6	2	45	16 32	17 04	17 41	17 40	64	9 40	58		
19	105 44.7	08.3	256 42.5	56	24.8	0	50	14	16 51	31	17 09	66	10 11	57		
20	120 44.6	08.8	271 07.1	56	24.8	0	52	16 05	44	27	16 54	66	26	57		
21	135 44.5	09.2	285 31.7	56	24.7	1	54	15 56	37	22	37	66	10 43	57		
22	150 44.5	09.6	299 56.3	56	24.4	3	56	45	30	17	16 15	68	11 05	55		
23	165 44.4	10.0	314 20.9	56	24.0	4	58	33	21	11	15 48	70	11 32	54		
24	180 44.3	+21 10.5	328 45.4	55	-28 23.3	7	60 S	15 19	16 11	17 05	15 10	73	12 10	51		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 46.4 <sup>m</sup>	Mag.: -3.9 PMG: 11 <sup>h</sup> 46 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 58 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 37 <sup>m</sup>		Mag.: +1.1 PMG: 7 <sup>h</sup> 07 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	243 04.2	183 40.8	+19 58.7	225 26.7	+6 10.5	185 19.5	+19 23.6	253 01.9	-6 16.7
1	258 06.7	198 40.1	+19 59.4	240 27.4	11.2	200 21.4	23.8	268 04.2	16.6
2	273 09.2	213 39.4	+20 00.1	255 28.1	12.0	215 23.2	23.9	283 06.5	16.6
3	288 11.6	228 38.7	00.8	270 28.8	12.7	230 25.1	24.0	298 08.8	16.5
4	303 14.1	243 37.9	01.5	285 29.5	13.4	245 26.9	24.1	313 11.2	16.5
5	318 16.5	258 37.2	+20 02.3	300 30.2	+6 14.1	260 28.8	+19 24.3	328 13.5	-6 16.4
6	333 19.0	273 36.5	+20 03.0	315 30.9	+6 14.9	275 30.6	+19 24.4	343 15.8	-6 16.4
7	348 21.5	288 35.8	03.7	330 31.6	15.6	290 32.5	24.5	358 18.2	16.3
8	3 23.9	303 35.0	04.4	345 32.3	16.3	305 34.3	24.7	13 20.5	16.3
9	18 26.4	318 34.3	05.1	0 33.0	17.0	320 36.2	24.8	28 22.8	16.2
10	33 28.9	333 33.6	05.8	15 33.7	17.8	335 38.1	24.9	43 25.1	16.2
11	48 31.3	348 32.9	+20 06.5	30 34.5	+6 18.5	350 39.9	+19 25.0	58 27.5	-6 16.1
12	63 33.8	3 32.2	+20 07.2	45 35.2	+6 19.2	5 41.8	+19 25.2	73 29.8	-6 16.1
13	78 36.3	18 31.4	07.9	60 35.9	19.9	20 43.6	25.3	88 32.1	16.1
14	93 38.7	33 30.7	08.6	75 36.6	20.7	35 45.5	25.4	103 34.5	16.0
15	108 41.2	48 30.0	09.3	90 37.3	21.4	50 47.3	25.5	118 36.8	16.0
16	123 43.6	63 29.3	10.0	105 38.0	22.1	65 49.2	25.7	133 39.1	15.9
17	138 46.1	78 28.5	+20 10.7	120 38.7	+6 22.8	80 51.0	+19 25.8	148 41.5	-6 15.9
18	153 48.6	93 27.8	+20 11.4	135 39.4	+6 23.6	95 52.9	+19 25.9	163 43.8	-6 15.8
19	168 51.0	108 27.1	12.1	150 40.1	24.3	110 54.8	26.1	178 46.1	15.8
20	183 53.5	123 26.4	12.8	165 40.8	25.0	125 56.6	26.2	193 48.5	15.7
21	198 56.0	138 25.6	13.5	180 41.5	25.7	140 58.5	26.3	208 50.8	15.7
22	213 58.4	153 24.9	14.2	195 42.3	26.5	156 00.3	26.4	223 53.1	15.6
23	229 00.9	168 24.2	14.9	210 43.0	27.2	171 02.2	26.6	238 55.4	15.6
24	244 03.4	183 23.4	+20 15.6	225 43.7	+6 27.9	186 04.0	+19 26.7	253 57.8	-6 15.6
Dif	—	-7	+7	+7	+7	+19	+1	+23	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.6'		Edad: 17.9 <sup>d</sup>			R <sup>o</sup> : 59 <sup>m</sup>			PHE {		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 57.1 <sup>m</sup>		PMG: 2 <sup>h</sup> 10 <sup>m</sup>		R <sup>o</sup> : 59 <sup>m</sup>			4 <sup>h</sup> : 57.5'			12 <sup>h</sup> : 57.6'		20 <sup>h</sup> : 57.8'			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	180	44.3	+21	10.5	328	45.4	-28	23.3	8	60 N	2 58	0 48	30	3 34	93	
1	195	44.2		10.9	343	10.0		22.5		58	3 15	0 07	40	4 15	83	
2	210	44.2		11.3	357	34.5		21.5	10	56	29	** ** *	***	4 42	79	
3	225	44.1		11.8	11	59.0		20.4	11	54	41	** ** *	***	5 04	76	
4	240	44.0		12.2	26	23.5		19.0	14	52	3 51	23 48	33	22	74	
5	255	44.0	+21	12.6	40	48.0		-28	15	50	4 01	23 34	36	5 38	72	
6	270	43.9	+21	13.0	55	12.5		-28	17	45	4 20	23 05	41	6 08	70	
7	285	43.8		13.5	69	36.9		13.9	19	40	36	22 42	45	32	68	
8	300	43.8		13.9	84	01.4		11.9	20	35	4 49	24 47		6 52	66	
9	315	43.7		14.3	98	25.9		09.6	23	30	5 01	22 08	49	7 09	64	
10	330	43.6		14.7	112	50.4		07.2	24	20	21	21 40	53	7 37	63	
11	345	43.6	+21	15.1	127	14.9		-28	26	10 N	5 38	21 17	55	8 02	60	
12	0	43.5	+21	15.6	141	39.4		-28	27	0	5 53	20 55	58	8 24	59	
13	15	43.4		16.0	156	03.9		-27	29	10 S	6 09	33	60	8 47	57	
14	30	43.3		16.4	170	28.4		55.8	32	20	26	20 09	64	9 11	55	
15	45	43.3		16.8	184	53.0		52.6	32	30	45	19 42	66	39	53	
16	60	43.2		17.3	199	17.5		49.1	35	35	28	6 56	68	9 56	51	
17	75	43.1	+21	17.7	213	42.1		-27	36	40	7 08	19 07	70	10 15	49	
18	90	43.1	+21	18.1	228	06.7		-27	38	45	7 23	18 44	73	10 38	47	
19	105	43.0		18.5	242	31.3		37.7	40	50	41	15	77	11 08	43	
20	120	42.9		18.9	256	55.9		33.5	42	52	50	18 00	80	23	40	
21	135	42.8		19.3	271	20.6		29.2	43	54	18	17 43	83	11 40	38	
22	150	42.8		19.8	285	45.3		24.7	45	56	10	17 23	87	12 00	35	
23	165	42.7		20.2	300	10.0		20.0	47	58	22	16 58	92	12 26	29	
24	180	42.6	+21	20.6	314	34.8		-27	48	60 S	8 37	16 23	103	13 01	21	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG		Mag.: -3.9		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1									
	7 <sup>h</sup> 42.5 <sup>m</sup>		PMG: 11 <sup>h</sup> 47 <sup>m</sup>		PMG: 8 <sup>h</sup> 57 <sup>m</sup>		PMG: 11 <sup>h</sup> 34 <sup>m</sup>		PMG: 7 <sup>h</sup> 03 <sup>m</sup>									
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	244	03.4	183	23.4	+20	15.6	225	43.7	+6	27.9	186	04.0	+19	26.7	253	57.8	-6	15.6
1	259	05.8	198	22.7		16.3	240	44.4		28.6	201	05.9		26.8	269	00.1		15.5
2	274	08.3	213	22.0		17.0	255	45.1		29.4	216	07.7		26.9	284	02.4		15.5
3	289	10.8	228	21.3		17.6	270	45.8		30.1	231	09.6		27.1	299	04.8		15.4
4	304	13.2	243	20.5		18.3	285	46.5		30.8	246	11.4		27.2	314	07.1		15.4
5	319	15.7	258	19.8	+20	19.0	300	47.2	+6	31.5	261	13.3	+19	27.3	329	09.4	-6	15.3
6	334	18.1	273	19.1	+20	19.7	315	47.9	+6	32.2	276	15.2	+19	27.5	344	11.8	-6	15.3
7	349	20.6	288	18.3		20.4	330	48.6		33.0	291	17.0		27.6	359	14.1		15.2
8	4	23.1	303	17.6		21.1	345	49.3		33.7	306	18.9		27.7	14	16.4		15.2
9	19	25.5	318	16.9		21.8	0	50.1		34.4	321	20.7		27.8	29	18.8		15.1
10	34	28.0	333	16.1		22.4	15	50.8		35.1	336	22.6		28.0	44	21.1		15.1
11	49	30.5	348	15.4	+20	23.1	30	51.5	+6	35.9	351	24.4	+19	28.1	59	23.4	-6	15.1
12	64	32.9	3	14.7	+20	23.8	45	52.2	+6	36.6	6	26.3	+19	28.2	74	25.8	-6	15.0
13	79	35.4	18	13.9		24.5	60	52.9		37.3	21	28.1		28.3	89	28.1		15.0
14	94	37.9	33	13.2		25.2	75	53.6		38.0	36	30.0		28.5	104	30.4		14.9
15	109	40.3	48	12.5		25.8	90	54.3		38.7	51	31.9		28.6	119	32.8		14.9
16	124	42.8	63	11.7		26.5	105	55.0		39.5	66	33.7		28.7	134	35.1		14.8
17	139	45.3	78	11.0	+20	27.2	120	55.7	+6	40.2	81	35.6	+19	28.8	149	37.4	-6	14.8
18	154	47.7	93	10.2	+20	27.9	135	56.4	+6	40.9	96	37.4	+19	29.0	164	39.8	-6	14.7
19	169	50.2	108	09.5		28.5	150	57.1		41.6	111	39.3		29.1	179	42.1		14.7
20	184	52.6	123	08.8		29.2	165	57.9		42.3	126	41.1		29.2	194	44.5		14.7
21	199	55.1	138	08.0		29.9	180	58.6		43.1	141	43.0		29.3	209	46.8		14.6
22	214	57.6	153	07.3		30.6	195	59.3		43.8	156	44.8		29.5	224	49.1		14.6
23	230	00.0	168	06.6		31.2	211	00.0		44.5	171	46.7		29.6	239	51.5		14.5
24	245	02.5	183	05.8	+20	31.9	226	00.7	+6	45.2	186	48.6	+19	29.7	254	53.8	-6	14.5

Dif	—	-7	+7	+7	+7	+19	+1	+23	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 11 <sup>h</sup> 57.2 <sup>m</sup>		SD: 15.8' Edad: 18.9 <sup>d</sup> PMG: 3 <sup>h</sup> 09 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 58.2'				R°: 57 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /		° /		° N	h m	h m	h m	h m	h m	h m	h m		
0	180 42.6	+21 20.6	314 34.8	58	-27 15.2	51	60 N	20 59	22 18	** **	1 18 10	5 07 110				
1	195 42.5	21.0	328 59.6	58	10.1	51	58 N	42	21 47	** **	0 47 20	5 38 99				
2	210 42.5	21.4	343 24.4	58	-27 05.0	51	56	28	24	23 16	23 26	6 01 93				
3	225 42.4	21.8	357 49.3	59	-26 59.6	55	54	16	21 06	22 26	0 04 30	20 88				
4	240 42.3	22.2	12 14.2	59	54.1	55	52	20 05	20 51	21 58	** **	36 85				
5	255 42.2	+21 22.6	26 39.2	60	-26 48.4	57	50	19 55	20 38	21 36	** **	6 50 81				
6	270 42.2	+21 23.0	41 04.1	59	-26 42.5	59	45	19 35	20 11	20 58	23 46 32	7 18 76				
7	285 42.1	23.5	55 29.2	61	36.5	60	40	19	19 51	31	27 36	40 72				
8	300 42.0	23.9	69 54.3	61	30.3	62	35	19 06	35	20 10	23 11 40	7 58 69				
9	315 41.9	24.3	84 19.4	61	23.9	64	30	18 54	19 21	19 53	22 57 43	8 13 68				
10	330 41.9	24.7	98 44.6	62	17.4	65	20	34	18 58	27	33 47	8 40 63				
11	345 41.8	+21 25.1	113 09.8	62	-26 10.7	67	10 N	18 17	18 40	19 06	22 12 52	9 02 60				
12	0 41.7	+21 25.5	127 35.1	63	-26 03.8	69	0	18 01	18 23	18 49	21 53 55	9 23 57				
13	15 41.6	25.9	142 00.4	63	-25 56.8	70	10 S	17 45	18 07	33	33 59	9 44 53				
14	30 41.6	26.3	156 25.8	64	49.6	72	20	28	17 52	19	21 13 62	10 06 50				
15	45 41.5	26.7	170 51.2	64	42.3	73	30	17 09	35	18 04	20 48 68	32 45				
16	60 41.4	27.1	185 16.7	65	34.8	75	35	16 58	25	17 57	34 17	10 47 43				
17	75 41.3	+21 27.5	199 42.3	66	-25 27.1	77	40	16 45	17 15	17 48	20 17 74	11 04 40				
18	90 41.3	+21 27.9	214 07.9	66	-25 19.3	78	45	16 30	17 03	17 40	19 57 79	11 25 36				
19	105 41.2	28.3	228 33.6	67	11.3	80	50	12	16 49	29	32 84	11 51 31				
20	120 41.1	28.7	242 59.3	67	-25 03.2	81	52	16 03	42	25	20 87	12 03 29				
21	135 41.0	29.1	257 25.1	68	-24 54.9	83	54	15 53	35	20	19 06 91	18 25				
22	150 41.0	29.5	271 51.0	69	46.5	84	56	43	27	15	18 50 95	35 20				
23	165 40.9	29.9	286 16.9	69	37.9	86	58	30	19	09	30 101	12 55 14				
24	180 40.8	+21 30.3	300 42.9	70	-24 29.1	88	60 S	15 15	16 09	17 03	18 06 109	13 20 6				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 38.6 <sup>m</sup>		Mag.: -3.9 PMG: 11 <sup>h</sup> 48 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 56 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 59 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	245 02.5	183 05.8	+20 31.9	226 00.7	+6 45.2	186 48.6	+19 29.7	254 53.8	-6 14.5	
1	260 05.0	198 05.1	32.6	241 01.4	45.9	201 50.4	29.8	269 56.1	14.4	
2	275 07.4	213 04.3	33.2	256 02.1	46.7	216 52.3	30.0	284 58.5	14.4	
3	290 09.9	228 03.6	33.9	271 02.8	47.4	231 54.1	30.1	300 00.8	14.3	
4	305 12.4	243 02.9	34.6	286 03.5	48.1	246 56.0	30.2	315 03.1	14.3	
5	320 14.8	258 02.1	+20 35.2	301 04.2	+6 48.8	261 57.8	+19 30.3	330 05.5	-6 14.3	
6	335 17.3	273 01.4	+20 35.9	316 04.9	+6 49.5	276 59.7	+19 30.5	345 07.8	-6 14.2	
7	350 19.8	288 00.6	36.6	331 05.6	50.3	292 01.5	30.6	0 10.1	14.2	
8	5 22.2	302 59.9	37.2	346 06.4	51.0	307 03.4	30.7	15 12.5	14.1	
9	20 24.7	317 59.1	37.9	1 07.1	51.7	322 05.3	30.9	30 14.8	14.1	
10	35 27.1	332 58.4	38.5	16 07.8	52.4	337 07.1	31.0	45 17.2	14.0	
11	50 29.6	347 57.6	+20 39.2	31 08.5	+6 53.1	352 09.0	+19 31.1	60 19.5	-6 14.0	
12	65 32.1	2 56.9	+20 39.9	46 09.2	+6 53.9	7 10.8	+19 31.2	75 21.8	-6 14.0	
13	80 34.5	17 56.2	40.5	61 09.9	54.6	22 12.7	31.4	90 24.2	13.9	
14	95 37.0	32 55.4	41.2	76 10.6	55.3	37 14.5	31.5	105 26.5	13.9	
15	110 39.5	47 54.7	41.8	91 11.3	56.0	52 16.4	31.6	120 28.8	13.8	
16	125 41.9	62 53.9	42.5	106 12.0	56.7	67 18.2	31.7	135 31.2	13.8	
17	140 44.4	77 53.2	+20 43.1	121 12.7	+6 57.4	82 20.1	+19 31.9	150 33.5	-6 13.7	
18	155 46.9	92 52.4	+20 43.8	136 13.4	+6 58.2	97 22.0	+19 32.0	165 35.9	-6 13.7	
19	170 49.3	107 51.7	44.4	151 14.1	58.9	112 23.8	32.1	180 38.2	13.7	
20	185 51.8	122 50.9	45.1	166 14.9	+6 59.6	127 25.7	32.2	195 40.5	13.6	
21	200 54.3	137 50.2	45.7	181 15.6	+7 00.3	142 27.5	32.4	210 42.9	13.6	
22	215 56.7	152 49.4	46.4	196 16.3	01.0	157 29.4	32.5	225 45.2	13.5	
23	230 59.2	167 48.7	47.0	211 17.0	01.7	172 31.2	32.6	240 47.5	13.5	
24	246 01.6	182 47.9	+20 47.7	226 17.7	+7 02.5	187 33.1	+19 32.7	255 49.9	-6 13.4	
Dif	—	-7	+7	+7	+7	+19	+1	+23	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 15.8'		SD: 15.9'		Edad: 19.9 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.3' 12 <sup>h</sup> : 58.5' 20 <sup>h</sup> : 58.6'			R <sup>o</sup> : 55 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>				
	PMG: 11 <sup>h</sup> 57.3 <sup>m</sup>		PMG: 4 <sup>h</sup> 06 <sup>m</sup>		R <sup>o</sup> : 55 <sup>m</sup>								Hora R <sup>o</sup>		Hora R <sup>o</sup>				
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>					
0	180	40.8	+21	30.3	300	42.9	-24	29.1	89	60 N	** **	1 37	2 55	1 28	3	6 57	109		
1	195	40.7		30.7	315	09.0		20.2	88	58	** **	2 07	3 12	1 07	10	7 17	102		
2	210	40.6		31.1	329	35.1		11.2	90	56	0 38		30	0 49	16		34 96		
3	225	40.6		31.5	344	01.3		-24	92	54	1 28	2 48	38	34	20	7 48	92		
4	240	40.5		31.9	358	27.6		-23	93	52	1 57	3 04	49	21	24	8 01	88		
5	255	40.4	+21	32.3	12	53.9		-23	95	50	2 18	3 17	3 59	0 10	26	8 11	86		
6	270	40.3	+21	32.7	27	20.4		-23	96	45	2 56	3 43	4 19	** **	***	8 34	79		
7	285	40.2		33.1	41	46.8		23.8	98	40	3 23	4 03	35	** **	***	8 52	75		
8	300	40.2		33.5	56	13.4		13.9	99	35	3 44	20	4 49	23	51	34	9 07	71	
9	315	40.1		33.9	70	40.0		-23	101	30	4 01	33	5 00	40	37	21	67		
10	330	40.0		34.3	85	06.7		-22	102	20	28	4 56	20	20	43	9 43	62		
11	345	39.9	+21	34.7	99	33.5		-22	103	10 N	4 48	5 15	5 38	23	04	47	10 02	58	
12	0	39.8	+21	35.0	114	00.3		-22	105	0	5 06	5 31	5 54	22	48	52	10 20	53	
13	15	39.8		35.4	128	27.2		22.2	106	10 S	21	5 47	6 10	32	57	37	50		
14	30	39.7		35.8	142	54.2		11.5	107	20	36	6 03	27	22	15	62	10 56	45	
15	45	39.6		36.2	157	21.3		-22	109	30	50	20	46	21	56	67	11 17	40	
16	60	39.5		36.6	171	48.4		-21	110	35	5 58	29	6 57	45	70	30	37		
17	75	39.4	+21	37.0	186	15.6		-21	111	40	6 06	6 40	7 10	21	31	75	11 44	33	
18	90	39.4	+21	37.4	200	42.9		-21	113	45	6 15	6 52	7 25	21	16	79	12 01	29	
19	105	39.3		37.8	215	10.2		15.8	114	50	26	7 06	43	20	56	86	22	23	
20	120	39.2		38.1	229	37.7		-21	115	52	30	13	7 52	47	88	32	20		
21	135	39.1		38.5	244	05.2		-20	117	54	35	20	8 02	37	92	43	16		
22	150	39.0		38.9	258	32.7		40.9	117	56	40	28	13	25	96	12	55	13	
23	165	38.9		39.3	273	00.4		29.0	119	58	46	37	26	20	11	101	13	09	9
24	180	38.9	+21	39.7	287	28.1		-20	120	60 S	6 52	7 47	8 40	19	55	107	13	26	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG		Mag.: -4.0		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1										
	7 <sup>h</sup> 34.6 <sup>m</sup>		PMG: 11 <sup>h</sup> 49 <sup>m</sup>		PMG: 8 <sup>h</sup> 54 <sup>m</sup>		PMG: 11 <sup>h</sup> 28 <sup>m</sup>		PMG: 6 <sup>h</sup> 56 <sup>m</sup>										
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
0	246	01.6	182	47.9	+20	47.7	226	17.7	+7	02.5	187	33.1	+19	32.7	255	49.9	-6	13.4	
1	261	04.1	197	47.2		48.3	241	18.4		03.2	202	34.9		32.9	270	52.2		13.4	
2	276	06.6	212	46.4		49.0	256	19.1		03.9	217	36.8		33.0	285	54.6		13.4	
3	291	09.0	227	45.7		49.6	271	19.8		04.6	232	38.7		33.1	300	56.9		13.3	
4	306	11.5	242	44.9		50.2	286	20.5		05.3	247	40.5		33.2	315	59.2		13.3	
5	321	14.0	257	44.2	+20	50.9	301	21.2	+7	06.0	262	42.4	+19	33.3	331	01.6	-6	13.2	
6	336	16.4	272	43.4	+20	51.5	316	21.9	+7	06.8	277	44.2	+19	33.5	346	03.9	-6	13.2	
7	351	18.9	287	42.6		52.2	331	22.6		07.5	292	46.1		33.6	1	06.3		13.1	
8	6	21.4	302	41.9		52.8	346	23.4		08.2	307	47.9		33.7	16	08.6		13.1	
9	21	23.8	317	41.1		53.4	1	24.1		08.9	322	49.8		33.8	31	10.9		13.1	
10	36	26.3	332	40.4		54.1	16	24.8		09.6	337	51.6		34.0	46	13.3		13.0	
11	51	28.8	347	39.6	+20	54.7	31	25.5	+7	10.3	352	53.5	+19	34.1	61	15.6	-6	13.0	
12	66	31.2	2	38.9	+20	55.3	46	26.2	+7	11.1	7	55.4	+19	34.2	76	18.0	-6	12.9	
13	81	33.7	17	38.1		56.0	61	26.9		11.8	22	57.2		34.3	91	20.3		12.9	
14	96	36.1	32	37.4		56.6	76	27.6		12.5	37	59.1		34.5	106	22.6		12.9	
15	111	38.6	47	36.6		57.2	91	28.3		13.2	53	00.9		34.6	121	25.0		12.8	
16	126	41.1	62	35.8		57.9	106	29.0		13.9	68	02.8		34.7	136	27.3		12.8	
17	141	43.5	77	35.1	+20	58.5	121	29.7	+7	14.6	83	04.6	+19	34.8	151	29.7	-6	12.7	
18	156	46.0	92	34.3	+20	59.1	136	30.4	+7	15.3	98	06.5	+19	35.0	166	32.0	-6	12.7	
19	171	48.5	107	33.6	+20	59.8	151	31.1		16.0	113	08.3		35.1	181	34.3		12.6	
20	186	50.9	122	32.8	+21	00.4	166	31.8		16.8	128	10.2		35.2	196	36.7		12.6	
21	201	53.4	137	32.0		01.0	181	32.6		17.5	143	12.0		35.3	211	39.0		12.6	
22	216	55.9	152	31.3		01.6	196	33.3		18.2	158	13.9		35.5	226	41.4		12.5	
23	231	58.3	167	30.5		02.3	211	34.0		18.9	173	15.8		35.6	241	43.7		12.5	
24	247	00.8	182	29.8	+21	02.9	226	34.7	+7	19.6	188	17.6	+19	35.7	256	46.1	-6	12.4	
Dif	—		-8		+6		+7		+7		+19		+1		+23				0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 15.8' PMG: 11 <sup>h</sup> 57.5 <sup>m</sup>		SD: 16.0' Edad: 20.9 <sup>d</sup> PMG: 5 <sup>h</sup> 01 <sup>m</sup> R°: 51 <sup>m</sup>						PHE { 4 <sup>h</sup> : 58.7/ 12 <sup>h</sup> : 58.8/ 20 <sup>h</sup> : 58.9/	Civil	Náutico	Hora	R°	Hora	R°			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif										h m	h m	h m
0	180	38.9	+21	39.7	287	28.1	-20	17.0	122	60 N	21 03	22 24	** **	1 31	1	8 46	105	
1	195	38.8		40.1	301	55.9	-20	04.8	122	58	20 46	21 51	** **	17	6	8 59	100	
2	210	38.7		40.4	316	23.8	-19	52.6	122	56	31	28	23 32	1 05	10	9 10	96	
3	225	38.6		40.8	330	51.8		40.2	124	54	18	21 09	22 32	0 54	14	20	92	
4	240	38.5		41.2	345	19.8		27.7	125	52	20 07	20 54	22 02	45	17	29	88	
5	255	38.4	+21	41.6	359	47.9	-19	15.1	126	50	19 58	20 40	21 40	0 36	20	9 37	85	
6	270	38.4	+21	42.0	14	16.0	-19	02.4	127	45	19 37	20 13	21 01	0 18	26	9 53	79	
7	285	38.3		42.3	28	44.3	-18	49.6	128	40	21	19 53	20 33	0 03	31	10 07	74	
8	300	38.2		42.7	43	12.6		36.7	129	35	19 07	36	20 12	** **	** **	18	70	
9	315	38.1		43.1	57	41.0		23.6	131	30	18 55	19 22	19 55	** **	** **	28	67	
10	330	38.0		43.5	72	09.4	-18	10.5	131	20	35	18 59	28	** **	** **	10 45	61	
11	345	37.9	+21	43.9	86	38.0	-17	57.2	133	10 N	18 17	18 40	19 07	23 51	45	11 00	55	
12	0	37.8	+21	44.2	101	06.6	-17	43.9	133	0	18 01	18 23	18 49	23 40	50	11 13	51	
13	15	37.8		44.6	115	35.2		30.4	135	10 S	17 45	18 08	34	29	54	27	46	
14	30	37.7		45.0	130	04.0		16.9	135	20	28	17 52	19	17	60	41	41	
15	45	37.6		45.3	144	32.8	-17	03.2	137	30	17 08	34	18 04	23 03	66	11 57	36	
16	60	37.5		45.7	159	01.6	-16	49.5	137	35	16 57	25	17 56	22 55	69	12 07	32	
17	75	37.4	+21	46.1	173	30.6	-16	35.6	139	40	16 44	17 14	17 48	22 46	73	12 17	28	
18	90	37.3	+21	46.5	187	59.6	-16	21.7	139	45	16 29	17 02	17 39	22 35	78	12 30	23	
19	105	37.2		46.8	202	28.6	-16	07.6	141	50	10	16 47	28	22	84	45	18	
20	120	37.2		47.2	216	57.8	-15	53.5	141	52	16 01	41	24	15	88	52	15	
21	135	37.1		47.6	231	27.0		39.3	142	54	15 51	34	19	09	90	12 59	13	
22	150	37.0		47.9	245	56.2		24.9	144	56	40	26	13	22	01	94	13 08	9
23	165	36.9		48.3	260	25.6	-15	10.5	144	58	27	17	07	21	52	98	18	5
24	180	36.8	+21	48.7	274	54.9	-14	56.1	144	60 S	15 12	16 06	17 01	21 42	103	13 29	0	

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO										
	PMG	Mag.: -4.0		Mag.: +1.1		Mag.: -2.0		Mag.: +1.1										
	7 <sup>h</sup> 30.7 <sup>m</sup>	PMG: 11 <sup>h</sup> 51 <sup>m</sup>		PMG: 8 <sup>h</sup> 53 <sup>m</sup>		PMG: 11 <sup>h</sup> 25 <sup>m</sup>		PMG: 6 <sup>h</sup> 52 <sup>m</sup>										
hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
0	247	00.8	182	29.8	+21	02.9	226	34.7	+7	19.6	188	17.6	+19	35.7	256	46.1	-6	12.4
1	262	03.3	197	29.0		03.5	241	35.4		20.3	203	19.5		35.8	271	48.4		12.4
2	277	05.7	212	28.2		04.1	256	36.1		21.0	218	21.3		36.0	286	50.7		12.4
3	292	08.2	227	27.5		04.7	271	36.8		21.8	233	23.2		36.1	301	53.1		12.3
4	307	10.6	242	26.7		05.4	286	37.5		22.5	248	25.0		36.2	316	55.4		12.3
5	322	13.1	257	25.9	+21	06.0	301	38.2	+7	23.2	263	26.9	+19	36.3	331	57.8	-6	12.2
6	337	15.6	272	25.2	+21	06.6	316	38.9	+7	23.9	278	28.8	+19	36.4	347	00.1	-6	12.2
7	352	18.0	287	24.4		07.2	331	39.6		24.6	293	30.6		36.6	2	02.5		12.2
8	7	20.5	302	23.6		07.8	346	40.3		25.3	308	32.5		36.7	17	04.8		12.1
9	22	23.0	317	22.9		08.4	1	41.0		26.0	323	34.3		36.8	32	07.1		12.1
10	37	25.4	332	22.1		09.0	16	41.8		26.7	338	36.2		36.9	47	09.5		12.0
11	52	27.9	347	21.4	+21	09.7	31	42.5	+7	27.4	353	38.0	+19	37.1	62	11.8	-6	12.0
12	67	30.4	2	20.6	+21	10.3	46	43.2	+7	28.2	8	39.9	+19	37.2	77	14.2	-6	12.0
13	82	32.8	17	19.8		10.9	61	43.9		28.9	23	41.7		37.3	92	16.5		11.9
14	97	35.3	32	19.0		11.5	76	44.6		29.6	38	43.6		37.4	107	18.9		11.9
15	112	37.7	47	18.3		12.1	91	45.3		30.3	53	45.5		37.6	122	21.2		11.8
16	127	40.2	62	17.5		12.7	106	46.0		31.0	68	47.3		37.7	137	23.5		11.8
17	142	42.7	77	16.7	+21	13.3	121	46.7	+7	31.7	83	49.2	+19	37.8	152	25.9	-6	11.8
18	157	45.1	92	16.0	+21	13.9	136	47.4	+7	32.4	98	51.0	+19	37.9	167	28.2	-6	11.7
19	172	47.6	107	15.2		14.5	151	48.1		33.1	113	52.9		38.1	182	30.6		11.7
20	187	50.1	122	14.4		15.1	166	48.8		33.8	128	54.7		38.2	197	32.9		11.6
21	202	52.5	137	13.7		15.7	181	49.5		34.6	143	56.6		38.3	212	35.3		11.6
22	217	55.0	152	12.9		16.3	196	50.2		35.3	158	58.4		38.4	227	37.6		11.6
23	232	57.5	167	12.1		16.9	211	51.0		36.0	174	00.3		38.5	242	40.0		11.5
24	247	59.9	182	11.3	+21	17.5	226	51.7	+7	36.7	189	02.2	+19	38.7	257	42.3	-6	11.5

Dif	—	-8	+6	+7	+7	+19	+1	+23	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 57.6 <sup>m</sup>		SD: 16.1' Edad: 21.9 <sup>d</sup> PMG: 5 <sup>h</sup> 52 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.0' 12 <sup>h</sup> : 59.1' 20 <sup>h</sup> : 59.2'			R°: 49 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 36.8	+21 48.7	274 54.9	105	-14 56.1	146	60 N	** **	1 31	2 52	1 32	-1	10 31	102		
1	195 36.7	49.0	289 24.4	105	41.5	146	58	** **	2 03	3 09	23	4	39	97		
2	210 36.6	49.4	303 53.9	105	26.8	147	56	0 23	27	24	15	8	46	93		
3	225 36.5	49.8	318 23.5	106	-14 12.1	147	54	1 23	2 46	36	08	11	52	89		
4	240 36.5	50.1	332 53.1	106	-13 57.3	148	52	1 53	3 01	47	1 02	13	10 57	87		
5	255 36.4	+21 50.5	347 22.8	107	-13 42.4	149	50	2 15	3 15	3 57	0 56	16	11 02	84		
6	270 36.3	+21 50.9	1 52.5	107	-13 27.4	150	45	2 54	3 41	4 18	0 44	22	11 12	78		
7	285 36.2	51.2	16 22.3	108	-13 12.3	151	40	3 22	4 02	34	34	26	21	73		
8	300 36.1	51.6	30 52.2	109	-12 57.2	151	35	3 43	19	4 48	25	30	28	69		
9	315 36.0	51.9	45 22.1	109	42.0	152	30	4 00	33	5 00	17	33	35	65		
10	330 35.9	52.3	59 52.0	109	26.7	153	20	27	4 56	20	0 03	40	46	59		
11	345 35.8	+21 52.7	74 22.0	110	-12 11.4	153	10 N	4 48	5 15	5 38	** **	** **	11 55	54		
12	0 35.7	+21 53.0	88 52.1	111	-11 56.0	154	0	5 06	5 32	5 54	** **	** **	12 04	49		
13	15 35.6	53.4	103 22.2	111	40.5	155	10 S	21	5 48	6 10	** **	** **	13	43		
14	30 35.6	53.7	117 52.3	111	24.9	156	20	36	6 04	27	** **	** **	22	39		
15	45 35.5	54.1	132 22.5	112	-11 09.3	156	30	51	21	47	** **	** **	33	32		
16	60 35.4	54.5	146 52.8	113	-10 53.6	157	35	5 59	31	6 58	** **	** **	39	29		
17	75 35.3	+21 54.8	161 23.1	113	-10 37.9	157	40	6 08	6 41	7 11	23 59	73	12 45	25		
18	90 35.2	+21 55.2	175 53.4	113	-10 22.1	158	45	6 17	6 54	7 27	23 53	78	12 53	21		
19	105 35.1	55.5	190 23.8	114	-10 06.2	159	50	27	7 08	46	46	83	13 03	15		
20	120 35.0	55.9	204 54.2	114	-9 50.3	159	52	32	15	7 54	43	86	07	13		
21	135 34.9	56.2	219 24.7	115	34.4	159	54	37	22	8 04	39	89	12	9		
22	150 34.8	56.6	233 55.1	114	18.3	161	56	42	30	16	35	92	17	7		
23	165 34.7	56.9	248 25.7	116	-9 02.3	160	58	48	39	29	30	96	23	3		
24	180 34.6	+21 57.3	262 56.3	116	-8 46.1	162	60 S	6 55	7 50	8 44	23 25	101	13 29	0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 26.8 <sup>m</sup>		Mag.: -4.0 PMG: 11 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 48 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	247 59.9	182 11.3	+21 17.5	226 51.7	+7 36.7	189 02.2	+19 38.7	257 42.3	-6 11.5	
1	263 02.4	197 10.6	18.1	241 52.4	37.4	204 04.0	38.8	272 44.7	11.4	
2	278 04.9	212 09.8	18.7	256 53.1	38.1	219 05.9	38.9	287 47.0	11.4	
3	293 07.3	227 09.0	19.3	271 53.8	38.8	234 07.7	39.0	302 49.3	11.4	
4	308 09.8	242 08.2	19.9	286 54.5	39.5	249 09.6	39.2	317 51.7	11.3	
5	323 12.2	257 07.5	+21 20.5	301 55.2	+7 40.2	264 11.4	+19 39.3	332 54.0	-6 11.3	
6	338 14.7	272 06.7	+21 21.1	316 55.9	+7 40.9	279 13.3	+19 39.4	347 56.4	-6 11.2	
7	353 17.2	287 05.9	21.7	331 56.6	41.6	294 15.1	39.5	2 58.7	11.2	
8	8 19.6	302 05.1	22.2	346 57.3	42.4	309 17.0	39.6	18 01.1	11.2	
9	23 22.1	317 04.4	22.8	1 58.0	43.1	324 18.9	39.8	33 03.4	11.1	
10	38 24.6	332 03.6	23.4	16 58.7	43.8	339 20.7	39.9	48 05.8	11.1	
11	53 27.0	347 02.8	+21 24.0	31 59.4	+7 44.5	354 22.6	+19 40.0	63 08.1	-6 11.0	
12	68 29.5	2 02.0	+21 24.6	47 00.1	+7 45.2	9 24.4	+19 40.1	78 10.5	-6 11.0	
13	83 32.0	17 01.3	25.2	62 00.8	45.9	24 26.3	40.3	93 12.8	11.0	
14	98 34.4	32 00.5	25.8	77 01.6	46.6	39 28.1	40.4	108 15.2	10.9	
15	113 36.9	46 59.7	26.3	92 02.3	47.3	54 30.0	40.5	123 17.5	10.9	
16	128 39.4	61 58.9	26.9	107 03.0	48.0	69 31.8	40.6	138 19.9	10.8	
17	143 41.8	76 58.1	+21 27.5	122 03.7	+7 48.7	84 33.7	+19 40.7	153 22.2	-6 10.8	
18	158 44.3	91 57.4	+21 28.1	137 04.4	+7 49.4	99 35.6	+19 40.9	168 24.6	-6 10.8	
19	173 46.7	106 56.6	28.7	152 05.1	50.1	114 37.4	41.0	183 26.9	10.7	
20	188 49.2	121 55.8	29.2	167 05.8	50.8	129 39.3	41.1	198 29.2	10.7	
21	203 51.7	136 55.0	29.8	182 06.5	51.5	144 41.1	41.2	213 31.6	10.7	
22	218 54.1	151 54.2	30.4	197 07.2	52.3	159 43.0	41.4	228 33.9	10.6	
23	233 56.6	166 53.5	31.0	212 07.9	53.0	174 44.8	41.5	243 36.3	10.6	
24	248 59.1	181 52.7	+21 31.5	227 08.6	+7 53.7	189 46.7	+19 41.6	258 38.6	-6 10.5	
Dif	—	-8	+6	+7	+7	+19	+1	+23	0	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 57.8 <sup>m</sup>		SD: 16.1' Edad: 22.9 <sup>d</sup> PMG: 6 <sup>h</sup> 41 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.4' 20 <sup>h</sup> : 59.4'				R°: 48 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m		
0	180 34.6	+21 57.3	262 56.3	116	-8 46.1	162	<b>60 N</b>	21 07	22 31	** **	1 31	0	12 13	100		
1	195 34.6	57.6	277 26.9	116	29.9	162	<b>58</b>	20 49	21 56	** **	27	3	16	96		
2	210 34.5	58.0	291 57.5	116	-8 13.7	162	<b>56</b>	34	32	** **	23	6	19	92		
3	225 34.4	58.3	306 28.2	117	-7 57.4	163	<b>54</b>	21	21 12	22 38	19	9	21	89		
4	240 34.3	58.7	320 58.9	117	41.1	163	<b>52</b>	10	20 56	22 06	15	12	24	86		
5	255 34.2	+21 59.0	335 29.6	117	-7 24.8	163	<b>50</b>	20 00	20 43	21 43	1 12	15	12 26	83		
6	270 34.1	+21 59.4	350 00.4	118	-7 08.3	165	<b>45</b>	19 39	20 15	21 03	1 06	19	12 30	78		
7	285 34.0	+21 59.7	4 31.2	118	-6 51.9	164	<b>40</b>	22	19 55	20 35	1 00	24	34	73		
8	300 33.9	+22 00.1	19 02.0	118	35.4	165	<b>35</b>	19 08	38	20 13	0 55	28	37	69		
9	315 33.8	00.4	33 32.8	118	18.9	165	<b>30</b>	18 56	23	19 56	50	32	40	65		
10	330 33.7	00.8	48 03.7	119	-6 02.3	166	<b>20</b>	36	19 00	29	43	38	45	58		
11	345 33.6	+22 01.1	62 34.6	119	-5 45.7	166	<b>10 N</b>	18 18	18 41	19 07	0 36	43	12 49	53		
12	0 33.5	+22 01.5	77 05.5	119	-5 29.1	166	<b>0</b>	18 01	18 24	18 50	0 30	48	12 53	48		
13	15 33.4	01.8	91 36.4	119	-5 12.4	167	<b>10 S</b>	17 45	18 08	34	23	54	12 56	43		
14	30 33.3	02.1	106 07.4	120	-4 55.7	167	<b>20</b>	28	17 52	19	17	58	13 01	37		
15	45 33.2	02.5	120 38.3	119	39.0	167	<b>30</b>	17 08	34	18 04	09	65	05	31		
16	60 33.1	02.8	135 09.3	120	22.2	168	<b>35</b>	16 56	24	17 56	0 04	69	08	27		
17	75 33.0	+22 03.2	149 40.3	120	-4 05.4	168	<b>40</b>	16 43	17 13	17 47	** **	** **	13 10	24		
18	90 32.9	+22 03.5	164 11.3	120	-3 48.6	168	<b>45</b>	16 28	17 01	17 38	** **	** **	13 14	19		
19	105 32.9	03.8	178 42.3	120	31.8	168	<b>50</b>	09	16 46	27	** **	** **	18	14		
20	120 32.8	04.2	193 13.3	120	-3 14.9	169	<b>52</b>	16 00	39	22	** **	** **	20	11		
21	135 32.7	04.5	207 44.4	121	-2 58.1	168	<b>54</b>	15 50	32	17	** **	** **	21	9		
22	150 32.6	04.8	222 15.4	120	41.2	169	<b>56</b>	38	24	12	** **	** **	24	6		
23	165 32.5	05.2	236 46.5	121	24.3	169	<b>58</b>	25	15	17 06	** **	** **	26	3		
24	180 32.4	+22 05.5	251 17.5	120	-2 07.3	170	<b>60 S</b>	15 10	16 04	16 59	** **	** **	13 29	-1		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 22.8 <sup>m</sup>	Mag.: -4.0 PMG: 11 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 19 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 44 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	248 59.1	181 52.7	+21 31.5	227 08.6	+7 53.7	189 46.7	+19 41.6	258 38.6	-6 10.5
1	264 01.5	196 51.9	32.1	242 09.3	54.4	204 48.6	41.7	273 41.0	10.5
2	279 04.0	211 51.1	32.7	257 10.0	55.1	219 50.4	41.8	288 43.3	10.5
3	294 06.5	226 50.3	33.2	272 10.7	55.8	234 52.3	42.0	303 45.7	10.4
4	309 08.9	241 49.5	33.8	287 11.5	56.5	249 54.1	42.1	318 48.0	10.4
5	324 11.4	256 48.8	+21 34.4	302 12.2	+7 57.2	264 56.0	+19 42.2	333 50.4	-6 10.4
6	339 13.8	271 48.0	+21 35.0	317 12.9	+7 57.9	279 57.8	+19 42.3	348 52.7	-6 10.3
7	354 16.3	286 47.2	35.5	332 13.6	58.6	294 59.7	42.4	3 55.1	10.3
8	9 18.8	301 46.4	36.1	347 14.3	+7 59.3	310 01.5	42.6	18 57.4	10.2
9	24 21.2	316 45.6	36.6	2 15.0	+8 00.0	325 03.4	42.7	33 59.8	10.2
10	39 23.7	331 44.8	37.2	17 15.7	00.7	340 05.3	42.8	49 02.1	10.2
11	54 26.2	346 44.0	+21 37.8	32 16.4	+8 01.4	355 07.1	+19 42.9	64 04.5	-6 10.1
12	69 28.6	1 43.3	+21 38.3	47 17.1	+8 02.1	10 09.0	+19 43.1	79 06.8	-6 10.1
13	84 31.1	16 42.5	38.9	62 17.8	02.8	25 10.8	43.2	94 09.2	10.1
14	99 33.6	31 41.7	39.4	77 18.5	03.5	40 12.7	43.3	109 11.5	10.0
15	114 36.0	46 40.9	40.0	92 19.2	04.2	55 14.5	43.4	124 13.9	10.0
16	129 38.5	61 40.1	40.6	107 19.9	04.9	70 16.4	43.5	139 16.2	09.9
17	144 41.0	76 39.3	+21 41.1	122 20.6	+8 05.6	85 18.2	+19 43.7	154 18.6	-6 09.9
18	159 43.4	91 38.5	+21 41.7	137 21.3	+8 06.3	100 20.1	+19 43.8	169 20.9	-6 09.9
19	174 45.9	106 37.7	42.2	152 22.0	07.0	115 22.0	43.9	184 23.3	09.8
20	189 48.3	121 36.9	42.8	167 22.8	07.7	130 23.8	44.0	199 25.7	09.8
21	204 50.8	136 36.1	43.3	182 23.5	08.4	145 25.7	44.1	214 28.0	09.8
22	219 53.3	151 35.3	43.9	197 24.2	09.1	160 27.5	44.3	229 30.4	09.7
23	234 55.7	166 34.6	44.4	212 24.9	09.8	175 29.4	44.4	244 32.7	09.7
24	249 58.2	181 33.8	+21 45.0	227 25.6	+8 10.6	190 31.2	+19 44.5	259 35.1	-6 09.6

Dif	—	-8	+6	+7	+7	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 57.9 <sup>m</sup>		SD: 16.2' Edad: 23.9 <sup>d</sup> PMG: 7 <sup>h</sup> 29 <sup>m</sup> R <sup>o</sup> : 49 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.5' 12 <sup>h</sup> : 59.5' 20 <sup>h</sup> : 59.6'					Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	180 32.4	+22 05.5	251 17.5		-2 07.3	169	60 N	** **	1 25	2 49	1 31	-1	13 53	101		
1	195 32.3	05.9	265 48.6	121	-1 50.4	169	58	** **	1 59	3 07	1 31	3	52 97			
2	210 32.2	06.2	280 19.6	120	33.4	170	56	** **	2 24	22	29 6		51 93			
3	225 32.1	06.5	294 50.7	121	-1 16.5	169	54	1 17	43	34	28 9		50 90			
4	240 32.0	06.9	309 21.8	121	-0 59.5	170	52	1 49	2 59	46	27 12		50 86			
5	255 31.9	+22 07.2	323 52.8	120	-0 42.5	170	50	2 12	3 13	3 56	1 27	14	13 49	84		
6	270 31.8	+22 07.5	338 23.9	121	-0 25.5	170	45	2 52	3 40	4 16	1 25	20	13 48	78		
7	285 31.7	07.8	352 54.9	120	-0 08.5	170	40	3 21	4 01	33	24 24		47 73			
8	300 31.6	08.2	7 26.0	121	+0 08.5	170	35	3 42	18	47	23 28		46 69			
9	315 31.5	08.5	21 57.0	120	25.5	170	30	4 00	32	4 59	22 32		45 65			
10	330 31.4	08.8	36 28.1	121	42.5	170	20	27	4 56	5 20	21 37		43 59			
11	345 31.3	+22 09.2	50 59.1	120	+0 59.5	170	10 N	4 48	5 15	5 38	1 19	43	13 42	53		
12	0 31.2	+22 09.5	65 30.1	120	+1 16.5	170	0	5 06	5 32	5 54	1 18	48	13 41	48		
13	15 31.1	09.8	80 01.1	120	33.5	170	10 S	22	5 48	6 11	17 53		39 44			
14	30 31.0	10.1	94 32.1	120	+1 50.5	170	20	37	6 04	28	15 59		38 38			
15	45 30.9	10.5	109 03.0	119	+2 07.5	170	30	5 52	22	48	14 65		36 32			
16	60 30.8	10.8	123 34.0	120	24.5	170	35	6 00	32	6 59	13 69		35 29			
17	75 30.7	+22 11.1	138 04.9	119	+2 41.5	170	40	6 09	6 43	7 13	1 12	73	13 34	25		
18	90 30.6	+22 11.4	152 35.8	119	+2 58.4	169	45	6 18	6 55	7 28	1 11	77	13 33	20		
19	105 30.5	11.8	167 06.7	119	+3 15.4	170	50	29	7 10	48	09 84		32 14			
20	120 30.4	12.1	181 37.6	119	32.3	169	52	34	17	7 57	09 86		31 12			
21	135 30.3	12.4	196 08.4	118	+3 49.2	169	54	39	24	8 07	08 89		30 10			
22	150 30.2	12.7	210 39.2	118	+4 06.2	170	56	44	33	18	07 93		30 6			
23	165 30.1	13.0	225 10.0	118	23.0	168	58	50	42	32	06 97		29 3			
24	180 30.0	+22 13.4	239 40.8	118	+4 39.9	169	60 S	6 57	7 52	8 47	1 06	100	13 28	-1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 18.9 <sup>m</sup>		Mag.: -4.0 PMG: 11 <sup>h</sup> 54 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 17 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 41 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	249 58.2		181 33.8	+21 45.0	227 25.6	+8 10.6	190 31.2	+19 44.5	259 35.1	-6 09.6
1	265 00.7		196 33.0	45.5	242 26.3	11.3	205 33.1	44.6	274 37.4	09.6
2	280 03.1		211 32.2	46.1	257 27.0	12.0	220 35.0	44.7	289 39.8	09.6
3	295 05.6		226 31.4	46.6	272 27.7	12.7	235 36.8	44.9	304 42.1	09.5
4	310 08.1		241 30.6	47.1	287 28.4	13.4	250 38.7	45.0	319 44.5	09.5
5	325 10.5		256 29.8	+21 47.7	302 29.1	+8 14.1	265 40.5	+19 45.1	334 46.8	-6 09.5
6	340 13.0		271 29.0	+21 48.2	317 29.8	+8 14.8	280 42.4	+19 45.2	349 49.2	-6 09.4
7	355 15.4		286 28.2	48.8	332 30.5	15.5	295 44.2	45.3	4 51.5	09.4
8	10 17.9		301 27.4	49.3	347 31.2	16.2	310 46.1	45.5	19 53.9	09.4
9	25 20.4		316 26.6	49.8	2 31.9	16.9	325 47.9	45.6	34 56.2	09.3
10	40 22.8		331 25.8	50.4	17 32.6	17.6	340 49.8	45.7	49 58.6	09.3
11	55 25.3		346 25.0	+21 50.9	32 33.3	+8 18.3	355 51.7	+19 45.8	65 00.9	-6 09.3
12	70 27.8		1 24.2	+21 51.5	47 34.0	+8 19.0	10 53.5	+19 45.9	80 03.3	-6 09.2
13	85 30.2		16 23.4	52.0	62 34.8	19.7	25 55.4	46.1	95 05.7	09.2
14	100 32.7		31 22.6	52.5	77 35.5	20.4	40 57.2	46.2	110 08.0	09.1
15	115 35.2		46 21.8	53.1	92 36.2	21.1	55 59.1	46.3	125 10.4	09.1
16	130 37.6		61 21.0	53.6	107 36.9	21.8	71 00.9	46.4	140 12.7	09.1
17	145 40.1		76 20.2	+21 54.1	122 37.6	+8 22.5	86 02.8	+19 46.5	155 15.1	-6 09.0
18	160 42.6		91 19.4	+21 54.6	137 38.3	+8 23.2	101 04.7	+19 46.7	170 17.4	-6 09.0
19	175 45.0		106 18.6	55.2	152 39.0	23.9	116 06.5	46.8	185 19.8	09.0
20	190 47.5		121 17.8	55.7	167 39.7	24.6	131 08.4	46.9	200 22.1	08.9
21	205 49.9		136 17.0	56.2	182 40.4	25.3	146 10.2	47.0	215 24.5	08.9
22	220 52.4		151 16.2	56.7	197 41.1	25.9	161 12.1	47.1	230 26.9	08.9
23	235 54.9		166 15.4	57.3	212 41.8	26.6	176 13.9	47.3	245 29.2	08.8
24	250 57.3		181 14.6	+21 57.8	227 42.5	+8 27.3	191 15.8	+19 47.4	260 31.6	-6 08.8
Dif	—		-8	+5	+7	+7	+19	+1	+24	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 58.1 <sup>m</sup>		SD: 16.2' Edad: 24.9 <sup>d</sup> PMG: 8 <sup>h</sup> 18 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.6' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.5'				R°: 49 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	180 30.0	+22 13.4	239 40.8	+ 4 39.9	168	60 N	21 10	22 37	** **	1 30 0	15 34 105					
1	195 29.9	13.7	254 11.5 <sup>117</sup>	+ 4 56.7	168	58	20 52	22 00	** **	33 3	29 100					
2	210 29.8	14.0	268 42.2 <sup>117</sup>	+ 5 13.6	169	56	36	21 35	** **	35 7	24 96					
3	225 29.7	14.3	283 12.9 <sup>117</sup>	30.4	168	54	23	21 15	22 44	37 10	20 92					
4	240 29.6	14.6	297 43.5 <sup>116</sup>	+ 5 47.1	167	52	12	20 59	22 10	39 13	16 89					
5	255 29.5	+22 15.0	312 14.1 <sup>116</sup>	+ 6 03.9	168	50	20 02	20 45	21 46	1 41 15	15 13 86					
6	270 29.4	+22 15.3	326 44.7 <sup>116</sup>	+ 6 20.6	167	45	19 41	20 17	21 05	1 45 21	15 06 80					
7	285 29.3	15.6	341 15.2 <sup>115</sup>	37.3	167	40	24	19 56	20 37	48 26	15 00 75					
8	300 29.2	15.9	355 45.7 <sup>115</sup>	+ 6 53.9	166	35	19 10	39	20 15	51 30	14 55 70					
9	315 29.1	16.2	10 16.2 <sup>115</sup>	+ 7 10.5	166	30	18 57	24	19 57	54 33	50 67					
10	330 29.0	16.5	24 46.6 <sup>114</sup>	27.1	166	20	36	19 01	30	1 58 39	42 61					
11	345 28.9	+22 16.8	39 16.9 <sup>113</sup>	+ 7 43.6	165	10 N	18 18	18 41	19 08	2 02 45	14 35 56					
12	0 28.8	+22 17.1	53 47.3 <sup>114</sup>	+ 8 00.1	165	0	18 02	18 24	18 50	2 06 49	14 29 51					
13	15 28.7	17.5	68 17.5 <sup>112</sup>	16.6	165	10 S	17 45	18 08	34	10 54	23 45					
14	30 28.6	17.8	82 47.8 <sup>113</sup>	33.0	164	20	28	17 51	19	14 60	16 40					
15	45 28.5	18.1	97 18.0 <sup>112</sup>	+ 8 49.4	164	30	17 08	34	18 03	19 66	08 35					
16	60 28.4	18.4	111 48.1 <sup>111</sup>	+ 9 05.7	163	35	16 56	24	17 55	22 69	14 04 31					
17	75 28.3	+22 18.7	126 18.2 <sup>111</sup>	+ 9 22.0	163	40	16 43	17 13	17 46	2 25 74	13 59 27					
18	90 28.2	+22 19.0	140 48.2 <sup>110</sup>	+ 9 38.2	162	45	16 27	17 00	17 37	2 28 79	13 53 22					
19	105 28.0	19.3	155 18.2 <sup>110</sup>	+ 9 54.3	161	50	16 07	16 45	26	33 85	46 17					
20	120 27.9	19.6	169 48.2 <sup>110</sup>	+ 10 10.5	162	52	15 58	38	21	35 88	43 14					
21	135 27.8	19.9	184 18.1 <sup>109</sup>	26.5	160	54	48	31	16	37 91	40 11					
22	150 27.7	20.2	198 47.9 <sup>108</sup>	42.5	160	56	36	22	10	40 94	36 8					
23	165 27.6	20.5	213 17.7 <sup>108</sup>	+ 10 58.5	160	58	23	13	17 04	43 98	32 4					
24	180 27.5	+22 20.8	227 47.4 <sup>107</sup>	+ 11 14.4	159	60 S	15 07	16 02	16 58	2 46 103	13 27 0					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 15.0 <sup>m</sup>		Mag.: -4.0 PMG: 11 <sup>h</sup> 56 <sup>m</sup>		Mag.: +1.1 PMG: 8 <sup>h</sup> 49 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 14 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 37 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	250 57.3	181 14.6	+21 57.8	227 42.5	+8 27.3	191 15.8	+19 47.4	260 31.6	-6 08.8	
1	265 59.8	196 13.8	58.3	242 43.2	28.0	206 17.7	47.5	275 33.9	08.8	
2	281 02.3	211 13.0	58.8	257 43.9	28.7	221 19.5	47.6	290 36.3	08.7	
3	296 04.7	226 12.2	59.4	272 44.6	29.4	236 21.4	47.7	305 38.6	08.7	
4	311 07.2	241 11.4	+21 59.9	287 45.3	30.1	251 23.2	47.9	320 41.0	08.7	
5	326 09.7	256 10.6	+22 00.4	302 46.0	+8 30.8	266 25.1	+19 48.0	335 43.3	-6 08.6	
6	341 12.1	271 09.8	+22 00.9	317 46.7	+8 31.5	281 26.9	+19 48.1	350 45.7	-6 08.6	
7	356 14.6	286 09.0	01.4	332 47.4	32.2	296 28.8	48.2	5 48.1	08.5	
8	11 17.1	301 08.2	01.9	347 48.2	32.9	311 30.7	48.3	20 50.4	08.5	
9	26 19.5	316 07.4	02.4	2 48.9	33.6	326 32.5	48.5	35 52.8	08.5	
10	41 22.0	331 06.6	03.0	17 49.6	34.3	341 34.4	48.6	50 55.1	08.4	
11	56 24.4	346 05.8	+22 03.5	32 50.3	+8 35.0	356 36.2	+19 48.7	65 57.5	-6 08.4	
12	71 26.9	1 05.0	+22 04.0	47 51.0	+8 35.7	11 38.1	+19 48.8	80 59.8	-6 08.4	
13	86 29.4	16 04.1	04.5	62 51.7	36.4	26 39.9	48.9	96 02.2	08.3	
14	101 31.8	31 03.3	05.0	77 52.4	37.1	41 41.8	49.1	111 04.6	08.3	
15	116 34.3	46 02.5	05.5	92 53.1	37.8	56 43.6	49.2	126 06.9	08.3	
16	131 36.8	61 01.7	06.0	107 53.8	38.5	71 45.5	49.3	141 09.3	08.2	
17	146 39.2	76 00.9	+22 06.5	122 54.5	+8 39.2	86 47.4	+19 49.4	156 11.6	-6 08.2	
18	161 41.7	91 00.1	+22 07.0	137 55.2	+8 39.9	101 49.2	+19 49.5	171 14.0	-6 08.2	
19	176 44.2	105 59.3	07.5	152 55.9	40.6	116 51.1	49.7	186 16.4	08.1	
20	191 46.6	120 58.5	08.0	167 56.6	41.3	131 52.9	49.8	201 18.7	08.1	
21	206 49.1	135 57.7	08.5	182 57.3	42.0	146 54.8	49.9	216 21.1	08.1	
22	221 51.5	150 56.9	09.0	197 58.0	42.7	161 56.6	50.0	231 23.4	08.0	
23	236 54.0	165 56.0	09.5	212 58.7	43.3	176 58.5	50.1	246 25.8	08.0	
24	251 56.5	180 55.2	+22 10.0	227 59.4	+8 44.0	192 00.4	+19 50.2	261 28.1	-6 08.0	
Dif	—	-8	+5	+7	+7	+19	+1	+24	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 58.2 <sup>m</sup>		SD: 16.2' Edad: 25.9 <sup>d</sup> PMG: 9 <sup>h</sup> 07 <sup>m</sup> R°: 53 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.5' 12 <sup>h</sup> : 59.5' 20 <sup>h</sup> : 59.4'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	180 27.5	+22 20.8	227 47.4	+11 14.4	158	60 N	1 19	2 46	1 30	0	17 19	110				
1	195 27.4	21.1	242 17.0	30.2	106	58	1 56	3 04	36	5	09	103				
2	210 27.3	21.4	256 46.6	+11 46.0	158	56	2 21	20	42	9	17 00	98				
3	225 27.2	21.7	271 16.2	+12 01.7	157	54	1 12	41	47	13	16 52	94				
4	240 27.1	22.0	285 45.7	17.3	156	52	1 46	2 57	44	52	16	45 91				
5	255 27.0	+22 22.3	300 15.1	+12 32.9	156	50	2 10	3 11	3 54	1 56	19	16 39 87				
6	270 26.9	+22 22.6	314 44.4	+12 48.4	155	45	2 51	3 39	4 15	2 06	24	16 26 81				
7	285 26.8	22.9	329 13.7	+13 03.8	154	40	3 19	4 00	32	14	29	15 76				
8	300 26.7	23.2	343 42.9	19.2	154	35	3 41	17	47	21	32	16 05 73				
9	315 26.6	23.5	358 12.1	34.5	153	30	3 59	32	4 59	27	36	15 57 69				
10	330 26.5	23.8	12 41.2	+13 49.7	152	20	4 27	4 56	5 20	37	42	43 63				
11	345 26.4	+22 24.1	27 10.2	+14 04.8	151	10 N	4 48	5 15	5 38	2 47	47	15 31 58				
12	0 26.3	+22 24.4	41 39.2	+14 19.9	151	0	5 06	5 32	5 55	2 55	52	15 20 53				
13	15 26.1	24.7	56 08.1	34.8	149	10 S	22	5 49	6 11	3 04	57	15 08 49				
14	30 26.0	25.0	70 36.9	+14 49.7	149	20	38	6 05	29	14	62	14 56 44				
15	45 25.9	25.3	85 05.6	+15 04.5	148	30	5 53	23	6 49	25	68	43 38				
16	60 25.8	25.6	99 34.3	19.2	147	35	6 01	33	7 01	31	72	35 35				
17	75 25.7	+22 25.9	114 02.9	+15 33.9	147	40	6 10	6 44	7 14	3 39	76	14 26 31				
18	90 25.6	+22 26.2	128 31.4	+15 48.4	145	45	6 20	6 57	7 30	3 47	81	14 15 27				
19	105 25.5	26.5	142 59.9	+16 02.9	145	50	31	7 12	49	3 58	87	14 03 21				
20	120 25.4	26.7	157 28.3	17.2	143	52	35	19	7 59	4 03	90	13 57 18				
21	135 25.3	27.0	171 56.6	31.5	143	54	41	26	8 09	08	94	51 14				
22	150 25.2	27.3	186 24.8	45.6	141	56	46	35	21	14	98	44 11				
23	165 25.1	27.6	200 53.0	+16 59.7	141	58	53	44	34	21	102	36 6				
24	180 25.0	+22 27.9	215 21.0	+17 13.6	139	60 S	6 59	7 55	8 50	4 29	108	13 27 1				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 11.1 <sup>m</sup>		Mag.: -4.0 PMG: 11 <sup>h</sup> 57 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 11 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 33 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	251 56.5	+22 10.0	180 55.2	+22 10.0	227 59.4	+8 44.0	192 00.4	+19 50.2	261 28.1	-6 08.0
1	266 58.9	10.5	195 54.4	10.5	243 00.1	44.7	207 02.2	50.4	276 30.5	07.9
2	282 01.4	11.0	210 53.6	11.0	258 00.8	45.4	222 04.1	50.5	291 32.9	07.9
3	297 03.9	11.5	225 52.8	11.5	273 01.5	46.1	237 05.9	50.6	306 35.2	07.9
4	312 06.3	12.0	240 52.0	12.0	288 02.3	46.8	252 07.8	50.7	321 37.6	07.8
5	327 08.8	+22 12.5	255 51.2	+22 12.5	303 03.0	+8 47.5	267 09.6	+19 50.8	336 39.9	-6 07.8
6	342 11.3	+22 13.0	270 50.4	+22 13.0	318 03.7	+8 48.2	282 11.5	+19 51.0	351 42.3	-6 07.8
7	357 13.7	13.4	285 49.5	13.4	333 04.4	48.9	297 13.4	51.1	6 44.7	07.7
8	12 16.2	13.9	300 48.7	13.9	348 05.1	49.6	312 15.2	51.2	21 47.0	07.7
9	27 18.7	14.4	315 47.9	14.4	3 05.8	50.3	327 17.1	51.3	36 49.4	07.7
10	42 21.1	14.9	330 47.1	14.9	18 06.5	51.0	342 18.9	51.4	51 51.8	07.6
11	57 23.6	+22 15.4	345 46.3	+22 15.4	33 07.2	+8 51.7	357 20.8	+19 51.5	66 54.1	-6 07.6
12	72 26.0	+22 15.9	0 45.5	+22 15.9	48 07.9	+8 52.4	12 22.6	+19 51.7	81 56.5	-6 07.6
13	87 28.5	16.3	15 44.6	16.3	63 08.6	53.0	27 24.5	51.8	96 58.8	07.5
14	102 31.0	16.8	30 43.8	16.8	78 09.3	53.7	42 26.4	51.9	112 01.2	07.5
15	117 33.4	17.3	45 43.0	17.3	93 10.0	54.4	57 28.2	52.0	127 03.6	07.5
16	132 35.9	17.8	60 42.2	17.8	108 10.7	55.1	72 30.1	52.1	142 05.9	07.4
17	147 38.4	+22 18.3	75 41.4	+22 18.3	123 11.4	+8 55.8	87 31.9	+19 52.3	157 08.3	-6 07.4
18	162 40.8	+22 18.7	90 40.6	+22 18.7	138 12.1	+8 56.5	102 33.8	+19 52.4	172 10.6	-6 07.4
19	177 43.3	19.2	105 39.7	19.2	153 12.8	57.2	117 35.6	52.5	187 13.0	07.3
20	192 45.8	19.7	120 38.9	19.7	168 13.5	57.9	132 37.5	52.6	202 15.4	07.3
21	207 48.2	20.2	135 38.1	20.2	183 14.2	58.6	147 39.4	52.7	217 17.7	07.3
22	222 50.7	20.6	150 37.3	20.6	198 14.9	59.3	162 41.2	52.8	232 20.1	07.3
23	237 53.2	21.1	165 36.5	21.1	213 15.6	+8 59.9	177 43.1	53.0	247 22.5	07.2
24	252 55.6	+22 21.6	180 35.6	+22 21.6	228 16.3	+9 00.6	192 44.9	+19 53.1	262 24.8	-6 07.2
Dif	—		-8	+5	+7	+7	+19	+1	+24	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 58.4 <sup>m</sup>		SD: 16.2' Edad: 26.9 <sup>d</sup> PMG: 10 <sup>h</sup> 00 <sup>m</sup> R°: 56 <sup>m</sup>						PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.2' 20 <sup>h</sup> : 59.1'		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 25.0	+22 27.9	215 21.0	+17 13.6	139	60 N	21 13	22 43	** **	1 30	3	19 09	112			
1	195 24.8	28.2	229 49.0	27.5	138	58	20 54	22 04	** **	41	9	18 52	104			
2	210 24.7	28.5	244 17.0	41.3	136	56	39	21 38	** **	1 51	14	38	98			
3	225 24.6	28.7	258 44.8	+17 54.9	136	54	26	18	22 50	2 00	17	26	93			
4	240 24.5	29.0	273 12.6	+18 08.5	134	52	14	21 01	22 14	08	21	16	89			
5	255 24.4	+22 29.3	287 40.3	+18 21.9	133	50	20 04	20 47	21 49	2 15	24	18 06	86			
6	270 24.3	+22 29.6	302 07.9	+18 35.2	132	45	19 42	20 19	21 07	2 30	30	17 47	80			
7	285 24.2	29.9	316 35.4	+18 48.4	131	40	25	19 58	20 38	43	34	31	76			
8	300 24.1	30.2	331 02.9	+19 01.5	130	35	19 11	40	20 16	2 53	38	18	72			
9	315 24.0	30.4	345 30.3	14.5	129	30	18 58	25	19 58	3 03	41	17 06	69			
10	330 23.9	30.7	359 57.6	27.4	127	20	37	19 02	30	19	47	16 46	65			
11	345 23.8	+22 31.0	14 24.8	+19 40.1	125	10 N	18 19	18 42	19 09	3 34	51	16 29	61			
12	0 23.6	+22 31.3	28 51.9	+19 52.8	124	0	18 02	18 24	18 51	3 47	56	16 13	57			
13	15 23.5	31.6	43 19.0	+20 05.3	122	10 S	17 45	18 08	34	4 01	59	15 57	53			
14	30 23.4	31.8	57 46.0	17.7	122	20	28	17 51	19	16	64	40	49			
15	45 23.3	32.1	72 12.9	29.9	121	30	17 07	33	18 03	33	69	21	44			
16	60 23.2	32.4	86 39.7	42.0	121	35	16 55	23	17 55	43	73	15	10			
17	75 23.1	+22 32.7	101 06.4	+20 54.1	118	40	16 42	17 12	17 46	4 55	76	14 57	38			
18	90 23.0	+22 32.9	115 33.1	+21 05.9	116	45	16 26	16 59	17 36	5 08	81	14 42	33			
19	105 22.9	33.2	129 59.7	17.7	116	50	16 06	44	25	25	87	24	27			
20	120 22.8	33.5	144 26.2	29.3	115	52	15 57	37	20	33	91	15	25			
21	135 22.6	33.8	158 52.6	40.8	113	54	47	29	15	42	94	14 05	21			
22	150 22.5	34.0	173 19.0	+21 52.1	112	56	35	21	09	5 52	99	13 55	16			
23	165 22.4	34.3	187 45.3	+22 03.3	111	58	21	11	17 03	6 03	105	42	11			
24	180 22.3	+22 34.6	202 11.5	+22 14.4	111	60 S	15 05	16 00	16 56	6 17	112	13 28	4			

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 <sup>h</sup> 07.1 <sup>m</sup>	Mag.: -4.0 PMG: 11 <sup>h</sup> 58 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 46 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 08 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 29 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	252 55.6	180 35.6	+22 21.6	228 16.3	+9 00.6	192 44.9	+19 53.1	262 24.8	-6 07.2
1	267 58.1	195 34.8	22.0	243 17.0	01.3	207 46.8	53.2	277 27.2	07.2
2	283 00.5	210 34.0	22.5	258 17.7	02.0	222 48.7	53.3	292 29.5	07.1
3	298 03.0	225 33.2	23.0	273 18.5	02.7	237 50.5	53.4	307 31.9	07.1
4	313 05.5	240 32.4	23.4	288 19.2	03.4	252 52.4	53.5	322 34.3	07.1
5	328 07.9	255 31.5	+22 23.9	303 19.9	+9 04.1	267 54.2	+19 53.7	337 36.6	-6 07.0
6	343 10.4	270 30.7	+22 24.4	318 20.6	+9 04.8	282 56.1	+19 53.8	352 39.0	-6 07.0
7	358 12.9	285 29.9	24.8	333 21.3	05.5	297 57.9	53.9	7 41.4	07.0
8	13 15.3	300 29.1	25.3	348 22.0	06.1	312 59.8	54.0	22 43.7	06.9
9	28 17.8	315 28.2	25.7	3 22.7	06.8	328 01.7	54.1	37 46.1	06.9
10	43 20.3	330 27.4	26.2	18 23.4	07.5	343 03.5	54.2	52 48.5	06.9
11	58 22.7	345 26.6	+22 26.6	33 24.1	+9 08.2	358 05.4	+19 54.4	67 50.8	-6 06.8
12	73 25.2	0 25.8	+22 27.1	48 24.8	+9 08.9	13 07.2	+19 54.5	82 53.2	-6 06.8
13	88 27.6	15 24.9	27.5	63 25.5	09.6	28 09.1	54.6	97 55.6	06.8
14	103 30.1	30 24.1	28.0	78 26.2	10.3	43 10.9	54.7	112 57.9	06.7
15	118 32.6	45 23.3	28.4	93 26.9	11.0	58 12.8	54.8	128 00.3	06.7
16	133 35.0	60 22.4	28.9	108 27.6	11.6	73 14.7	54.9	143 02.6	06.7
17	148 37.5	75 21.6	+22 29.4	123 28.3	+9 12.3	88 16.5	+19 55.1	158 05.0	-6 06.7
18	163 40.0	90 20.8	+22 29.8	138 29.0	+9 13.0	103 18.4	+19 55.2	173 07.4	-6 06.6
19	178 42.4	105 19.9	30.3	153 29.7	13.7	118 20.2	55.3	188 09.7	06.6
20	193 44.9	120 19.1	30.7	168 30.4	14.4	133 22.1	55.4	203 12.1	06.6
21	208 47.4	135 18.3	31.2	183 31.1	15.1	148 23.9	55.5	218 14.5	06.5
22	223 49.8	150 17.4	31.6	198 31.8	15.8	163 25.8	55.6	233 16.8	06.5
23	238 52.3	165 16.6	32.1	213 32.5	16.4	178 27.7	55.8	248 19.2	06.5
24	253 54.8	180 15.8	+22 32.5	228 33.2	+9 17.1	193 29.5	+19 55.9	263 21.6	-6 06.4
Dif	—	-8	+5	+7	+7	+19	+1	+24	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 11 <sup>h</sup> 58.6 <sup>m</sup>		SD: 16.1' Edad: 27.9 <sup>d</sup> PMG: 10 <sup>h</sup> 56 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.0' 12 <sup>h</sup> : 58.8' 20 <sup>h</sup> : 58.6'			R°: 59 <sup>m</sup>			Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	
0	180 22.3	+22 34.6	202 11.5	71	+22 14.4	109	60 N	** **	1 14	2 43	1 33	8	21 01	103
1	195 22.2	34.8	216 37.6	70	25.3	108	58	** **	1 52	3 02	1 50	16	20 36	93
2	210 22.1	35.1	231 03.6	70	36.1	106	56	** **	2 19	18	2 05	22	20 16	87
3	225 22.0	35.4	245 29.6	69	46.7	105	54	1 07	39	31	17	27	19 59	83
4	240 21.9	35.6	259 55.5	68	+22 57.2	103	52	1 43	2 56	43	29	29	45	80
5	255 21.7	+22 35.9	274 21.3	68	+23 07.5	102	50	2 07	3 10	3 53	2 39	32	19 32	79
6	270 21.6	+22 36.2	288 47.1	67	+23 17.7	101	45	2 49	3 38	4 15	3 00	38	19 07	74
7	285 21.5	36.4	303 12.8	66	27.8	99	40	3 18	3 59	32	17	42	18 47	71
8	300 21.4	36.7	317 38.4	65	37.7	97	35	4 1	4 17	46	31	45	30	69
9	315 21.3	37.0	332 03.9	65	47.4	96	30	3 58	31	4 59	3 44	47	18 15	68
10	330 21.2	37.2	346 29.4	64	+23 57.0	95	20	4 26	4 55	5 20	4 06	51	17 51	64
11	345 21.1	+22 37.5	0 54.8	64	+24 06.5	93	10 N	4 48	5 15	5 38	4 25	55	17 30	61
12	0 20.9	+22 37.8	15 20.1	63	+24 15.8	91	0	5 06	5 33	5 55	4 43	58	17 10	59
13	15 20.8	38.0	29 45.4	63	24.9	90	10 S	23	5 49	6 12	5 00	62	16 50	57
14	30 20.7	38.3	44 10.6	62	33.9	88	20	38	6 06	30	20	65	29	55
15	45 20.6	38.5	58 35.7	61	42.7	86	30	5 54	24	6 50	42	69	16 05	51
16	60 20.5	38.8	73 00.8	61	51.3	85	35	6 02	34	7 02	5 56	71	15 51	49
17	75 20.4	+22 39.1	87 25.8	60	+24 59.8	84	40	6 11	6 45	7 15	6 11	74	15 35	46
18	90 20.3	+22 39.3	101 50.8	60	+25 08.2	81	45	6 21	6 58	7 31	6 29	78	15 15	43
19	105 20.1	39.6	116 15.7	59	16.3	80	50	32	7 13	7 51	6 52	84	14 51	38
20	120 20.0	39.8	130 40.5	58	24.3	79	52	37	20	8 01	7 04	86	40	35
21	135 19.9	40.1	145 05.3	58	32.2	76	54	42	28	11	16	90	26	33
22	150 19.8	40.3	159 30.1	58	39.8	75	56	48	37	23	31	94	14 11	28
23	165 19.7	40.6	173 54.7	56	47.3	73	58	6 54	46	37	7 48	101	13 53	22
24	180 19.6	+22 40.8	188 19.4	57	+25 54.6	70	60 S	7 01	7 57	8 53	8 09	111	13 32	11

UT	ARIES	VENUS	MARTE	JÚPITER	SATURNO				
	PMG: 7 <sup>h</sup> 03.2 <sup>m</sup>	Mag.: -4.0 PMG: 12 <sup>h</sup> 00 <sup>m</sup>	Mag.: +1.0 PMG: 8 <sup>h</sup> 45 <sup>m</sup>	Mag.: -2.0 PMG: 11 <sup>h</sup> 05 <sup>m</sup>	Mag.: +1.1 PMG: 6 <sup>h</sup> 26 <sup>m</sup>				
	hG ♈	hG ♀	hG ♂	hG ♃	hG ♄				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "				
0	253 54.8	180 15.8	+22 32.5	228 33.2	+9 17.1	193 29.5	+19 55.9	263 21.6	-6 06.4
1	268 57.2	195 15.0	33.0	243 33.9	17.8	208 31.4	56.0	278 23.9	06.4
2	283 59.7	210 14.1	33.4	258 34.6	18.5	223 33.2	56.1	293 26.3	06.4
3	299 02.1	225 13.3	33.8	273 35.3	19.2	238 35.1	56.2	308 28.7	06.4
4	314 04.6	240 12.5	34.3	288 36.0	19.9	253 37.0	56.3	323 31.0	06.3
5	329 07.1	255 11.6	+22 34.7	303 36.7	+9 20.6	268 38.8	+19 56.5	338 33.4	-6 06.3
6	344 09.5	270 10.8	+22 35.2	318 37.4	+9 21.2	283 40.7	+19 56.6	353 35.8	-6 06.3
7	359 12.0	285 10.0	35.6	333 38.2	21.9	298 42.5	56.7	8 38.1	06.2
8	14 14.5	300 09.1	36.0	348 38.9	22.6	313 44.4	56.8	23 40.5	06.2
9	29 16.9	315 08.3	36.5	3 39.6	23.3	328 46.2	56.9	38 42.9	06.2
10	44 19.4	330 07.5	36.9	18 40.3	24.0	343 48.1	57.0	53 45.3	06.1
11	59 21.9	345 06.6	+22 37.3	33 41.0	+9 24.7	358 50.0	+19 57.2	68 47.6	-6 06.1
12	74 24.3	0 05.8	+22 37.8	48 41.7	+9 25.3	13 51.8	+19 57.3	83 50.0	-6 06.1
13	89 26.8	15 05.0	38.2	63 42.4	26.0	28 53.7	57.4	98 52.4	06.1
14	104 29.3	30 04.1	38.6	78 43.1	26.7	43 55.5	57.5	113 54.7	06.0
15	119 31.7	45 03.3	39.0	93 43.8	27.4	58 57.4	57.6	128 57.1	06.0
16	134 34.2	60 02.5	39.5	108 44.5	28.1	73 59.3	57.7	143 59.5	06.0
17	149 36.6	75 01.6	+22 39.9	123 45.2	+9 28.8	89 01.1	+19 57.9	159 01.8	-6 05.9
18	164 39.1	90 00.8	+22 40.3	138 45.9	+9 29.4	104 03.0	+19 58.0	174 04.2	-6 05.9
19	179 41.6	105 00.0	40.7	153 46.6	30.1	119 04.8	58.1	189 06.6	05.9
20	194 44.0	119 59.1	41.2	168 47.3	30.8	134 06.7	58.2	204 08.9	05.8
21	209 46.5	134 58.3	41.6	183 48.0	31.5	149 08.5	58.3	219 11.3	05.8
22	224 49.0	149 57.5	42.0	198 48.7	32.2	164 10.4	58.4	234 13.7	05.8
23	239 51.4	164 56.6	42.4	213 49.4	32.8	179 12.3	58.5	249 16.1	05.8
24	254 53.9	179 55.8	+22 42.8	228 50.1	+9 33.5	194 14.1	+19 58.7	264 18.4	-6 05.7

Dif	—	-8	+4	+7	+7	+19	+1	+24	0
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UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 58.8 <sup>m</sup>			SD: 16.0' Edad: 28.9 <sup>d</sup> PMG: 11 <sup>h</sup> 55 <sup>m</sup> R°: 60 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.5' 12 <sup>h</sup> : 58.3' 20 <sup>h</sup> : 58.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec			Dif							
h	° / ' / "	° / ' / "		° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180 19.6	+22 40.8		188 19.4	56	+25 54.6	72	<b>60 N</b>	21 16	22 49	** **	1 41 21	22 44 69			
1	195 19.5	41.1		202 44.0	55	+26 01.8	70	<b>58</b>	20 57	22 08	** **	2 06 32	22 09 67			
2	210 19.3	41.4		217 08.5	55	08.8	68	<b>56</b>	41	21 41	** **	27 37	21 43 66			
3	225 19.2	41.6		231 33.0	54	15.6	67	<b>54</b>	28	20	22 55	44 40	22 66			
4	240 19.1	41.9		245 57.4	54	22.3	64	<b>52</b>	16	21 04	22 17	2 58 43	21 05 65			
5	255 19.0	+22 42.1		260 21.8	54	+26 28.7	62	<b>50</b>	20 05	20 49	21 52	3 11 45	20 51 64			
6	270 18.9	+22 42.4		274 46.2	54	+26 35.0	60	<b>45</b>	19 44	20 21	21 09	3 38 48	20 21 64			
7	285 18.8	42.6		289 10.5	53	41.2	59	<b>40</b>	26	19 59	20 40	3 59 51	19 58 63			
8	300 18.6	42.9		303 34.8	53	47.1	58	<b>35</b>	19 12	41	18	4 16 53	39 62			
9	315 18.5	43.1		317 59.0	52	52.9	56	<b>30</b>	18 59	26	20 00	31 55	19 23 62			
10	330 18.4	43.3		332 23.3	53	+26 58.5	54	<b>20</b>	38	19 02	19 31	4 57 57	18 55 61			
11	345 18.3	+22 43.6		346 47.5	52	+27 03.9	52	<b>10 N</b>	18 19	18 42	19 09	5 20 58	18 31 61			
12	0 18.2	+22 43.8		1 11.6	51	+27 09.1	51	<b>0</b>	18 02	18 25	18 51	5 41 60	18 09 60			
13	15 18.1	44.1		15 35.8	52	14.2	49	<b>10 S</b>	17 46	18 08	34	6 02 61	17 47 59			
14	30 17.9	44.3		29 59.9	51	19.1	47	<b>20</b>	28	17 51	19	25 63	17 24 58			
15	45 17.8	44.6		44 24.0	51	23.8	45	<b>30</b>	17 07	33	18 03	6 51 65	16 56 57			
16	60 17.7	44.8		58 48.0	50	28.3	44	<b>35</b>	16 55	23	17 55	7 07 66	40 56			
17	75 17.6	+22 45.1		73 12.1	51	+27 32.7	41	<b>40</b>	16 41	17 12	17 46	7 25 68	16 21 56			
18	90 17.5	+22 45.3		87 36.1	50	+27 36.8	40	<b>45</b>	16 25	16 59	17 36	7 47 70	15 58 55			
19	105 17.3	45.5		102 00.1	50	40.8	38	<b>50</b>	16 05	43	25	8 16 72	29 53			
20	120 17.2	45.8		116 24.1	50	44.6	36	<b>52</b>	15 56	36	20	30 73	15 15 51			
21	135 17.1	46.0		130 48.1	50	48.2	35	<b>54</b>	45	28	14	8 46 75	14 59 49			
22	150 17.0	46.3		145 12.1	50	51.7	33	<b>56</b>	33	20	08	9 05 78	39 47			
23	165 16.9	46.5		159 36.1	50	55.0	30	<b>58</b>	19	16 10	17 02	9 29 82	14 15 43			
24	180 16.8	+22 46.7		174 00.1	50	+27 58.0	30	<b>60 S</b>	15 03	15 59	16 55	10 00 91	13 43 35			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 59.3 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 44 <sup>m</sup>		Mag.: -2.0 PMG: 11 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 22 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	254 53.9	+22 42.8	179 55.8	43.2	228 50.1	+9 33.5	194 14.1	+19 58.7	264 18.4	-6 05.7
1	269 56.4	43.2	194 54.9	43.7	243 50.8	34.2	209 16.0	58.8	279 20.8	05.7
2	284 58.8	43.7	209 54.1	44.1	258 51.5	34.9	224 17.8	58.9	294 23.2	05.7
3	300 01.3	44.1	224 53.3	44.5	273 52.2	35.6	239 19.7	59.0	309 25.5	05.6
4	315 03.8	44.5	239 52.4	44.9	288 52.9	36.2	254 21.6	59.1	324 27.9	05.6
5	330 06.2	+22 44.9	254 51.6	45.3	303 53.6	+9 36.9	269 23.4	+19 59.2	339 30.3	-6 05.6
6	345 08.7	+22 45.3	269 50.8	45.7	318 54.3	+9 37.6	284 25.3	+19 59.4	354 32.6	-6 05.6
7	0 11.1	45.7	284 49.9	46.1	333 55.0	38.3	299 27.1	59.5	9 35.0	05.5
8	15 13.6	46.1	299 49.1	46.5	348 55.7	39.0	314 29.0	59.6	24 37.4	05.5
9	30 16.1	46.5	314 48.2	46.9	3 56.4	39.6	329 30.8	59.7	39 39.8	05.5
10	45 18.5	46.9	329 47.4	47.3	18 57.1	40.3	344 32.7	59.8	54 42.1	05.4
11	60 21.0	+22 47.3	344 46.6	47.7	33 57.8	+9 41.0	359 34.6	+19 59.9	69 44.5	-6 05.4
12	75 23.5	+22 47.7	359 45.7	48.1	48 58.5	+9 41.7	14 36.4	+20 00.0	84 46.9	-6 05.4
13	90 25.9	48.1	14 44.9	48.5	63 59.2	42.4	29 38.3	00.2	99 49.2	05.4
14	105 28.4	48.5	29 44.0	48.9	78 59.9	43.0	44 40.1	00.3	114 51.6	05.3
15	120 30.9	48.9	44 43.2	49.3	94 00.6	43.7	59 42.0	00.4	129 54.0	05.3
16	135 33.3	+22 49.7	59 42.3	49.7	109 01.3	44.4	74 43.9	00.5	144 56.4	05.3
17	150 35.8	+22 50.1	74 41.5	49.9	124 02.0	+9 45.1	89 45.7	+20 00.6	159 58.7	-6 05.3
18	165 38.3	+22 50.5	89 40.7	50.3	139 02.8	+9 45.7	104 47.6	+20 00.7	175 01.1	-6 05.2
19	180 40.7	50.3	104 39.8	50.7	154 03.5	46.4	119 49.4	00.8	190 03.5	05.2
20	195 43.2	50.7	119 39.0	51.1	169 04.2	47.1	134 51.3	01.0	205 05.9	05.2
21	210 45.6	+22 51.3	134 38.1	51.5	184 04.9	47.8	149 53.2	01.1	220 08.2	05.1
22	225 48.1	+22 51.7	149 37.3	51.9	199 05.6	48.5	164 55.0	01.2	235 10.6	05.1
23	240 50.6	51.9	164 36.4	52.3	214 06.3	49.1	179 56.9	01.3	250 13.0	05.1
24	255 53.0	+22 52.5	179 35.6	52.9	229 07.0	+9 49.8	194 58.7	+20 01.4	265 15.4	-6 05.1
Dif	—	-8	+4	+7	+7	+7	+19	+1	+24	0



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 11 <sup>h</sup> 59.0 <sup>m</sup>		SD: 15.8' Edad: 0.5 <sup>d</sup> PMG: 12 <sup>h</sup> 55 <sup>m</sup> R°: 59 <sup>m</sup>					PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 57.6' 20 <sup>h</sup> : 57.4'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m		
<b>0</b>	180 16.8	+22 46.7	174 00.1	50	+27 58.0	29	<b>60 N</b>	** **	1 08	2 41	2 02 56	23 53 29			
<b>1</b>	195 16.6	47.0	188 24.1	50	+28 00.9	29	<b>58</b>	** **	1 49	3 00	2 38 57	23 16 37			
<b>2</b>	210 16.5	47.2	202 48.1	50	03.6	27	<b>56</b>	** **	2 16	16	3 04 58	22 49 41			
<b>3</b>	225 16.4	47.4	217 12.1	50	06.2	26	<b>54</b>	1 02	37	30	24 59	28 44			
<b>4</b>	240 16.3	47.7	231 36.1	50	08.5	23	<b>52</b>	1 40	2 54	42	41 59	22 10 46			
<b>5</b>	255 16.2	+22 47.9	246 00.1	50	+28 10.7	22	<b>50</b>	2 05	3 08	3 52	3 56 59	21 55 48			
<b>6</b>	270 16.0	+22 48.1	260 24.2	51	+28 12.7	20	<b>45</b>	2 48	3 37	4 14	4 26 60	21 25 50			
<b>7</b>	285 15.9	48.4	274 48.2	50	14.5	18	<b>40</b>	3 18	3 59	31	4 50 59	21 01 52			
<b>8</b>	300 15.8	48.6	289 12.3	51	16.1	16	<b>35</b>	40	4 16	46	5 09 59	20 41 54			
<b>9</b>	315 15.7	48.8	303 36.3	50	17.6	15	<b>30</b>	3 58	31	4 58	26 59	20 25 54			
<b>10</b>	330 15.6	49.1	318 00.4	51	18.9	13	<b>20</b>	4 26	4 55	5 20	5 54 59	19 56 56			
<b>11</b>	345 15.4	+22 49.3	332 24.6	52	+28 19.9	10	<b>10 N</b>	4 48	5 15	5 38	6 18 59	19 32 57			
<b>12</b>	0 15.3	+22 49.5	346 48.7	51	+28 20.8	9	<b>0</b>	5 07	5 33	5 55	6 41 59	19 09 58			
<b>13</b>	15 15.2	49.7	1 12.9	52	21.6	8	<b>10 S</b>	23	5 50	6 12	7 03 59	18 46 59			
<b>14</b>	30 15.1	50.0	15 37.1	52	22.1	5	<b>20</b>	39	6 06	30	28 58	18 22 60			
<b>15</b>	45 15.0	50.2	30 01.4	53	22.5	4	<b>30</b>	5 55	25	6 51	7 56 58	17 53 62			
<b>16</b>	60 14.8	50.4	44 25.6	52	22.7	2	<b>35</b>	6 03	35	7 03	8 13 58	36 62			
<b>17</b>	75 14.7	+22 50.6	58 50.0	54	+28 22.7	0	<b>40</b>	6 12	6 46	7 17	8 33 57	17 17 63			
<b>18</b>	90 14.6	+22 50.9	73 14.3	53	+28 22.5	2	<b>45</b>	6 22	6 59	7 33	8 57 56	16 53 64			
<b>19</b>	105 14.5	51.1	87 38.7	54	22.2	3	<b>50</b>	33	7 15	7 53	9 28 55	22 65			
<b>20</b>	120 14.4	51.3	102 03.2	55	21.7	5	<b>52</b>	39	22	8 02	9 43 55	16 06 67			
<b>21</b>	135 14.2	51.5	116 27.7	55	21.0	7	<b>54</b>	44	30	13	10 01 54	15 48 68			
<b>22</b>	150 14.1	51.8	130 52.2	55	20.1	9	<b>56</b>	50	38	25	23 53	15 26 69			
<b>23</b>	165 14.0	52.0	145 16.8	56	19.1	10	<b>58</b>	6 56	48	39	10 51 50	14 58 72			
<b>24</b>	180 13.9	+22 52.2	159 41.5	57	+28 17.9	12	<b>60 S</b>	7 03	7 59	8 56	11 31 46	14 18 77			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 55.3 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 43 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 59 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
<b>0</b>	255 53.0	+22 52.5	179 35.6	52.9	229 07.0	+9 49.8	194 58.7	+20 01.4	265 15.4	-6 05.1
<b>1</b>	270 55.5	52.9	194 34.7	53.3	244 07.7	50.5	210 00.6	01.5	280 17.7	05.0
<b>2</b>	285 58.0	53.3	209 33.9	53.6	259 08.4	51.2	225 02.5	01.6	295 20.1	05.0
<b>3</b>	301 00.4	53.6	224 33.0	54.0	274 09.1	51.8	240 04.3	01.8	310 22.5	05.0
<b>4</b>	316 02.9	54.0	239 32.2	53.2	289 09.8	52.5	255 06.2	01.9	325 24.8	05.0
<b>5</b>	331 05.4	+22 54.4	254 31.4	53.2	304 10.5	+9 53.2	270 08.0	+20 02.0	340 27.2	-6 04.9
<b>6</b>	346 07.8	+22 54.8	269 30.5	53.9	319 11.2	+9 53.9	285 09.9	+20 02.1	355 29.6	-6 04.9
<b>7</b>	1 10.3	55.2	284 29.7	54.5	334 11.9	54.5	300 11.8	02.2	10 32.0	04.9
<b>8</b>	16 12.8	55.5	299 28.8	55.2	349 12.6	55.2	315 13.6	02.3	25 34.3	04.8
<b>9</b>	31 15.2	55.9	314 28.0	55.9	4 13.3	55.9	330 15.5	02.4	40 36.7	04.8
<b>10</b>	46 17.7	56.3	329 27.1	56.6	19 14.0	56.6	345 17.3	02.6	55 39.1	04.8
<b>11</b>	61 20.1	+22 56.7	344 26.3	57.2	34 14.7	+9 57.2	0 19.2	+20 02.7	70 41.5	-6 04.8
<b>12</b>	76 22.6	+22 57.1	359 25.4	57.9	49 15.4	+9 57.9	15 21.0	+20 02.8	85 43.8	-6 04.7
<b>13</b>	91 25.1	57.4	14 24.6	57.4	64 16.1	58.6	30 22.9	02.9	100 46.2	04.7
<b>14</b>	106 27.5	57.8	29 23.7	57.8	79 16.8	59.3	45 24.8	03.0	115 48.6	04.7
<b>15</b>	121 30.0	58.2	44 22.9	58.2	94 17.5	+9 59.9	60 26.6	03.1	130 51.0	04.7
<b>16</b>	136 32.5	58.5	59 22.0	58.5	109 18.2	+10 00.6	75 28.5	03.2	145 53.4	04.6
<b>17</b>	151 34.9	+22 58.9	74 21.2	58.9	124 18.9	+10 01.3	90 30.3	+20 03.4	160 55.7	-6 04.6
<b>18</b>	166 37.4	+22 59.3	89 20.3	59.3	139 19.6	+10 01.9	105 32.2	+20 03.5	175 58.1	-6 04.6
<b>19</b>	181 39.9	+22 59.6	104 19.5	59.6	154 20.3	02.6	120 34.1	03.6	191 00.5	04.6
<b>20</b>	196 42.3	+23 00.0	119 18.6	00.4	169 21.0	03.3	135 35.9	03.7	206 02.9	04.5
<b>21</b>	211 44.8	00.4	134 17.8	00.7	184 21.7	04.0	150 37.8	03.8	221 05.2	04.5
<b>22</b>	226 47.3	00.7	149 16.9	01.1	199 22.4	04.6	165 39.6	03.9	236 07.6	04.5
<b>23</b>	241 49.7	01.1	164 16.1	01.5	214 23.1	05.3	180 41.5	04.0	251 10.0	04.5
<b>24</b>	256 52.2	+23 01.5	179 15.2	06.0	229 23.8	+10 06.0	195 43.4	+20 04.1	266 12.4	-6 04.4

Dif	—	-8	+4	+7	+7	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna												
	SD: 15.8' PMG: 11 <sup>h</sup> 59.2 <sup>m</sup>		SD: 15.6' Edad: 1.5 <sup>d</sup> PMG: 13 <sup>h</sup> 54 <sup>m</sup> R°: 55 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 56.7'		Civil	Náutico	Hora	R°	Hora	R°									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m									
0	180	13.9	+22	52.2	159	41.5	57	+28	17.9	14	60 N	21	19	22	55	**	**	**	**	2	58	90	**	**	***
1	195	13.7		52.4	174	06.2	57		16.5	14	58	20	59	22	12	**	**	**	**	3	35	82	23	53	19
2	210	13.6		52.6	188	30.9	57		14.9	16	56	43		21	44	**	**	**	**	4	02	77		30	25
3	225	13.5		52.9	202	55.7	58		13.2	17	54	29		23		23	00			23	74	23	12	28	
4	240	13.4		53.1	217	20.6	59		11.3	19	52	18		21	06	22	21			40	72	22	56	32	
5	255	13.3	+22	53.3	231	45.6	60	+28	09.2	21	50	20	07	20	51	21	55			4	55	71	22	43	33
6	270	13.1	+22	53.5	246	10.6	60	+28	07.0	22	45	19	45	20	22	21	11			5	26	67	22	15	38
7	285	13.0		53.7	260	35.7	61		04.6	24	40	28		20	00	20	41			5	49	65	21	53	41
8	300	12.9		53.9	275	00.8	61	+28	02.0	26	35	13		19	42	19				6	08	64	35	43	
9	315	12.8		54.2	289	26.0	62	+27	59.3	27	30	19	00	27		20	01			25	62	21	19	46	
10	330	12.7		54.4	303	51.3	63		56.4	29	20	18	39	19	03	19	32			6	53	60	20	52	49
11	345	12.5	+22	54.6	318	16.7	64	+27	53.3	31	10 N	18	20	18	43	19	10			7	17	58	20	29	52
12	0	12.4	+22	54.8	332	42.1	64	+27	50.1	32	0	18	03	18	25	18	51			7	40	56	20	07	54
13	15	12.3		55.0	347	07.6	65		46.7	34	0 S	17	46	18	09	35				8	02	54	19	45	57
14	30	12.2		55.2	1	33.2	66		43.2	35	20	28		17	52	19				26	52	19	22	59	
15	45	12.0		55.4	15	58.9	67		39.5	37	30	17	07	33	18	03				8	54	50	18	55	62
16	60	11.9		55.6	30	24.7	68		35.6	39	35	16	55	23	17	54				9	11	48	38	65	
17	75	11.8	+22	55.8	44	50.5	68	+27	31.6	40	40	16	41	17	11	17	45			9	30	46	18	20	66
18	90	11.7	+22	56.1	59	16.5	70	+27	27.4	42	45	16	25	16	58	17	35			9	53	44	17	57	69
19	105	11.5		56.3	73	42.5	70		23.1	43	50	16	05	43	24					10	23	40	27	74	
20	120	11.4		56.5	88	08.6	71		18.6	45	52	15	55	36	19					38	38	17	13	76	
21	135	11.3		56.7	102	34.8	72		14.0	46	54	44		28	13					10	55	35	16	56	79
22	150	11.2		56.9	117	01.1	73		09.2	48	56	32		19	08					11	16	31	35	83	
23	165	11.0		57.1	131	27.4	73	+27	04.3	49	58	18		16	09	17	01			11	41	26	16	10	89
24	180	10.9	+22	57.3	145	53.9	75	+26	59.2	51	60 S	15	01	15	58	16	54			12	17	15	15	35	99

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 6 <sup>h</sup> 51.4 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 04 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 42 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 56 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 14 <sup>m</sup>										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	256	52.2	179	15.2	+23	01.5	229	23.8	+10	06.0	195	43.4	+20	04.1	266	12.4	-6	04.4	
1	271	54.6	194	14.3		01.8	244	24.5		06.7	210	45.2		04.3	281	14.7		04.4	
2	286	57.1	209	13.5		02.2	259	25.2		07.3	225	47.1		04.4	296	17.1		04.4	
3	301	59.6	224	12.6		02.5	274	25.9		08.0	240	48.9		04.5	311	19.5		04.3	
4	317	02.0	239	11.8		02.9	289	26.6		08.7	255	50.8		04.6	326	21.9		04.3	
5	332	04.5	254	10.9	+23	03.3	304	27.3	+10	09.3	270	52.7	+20	04.7	341	24.3	-6	04.3	
6	347	07.0	269	10.1	+23	03.6	319	28.0	+10	10.0	285	54.5	+20	04.8	356	26.6	-6	04.3	
7	2	09.4	284	09.2		04.0	334	28.7		10.7	300	56.4		04.9	11	29.0		04.2	
8	17	11.9	299	08.4		04.3	349	29.4		11.3	315	58.2		05.0	26	31.4		04.2	
9	32	14.4	314	07.5		04.7	4	30.1		12.0	331	00.1		05.2	41	33.8		04.2	
10	47	16.8	329	06.7		05.0	19	30.8		12.7	346	02.0		05.3	56	36.2		04.2	
11	62	19.3	344	05.8	+23	05.4	34	31.5	+10	13.4	1	03.8	+20	05.4	71	38.5	-6	04.1	
12	77	21.8	359	04.9	+23	05.7	49	32.2	+10	14.0	16	05.7	+20	05.5	86	40.9	-6	04.1	
13	92	24.2	14	04.1		06.1	64	32.9		14.7	31	07.5		05.6	101	43.3		04.1	
14	107	26.7	29	03.2		06.4	79	33.6		15.4	46	09.4		05.7	116	45.7		04.1	
15	122	29.1	44	02.4		06.8	94	34.3		16.0	61	11.3		05.8	131	48.0		04.0	
16	137	31.6	59	01.5		07.1	109	35.0		16.7	76	13.1		06.0	146	50.4		04.0	
17	152	34.1	74	00.7	+23	07.4	124	35.7	+10	17.4	91	15.0	+20	06.1	161	52.8	-6	04.0	
18	167	36.5	88	59.8	+23	07.8	139	36.4	+10	18.0	106	16.8	+20	06.2	176	55.2	-6	04.0	
19	182	39.0	103	58.9		08.1	154	37.1		18.7	121	18.7		06.3	191	57.6		04.0	
20	197	41.5	118	58.1		08.5	169	37.8		19.4	136	20.6		06.4	207	00.0		03.9	
21	212	43.9	133	57.2		08.8	184	38.5		20.0	151	22.4		06.5	222	02.3		03.9	
22	227	46.4	148	56.4		09.1	199	39.2		20.7	166	24.3		06.6	237	04.7		03.9	
23	242	48.9	163	55.5		09.5	214	39.9		21.4	181	26.2		06.7	252	07.1		03.9	
24	257	51.3	178	54.6	+23	09.8	229	40.6	+10	22.0	196	28.0	+20	06.8	267	09.5	-6	03.8	
Dif	—		-9		+3		+7		+7		+19		+1		+24				0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 11 <sup>h</sup> 59.4 <sup>m</sup>		SD: 15.4' Edad: 2.5 <sup>d</sup> PMG: 14 <sup>h</sup> 49 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.5' 12 <sup>h</sup> : 56.2' 20 <sup>h</sup> : 56.0'			R°: 51 <sup>m</sup>			Hora		R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	h m	h m	h m	h m
0	180 10.9	+22 57.3	145 53.9	76	+26 59.2	52	60 N	** **	1 04	2 39	4 28	100	0 22	10
1	195 10.8	57.5	160 20.5	76	54.0	55	58	** **	1 47	2 59	4 57	91	** **	** **
2	210 10.7	57.7	174 47.1	76	48.6	54	56	** **	2 14	3 15	5 19	85	23 55	14
3	225 10.6	57.9	189 13.9	78	43.1	56	54	0 58	36	29	37	81	40	18
4	240 10.4	58.1	203 40.8	79	37.5	58	52	1 38	2 53	41	5 52	78	28	21
5	255 10.3	+22 58.3	218 07.7	79	+26 31.7	60	50	2 04	3 07	3 51	6 06	75	23 16	24
6	270 10.2	+22 58.5	232 34.8	81	+26 25.7	61	45	2 47	3 36	4 13	6 33	70	22 53	29
7	285 10.1	58.7	247 01.9	81	19.6	62	40	3 17	3 58	31	6 54	67	34	33
8	300 09.9	58.9	261 29.2	83	13.4	63	35	40	4 16	46	7 12	64	18	36
9	315 09.8	59.1	275 56.5	83	07.1	65	30	3 58	31	4 58	27	62	22 05	38
10	330 09.7	59.3	290 24.0	85	+26 00.6	66	20	4 26	4 55	5 20	7 53	58	21 41	43
11	345 09.6	+22 59.5	304 51.6	86	+25 54.0	68	10 N	4 49	5 15	5 38	8 15	55	21 21	46
12	0 09.4	+22 59.7	319 19.2	86	+25 47.2	69	0	5 07	5 33	5 56	8 36	52	21 01	50
13	15 09.3	+22 59.9	333 47.0	88	40.3	70	10 S	24	5 50	6 13	8 56	49	20 42	53
14	30 09.2	+23 00.1	348 14.9	89	33.3	71	20	40	6 07	31	9 18	46	20 21	57
15	45 09.1	00.3	2 42.8	89	26.2	73	30	5 56	25	6 52	44	42	19 57	61
16	60 08.9	00.4	17 10.9	91	18.9	74	35	6 04	36	7 04	9 59	39	43	63
17	75 08.8	+23 00.6	31 39.1	92	+25 11.5	75	40	6 13	6 47	7 18	10 16	37	19 26	67
18	90 08.7	+23 00.8	46 07.4	93	+25 04.0	76	45	6 23	7 00	7 34	10 37	33	19 06	71
19	105 08.6	01.0	60 35.8	94	+24 56.4	77	50	35	16	7 54	11 03	28	18 41	76
20	120 08.4	01.2	75 04.3	95	48.6	78	52	40	23	8 04	16	25	29	79
21	135 08.3	01.4	89 32.9	96	40.8	78	54	45	31	15	30	22	18 15	82
22	150 08.2	01.6	104 01.7	98	32.8	80	56	51	40	27	11 47	18	17 58	87
23	165 08.0	01.8	118 30.5	98	24.7	81	58	6 58	7 50	41	12 07	13	39	92
24	180 07.9	+23 02.0	132 59.5	100	+24 16.4	83	60 S	7 05	8 01	8 58	12 32	5	17 14	100
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG 6 <sup>h</sup> 47.5 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 05 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 41 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 10 <sup>m</sup>					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	257 51.3	178 54.6	+23 09.8	229 40.6	+10 22.0	196 28.0	+20 06.8	267 09.5	-6 03.8					
1	272 53.8	193 53.8	10.1	244 41.3	22.7	211 29.9	07.0	282 11.9	03.8					
2	287 56.2	208 52.9	10.5	259 42.0	23.4	226 31.7	07.1	297 14.2	03.8					
3	302 58.7	223 52.1	10.8	274 42.7	24.0	241 33.6	07.2	312 16.6	03.8					
4	318 01.2	238 51.2	11.1	289 43.4	24.7	256 35.5	07.3	327 19.0	03.7					
5	333 03.6	253 50.3	+23 11.4	304 44.1	+10 25.4	271 37.3	+20 07.4	342 21.4	-6 03.7					
6	348 06.1	268 49.5	+23 11.8	319 44.8	+10 26.0	286 39.2	+20 07.5	357 23.8	-6 03.7					
7	3 08.6	283 48.6	12.1	334 45.5	26.7	301 41.0	07.6	12 26.1	03.7					
8	18 11.0	298 47.8	12.4	349 46.2	27.4	316 42.9	07.7	27 28.5	03.6					
9	33 13.5	313 46.9	12.7	4 46.9	28.0	331 44.8	07.9	42 30.9	03.6					
10	48 16.0	328 46.0	13.1	19 47.6	28.7	346 46.6	08.0	57 33.3	03.6					
11	63 18.4	343 45.2	+23 13.4	34 48.3	+10 29.4	1 48.5	+20 08.1	72 35.7	-6 03.6					
12	78 20.9	358 44.3	+23 13.7	49 49.0	+10 30.0	16 50.3	+20 08.2	87 38.1	-6 03.5					
13	93 23.4	13 43.4	14.0	64 49.7	30.7	31 52.2	08.3	102 40.4	03.5					
14	108 25.8	28 42.6	14.3	79 50.4	31.4	46 54.1	08.4	117 42.8	03.5					
15	123 28.3	43 41.7	14.7	94 51.1	32.0	61 55.9	08.5	132 45.2	03.5					
16	138 30.7	58 40.9	15.0	109 51.8	32.7	76 57.8	08.6	147 47.6	03.5					
17	153 33.2	73 40.0	+23 15.3	124 52.5	+10 33.3	91 59.7	+20 08.7	162 50.0	-6 03.4					
18	168 35.7	88 39.1	+23 15.6	139 53.2	+10 34.0	107 01.5	+20 08.9	177 52.4	-6 03.4					
19	183 38.1	103 38.3	15.9	154 53.9	34.7	122 03.4	09.0	192 54.7	03.4					
20	198 40.6	118 37.4	16.2	169 54.6	35.3	137 05.2	09.1	207 57.1	03.4					
21	213 43.1	133 36.5	16.5	184 55.3	36.0	152 07.1	09.2	222 59.5	03.3					
22	228 45.5	148 35.7	16.8	199 56.0	36.7	167 09.0	09.3	238 01.9	03.3					
23	243 48.0	163 34.8	17.1	214 56.7	37.3	182 10.8	09.4	253 04.3	03.3					
24	258 50.5	178 33.9	+23 17.5	229 57.4	+10 38.0	197 12.7	+20 09.5	268 06.7	-6 03.3					
Dif	—	-9	+3	+7	+7	+19	+1	+24	0					

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 59.6 <sup>m</sup>		SD: 15.2' Edad: 3.5 <sup>d</sup> PMG: 15 <sup>h</sup> 40 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.8' 12 <sup>h</sup> : 55.6' 20 <sup>h</sup> : 55.4'				R°: 46 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 07.9	+23 02.0	132 59.5	+24 16.4	83	60 N	21 21	23 00	** **	6 08 96	0 32 4					
1	195 07.8	02.1	147 28.5 <sup>100</sup>	+24 08.1	85	58	21 01	22 15	** **	28 90	0 12 9					
2	210 07.7	02.3	161 57.7 <sup>102</sup>	+23 59.6	85	56	20 45	21 46	** **	44 85	** **	** **				
3	225 07.5	02.5	176 26.9 <sup>102</sup>	51.1	87	54	31	25	23 05	6 58 81	23 58 13					
4	240 07.4	02.7	190 56.3 <sup>104</sup>	42.4	88	52	19	21 07	22 23	7 10 78	49 15					
5	255 07.3	+23 02.9	205 25.8 <sup>105</sup>	+23 33.6	89	50	20 08	20 53	21 57	7 21 75	23 40 18					
6	270 07.2	+23 03.1	219 55.4 <sup>106</sup>	+23 24.7	89	45	19 46	20 23	21 13	7 43 70	23 22 23					
7	285 07.0	03.2	234 25.1 <sup>107</sup>	15.8	91	40	29	20 01	20 43	8 01 66	23 07 27					
8	300 06.9	03.4	248 54.9 <sup>108</sup>	+23 06.7	92	35	14	19 43	20	16 62	22 54 30					
9	315 06.8	03.6	263 24.8 <sup>109</sup>	+22 57.5	93	30	19 01	28	20 02	29 60	43 33					
10	330 06.7	03.8	277 54.8 <sup>110</sup>	48.2	94	20	18 39	19 04	19 33	8 51 55	24 37					
11	345 06.5	+23 04.0	292 24.9 <sup>111</sup>	+22 38.8	95	10 N	18 21	18 44	19 11	9 10 51	22 07 42					
12	0 06.4	+23 04.1	306 55.1 <sup>112</sup>	+22 29.3	96	0	18 03	18 26	18 52	9 28 47	21 51 45					
13	15 06.3	04.3	321 25.5 <sup>114</sup>	19.7	97	10 S	17 46	18 09	35	9 45 44	35 49					
14	30 06.1	04.5	335 55.9 <sup>114</sup>	10.0	98	20	28	17 52	19	10 04 40	21 18 53					
15	45 06.0	04.7	350 26.5 <sup>116</sup>	+22 00.2	99	30	17 07	33	18 03	26 35	20 58 58					
16	60 05.9	04.8	4 57.1 <sup>116</sup>	+21 50.3	100	35	16 55	23	17 54	38 33	46 62					
17	75 05.8	+23 05.0	19 27.9 <sup>118</sup>	+21 40.3	100	40	16 41	17 11	17 45	10 53 29	20 33 65					
18	90 05.6	+23 05.2	33 58.7 <sup>118</sup>	+21 30.3	102	45	16 24	16 58	17 35	11 10 25	20 17 69					
19	105 05.5	05.4	48 29.7 <sup>120</sup>	20.1	102	50	16 04	42	24	31 20	19 57 74					
20	120 05.4	05.5	63 00.7 <sup>120</sup>	+21 09.9	103	52	15 54	35	19	41 18	48 77					
21	135 05.3	05.7	77 31.9 <sup>122</sup>	+20 59.6	105	54	43	27	13	11 52 15	37 80					
22	150 05.1	05.9	92 03.2 <sup>123</sup>	49.1	105	56	31	18	07	12 05 11	25 84					
23	165 05.0	06.1	106 34.5 <sup>123</sup>	38.6	105	58	17	16 08	17 00	20 6	19 11 88					
24	180 04.9	+23 06.2	121 06.0 <sup>125</sup>	+20 28.1	105	60 S	15 00	15 57	16 53	12 37 1	18 54 94					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 43.5 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 06 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 40 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 50 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 07 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	258 50.5	+23 17.5	178 33.9	+23 17.5	229 57.4	+10 38.0	197 12.7	+20 09.5	268 06.7	-6 03.3
1	273 52.9	17.8	193 33.1	17.8	244 58.1	38.6	212 14.5	09.6	283 09.1	03.3
2	288 55.4	18.1	208 32.2	18.1	259 58.8	39.3	227 16.4	09.7	298 11.4	03.2
3	303 57.9	18.4	223 31.3	18.4	274 59.5	40.0	242 18.3	09.9	313 13.8	03.2
4	319 00.3	18.7	238 30.5	18.7	290 00.2	40.6	257 20.1	10.0	328 16.2	03.2
5	334 02.8	+23 19.0	253 29.6	+23 19.0	305 00.9	+10 41.3	272 22.0	+20 10.1	343 18.6	-6 03.2
6	349 05.2	+23 19.3	268 28.7	+23 19.3	320 01.6	+10 41.9	287 23.9	+20 10.2	358 21.0	-6 03.1
7	4 07.7	19.6	283 27.9	19.6	335 02.3	42.6	302 25.7	10.3	13 23.4	03.1
8	19 10.2	19.9	298 27.0	19.9	350 03.0	43.3	317 27.6	10.4	28 25.8	03.1
9	34 12.6	20.2	313 26.1	20.2	5 03.7	43.9	332 29.4	10.5	43 28.1	03.1
10	49 15.1	20.4	328 25.3	20.4	20 04.4	44.6	347 31.3	10.6	58 30.5	03.1
11	64 17.6	+23 20.7	343 24.4	+23 20.7	35 05.1	+10 45.3	2 33.2	+20 10.7	73 32.9	-6 03.0
12	79 20.0	+23 21.0	358 23.5	+23 21.0	50 05.8	+10 45.9	17 35.0	+20 10.9	88 35.3	-6 03.0
13	94 22.5	21.3	13 22.7	21.3	65 06.5	46.6	32 36.9	11.0	103 37.7	03.0
14	109 25.0	21.6	28 21.8	21.6	80 07.2	47.2	47 38.7	11.1	118 40.1	03.0
15	124 27.4	21.9	43 20.9	21.9	95 07.9	47.9	62 40.6	11.2	133 42.5	02.9
16	139 29.9	22.2	58 20.1	22.2	110 08.6	48.5	77 42.5	11.3	148 44.8	02.9
17	154 32.4	+23 22.5	73 19.2	+23 22.5	125 09.3	+10 49.2	92 44.3	+20 11.4	163 47.2	-6 02.9
18	169 34.8	+23 22.8	88 18.3	+23 22.8	140 10.0	+10 49.9	107 46.2	+20 11.5	178 49.6	-6 02.9
19	184 37.3	23.0	103 17.4	23.0	155 10.7	50.5	122 48.1	11.6	193 52.0	02.9
20	199 39.7	23.3	118 16.6	23.3	170 11.4	51.2	137 49.9	11.7	208 54.4	02.8
21	214 42.2	23.6	133 15.7	23.6	185 12.1	51.8	152 51.8	11.8	223 56.8	02.8
22	229 44.7	23.9	148 14.8	23.9	200 12.8	52.5	167 53.6	12.0	238 59.2	02.8
23	244 47.1	24.2	163 14.0	24.2	215 13.5	53.2	182 55.5	12.1	254 01.6	02.8
24	259 49.6	+23 24.4	178 13.1	+23 24.4	230 14.2	+10 53.8	197 57.4	+20 12.2	269 04.0	-6 02.8
Dif	—	-9	+3	+7	+7	+19	+1	+24	0	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 11 <sup>h</sup> 59.8 <sup>m</sup>			SD: 15.1' Edad: 4.5 <sup>d</sup> PMG: 16 <sup>h</sup> 26 <sup>m</sup> R°: 43 <sup>m</sup>					PHE { 4 <sup>h</sup> : 55.2' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 54.9'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	180 04.9	+23 06.2		121 06.0	+20 28.1		60 N	** **	0 59	2 38	7 44 90	0 36 0	0 36 0			
1	195 04.7	06.4		135 37.6 <sup>126</sup>	17.4 <sup>107</sup>		58	** **	1 44	2 58	7 58 85	21 6	21 6			
2	210 04.6	06.6		150 09.2 <sup>126</sup>	+20 06.7 <sup>107</sup>		56	** **	2 13	3 14	8 09 81	0 09 9	0 09 9			
3	225 04.5	06.7		164 41.0 <sup>128</sup>	+19 55.8 <sup>109</sup>		54	0 54	34	28	19 78	** **	** **			
4	240 04.4	06.9		179 12.9 <sup>129</sup>	44.9 <sup>109</sup>		52	1 36	2 52	40	28 75	** **	** **			
5	255 04.2	+23 07.1		193 44.8 <sup>129</sup>	+19 34.0 <sup>109</sup>		50	2 02	3 07	3 51	8 36 73	23 58 14	23 58 14			
6	270 04.1	+23 07.2		208 16.9 <sup>131</sup>	+19 22.9 <sup>111</sup>		45	2 47	3 36	4 13	8 53 67	23 45 18	23 45 18			
7	285 04.0	07.4		222 49.0 <sup>131</sup>	11.8 <sup>111</sup>		40	3 17	3 58	31	9 07 63	34 22	34 22			
8	300 03.8	07.6		237 21.3 <sup>133</sup>	+19 00.6 <sup>112</sup>		35	3 39	4 16	45	18 60	24 26	24 26			
9	315 03.7	07.7		251 53.6 <sup>133</sup>	+18 49.3 <sup>113</sup>		30	3 58	31	4 58	29 56	16 29	16 29			
10	330 03.6	07.9		266 26.1 <sup>135</sup>	38.0 <sup>113</sup>		20	4 26	4 56	5 20	9 46 52	23 01 34	23 01 34			
11	345 03.5	+23 08.0		280 58.6 <sup>135</sup>	+18 26.5 <sup>115</sup>		10 N	4 49	5 16	5 39	10 01 48	22 49 38	22 49 38			
12	0 03.3	+23 08.2		295 31.2 <sup>136</sup>	+18 15.1 <sup>114</sup>		0	5 07	5 34	5 56	10 15 44	22 36 43	22 36 43			
13	15 03.2	08.4		310 03.9 <sup>137</sup>	+18 03.5 <sup>116</sup>		10 S	24	5 51	6 13	29 40	24 47	24 47			
14	30 03.1	08.5		324 36.7 <sup>138</sup>	+17 51.9 <sup>116</sup>		20	40	6 08	32	10 44 35	22 11 51	22 11 51			
15	45 02.9	08.7		339 09.6 <sup>139</sup>	40.2 <sup>117</sup>		30	5 56	26	6 53	11 01 30	21 56 56	21 56 56			
16	60 02.8	08.8		353 42.5 <sup>139</sup>	28.5 <sup>117</sup>		35	6 05	37	7 05	11 27	48 58	48 58			
17	75 02.7	+23 09.0		8 15.6 <sup>141</sup>	+17 16.7 <sup>118</sup>		40	6 14	6 48	7 19	11 22 24	21 38 62	21 38 62			
18	90 02.5	+23 09.2		22 48.7 <sup>141</sup>	+17 04.8 <sup>119</sup>		45	6 24	7 02	7 35	11 35 21	21 26 66	21 26 66			
19	105 02.4	09.3		37 22.0 <sup>143</sup>	+16 52.9 <sup>119</sup>		50	36	17	7 56	51 16	11 72	11 72			
20	120 02.3	09.5		51 55.3 <sup>143</sup>	40.9 <sup>120</sup>		52	41	25	8 05	11 59 13	21 05 73	21 05 73			
21	135 02.2	09.6		66 28.7 <sup>144</sup>	28.8 <sup>121</sup>		54	47	33	16	12 07 10	20 57 77	20 57 77			
22	150 02.0	09.8		81 02.1 <sup>144</sup>	16.7 <sup>121</sup>		56	53	42	29	16 7	49 79	49 79			
23	165 01.9	09.9		95 35.7 <sup>146</sup>	+16 04.5 <sup>122</sup>		58	6 59	7 52	8 43	26 4	39 83	39 83			
24	180 01.8	+23 10.1		110 09.3 <sup>146</sup>	+15 52.3 <sup>122</sup>		60 S	7 07	8 03	9 00	12 38 0	20 28 88	20 28 88			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 6 <sup>h</sup> 39.6 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 08 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.1 PMG: 6 <sup>h</sup> 03 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	259 49.6		178 13.1	+23 24.4	230 14.2	+10 53.8	197 57.4	+20 12.2	269 04.0	-6 02.8
1	274 52.1		193 12.2	24.7	245 14.9	54.5	212 59.2	12.3	284 06.3	02.7
2	289 54.5		208 11.3	25.0	260 15.6	55.1	228 01.1	12.4	299 08.7	02.7
3	304 57.0		223 10.5	25.3	275 16.3	55.8	243 03.0	12.5	314 11.1	02.7
4	319 59.5		238 09.6	25.5	290 17.0	56.4	258 04.8	12.6	329 13.5	02.7
5	335 01.9		253 08.7	+23 25.8	305 17.7	+10 57.1	273 06.7	+20 12.7	344 15.9	-6 02.7
6	350 04.4		268 07.9	+23 26.1	320 18.4	+10 57.7	288 08.5	+20 12.8	359 18.3	-6 02.6
7	5 06.9		283 07.0	26.3	335 19.1	58.4	303 10.4	12.9	14 20.7	02.6
8	20 09.3		298 06.1	26.6	350 19.8	59.1	318 12.3	13.0	29 23.1	02.6
9	35 11.8		313 05.2	26.9	5 20.5	+10 59.7	333 14.1	13.2	44 25.5	02.6
10	50 14.2		328 04.4	27.1	20 21.2	+11 00.4	348 16.0	13.3	59 27.8	02.6
11	65 16.7		343 03.5	+23 27.4	35 21.9	+11 01.0	3 17.9	+20 13.4	74 30.2	-6 02.5
12	80 19.2		358 02.6	+23 27.7	50 22.6	+11 01.7	18 19.7	+20 13.5	89 32.6	-6 02.5
13	95 21.6		13 01.7	27.9	65 23.3	02.3	33 21.6	13.6	104 35.0	02.5
14	110 24.1		28 00.9	28.2	80 24.0	03.0	48 23.5	13.7	119 37.4	02.5
15	125 26.6		43 00.0	28.4	95 24.7	03.6	63 25.3	13.8	134 39.8	02.5
16	140 29.0		57 59.1	28.7	110 25.4	04.3	78 27.2	13.9	149 42.2	02.4
17	155 31.5		72 58.2	+23 29.0	125 26.1	+11 04.9	93 29.0	+20 14.0	164 44.6	-6 02.4
18	170 34.0		87 57.4	+23 29.2	140 26.8	+11 05.6	108 30.9	+20 14.1	179 47.0	-6 02.4
19	185 36.4		102 56.5	29.5	155 27.5	06.3	123 32.8	14.3	194 49.4	02.4
20	200 38.9		117 55.6	29.7	170 28.2	06.9	138 34.6	14.4	209 51.8	02.4
21	215 41.3		132 54.7	30.0	185 28.9	07.6	153 36.5	14.5	224 54.1	02.3
22	230 43.8		147 53.9	30.2	200 29.6	08.2	168 38.4	14.6	239 56.5	02.3
23	245 46.3		162 53.0	30.5	215 30.3	08.9	183 40.2	14.7	254 58.9	02.3
24	260 48.7		177 52.1	+23 30.7	230 31.0	+11 09.5	198 42.1	+20 14.8	270 01.3	-6 02.3

Dif	—	-9	+3	+7	+7	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 14.9'		Edad: 5.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.5'		R <sup>o</sup> : 40 <sup>m</sup>					
	PMG: 12 <sup>h</sup> 00.0 <sup>m</sup>		PMG: 17 <sup>h</sup> 09 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	180 01.8	+23 10.1	110 09.3	+15 52.3	123	60 N	21 23	23 04	** **	9 14 85	0 36 0					
1	195 01.6	10.2	124 43.0	40.0	123	58	21 03	22 17	** **	23 81	27 3					
2	210 01.5	10.4	139 16.8	27.7	123	56	20 47	21 48	** **	30 78	18 7					
3	225 01.4	10.5	153 50.7	15.3	124	54	33	27	23 09	37 75	11 9					
4	240 01.2	10.7	168 24.6	+15 02.9	124	52	20	21 09	22 26	43 73	0 04 12					
5	255 01.1	+23 10.8	182 58.7	+14 50.4	125	50	20 10	20 54	21 59	9 49 70	** ** ***					
6	270 01.0	+23 11.0	197 32.8	+14 37.8	126	45	19 47	20 25	21 14	10 00 65	** ** ***					
7	285 00.9	11.1	212 06.9	25.3	125	40	30	20 02	20 44	10 61	23 56 20					
8	300 00.7	11.3	226 41.2	+14 12.6	127	35	15	19 44	21	18 58	50 24					
9	315 00.6	11.4	241 15.5	+13 59.9	127	30	19 02	29	20 02	25 55	45 26					
10	330 00.5	11.6	255 49.8	47.2	127	20	18 40	19 04	19 34	38 49	35 31					
11	345 00.3	+23 11.7	270 24.3	+13 34.4	128	10 N	18 21	18 44	19 11	10 49 45	23 27 35					
12	0 00.2	+23 11.9	284 58.8	+13 21.6	128	0	18 04	18 26	18 52	10 59 41	23 19 39					
13	15 00.1	12.0	299 33.4	+13 08.8	128	10 S	17 46	18 09	35	11 09 36	11 44					
14	29 59.9	12.1	314 08.0	+12 55.8	130	20	28	17 52	19	19 33	23 02 48					
15	44 59.8	12.3	328 42.7	42.9	129	30	17 07	33	18 03	31 28	22 52 54					
16	59 59.7	12.4	343 17.5	29.9	130	35	16 55	23	17 55	38 25	46 57					
17	74 59.5	+23 12.6	357 52.3	+12 16.9	130	40	16 41	17 11	17 45	11 46 22	22 40 60					
18	89 59.4	+23 12.7	12 27.2	+12 03.8	131	45	16 24	16 58	17 35	11 56 17	22 32 64					
19	104 59.3	12.8	27 02.1	+11 50.7	131	50	16 04	42	23	12 07 12	23 69					
20	119 59.2	13.0	41 37.1	37.6	131	52	15 54	35	18	12 10	18 72					
21	134 59.0	13.1	56 12.2	24.4	132	54	43	27	13	17 8	14 73					
22	149 58.9	13.3	70 47.3	+11 11.2	132	56	30	18	07	23 6	08 77					
23	164 58.8	13.4	85 22.5	+10 57.9	133	58	15 16	16 07	17 00	30 3	22 02 80					
24	179 58.6	+23 13.5	99 57.7	+10 44.6	133	60 S	14 59	15 56	16 53	12 38 -1	21 56 83					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 6 <sup>h</sup> 35.7 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 09 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 38 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 59 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	260 48.7	177 52.1	+23 30.7	230 31.0	+11 09.5	198 42.1	+20 14.8	270 01.3	-6 02.3							
1	275 51.2	192 51.2	31.0	245 31.7	10.2	213 43.9	14.9	285 03.7	02.3							
2	290 53.7	207 50.4	31.2	260 32.4	10.8	228 45.8	15.0	300 06.1	02.2							
3	305 56.1	222 49.5	31.5	275 33.1	11.5	243 47.7	15.1	315 08.5	02.2							
4	320 58.6	237 48.6	31.7	290 33.8	12.1	258 49.5	15.2	330 10.9	02.2							
5	336 01.1	252 47.7	+23 32.0	305 34.5	+11 12.8	273 51.4	+20 15.3	345 13.3	-6 02.2							
6	351 03.5	267 46.8	+23 32.2	320 35.2	+11 13.4	288 53.3	+20 15.4	0 15.7	-6 02.2							
7	6 06.0	282 46.0	32.4	335 35.9	14.1	303 55.1	15.6	15 18.1	02.1							
8	21 08.5	297 45.1	32.7	350 36.6	14.7	318 57.0	15.7	30 20.5	02.1							
9	36 10.9	312 44.2	32.9	5 37.3	15.4	333 58.9	15.8	45 22.9	02.1							
10	51 13.4	327 43.3	33.2	20 38.0	16.0	349 00.7	15.9	60 25.3	02.1							
11	66 15.8	342 42.4	+23 33.4	35 38.7	+11 16.7	4 02.6	+20 16.0	75 27.6	-6 02.1							
12	81 18.3	357 41.6	+23 33.6	50 39.4	+11 17.3	19 04.4	+20 16.1	90 30.0	-6 02.1							
13	96 20.8	12 40.7	33.9	65 40.1	18.0	34 06.3	16.2	105 32.4	02.0							
14	111 23.2	27 39.8	34.1	80 40.8	18.6	49 08.2	16.3	120 34.8	02.0							
15	126 25.7	42 38.9	34.3	95 41.5	19.3	64 10.0	16.4	135 37.2	02.0							
16	141 28.2	57 38.1	34.5	110 42.2	19.9	79 11.9	16.5	150 39.6	02.0							
17	156 30.6	72 37.2	+23 34.8	125 42.9	+11 20.6	94 13.8	+20 16.6	165 42.0	-6 02.0							
18	171 33.1	87 36.3	+23 35.0	140 43.6	+11 21.2	109 15.6	+20 16.7	180 44.4	-6 01.9							
19	186 35.6	102 35.4	35.2	155 44.3	21.9	124 17.5	16.9	195 46.8	01.9							
20	201 38.0	117 34.5	35.5	170 45.0	22.5	139 19.4	17.0	210 49.2	01.9							
21	216 40.5	132 33.6	35.7	185 45.7	23.2	154 21.2	17.1	225 51.6	01.9							
22	231 43.0	147 32.8	35.9	200 46.4	23.8	169 23.1	17.2	240 54.0	01.9							
23	246 45.4	162 31.9	36.1	215 47.1	24.4	184 25.0	17.3	255 56.4	01.9							
24	261 47.9	177 31.0	+23 36.3	230 47.8	+11 25.1	199 26.8	+20 17.4	270 58.8	-6 01.8							
Dif	—		-9	+2	+7	+6	+19	+1	+24	0						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 00.2 <sup>m</sup>		SD: 14.8' Edad: 6.5 <sup>d</sup> PMG: 17 <sup>h</sup> 49 <sup>m</sup> R°: 39 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.4' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.3'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
0	179 58.6	+23 13.5	99 57.7		+10 44.6	133	60 N	** **	0 56	2 37	10 39	82	0 36	-1	
1	194 58.5		114 33.0	163	31.3	133	58	** **	1 43	2 57	44 79		30	2	
2	209 58.4	13.8	129 08.3	163	17.9	134	56	** **	2 12	3 13	48 76		25	5	
3	224 58.2	13.9	143 43.7	164	+10 04.6	135	54	0 51	33	27	52 73		20	8	
4	239 58.1	14.1	158 19.1	164	+9 51.1	135	52	1 34	2 51	40	56 70		16	10	
5	254 58.0	+23 14.2	172 54.6	165	+9 37.7	134	50	2 01	3 06	3 50	10 59	68	0 12	12	
6	269 57.8	+23 14.3	187 30.1	165	+9 24.2	135	45	2 46	3 35	4 13	11 05	64	0 03	17	
7	284 57.7	14.5	202 05.7	166	+9 10.7	135	40	3 16	3 58	31	11 59		** **	** **	
8	299 57.6	14.6	216 41.3	166	+8 57.2	135	35	3 39	4 16	45	16 56		** **	** **	
9	314 57.4	14.7	231 16.9	166	43.6	136	30	3 58	31	4 58	20 53		** **	** **	
10	329 57.3	14.8	245 52.6	167	30.0	136	20	4 27	4 56	5 20	27 48		** **	** **	
11	344 57.2	+23 15.0	260 28.3	167	+8 16.4	136	10 N	4 49	5 16	5 39	11 34	43	** **	** **	
12	359 57.0	+23 15.1	275 04.1	168	+8 02.8	136	0	5 08	5 34	5 57	11 40	39	23 58	39	
13	14 56.9	15.2	289 39.9	168	+7 49.1	137	10 S	25	5 51	6 14	45 35		55	43	
14	29 56.8	15.4	304 15.8	169	35.4	137	20	41	6 08	32	52 30		50	48	
15	44 56.6	15.5	318 51.7	169	21.7	137	30	5 57	27	6 53	11 59	25	46	52	
16	59 56.5	15.6	333 27.6	169	+7 08.0	137	35	6 06	37	7 06	12 03	23	43	56	
17	74 56.4	+23 15.7	348 03.5	169	+6 54.2	138	40	6 15	6 49	7 20	12 08	19	23 40	59	
18	89 56.3	+23 15.8	2 39.5	170	+6 40.4	138	45	6 25	7 02	7 36	12 13	16	23 36	63	
19	104 56.1	16.0	17 15.5	170	26.6	138	50	37	18	7 57	19 12		32	67	
20	119 56.0	16.1	31 51.6	171	+6 12.8	138	52	42	26	8 07	22 9		30	70	
21	134 55.9	16.2	46 27.6	170	+5 59.0	138	54	48	34	18	25 7		27	73	
22	149 55.7	16.3	61 03.7	171	45.1	139	56	6 54	43	30	29 4		25	75	
23	164 55.6	16.4	75 39.9	172	31.3	138	58	7 00	7 53	8 45	33 2		22	78	
24	179 55.5	+23 16.6	90 16.0	171	+5 17.4	139	60 S	7 08	8 05	9 02	12 37	-1	23 19	81	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 31.7 <sup>m</sup>		Mag.: -4.0 PMG: 12 <sup>h</sup> 11 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 36 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 41 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	261 47.9		177 31.0	+23 36.3	230 47.8	+11 25.1	199 26.8	+20 17.4	270 58.8	-6 01.8
1	276 50.3		192 30.1	36.6	245 48.5	25.7	214 28.7	17.5	286 01.2	01.8
2	291 52.8		207 29.2	36.8	260 49.2	26.4	229 30.5	17.6	301 03.6	01.8
3	306 55.3		222 28.4	37.0	275 49.9	27.0	244 32.4	17.7	316 06.0	01.8
4	321 57.7		237 27.5	37.2	290 50.6	27.7	259 34.3	17.8	331 08.4	01.8
5	337 00.2		252 26.6	+23 37.4	305 51.3	+11 28.3	274 36.1	+20 17.9	346 10.8	-6 01.7
6	352 02.7		267 25.7	+23 37.6	320 52.0	+11 29.0	289 38.0	+20 18.0	1 13.2	-6 01.7
7	7 05.1		282 24.8	37.8	335 52.7	29.6	304 39.9	18.1	16 15.6	01.7
8	22 07.6		297 23.9	38.1	350 53.3	30.3	319 41.7	18.2	31 18.0	01.7
9	37 10.1		312 23.1	38.3	5 54.0	30.9	334 43.6	18.4	46 20.4	01.7
10	52 12.5		327 22.2	38.5	20 54.7	31.6	349 45.5	18.5	61 22.7	01.7
11	67 15.0		342 21.3	+23 38.7	35 55.4	+11 32.2	4 47.3	+20 18.6	76 25.1	-6 01.6
12	82 17.4		357 20.4	+23 38.9	50 56.1	+11 32.8	19 49.2	+20 18.7	91 27.5	-6 01.6
13	97 19.9		12 19.5	39.1	65 56.8	33.5	34 51.1	18.8	106 29.9	01.6
14	112 22.4		27 18.6	39.3	80 57.5	34.1	49 52.9	18.9	121 32.3	01.6
15	127 24.8		42 17.8	39.5	95 58.2	34.8	64 54.8	19.0	136 34.7	01.6
16	142 27.3		57 16.9	39.7	110 58.9	35.4	79 56.7	19.1	151 37.1	01.6
17	157 29.8		72 16.0	+23 39.9	125 59.6	+11 36.1	94 58.5	+20 19.2	166 39.5	-6 01.5
18	172 32.2		87 15.1	+23 40.1	141 00.3	+11 36.7	110 00.4	+20 19.3	181 41.9	-6 01.5
19	187 34.7		102 14.2	40.3	156 01.0	37.3	125 02.2	19.4	196 44.3	01.5
20	202 37.2		117 13.3	40.5	171 01.7	38.0	140 04.1	19.5	211 46.7	01.5
21	217 39.6		132 12.5	40.7	186 02.4	38.6	155 06.0	19.6	226 49.1	01.5
22	232 42.1		147 11.6	40.9	201 03.1	39.3	170 07.8	19.7	241 51.5	01.5
23	247 44.6		162 10.7	41.1	216 03.8	39.9	185 09.7	19.8	256 53.9	01.5
24	262 47.0		177 09.8	+23 41.3	231 04.5	+11 40.6	200 11.6	+20 20.0	271 56.3	-6 01.4

Dif	—	-9	+2	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 00.4 <sup>m</sup>		SD: 14.8' Edad: 7.5 <sup>d</sup> PMG: 18 <sup>h</sup> 28 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.3'				R°: 39 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	179 55.5	+23 16.6	90 16.0	+5 17.4	139	60 N	21 25	23 08	** **	12 01 82	0 35 -1					
1	194 55.3	16.7	104 52.2	+5 03.5	139	58	21 05	22 20	** **	03 78	32 2					
2	209 55.2	16.8	119 28.4	+4 49.5	140	56	20 48	21 50	** **	04 75	30 4					
3	224 55.1	16.9	134 04.6	35.6	139	54	34	28	23 13	05 72	28 7					
4	239 54.9	17.0	148 40.8	21.7	139	52	22	21 10	22 28	06 70	26 9					
5	254 54.8	+23 17.1	163 17.1	+4 07.7	140	50	20 11	20 55	22 00	12 07 68	0 24 11					
6	269 54.7	+23 17.3	177 53.4	+3 53.7	140	45	19 48	20 26	21 15	12 09 63	0 20 15					
7	284 54.5	17.4	192 29.7	39.7	140	40	30	20 03	20 45	10 59	16 20					
8	299 54.4	17.5	207 06.0	25.7	140	35	15	19 45	22	12 55	14 22					
9	314 54.3	17.6	221 42.3	+3 11.7	140	30	19 02	30	20 03	13 53	11 25					
10	329 54.1	17.7	236 18.6	+2 57.7	140	20	18 40	19 05	19 34	15 48	06 31					
11	344 54.0	+23 17.8	250 55.0	+2 43.7	140	10 N	18 22	18 45	19 12	12 17 43	0 02 35					
12	359 53.9	+23 17.9	265 31.3	+2 29.6	141	0	18 04	18 27	18 53	12 19 39	** ** *					
13	14 53.7	18.0	280 07.7	15.6	140	10 S	17 47	18 10	36	20 35	** ** *					
14	29 53.6	18.1	294 44.1	+2 01.5	141	20	28	17 52	20	22 31	** ** *					
15	44 53.5	18.3	309 20.5	+1 47.5	140	30	17 07	34	18 03	24 26	** ** *					
16	59 53.3	18.4	323 56.9	33.4	141	35	16 55	23	17 55	26 22	** ** *					
17	74 53.2	+23 18.5	338 33.2	+1 19.3	141	40	16 41	17 11	17 45	12 27 19	** ** *					
18	89 53.1	+23 18.6	353 09.6	+1 05.2	141	45	16 24	16 58	17 35	12 29 15	** ** *					
19	104 52.9	18.7	7 46.0	+0 51.1	141	50	16 03	42	23	31 11	** ** *					
20	119 52.8	18.8	22 22.4	37.0	141	52	15 54	34	18	31 9	** ** *					
21	134 52.7	18.9	36 58.8	22.9	141	54	43	26	12	32 7	** ** *					
22	149 52.5	19.0	51 35.2	+0 08.8	141	56	30	17	06	33 5	** ** *					
23	164 52.4	19.1	66 11.6	-0 05.2	140	58	15 15	16 07	17 00	35 1	** ** *					
24	179 52.3	+23 19.2	80 48.0	-0 19.4	142	60 S	14 58	15 56	16 52	12 36 -1	** ** *					

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 27.8 <sup>m</sup>	Mag.: -4.0 PMG: 12 <sup>h</sup> 12 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 51 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	262 47.0	177 09.8	+23 41.3	231 04.5	+11 40.6	200 11.6	+20 20.0	271 56.3	-6 01.4
1	277 49.5	192 08.9	41.4	246 05.2	41.2	215 13.4	20.1	286 58.7	01.4
2	292 51.9	207 08.0	41.6	261 05.9	41.8	230 15.3	20.2	302 01.1	01.4
3	307 54.4	222 07.1	41.8	276 06.6	42.5	245 17.2	20.3	317 03.5	01.4
4	322 56.9	237 06.3	42.0	291 07.3	43.1	260 19.0	20.4	332 05.9	01.4
5	337 59.3	252 05.4	+23 42.2	306 08.0	+11 43.8	275 20.9	+20 20.5	347 08.3	-6 01.4
6	353 01.8	267 04.5	+23 42.4	321 08.7	+11 44.4	290 22.8	+20 20.6	2 10.7	-6 01.3
7	8 04.3	282 03.6	42.6	336 09.4	45.0	305 24.6	20.7	17 13.1	01.3
8	23 06.7	297 02.7	42.7	351 10.1	45.7	320 26.5	20.8	32 15.5	01.3
9	38 09.2	312 01.8	42.9	6 10.8	46.3	335 28.4	20.9	47 17.9	01.3
10	53 11.7	327 00.9	43.1	21 11.5	47.0	350 30.2	21.0	62 20.3	01.3
11	68 14.1	342 00.1	+23 43.3	36 12.2	+11 47.6	5 32.1	+20 21.1	77 22.7	-6 01.3
12	83 16.6	356 59.2	+23 43.5	51 12.9	+11 48.2	20 34.0	+20 21.2	92 25.1	-6 01.2
13	98 19.1	11 58.3	43.6	66 13.6	48.9	35 35.8	21.3	107 27.5	01.2
14	113 21.5	26 57.4	43.8	81 14.3	49.5	50 37.7	21.4	122 29.9	01.2
15	128 24.0	41 56.5	44.0	96 15.0	50.1	65 39.6	21.5	137 32.3	01.2
16	143 26.4	56 55.6	44.2	111 15.7	50.8	80 41.4	21.7	152 34.7	01.2
17	158 28.9	71 54.7	+23 44.3	126 16.3	+11 51.4	95 43.3	+20 21.8	167 37.1	-6 01.2
18	173 31.4	86 53.8	+23 44.5	141 17.0	+11 52.1	110 45.2	+20 21.9	182 39.6	-6 01.2
19	188 33.8	101 53.0	44.7	156 17.7	52.7	125 47.0	22.0	197 42.0	01.1
20	203 36.3	116 52.1	44.8	171 18.4	53.3	140 48.9	22.1	212 44.4	01.1
21	218 38.8	131 51.2	45.0	186 19.1	54.0	155 50.8	22.2	227 46.8	01.1
22	233 41.2	146 50.3	45.2	201 19.8	54.6	170 52.6	22.3	242 49.2	01.1
23	248 43.7	161 49.4	45.3	216 20.5	55.2	185 54.5	22.4	257 51.6	01.1
24	263 46.2	176 48.5	+23 45.5	231 21.2	+11 55.9	200 56.4	+20 22.5	272 54.0	-6 01.1

Dif	—	-9	+2	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 00.6 <sup>m</sup>		SD: 14.8' Edad: 8.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.4' PMG: 19 <sup>h</sup> 07 <sup>m</sup> R°: 40 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	
0	179 52.3	+ 23 19.2	80 48.0	174	- 0 19.4	141	** **	0 53	2 36	13 23 83	0 34 -1			
1	194 52.1	19.3	95 24.4	174	33.5	141	** **	1 41	2 56	21 79	34 2			
2	209 52.0	19.4	110 00.8	174	- 0 47.6	141	** **	2 11	3 13	19 76	34 5			
3	224 51.9	19.5	124 37.2	174	- 1 01.7	141		0 48	33	27	17 74	35 6		
4	239 51.7	19.6	139 13.5	173	15.8	141		1 33	2 51	39	16 71	35 9		
5	254 51.6	+ 23 19.7	153 49.9	174	- 1 29.9	141		2 01	3 06	3 50	13 15 69	0 35 11		
6	269 51.5	+ 23 19.8	168 26.2	173	- 1 43.9	140		2 46	3 35	4 13	13 12 64	0 35 16		
7	284 51.3	19.9	183 02.6	174	- 1 58.0	141		3 16	3 58	31	09 61	36 19		
8	299 51.2	20.0	197 38.9	173	- 2 12.1	141		39	4 16	46	07 57	36 23		
9	314 51.1	20.1	212 15.2	173	26.2	141		3 58	31	4 59	06 53	36 26		
10	329 50.9	20.2	226 51.5	173	40.3	141		4 27	4 56	5 21	03 48	37 30		
11	344 50.8	+ 23 20.3	241 27.8	173	- 2 54.4	141		4 49	5 16	5 39	13 00 44	0 37 35		
12	359 50.7	+ 23 20.4	256 04.0	172	- 3 08.4	140		5 08	5 34	5 57	12 58 39	0 37 39		
13	14 50.5	20.4	270 40.3	173	22.5	141		25	5 51	6 14	55 36	38 43		
14	29 50.4	20.5	285 16.5	172	36.6	141		41	6 09	33	53 31	38 48		
15	44 50.2	20.6	299 52.7	172	- 3 50.6	140		5 58	28	6 54	50 26	38 53		
16	59 50.1	20.7	314 28.8	171	- 4 04.6	140		6 06	38	7 06	48 23	39 56		
17	74 50.0	+ 23 20.8	329 05.0	172	- 4 18.7	141		6 16	6 50	7 20	12 46 20	0 39 59		
18	89 49.8	+ 23 20.9	343 41.1	171	- 4 32.7	140		6 26	7 03	7 37	12 44 16	0 39 64		
19	104 49.7	21.0	358 17.2	171	- 4 46.7	140		38	19	7 58	42 11	39 69		
20	119 49.6	21.1	12 53.3	171	- 5 00.7	140		52	43	27	8 08	40 10	40 70	
21	134 49.4	21.2	27 29.3	170	14.6	139		54	49	35	19	39 8	40 73	
22	149 49.3	21.2	42 05.3	170	28.6	140		6 55	44	31	38 5	40 75		
23	164 49.2	21.3	56 41.3	170	42.6	140		7 02	7 54	8 46	36 2	40 79		
24	179 49.0	+ 23 21.4	71 17.2	169	- 5 56.5	139		7 09	8 06	9 03	12 35 -1	0 40 82		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 23.9 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 13 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 34 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 47 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	263 46.2	+ 23 45.5	176 48.5	45.5	231 21.2	+ 11 55.9	200 56.4	+ 20 22.5	272 54.0	- 6 01.1
1	278 48.6	45.6	191 47.6	45.6	246 21.9	56.5	215 58.2	22.6	287 56.4	01.1
2	293 51.1	45.8	206 46.7	45.8	261 22.6	57.2	231 00.1	22.7	302 58.8	01.0
3	308 53.5	46.0	221 45.8	46.0	276 23.3	57.8	246 02.0	22.8	318 01.2	01.0
4	323 56.0	46.1	236 45.0	46.1	291 24.0	58.4	261 03.8	22.9	333 03.6	01.0
5	338 58.5	+ 23 46.3	251 44.1	46.3	306 24.7	+ 11 59.1	276 05.7	+ 20 23.0	348 06.0	- 6 01.0
6	354 00.9	+ 23 46.4	266 43.2	46.4	321 25.4	+ 11 59.7	291 07.6	+ 20 23.1	3 08.4	- 6 01.0
7	9 03.4	46.6	281 42.3	46.6	336 26.1	+ 12 00.3	306 09.4	23.2	18 10.8	01.0
8	24 05.9	46.7	296 41.4	46.7	351 26.8	01.0	321 11.3	23.3	33 13.2	01.0
9	39 08.3	46.9	311 40.5	46.9	6 27.5	01.6	336 13.2	23.4	48 15.6	00.9
10	54 10.8	47.0	326 39.6	47.0	21 28.2	02.2	351 15.0	23.5	63 18.0	00.9
11	69 13.3	+ 23 47.2	341 38.7	47.2	36 28.9	+ 12 02.9	6 16.9	+ 20 23.6	78 20.4	- 6 00.9
12	84 15.7	+ 23 47.3	356 37.8	47.3	51 29.6	+ 12 03.5	21 18.8	+ 20 23.8	93 22.8	- 6 00.9
13	99 18.2	47.5	11 36.9	47.5	66 30.3	04.1	36 20.6	23.9	108 25.2	00.9
14	114 20.7	47.6	26 36.1	47.6	81 31.0	04.8	51 22.5	24.0	123 27.6	00.9
15	129 23.1	47.8	41 35.2	47.8	96 31.7	05.4	66 24.4	24.1	138 30.0	00.9
16	144 25.6	47.9	56 34.3	47.9	111 32.4	06.0	81 26.2	24.2	153 32.4	00.9
17	159 28.0	+ 23 48.0	71 33.4	48.0	126 33.0	+ 12 06.7	96 28.1	+ 20 24.3	168 34.9	- 6 00.8
18	174 30.5	+ 23 48.2	86 32.5	48.2	141 33.7	+ 12 07.3	111 30.0	+ 20 24.4	183 37.3	- 6 00.8
19	189 33.0	48.3	101 31.6	48.3	156 34.4	07.9	126 31.8	24.5	198 39.7	00.8
20	204 35.4	48.5	116 30.7	48.5	171 35.1	08.6	141 33.7	24.6	213 42.1	00.8
21	219 37.9	48.6	131 29.8	48.6	186 35.8	09.2	156 35.6	24.7	228 44.5	00.8
22	234 40.4	48.7	146 28.9	48.7	201 36.5	09.8	171 37.4	24.8	243 46.9	00.8
23	249 42.8	48.9	161 28.0	48.9	216 37.2	10.5	186 39.3	24.9	258 49.3	00.8
24	264 45.3	+ 23 49.0	176 27.1	49.0	231 37.9	+ 12 11.1	201 41.2	+ 20 25.0	273 51.7	- 6 00.7
Dif	—		-9	+1	+7	+6	+19	+1	+24	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 15.7' PMG: 12 <sup>h</sup> 00.8 <sup>m</sup>		SD: 14.8' Edad: 9.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.7' PMG: 19 <sup>h</sup> 47 <sup>m</sup> R°: 43 <sup>m</sup>						hG ☉	Dec	Civil	Náutico	Hora R°	R°	Hora R°	R°					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif															
0	179	49.0	+23	21.4	71	17.2	170	-5	56.5	21	26	23	11	**	**	14	46	87	0	33	-2
1	194	48.9		21.5	85	53.2	170	-6	10.4	21	06	22	21	**	**	40	83		36	2	
2	209	48.8		21.6	100	29.0	168		24.3	20	49	21	51	**	**	35	80		39	5	
3	224	48.6		21.7	115	04.9	169		38.2	35	29	23	16	**	**	31	77		41	8	
4	239	48.5		21.7	129	40.7	168	-6	52.1	22	22	21	11	22	29	27	74		44	10	
5	254	48.4	+23	21.8	144	16.4	167	-7	05.9	20	12	20	56	22	02	14	24	71	0	46	12
6	269	48.2	+23	21.9	158	52.2	168	-7	19.8	19	49	20	27	21	16	14	16	66	0	51	17
7	284	48.1		22.0	173	27.9	167		33.6	31	20	04	20	46		10	62		55	21	
8	299	48.0		22.1	188	03.5	166	-7	47.4	30	16	19	46	23		14	04	59	0	59	24
9	314	47.8		22.1	202	39.1	166	-8	01.2	19	03	31	20	04		13	59	56	1	02	27
10	329	47.7		22.2	217	14.7	166		14.9	18	41	19	06	19	35	51	51		07	32	
11	344	47.6	+23	22.3	231	50.2	165	-8	28.6	18	22	18	45	19	12	13	44	46	1	12	36
12	359	47.4	+23	22.4	246	25.6	164	-8	42.3	18	05	18	27	18	53	13	37	42	1	16	41
13	14	47.3		22.4	261	01.1	165	-8	56.0	17	47	18	10	36		31	37		21	45	
14	29	47.2		22.5	275	36.4	163	-9	09.7	20	29	17	53	20		24	33		26	49	
15	44	47.0		22.6	290	11.7	163		23.3	17	07	34	18	04		16	28		31	55	
16	59	46.9		22.7	304	47.0	163		36.9	16	55	23	17	55		11	26		35	57	
17	74	46.7	+23	22.7	319	22.2	162	-9	50.5	16	41	17	11	17	46	13	06	22	1	38	61
18	89	46.6	+23	22.8	333	57.4	162	-10	04.0	16	24	16	58	17	35	13	00	18	1	43	64
19	104	46.5		22.9	348	32.5	161		17.5	16	03	42	23		12	53	14		48	70	
20	119	46.3		22.9	3	07.5	160		31.0	15	54	34	18		50	11		50	72		
21	134	46.2		23.0	17	42.5	160		44.5	42	26	26	12		47	8		53	74		
22	149	46.1		23.1	32	17.5	160	-10	57.9	30	17	17	06		43	6		55	78		
23	164	45.9		23.1	46	52.3	158	-11	11.3	15	15	16	07	17	00	38	3		1	59	81
24	179	45.8	+23	23.2	61	27.1	158	-11	24.7	14	58	15	55	16	52	12	34	-1	2	02	85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 6 <sup>h</sup> 19.9 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 15 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 33 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 44 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	264	45.3	176	27.1	+23	49.0	231	37.9	+12	11.1	201	41.2	+20	25.0	273	51.7	-6	00.7
1	279	47.8	191	26.3		49.1	246	38.6		11.7	216	43.0		25.1	288	54.1		00.7
2	294	50.2	206	25.4		49.3	261	39.3		12.3	231	44.9		25.2	303	56.5		00.7
3	309	52.7	221	24.5		49.4	276	40.0		13.0	246	46.8		25.3	318	58.9		00.7
4	324	55.2	236	23.6		49.5	291	40.7		13.6	261	48.6		25.4	334	01.3		00.7
5	339	57.6	251	22.7	+23	49.6	306	41.4	+12	14.2	276	50.5	+20	25.5	349	03.7	-6	00.7
6	355	00.1	266	21.8	+23	49.8	321	42.1	+12	14.9	291	52.4	+20	25.6	4	06.1	-6	00.7
7	10	02.5	281	20.9		49.9	336	42.8		15.5	306	54.3		25.7	19	08.6		00.7
8	25	05.0	296	20.0		50.0	351	43.5		16.1	321	56.1		25.8	34	11.0		00.6
9	40	07.5	311	19.1		50.1	6	44.2		16.8	336	58.0		25.9	49	13.4		00.6
10	55	09.9	326	18.2		50.3	21	44.9		17.4	351	59.9		26.0	64	15.8		00.6
11	70	12.4	341	17.3	+23	50.4	36	45.6	+12	18.0	7	01.7	+20	26.1	79	18.2	-6	00.6
12	85	14.9	356	16.4	+23	50.5	51	46.3	+12	18.6	22	03.6	+20	26.3	94	20.6	-6	00.6
13	100	17.3	11	15.5		50.6	66	47.0		19.3	37	05.5		26.4	109	23.0		00.6
14	115	19.8	26	14.6		50.7	81	47.6		19.9	52	07.3		26.5	124	25.4		00.6
15	130	22.3	41	13.8		50.8	96	48.3		20.5	67	09.2		26.6	139	27.8		00.6
16	145	24.7	56	12.9		51.0	111	49.0		21.1	82	11.1		26.7	154	30.2		00.6
17	160	27.2	71	12.0	+23	51.1	126	49.7	+12	21.8	97	12.9	+20	26.8	169	32.6	-6	00.5
18	175	29.6	86	11.1	+23	51.2	141	50.4	+12	22.4	112	14.8	+20	26.9	184	35.1	-6	00.5
19	190	32.1	101	10.2		51.3	156	51.1		23.0	127	16.7		27.0	199	37.5		00.5
20	205	34.6	116	09.3		51.4	171	51.8		23.7	142	18.5		27.1	214	39.9		00.5
21	220	37.0	131	08.4		51.5	186	52.5		24.3	157	20.4		27.2	229	42.3		00.5
22	235	39.5	146	07.5		51.6	201	53.2		24.9	172	22.3		27.3	244	44.7		00.5
23	250	42.0	161	06.6		51.7	216	53.9		25.5	187	24.1		27.4	259	47.1		00.5
24	265	44.4	176	05.7	+23	51.8	231	54.6	+12	26.2	202	26.0	+20	27.5	274	49.5	-6	00.5

Dif	—	-9	+1	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 01.1 <sup>m</sup>		SD: 14.9' Edad: 10.5 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.1'			R°: 46 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	179 45.8	+ 23 23.2	61 27.1	158	- 11 24.7	133	60 N	** **	0 50	2 36	16 13 93	0 31 0				
1	194 45.7	23.3	76 01.9	158	38.0	133	58	** **	1 41	2 56	16 03 88	38 4				
2	209 45.5	23.3	90 36.6	157	- 11 51.3	133	56	** **	2 10	3 13	15 55 84	44 7				
3	224 45.4	23.4	105 11.2	156	- 12 04.5	132	54	0 46	33	27	48 80	49 10				
4	239 45.3	23.5	119 45.8	156	17.7	132	52	1 32	2 51	39	41 77	54 12				
5	254 45.1	+ 23 23.5	134 20.2	154	- 12 30.9	132	50	2 00	3 06	3 50	15 35 75	0 58 15				
6	269 45.0	+ 23 23.6	148 54.7	155	- 12 44.0	131	45	2 46	3 35	4 13	15 22 69	1 08 19				
7	284 44.9	23.7	163 29.0	153	- 12 57.1	131	40	3 16	3 58	31	12 65	16 23				
8	299 44.7	23.7	178 03.3	153	- 13 10.2	131	35	39	4 16	46	15 03 61	23 26				
9	314 44.6	23.8	192 37.5	152	23.2	130	30	3 58	31	4 59	14 55 58	29 29				
10	329 44.4	23.8	207 11.7	152	36.2	130	20	4 27	4 56	5 21	42 53	39 35				
11	344 44.3	+ 23 23.9	221 45.7	150	- 13 49.1	129	10 N	4 50	5 17	5 40	14 30 49	1 48 39				
12	359 44.2	+ 23 24.0	236 19.7	150	- 14 02.0	129	0	5 09	5 35	5 57	14 19 45	1 57 43				
13	14 44.0	24.0	250 53.7	150	14.8	128	10 S	26	5 52	6 15	14 08 41	2 06 47				
14	29 43.9	24.1	265 27.5	148	27.6	128	20	42	6 09	33	13 57 37	15 52				
15	44 43.8	24.1	280 01.3	148	40.3	127	30	5 58	28	6 55	44 32	26 57				
16	59 43.6	24.2	294 35.0	147	- 14 53.0	127	35	6 07	39	7 07	37 29	32 60				
17	74 43.5	+ 23 24.2	309 08.6	146	- 15 05.7	127	40	6 16	6 51	7 21	13 28 26	2 39 64				
18	89 43.4	+ 23 24.3	323 42.1	145	- 15 18.3	126	45	6 27	7 04	7 38	13 18 22	2 47 68				
19	104 43.2	24.3	338 15.5	144	30.8	125	50	39	20	7 59	07 16	2 58 72				
20	119 43.1	24.4	352 48.9	144	43.3	125	52	44	28	8 09	13 01 15	3 02 76				
21	134 43.0	24.4	7 22.2	143	- 15 55.7	124	54	50	36	20	12 55 12	07 78				
22	149 42.8	24.5	21 55.4	142	- 16 08.1	124	56	6 56	45	32	49 8	13 81				
23	164 42.7	24.5	36 28.5	141	20.4	123	58	7 02	7 55	8 47	41 5	20 85				
24	179 42.6	+ 23 24.6	51 01.5	140	- 16 32.7	123	60 S	7 10	8 07	9 04	12 33 0	3 27 90				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 16.0 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 16 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 40 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	265 44.4	176 05.7	+ 23 51.8	231 54.6	+ 12 26.2	202 26.0	+ 20 27.5	274 49.5	- 6 00.5	
1	280 46.9	191 04.8	51.9	246 55.3	26.8	217 27.9	27.6	289 51.9	00.5	
2	295 49.4	206 03.9	52.0	261 56.0	27.4	232 29.8	27.7	304 54.3	00.4	
3	310 51.8	221 03.0	52.1	276 56.7	28.0	247 31.6	27.8	319 56.8	00.4	
4	325 54.3	236 02.1	52.2	291 57.4	28.7	262 33.5	27.9	334 59.2	00.4	
5	340 56.8	251 01.2	+ 23 52.3	306 58.1	+ 12 29.3	277 35.4	+ 20 28.0	350 01.6	- 6 00.4	
6	355 59.2	266 00.3	+ 23 52.4	321 58.8	+ 12 29.9	292 37.2	+ 20 28.1	5 04.0	- 6 00.4	
7	11 01.7	280 59.5	52.5	336 59.5	30.5	307 39.1	28.2	20 06.4	00.4	
8	26 04.1	295 58.6	52.6	352 00.1	31.1	322 41.0	28.3	35 08.8	00.4	
9	41 06.6	310 57.7	52.7	7 00.8	31.8	337 42.8	28.4	50 11.2	00.4	
10	56 09.1	325 56.8	52.8	22 01.5	32.4	352 44.7	28.5	65 13.6	00.4	
11	71 11.5	340 55.9	+ 23 52.9	37 02.2	+ 12 33.0	7 46.6	+ 20 28.6	80 16.0	- 6 00.3	
12	86 14.0	355 55.0	+ 23 53.0	52 02.9	+ 12 33.6	22 48.4	+ 20 28.7	95 18.5	- 6 00.3	
13	101 16.5	10 54.1	53.1	67 03.6	34.3	37 50.3	28.8	110 20.9	00.3	
14	116 18.9	25 53.2	53.1	82 04.3	34.9	52 52.2	28.9	125 23.3	00.3	
15	131 21.4	40 52.3	53.2	97 05.0	35.5	67 54.1	29.0	140 25.7	00.3	
16	146 23.9	55 51.4	53.3	112 05.7	36.1	82 55.9	29.1	155 28.1	00.3	
17	161 26.3	70 50.5	+ 23 53.4	127 06.4	+ 12 36.7	97 57.8	+ 20 29.2	170 30.5	- 6 00.3	
18	176 28.8	85 49.6	+ 23 53.5	142 07.1	+ 12 37.4	112 59.7	+ 20 29.3	185 32.9	- 6 00.3	
19	191 31.2	100 48.7	53.6	157 07.8	38.0	128 01.5	29.4	200 35.4	00.3	
20	206 33.7	115 47.8	53.6	172 08.5	38.6	143 03.4	29.5	215 37.8	00.3	
21	221 36.2	130 46.9	53.7	187 09.2	39.2	158 05.3	29.6	230 40.2	00.2	
22	236 38.6	145 46.0	53.8	202 09.9	39.9	173 07.1	29.7	245 42.6	00.2	
23	251 41.1	160 45.1	53.9	217 10.5	40.5	188 09.0	29.8	260 45.0	00.2	
24	266 43.6	175 44.2	+ 23 53.9	232 11.2	+ 12 41.1	203 10.9	+ 20 29.9	275 47.4	- 6 00.2	

Dif	—	-9	+1	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 15.0'		Edad: 11.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.7'		R <sup>o</sup> : 50 <sup>m</sup>					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	179 42.6	+23 24.6	51 01.5		-16 32.7	122	60 N	21 27	23 14	** **	17 46	100	0 31	1		
1	194 42.4	24.6	65 34.5	140	44.9	121	58	21 07	22 22	** **	31 93		42 5			
2	209 42.3	24.7	80 07.3	138	-16 57.0	121	56	20 50	21 52	** **	19 87		51 10			
3	224 42.1	24.7	94 40.1	138	-17 09.1	120	54	36	30	23 18	17 08	83	0 59	13		
4	239 42.0	24.8	109 12.7	136	21.1	119	52	23	21 12	22 31	16 58	80	1 06	17		
5	254 41.9	+23 24.8	123 45.3	136	-17 33.0	119	50	20 12	20 57	22 03	16 50	77	1 13	19		
6	269 41.7	+23 24.9	138 17.8	135	-17 44.9	119	45	19 50	20 27	21 17	16 31	72	1 27	24		
7	284 41.6	24.9	152 50.2	134	-17 56.8	117	40	32	20 05	20 46	17 67		39 28			
8	299 41.5	25.0	167 22.5	133	-18 08.5	117	35	17	19 46	23	16 04	64	49 32			
9	314 41.3	25.0	181 54.7	132	20.2	116	30	19 04	31	20 04	15 53	62	1 58	35		
10	329 41.2	25.1	196 26.8	131	31.8	116	20	18 42	19 06	19 35	35 57		2 14	39		
11	344 41.1	+23 25.1	210 58.8	130	-18 43.4	114	10 N	18 23	18 46	19 13	15 19	53	2 27	44		
12	359 40.9	+23 25.1	225 30.7	129	-18 54.8	114	0	18 05	18 27	18 54	15 04	49	2 40	47		
13	14 40.8	25.2	240 02.5	128	-19 06.2	114	10 S	17 47	18 10	37	14 49	46	2 53	51		
14	29 40.7	25.2	254 34.2	127	17.6	112	20	29	17 53	20	34 42		3 07	55		
15	44 40.5	25.3	269 05.9	127	28.8	112	30	17 08	34	18 04	16 37		23 60			
16	59 40.4	25.3	283 37.4	125	40.0	112	35	16 55	23	17 55	14 06	34	32 63			
17	74 40.3	+23 25.3	298 08.8	124	-19 51.1	111	40	16 41	17 12	17 46	13 54	31	3 43	66		
18	89 40.1	+23 25.4	312 40.1	123	-20 02.1	109	45	16 24	16 58	17 35	13 40	27	3 55	70		
19	104 40.0	25.4	327 11.3	122	13.0	109	50	16 04	42	24	23 23		4 10	76		
20	119 39.8	25.4	341 42.4	121	23.9	109	52	15 54	35	18	16 19		18 78			
21	134 39.7	25.5	356 13.4	120	34.7	108	54	43	26	13	13 07	16	25 82			
22	149 39.6	25.5	10 44.3	119	45.4	107	56	30	17	06	12 57	13	34 86			
23	164 39.4	25.5	25 15.1	118	-20 56.0	106	58	15 15	16 07	17 00	46 9		45 90			
24	179 39.3	+23 25.6	39 45.8	117	-21 06.5	105	60 S	14 58	15 55	16 52	12 33	3	4 57	96		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 12.1 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 18 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 31 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 36 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	266 43.6		175 44.2	+23 53.9	232 11.2	+12 41.1	203 10.9	+20 29.9	275 47.4	-6 00.2
1	281 46.0		190 43.3	54.0	247 11.9	41.7	218 12.8	30.0	290 49.8	00.2
2	296 48.5		205 42.4	54.1	262 12.6	42.3	233 14.6	30.1	305 52.3	00.2
3	311 51.0		220 41.5	54.1	277 13.3	43.0	248 16.5	30.2	320 54.7	00.2
4	326 53.4		235 40.7	54.2	292 14.0	43.6	263 18.4	30.4	335 57.1	00.2
5	341 55.9		250 39.8	+23 54.3	307 14.7	+12 44.2	278 20.2	+20 30.5	350 59.5	-6 00.2
6	356 58.4		265 38.9	+23 54.4	322 15.4	+12 44.8	293 22.1	+20 30.6	6 01.9	-6 00.2
7	12 00.8		280 38.0	54.4	337 16.1	45.4	308 24.0	30.7	21 04.3	00.2
8	27 03.3		295 37.1	54.5	352 16.8	46.0	323 25.9	30.8	36 06.8	00.1
9	42 05.7		310 36.2	54.5	7 17.5	46.7	338 27.7	30.9	51 09.2	00.1
10	57 08.2		325 35.3	54.6	22 18.2	47.3	353 29.6	31.0	66 11.6	00.1
11	72 10.7		340 34.4	+23 54.7	37 18.9	+12 47.9	8 31.5	+20 31.1	81 14.0	-6 00.1
12	87 13.1		355 33.5	+23 54.7	52 19.6	+12 48.5	23 33.3	+20 31.2	96 16.4	-6 00.1
13	102 15.6		10 32.6	54.8	67 20.3	49.1	38 35.2	31.3	111 18.8	00.1
14	117 18.1		25 31.7	54.8	82 20.9	49.7	53 37.1	31.4	126 21.3	00.1
15	132 20.5		40 30.8	54.9	97 21.6	50.4	68 38.9	31.5	141 23.7	00.1
16	147 23.0		55 29.9	55.0	112 22.3	51.0	83 40.8	31.6	156 26.1	00.1
17	162 25.5		70 29.0	+23 55.0	127 23.0	+12 51.6	98 42.7	+20 31.7	171 28.5	-6 00.1
18	177 27.9		85 28.1	+23 55.1	142 23.7	+12 52.2	113 44.6	+20 31.8	186 30.9	-6 00.1
19	192 30.4		100 27.2	55.1	157 24.4	52.8	128 46.4	31.9	201 33.3	00.0
20	207 32.9		115 26.3	55.2	172 25.1	53.4	143 48.3	32.0	216 35.8	00.0
21	222 35.3		130 25.4	55.2	187 25.8	54.1	158 50.2	32.1	231 38.2	00.0
22	237 37.8		145 24.5	55.3	202 26.5	54.7	173 52.0	32.2	246 40.6	00.0
23	252 40.2		160 23.6	55.3	217 27.2	55.3	188 53.9	32.3	261 43.0	00.0
24	267 42.7		175 22.7	+23 55.3	232 27.9	+12 55.9	203 55.8	+20 32.4	276 45.4	-6 00.0
Dif	—		-9	+1	+7	+6	+19	+1	+24	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 01.5 <sup>m</sup>		SD: 15.2' Edad: 12.5 <sup>d</sup> PMG: 22 <sup>h</sup> 06 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 56.1' 20 <sup>h</sup> : 56.3'			R°: 55 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	179 39.3	+23 25.6	39 45.8		-21 06.5	104	60 N	** **	0 49	2 36	19 26 103	0 32 4		
1	194 39.2	25.6	54 16.4	116	16.9	104	58	** **	1 40	2 56	19 04 92	0 47 11		
2	209 39.0	25.6	68 46.9	115	27.2	103	56	** **	2 10	3 13	18 46 86	1 01 16		
3	224 38.9	25.7	83 17.2	113	37.4	102	54	0 45	33	27	31 82	12 20		
4	239 38.8	25.7	97 47.5	113	47.6	102	52	1 32	2 51	40	18 79	23 23		
5	254 38.6	+23 25.7	112 17.7	112	-21 57.6	100	50	2 00	3 06	3 50	18 07 76	1 32 26		
6	269 38.5	+23 25.8	126 47.7	110	-22 07.6	100	45	2 46	3 36	4 13	17 43 71	1 51 31		
7	284 38.4	25.8	141 17.6	109	17.5	99	40	3 16	3 58	31	24 68	2 07 35		
8	299 38.2	25.8	155 47.5	109	27.2	97	35	40	4 16	46	17 08 66	21 38		
9	314 38.1	25.8	170 17.2	107	36.9	97	30	3 58	32	4 59	16 55 63	33 40		
10	329 37.9	25.9	184 46.8	106	46.4	95	20	4 27	4 57	5 21	32 59	2 53 45		
11	344 37.8	+23 25.9	199 16.3	105	-22 55.9	95	10 N	4 50	5 17	5 40	16 12 56	3 11 48		
12	359 37.7	+23 25.9	213 45.7	104	-23 05.2	93	0	5 09	5 35	5 58	15 53 54	3 27 52		
13	14 37.5	25.9	228 15.0	103	14.5	93	0 S	26	5 52	6 15	35 51	3 44 55		
14	29 37.4	26.0	242 44.2	102	23.6	91	20	42	6 10	34	15 16 48	4 02 58		
15	44 37.3	26.0	257 13.2	100	32.6	90	30	5 59	29	6 55	14 53 45	23 62		
16	59 37.1	26.0	271 42.2	100	41.5	89	35	6 08	39	7 07	40 42	35 65		
17	74 37.0	+23 26.0	286 11.0	98	-23 50.3	88	40	6 17	6 51	7 22	14 25 40	4 49 68		
18	89 36.9	+23 26.0	300 39.8	98	-23 59.0	87	45	6 27	7 05	7 39	14 07 36	5 05 72		
19	104 36.7	26.1	315 08.4	96	-24 07.6	86	50	39	21	7 59	13 46 31	26 77		
20	119 36.6	26.1	329 36.9	95	16.1	85	52	44	28	8 09	35 29	36 80		
21	134 36.5	26.1	344 05.3	94	24.4	83	54	50	36	20	23 26	5 47 83		
22	149 36.3	26.1	358 33.6	93	32.6	82	56	6 56	46	33	13 10 21	6 00 87		
23	164 36.2	26.1	13 01.8	92	40.7	81	58	7 03	7 56	8 48	12 55 15	15 93		
24	179 36.0	+23 26.1	27 29.9	91	-24 48.7	80	60 S	7 11	8 08	9 05	12 36 8	6 33 101		
UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO						
	PMG	Mag.: -3.9		Mag.: +1.0		Mag.: -2.0		Mag.: +1.1						
	6 <sup>h</sup> 08.1 <sup>m</sup>	PMG: 12 <sup>h</sup> 19 <sup>m</sup>		PMG: 8 <sup>h</sup> 30 <sup>m</sup>		PMG: 10 <sup>h</sup> 23 <sup>m</sup>		PMG: 5 <sup>h</sup> 32 <sup>m</sup>						
	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	267 42.7	175 22.7	+23 55.3	232 27.9	+12 55.9	203 55.8	+20 32.4	276 45.4	-6 00.0					
1	282 45.2	190 21.8	55.4	247 28.6	56.5	218 57.7	32.5	291 47.8	00.0					
2	297 47.6	205 20.9	55.4	262 29.3	57.1	233 59.5	32.6	306 50.3	00.0					
3	312 50.1	220 20.0	55.5	277 30.0	57.7	249 01.4	32.7	321 52.7	00.0					
4	327 52.6	235 19.1	55.5	292 30.6	58.3	264 03.3	32.8	336 55.1	00.0					
5	342 55.0	250 18.2	+23 55.5	307 31.3	+12 59.0	279 05.2	+20 32.9	351 57.5	-6 00.0					
6	357 57.5	265 17.3	+23 55.6	322 32.0	+12 59.6	294 07.0	+20 33.0	6 59.9	-6 00.0					
7	13 00.0	280 16.4	55.6	337 32.7	+13 00.2	309 08.9	33.1	22 02.4	-6 00.0					
8	28 02.4	295 15.5	55.7	352 33.4	00.8	324 10.8	33.2	37 04.8	-5 59.9					
9	43 04.9	310 14.7	55.7	7 34.1	01.4	339 12.6	33.3	52 07.2	59.9					
10	58 07.4	325 13.8	55.7	22 34.8	02.0	354 14.5	33.4	67 09.6	59.9					
11	73 09.8	340 12.9	+23 55.8	37 35.5	+13 02.6	9 16.4	+20 33.5	82 12.0	-5 59.9					
12	88 12.3	355 12.0	+23 55.8	52 36.2	+13 03.2	24 18.3	+20 33.6	97 14.5	-5 59.9					
13	103 14.7	10 11.1	55.8	67 36.9	03.9	39 20.1	33.7	112 16.9	59.9					
14	118 17.2	25 10.2	55.8	82 37.6	04.5	54 22.0	33.8	127 19.3	59.9					
15	133 19.7	40 09.3	55.9	97 38.3	05.1	69 23.9	33.9	142 21.7	59.9					
16	148 22.1	55 08.4	55.9	112 38.9	05.7	84 25.7	34.0	157 24.1	59.9					
17	163 24.6	70 07.5	+23 55.9	127 39.6	+13 06.3	99 27.6	+20 34.1	172 26.6	-5 59.9					
18	178 27.1	85 06.6	+23 55.9	142 40.3	+13 06.9	114 29.5	+20 34.2	187 29.0	-5 59.9					
19	193 29.5	100 05.7	56.0	157 41.0	07.5	129 31.4	34.3	202 31.4	59.9					
20	208 32.0	115 04.8	56.0	172 41.7	08.1	144 33.2	34.4	217 33.8	59.9					
21	223 34.5	130 03.9	56.0	187 42.4	08.7	159 35.1	34.5	232 36.3	59.9					
22	238 36.9	145 03.0	56.0	202 43.1	09.3	174 37.0	34.6	247 38.7	59.9					
23	253 39.4	160 02.1	56.0	217 43.8	10.0	189 38.9	34.7	262 41.1	59.8					
24	268 41.9	175 01.2	+23 56.0	232 44.5	+13 10.6	204 40.7	+20 34.8	277 43.5	-5 59.8					
Dif	—	-9	0	+7	+6	+19	+1	+24	0					

UT	SOL			☉ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 01.7 <sup>m</sup>			SD: 15.4' Edad: 13.5 <sup>d</sup> PMG: 23 <sup>h</sup> 01 <sup>m</sup>						PHE { 4 <sup>h</sup> : 56.5' 12 <sup>h</sup> : 56.7' 20 <sup>h</sup> : 56.9'		R°: 58 <sup>m</sup>					
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m				
0	179 36.0	+ 23 26.1	27 29.9	89	-24 48.7	78	60 N	21 28	23 14	** **	21 09 87	0 36 11					
1	194 35.9	26.2	41 57.8	89	-24 56.5	78	58	21 07	22 23	** **	20 36 79	0 58 22					
2	209 35.8	26.2	56 25.7	88	-25 04.3	76	56	20 50	21 53	** **	20 12 75	1 17 27					
3	224 35.6	26.2	70 53.5	88	11.9	75	54	36	31	23 19	19 53 72	32 32					
4	239 35.5	26.2	85 21.1	86	19.4	73	52	24	21 13	22 31	37 70	46 34					
5	254 35.4	+ 23 26.2	99 48.7	86	-25 26.7	72	50	20 13	20 58	22 03	19 23 69	1 58 36					
6	269 35.2	+ 23 26.2	114 16.1	84	-25 33.9	71	45	19 50	20 28	21 18	18 54 67	2 22 41					
7	284 35.1	26.2	128 43.4	83	41.0	69	40	32	20 05	20 47	32 65	42 44					
8	299 35.0	26.2	143 10.6	82	47.9	68	35	17	19 47	24	18 14 64	2 59 46					
9	314 34.8	26.2	157 37.8	82	-25 54.7	67	30	19 04	32	20 05	17 58 63	3 13 48					
10	329 34.7	26.3	172 04.8	80	-26 01.4	66	20	18 42	19 07	19 36	31 61	38 51					
11	344 34.6	+ 23 26.3	186 31.7	79	-26 08.0	63	10 N	18 23	18 46	19 13	17 08 60	3 59 54					
12	359 34.4	+ 23 26.3	200 58.5	78	-26 14.3	63	0	18 05	18 28	18 54	16 47 58	4 19 56					
13	14 34.3	26.3	215 25.2	77	20.6	61	10 S	17 48	18 11	37	26 57	4 39 58					
14	29 34.2	26.3	229 51.9	77	26.7	60	20	29	17 53	21	16 04 54	5 00 60					
15	44 34.0	26.3	244 18.4	75	32.7	58	30	17 08	34	18 04	15 38 52	25 63					
16	59 33.9	26.3	258 44.8	74	38.5	57	35	16 56	24	17 56	22 52	40 64					
17	74 33.7	+ 23 26.3	273 11.1	73	-26 44.2	55	40	16 41	17 12	17 46	15 05 49	5 57 67					
18	89 33.6	+ 23 26.3	287 37.3	72	-26 49.7	54	45	16 25	16 59	17 36	14 43 48	6 17 70					
19	104 33.5	26.3	302 03.5	72	-26 55.1	52	50	16 04	42	24	17 44	43 73					
20	119 33.3	26.3	316 29.5	70	-27 00.3	51	52	15 54	35	19	14 04 42	6 56 75					
21	134 33.2	26.3	330 55.4	69	05.4	49	54	43	27	13	13 49 40	7 10 78					
22	149 33.1	26.3	345 21.3	69	10.3	48	56	30	18	07	31 37	27 82					
23	164 32.9	26.3	359 47.1	68	15.1	46	58	15 15	16 07	17 00	13 10 32	7 48 86					
24	179 32.8	+ 23 26.3	14 12.8	67	-27 19.7	46	60 S	14 58	15 56	16 52	12 44 22	8 14 96					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 04.2 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 21 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 29 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 20 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 28 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	268 41.9	175 01.2	+ 23 56.0	232 44.5	+ 13 10.6	204 40.7	+ 20 34.8	277 43.5	- 5 59.8	
1	283 44.3	190 00.3	56.1	247 45.2	11.2	219 42.6	34.9	292 45.9	59.8	
2	298 46.8	204 59.4	56.1	262 45.9	11.8	234 44.5	35.0	307 48.4	59.8	
3	313 49.2	219 58.5	56.1	277 46.6	12.4	249 46.3	35.1	322 50.8	59.8	
4	328 51.7	234 57.6	56.1	292 47.2	13.0	264 48.2	35.2	337 53.2	59.8	
5	343 54.2	249 56.7	+ 23 56.1	307 47.9	+ 13 13.6	279 50.1	+ 20 35.3	352 55.6	- 5 59.8	
6	358 56.6	264 55.8	+ 23 56.1	322 48.6	+ 13 14.2	294 52.0	+ 20 35.4	7 58.1	- 5 59.8	
7	13 59.1	279 54.9	56.1	337 49.3	14.8	309 53.8	35.5	23 00.5	59.8	
8	29 01.6	294 54.0	56.1	352 50.0	15.4	324 55.7	35.6	38 02.9	59.8	
9	44 04.0	309 53.1	56.1	7 50.7	16.0	339 57.6	35.7	53 05.3	59.8	
10	59 06.5	324 52.2	56.1	22 51.4	16.6	354 59.5	35.8	68 07.8	59.8	
11	74 09.0	339 51.3	+ 23 56.1	37 52.1	+ 13 17.2	10 01.3	+ 20 35.9	83 10.2	- 5 59.8	
12	89 11.4	354 50.4	+ 23 56.1	52 52.8	+ 13 17.8	25 03.2	+ 20 36.0	98 12.6	- 5 59.8	
13	104 13.9	9 49.5	56.1	67 53.5	18.4	40 05.1	36.1	113 15.0	59.8	
14	119 16.3	24 48.6	56.1	82 54.2	19.1	55 07.0	36.2	128 17.5	59.8	
15	134 18.8	39 47.7	56.1	97 54.8	19.7	70 08.8	36.3	143 19.9	59.8	
16	149 21.3	54 46.8	56.1	112 55.5	20.3	85 10.7	36.4	158 22.3	59.7	
17	164 23.7	69 45.9	+ 23 56.1	127 56.2	+ 13 20.9	100 12.6	+ 20 36.5	173 24.7	- 5 59.7	
18	179 26.2	84 45.0	+ 23 56.1	142 56.9	+ 13 21.5	115 14.4	+ 20 36.6	188 27.1	- 5 59.7	
19	194 28.7	99 44.1	56.1	157 57.6	22.1	130 16.3	36.7	203 29.6	59.7	
20	209 31.1	114 43.2	56.1	172 58.3	22.7	145 18.2	36.8	218 32.0	59.7	
21	224 33.6	129 42.4	56.1	187 59.0	23.3	160 20.1	36.9	233 34.4	59.7	
22	239 36.1	144 41.5	56.1	202 59.7	23.9	175 21.9	36.9	248 36.9	59.7	
23	254 38.5	159 40.6	56.0	218 00.4	24.5	190 23.8	37.0	263 39.3	59.7	
24	269 41.0	174 39.7	+ 23 56.0	233 01.1	+ 13 25.1	205 25.7	+ 20 37.1	278 41.7	- 5 59.7	
Dif	—	-9	0	+7	+6	+19	+1	+24	0	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 01.9 <sup>m</sup>		SD: 15.5' Edad: 14.5 <sup>d</sup>		PHE { 4 <sup>h</sup> : 57.1' 12 <sup>h</sup> : 57.4' 20 <sup>h</sup> : 57.6'			R°: 61 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	R°	h m	R°
0	179 32.8	+23 26.3	14 12.8	65	-27 19.7	45	60 N	** **	0 49	2 36	22 36 45	0 47 36		
1	194 32.7	26.3	28 38.3	64	24.2	43	58	** **	1 40	2 56	21 55 51	1 20 43		
2	209 32.5	26.3	43 03.9	66	28.5	41	56	** **	2 11	3 13	27 53	1 44 47		
3	224 32.4	26.3	57 29.3	64	32.6	40	54	0 45	3 3	28	21 05 55	2 04 49		
4	239 32.3	26.3	71 54.6	63	36.6	38	52	1 32	2 51	40	20 47 56	20 51		
5	254 32.1	+23 26.3	86 19.9	63	-27 40.4	36	50	2 00	3 06	3 51	20 32 56	2 34 52		
6	269 32.0	+23 26.3	100 45.1	62	-27 44.0	35	45	2 46	3 36	4 13	20 01 58	3 03 54		
7	284 31.9	26.3	115 10.2	61	47.5	34	40	3 17	3 59	31	19 37 58	26 55		
8	299 31.7	26.2	129 35.2	60	50.9	33	35	40	4 17	4 46	18 58	3 45 56		
9	314 31.6	26.2	144 00.2	60	54.0	31	30	3 59	32	5 00	19 01 59	4 01 57		
10	329 31.5	26.2	158 25.1	59	57.0	30	20	4 28	4 57	22	18 32 60	29 58		
11	344 31.3	+23 26.2	172 49.9	58	-27 59.8	28	10 N	4 50	5 18	5 41	18 08 60	4 53 58		
12	359 31.2	+23 26.2	187 14.6	57	-28 02.5	27	0	5 09	5 36	5 58	17 45 60	5 15 59		
13	14 31.0	26.2	201 39.3	57	05.0	25	10 S	5 27	5 53	6 16	17 23 60	5 37 60		
14	29 30.9	26.2	216 04.0	57	07.3	23	20	43	6 10	34	16 58 61	6 00 61		
15	44 30.8	26.2	230 28.5	55	09.4	21	30	5 59	29	6 56	30 61	28 61		
16	59 30.6	26.2	244 53.0	55	11.4	20	35	6 08	40	7 08	16 14 60	6 44 62		
17	74 30.5	+23 26.1	259 17.5	55	-28 13.2	18	40	6 17	6 52	7 22	15 54 61	7 04 62		
18	89 30.4	+23 26.1	273 41.9	54	-28 14.8	16	45	6 28	7 05	7 39	15 31 60	7 27 62		
19	104 30.2	26.1	288 06.2	53	16.3	15	50	40	21	8 00	15 01 60	7 56 63		
20	119 30.1	26.1	302 30.5	53	17.6	13	52	45	29	10	14 46 60	8 11 64		
21	134 30.0	26.1	316 54.8	53	18.6	10	54	51	37	21	29 60	28 64		
22	149 29.8	26.1	331 18.9	51	19.6	10	56	6 57	46	34	14 08 60	8 49 64		
23	164 29.7	26.0	345 43.1	52	20.3	7	58	7 04	7 56	8 48	13 42 60	9 14 66		
24	179 29.6	+23 26.0	0 07.2	51	-28 20.9	6	60 S	7 11	8 08	9 06	13 06 59	9 50 67		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 <sup>h</sup> 00.3 <sup>m</sup>	Mag.: -3.9 PMG: 12 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 17 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 24 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	269 41.0	174 39.7	+23 56.0	233 01.1	+13 25.1	205 25.7	+20 37.1	278 41.7	-5 59.7
1	284 43.5	189 38.8	56.0	248 01.8	25.7	220 27.6	37.2	293 44.1	59.7
2	299 45.9	204 37.9	56.0	263 02.4	26.3	235 29.4	37.3	308 46.6	59.7
3	314 48.4	219 37.0	56.0	278 03.1	26.9	250 31.3	37.4	323 49.0	59.7
4	329 50.8	234 36.1	56.0	293 03.8	27.5	265 33.2	37.5	338 51.4	59.7
5	344 53.3	249 35.2	+23 55.9	308 04.5	+13 28.1	280 35.1	+20 37.6	353 53.8	-5 59.7
6	359 55.8	264 34.3	+23 55.9	323 05.2	+13 28.7	295 36.9	+20 37.7	8 56.3	-5 59.7
7	14 58.2	279 33.4	55.9	338 05.9	29.3	310 38.8	37.8	23 58.7	59.7
8	30 00.7	294 32.5	55.9	353 06.6	29.9	325 40.7	37.9	39 01.1	59.7
9	45 03.2	309 31.6	55.8	8 07.3	30.5	340 42.6	38.0	54 03.5	59.7
10	60 05.6	324 30.7	55.8	23 08.0	31.1	355 44.4	38.1	69 06.0	59.7
11	75 08.1	339 29.8	+23 55.8	38 08.7	+13 31.7	10 46.3	+20 38.2	84 08.4	-5 59.7
12	90 10.6	354 28.9	+23 55.8	53 09.3	+13 32.3	25 48.2	+20 38.3	99 10.8	-5 59.7
13	105 13.0	9 28.0	55.7	68 10.0	32.9	40 50.1	38.4	114 13.3	59.7
14	120 15.5	24 27.1	55.7	83 10.7	33.5	55 51.9	38.5	129 15.7	59.6
15	135 18.0	39 26.2	55.7	98 11.4	34.1	70 53.8	38.6	144 18.1	59.6
16	150 20.4	54 25.3	55.6	113 12.1	34.7	85 55.7	38.7	159 20.5	59.6
17	165 22.9	69 24.4	+23 55.6	128 12.8	+13 35.3	100 57.6	+20 38.8	174 23.0	-5 59.6
18	180 25.3	84 23.5	+23 55.6	143 13.5	+13 35.9	115 59.4	+20 38.9	189 25.4	-5 59.6
19	195 27.8	99 22.6	55.5	158 14.2	36.5	131 01.3	39.0	204 27.8	59.6
20	210 30.3	114 21.7	55.5	173 14.9	37.1	146 03.2	39.1	219 30.3	59.6
21	225 32.7	129 20.8	55.4	188 15.6	37.7	161 05.1	39.2	234 32.7	59.6
22	240 35.2	144 19.9	55.4	203 16.2	38.3	176 06.9	39.3	249 35.1	59.6
23	255 37.7	159 19.0	55.4	218 16.9	38.9	191 08.8	39.4	264 37.5	59.6
24	270 40.1	174 18.1	+23 55.3	233 17.6	+13 39.5	206 10.7	+20 39.5	279 40.0	-5 59.6

Dif	—	-9	0	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 02.1 <sup>m</sup>		SD: 15.7' Edad: 15.5 <sup>d</sup> PMG: **h **m R°: ***m		PHE { 4 <sup>h</sup> : 57.8' 12 <sup>h</sup> : 58.0' 20 <sup>h</sup> : 58.1'				Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	179 29.6	+23 26.0	0 07.2	51	-28 20.9	4	60 N	21 28	23 14	** **	** **	23 21	15	1 23	81	
1	194 29.4	26.0	14 31.3	50	21.3	2	58	21 08	22 23	** **	** **	22 46	26	2 03	75	
2	209 29.3	26.0	28 55.3	50	21.5	0	56	20 51	21 53	** **	** **	20 33		3 17	73	
3	224 29.2	26.0	43 19.3	50	21.5	2	54	36	31	23 18		22 00	36	2 53	71	
4	239 29.0	25.9	57 43.3	50	21.3	2	52	24	21 13	22 31		21 43	39	3 11	70	
5	254 28.9	+23 25.9	72 07.2	49	-28 21.0	3	50	20 13	20 58	22 04		21 28	42	3 26	69	
6	269 28.8	+23 25.9	86 31.1	49	-28 20.5	5	45	19 51	20 28	21 18		20 59	45	3 57	67	
7	284 28.6	25.9	100 55.0	49	19.8	7	40	33	20 05	20 47		35 49		4 21	66	
8	299 28.5	25.8	115 18.9	49	18.9	9	35	18	19 47	24		16 51		4 41	65	
9	314 28.4	25.8	129 42.7	48	17.8	11	30	19 04	32	20 05		20 00	52	4 58	64	
10	329 28.2	25.8	144 06.6	49	16.6	12	20	18 42	19 07	19 36		19 32	55	5 27	62	
11	344 28.1	+23 25.8	158 30.4	48	-28 15.1	15	10 N	18 23	18 46	19 14		19 08	57	5 51	61	
12	359 28.0	+23 25.7	172 54.2	48	-28 13.5	16	0	18 06	18 28	18 55		18 45	60	6 14	60	
13	14 27.8	25.7	187 18.0	48	11.7	18	10 S	17 48	18 11	38		18 23	62	6 37	59	
14	29 27.7	25.7	201 41.8	48	09.7	20	20	30	17 54	21		17 59	64	7 01	58	
15	44 27.5	25.7	216 05.5	47	07.6	21	30	17 09	35	18 05		31 66		29 56		
16	59 27.4	25.6	230 29.3	48	05.2	24	35	16 56	24	17 56		17 14	68	7 46	55	
17	74 27.3	+23 25.6	244 53.1	48	-28 02.7	25	40	16 42	17 13	17 47		16 55	70	8 06	53	
18	89 27.1	+23 25.6	259 16.9	48	-28 00.0	27	45	16 25	16 59	17 36		16 31	73	8 29	52	
19	104 27.0	25.5	273 40.6	47	-27 57.1	29	50	16 04	43	24		16 01	76	8 59	49	
20	119 26.9	25.5	288 04.4	48	54.0	31	52	15 54	35	19		15 46	78	9 15	47	
21	134 26.7	25.5	302 28.2	48	50.8	32	54	43	27	13		29 80		32 45		
22	149 26.6	25.4	316 52.0	48	47.3	35	56	31	18	07		15 08	83	9 53	42	
23	164 26.5	25.4	331 15.9	49	43.7	36	58	15 16	16 08	17 01		14 42	88	10 20	37	
24	179 26.3	+23 25.4	345 39.7	48	-27 39.9	38	60 S	14 58	15 56	16 53		14 05	97	10 57	28	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 5 <sup>h</sup> 56.3 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 24 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 26 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 14 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 20 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	270 40.1	174 18.1	+23 55.3	233 17.6	+13 39.5	206 10.7	+20 39.5	279 40.0	-5 59.6							
1	285 42.6	189 17.2	55.3	248 18.3	40.1	221 12.6	39.6	294 42.4	59.6							
2	300 45.1	204 16.3	55.2	263 19.0	40.7	236 14.4	39.7	309 44.8	59.6							
3	315 47.5	219 15.4	55.2	278 19.7	41.3	251 16.3	39.8	324 47.3	59.6							
4	330 50.0	234 14.5	55.1	293 20.4	41.9	266 18.2	39.9	339 49.7	59.6							
5	345 52.5	249 13.7	+23 55.1	308 21.1	+13 42.5	281 20.1	+20 40.0	354 52.1	-5 59.6							
6	0 54.9	264 12.8	+23 55.0	323 21.8	+13 43.1	296 22.0	+20 40.1	9 54.6	-5 59.6							
7	15 57.4	279 11.9	55.0	338 22.4	43.6	311 23.8	40.2	24 57.0	59.6							
8	30 59.8	294 11.0	54.9	353 23.1	44.2	326 25.7	40.3	39 59.4	59.6							
9	46 02.3	309 10.1	54.9	8 23.8	44.8	341 27.6	40.4	55 01.9	59.6							
10	61 04.8	324 09.2	54.8	23 24.5	45.4	356 29.5	40.5	70 04.3	59.6							
11	76 07.2	339 08.3	+23 54.7	38 25.2	+13 46.0	11 31.3	+20 40.6	85 06.7	-5 59.6							
12	91 09.7	354 07.4	+23 54.7	53 25.9	+13 46.6	26 33.2	+20 40.7	100 09.1	-5 59.6							
13	106 12.2	9 06.5	54.6	68 26.6	47.2	41 35.1	40.8	115 11.6	59.6							
14	121 14.6	24 05.6	54.6	83 27.3	47.8	56 37.0	40.8	130 14.0	59.6							
15	136 17.1	39 04.7	54.5	98 28.0	48.4	71 38.8	40.9	145 16.4	59.6							
16	151 19.6	54 03.8	54.4	113 28.7	49.0	86 40.7	41.0	160 18.9	59.6							
17	166 22.0	69 02.9	+23 54.4	128 29.3	+13 49.6	101 42.6	+20 41.1	175 21.3	-5 59.6							
18	181 24.5	84 02.0	+23 54.3	143 30.0	+13 50.2	116 44.5	+20 41.2	190 23.7	-5 59.6							
19	196 27.0	99 01.1	54.2	158 30.7	50.8	131 46.3	41.3	205 26.2	59.6							
20	211 29.4	114 00.2	54.2	173 31.4	51.4	146 48.2	41.4	220 28.6	59.6							
21	226 31.9	128 59.3	54.1	188 32.1	52.0	161 50.1	41.5	235 31.0	59.6							
22	241 34.3	143 58.4	54.0	203 32.8	52.5	176 52.0	41.6	250 33.5	59.6							
23	256 36.8	158 57.5	54.0	218 33.5	53.1	191 53.9	41.7	265 35.9	59.6							
24	271 39.3	173 56.6	+23 53.9	233 34.2	+13 53.7	206 55.7	+20 41.8	280 38.3	-5 59.6							
Dif	—	-9	-1	+7	+6	+19	+1	+24	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 15.9'		Edad: 16.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.3' 12 <sup>h</sup> : 58.5' 20 <sup>h</sup> : 58.6'			R <sup>o</sup> : 59 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 02.4 <sup>m</sup>		PMG: 1 <sup>h</sup> 00 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	m	h m m	m		
0	179 26.3	+23 25.4	345 39.7		-27 39.9	40	60 N	** **	0 50	2 36	23 36	5	2 44	109		
1	194 26.2	25.3	0 03.6	49	35.9	40	58	** **	1 41	2 57	23 12	13	3 18	98		
2	209 26.1	25.3	14 27.4	48	31.7	42	56	** **	2 11	3 14	22 53	18	3 44	91		
3	224 25.9	25.2	28 51.3	49	27.4	46	54	0 46	34	28	36	24	4 04	87		
4	239 25.8	25.2	43 15.3	50	22.8	46	52	1 33	2 52	40	22	27	21	83		
5	254 25.7	+23 25.2	57 39.2	49	-27 18.1	47	50	2 01	3 07	3 51	22 10	30	4 35	81		
6	269 25.5	+23 25.1	72 03.2	50	-27 13.2	49	45	2 47	3 36	4 14	21 44	36	5 04	77		
7	284 25.4	25.1	86 27.2	50	08.2	50	40	3 17	3 59	32	24	40	27	73		
8	299 25.3	25.0	100 51.3	51	-27 02.9	53	35	40	4 17	4 47	21 07	43	5 46	70		
9	314 25.1	25.0	115 15.4	51	-26 57.5	54	30	3 59	33	5 00	20 52	46	6 02	68		
10	329 25.0	25.0	129 39.5	51	51.9	56	20	4 28	4 58	22	27	50	29	65		
11	344 24.9	+23 24.9	144 03.6	51	-26 46.1	58	10 N	4 51	5 18	5 41	20 05	54	6 52	62		
12	359 24.7	+23 24.9	158 27.8	52	-26 40.2	59	0	5 10	5 36	5 59	19 45	58	7 14	59		
13	14 24.6	24.8	172 52.1	53	34.0	62	10 S	27	5 53	6 16	25	61	36	56		
14	29 24.5	24.8	187 16.4	53	27.7	63	20	5 43	6 11	35	19 03	64	7 59	53		
15	44 24.3	24.7	201 40.7	53	21.3	64	30	6 00	30	6 56	18 37	69	8 25	49		
16	59 24.2	24.7	216 05.1	54	14.6	67	35	08	40	7 08	22	72	41	47		
17	74 24.1	+23 24.6	230 29.6	55	-26 07.8	68	40	6 18	6 52	7 22	18 05	75	8 59	44		
18	89 23.9	+23 24.6	244 54.1	55	-26 00.8	70	45	6 28	7 05	7 39	17 44	79	9 21	40		
19	104 23.8	24.5	259 18.6	55	-25 53.6	72	50	40	22	8 00	17	85	9 48	36		
20	119 23.7	24.5	273 43.2	56	46.3	73	52	45	29	10	17 04	87	10 02	32		
21	134 23.5	24.4	288 07.9	57	38.8	75	54	51	37	21	16 49	91	17	29		
22	149 23.4	24.4	302 32.6	57	31.2	76	56	6 57	46	34	31	96	35	25		
23	164 23.3	24.3	316 57.4	58	23.3	79	58	7 04	7 57	8 48	16 10	102	10 57	19		
24	179 23.1	+23 24.3	331 22.2	58	-25 15.3	80	60 S	7 11	8 08	9 06	15 42	111	11 25	10		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 <sup>h</sup> 52.4 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 25 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 25 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 11 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 17 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	271 39.3	173 56.6	+23 53.9	233 34.2	+13 53.7	206 55.7	+20 41.8	280 38.3	-5 59.6	
1	286 41.7	188 55.7	53.8	248 34.8	54.3	221 57.6	41.9	295 40.8	59.6	
2	301 44.2	203 54.8	53.7	263 35.5	54.9	236 59.5	42.0	310 43.2	59.6	
3	316 46.7	218 53.9	53.7	278 36.2	55.5	252 01.4	42.1	325 45.6	59.6	
4	331 49.1	233 53.1	53.6	293 36.9	56.1	267 03.2	42.2	340 48.1	59.6	
5	346 51.6	248 52.2	+23 53.5	308 37.6	+13 56.7	282 05.1	+20 42.3	355 50.5	-5 59.6	
6	1 54.1	263 51.3	+23 53.4	323 38.3	+13 57.3	297 07.0	+20 42.4	10 52.9	-5 59.6	
7	16 56.5	278 50.4	53.3	338 39.0	57.9	312 08.9	42.5	25 55.4	59.6	
8	31 59.0	293 49.5	53.3	353 39.7	58.4	327 10.8	42.6	40 57.8	59.6	
9	47 01.5	308 48.6	53.2	8 40.4	59.0	342 12.6	42.7	56 00.3	59.6	
10	62 03.9	323 47.7	53.1	23 41.0	+13 59.6	357 14.5	42.8	71 02.7	59.6	
11	77 06.4	338 46.8	+23 53.0	38 41.7	+14 00.2	12 16.4	+20 42.9	86 05.1	-5 59.5	
12	92 08.8	353 45.9	+23 52.9	53 42.4	+14 00.8	27 18.3	+20 43.0	101 07.6	-5 59.5	
13	107 11.3	8 45.0	52.8	68 43.1	01.4	42 20.1	43.1	116 10.0	59.5	
14	122 13.8	23 44.1	52.7	83 43.8	02.0	57 22.0	43.2	131 12.4	59.5	
15	137 16.2	38 43.2	52.6	98 44.5	02.6	72 23.9	43.2	146 14.9	59.5	
16	152 18.7	53 42.3	52.5	113 45.2	03.1	87 25.8	43.3	161 17.3	59.5	
17	167 21.2	68 41.4	+23 52.4	128 45.9	+14 03.7	102 27.7	+20 43.4	176 19.7	-5 59.5	
18	182 23.6	83 40.5	+23 52.3	143 46.5	+14 04.3	117 29.5	+20 43.5	191 22.2	-5 59.5	
19	197 26.1	98 39.6	52.3	158 47.2	04.9	132 31.4	43.6	206 24.6	59.5	
20	212 28.6	113 38.7	52.2	173 47.9	05.5	147 33.3	43.7	221 27.1	59.5	
21	227 31.0	128 37.9	52.1	188 48.6	06.1	162 35.2	43.8	236 29.5	59.5	
22	242 33.5	143 37.0	52.0	203 49.3	06.7	177 37.1	43.9	251 31.9	59.5	
23	257 36.0	158 36.1	51.9	218 50.0	07.2	192 38.9	44.0	266 34.4	59.5	
24	272 38.4	173 35.2	+23 51.7	233 50.7	+14 07.8	207 40.8	+20 44.1	281 36.8	-5 59.5	

Dif	—	-9	-1	+7	+6	+19	+1	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 02.6 <sup>m</sup>		SD: 16.0' Edad: 17.5 <sup>d</sup> PMG: 1 <sup>h</sup> 59 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.8' 12 <sup>h</sup> : 58.9' 20 <sup>h</sup> : 59.0'				R°: 57 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	179 23.1	+23 24.3	331 22.2	60	-25 15.3	81	60 N	21 28	23 13	** **	23 41	1	4 33	112		
1	194 23.0	24.2	345 47.2	61	-25 07.2	82	58	21 07	22 23	** **	25	7	4 56	104		
2	209 22.9	24.2	0 12.1	59	-24 58.9	83	56	20 51	21 53	** **	11	12	5 15	98		
3	224 22.7	24.1	14 37.2	61	50.4	85	54	37	31	23 17	23 00	15	31	93		
4	239 22.6	24.0	29 02.3	61	41.8	86	52	24	21 13	22 31	22 49	19	44	90		
5	254 22.5	+23 24.0	43 27.5	62	-24 33.0	88	50	20 13	20 58	22 03	22 40	22	5 56	87		
6	269 22.3	+23 23.9	57 52.7	62	-24 24.0	90	45	19 51	20 28	21 18	22 20	28	6 21	80		
7	284 22.2	23.9	72 18.0	63	14.9	91	40	33	20 06	20 47	22 04	32	40	76		
8	299 22.1	23.8	86 43.4	64	-24 05.6	93	35	18	19 48	24	21 50	36	6 56	72		
9	314 21.9	23.8	101 08.9	65	-23 56.2	94	30	19 05	32	20 06	38	40	7 10	69		
10	329 21.8	23.7	115 34.4	65	46.7	95	20	18 43	19 07	19 37	21 17	45	34	64		
11	344 21.7	+23 23.6	130 00.1	67	-23 36.9	98	10 N	18 24	18 47	19 14	20 59	50	7 54	60		
12	359 21.5	+23 23.6	144 25.7	66	-23 27.1	98	0	18 06	18 29	18 55	20 43	54	8 13	56		
13	14 21.4	23.5	158 51.5	68	17.1	100	10 S	17 49	18 12	38	26	58	32	51		
14	29 21.3	23.4	173 17.4	69	-23 06.9	102	20	30	17 54	22	20 07	64	8 52	47		
15	44 21.2	23.4	187 43.3	69	-22 56.6	103	30	17 09	35	18 05	19 46	69	9 14	43		
16	59 21.0	23.3	202 09.3	70	46.1	105	35	16 57	25	17 57	34	72	28	39		
17	74 20.9	+23 23.3	216 35.4	71	-22 35.5	106	40	16 43	17 13	17 47	19 20	76	9 43	36		
18	89 20.8	+23 23.2	231 01.5	71	-22 24.8	107	45	16 26	17 00	17 37	19 03	80	10 01	32		
19	104 20.6	23.1	245 27.8	73	13.9	109	50	16 05	16 44	25	18 42	87	24	25		
20	119 20.5	23.1	259 54.1	73	-22 02.9	110	52	15 55	36	20	31	90	34	23		
21	134 20.4	23.0	274 20.5	74	-21 51.8	111	54	44	28	14	20	94	10 46	20		
22	149 20.2	22.9	288 47.0	75	40.5	113	56	31	19	08	18 07	98	11 00	15		
23	164 20.1	22.8	303 13.5	75	29.1	114	58	15 17	16 09	17 01	17 52	103	16	10		
24	179 20.0	+23 22.8	317 40.2	77	-21 17.5	116	60 S	14 59	15 57	16 54	17 33	110	11 35	4		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 5 <sup>h</sup> 48.5 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 08 <sup>m</sup>		Mag.: +1.1 PMG: 5 <sup>h</sup> 13 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	272 38.4	+23 51.7	173 35.2	51.6	233 50.7	+14 07.8	207 40.8	+20 44.1	281 36.8	-5 59.5	
1	287 40.9	51.6	188 34.3	51.5	248 51.4	08.4	222 42.7	44.2	296 39.2	59.5	
2	302 43.3	51.5	203 33.4	51.4	263 52.0	09.0	237 44.6	44.3	311 41.7	59.5	
3	317 45.8	51.4	218 32.5	51.3	278 52.7	09.6	252 46.4	44.4	326 44.1	59.5	
4	332 48.3	51.3	233 31.6	51.2	293 53.4	10.2	267 48.3	44.5	341 46.6	59.5	
5	347 50.7	+23 51.2	248 30.7	51.1	308 54.1	+14 10.7	282 50.2	+20 44.6	356 49.0	-5 59.5	
6	2 53.2	+23 51.1	263 29.8	51.0	323 54.8	+14 11.3	297 52.1	+20 44.7	11 51.4	-5 59.5	
7	17 55.7	51.0	278 28.9	50.9	338 55.5	11.9	312 54.0	44.8	26 53.9	59.6	
8	32 58.1	50.9	293 28.0	50.8	353 56.2	12.5	327 55.8	44.9	41 56.3	59.6	
9	48 00.6	50.8	308 27.1	50.7	8 56.9	13.1	342 57.7	45.0	56 58.7	59.6	
10	63 03.1	50.6	323 26.2	50.6	23 57.5	13.7	357 59.6	45.0	72 01.2	59.6	
11	78 05.5	+23 50.5	338 25.3	50.5	38 58.2	+14 14.2	13 01.5	+20 45.1	87 03.6	-5 59.6	
12	93 08.0	+23 50.4	353 24.5	50.4	53 58.9	+14 14.8	28 03.4	+20 45.2	102 06.1	-5 59.6	
13	108 10.5	50.3	8 23.6	50.3	68 59.6	15.4	43 05.2	45.3	117 08.5	59.6	
14	123 12.9	50.2	23 22.7	50.2	84 00.3	16.0	58 07.1	45.4	132 10.9	59.6	
15	138 15.4	50.1	38 21.8	50.1	99 01.0	16.6	73 09.0	45.5	147 13.4	59.6	
16	153 17.8	49.9	53 20.9	49.9	114 01.7	17.1	88 10.9	45.6	162 15.8	59.6	
17	168 20.3	+23 49.8	68 20.0	49.8	129 02.3	+14 17.7	103 12.8	+20 45.7	177 18.3	-5 59.6	
18	183 22.8	+23 49.7	83 19.1	49.7	144 03.0	+14 18.3	118 14.6	+20 45.8	192 20.7	-5 59.6	
19	198 25.2	49.6	98 18.2	49.6	159 03.7	18.9	133 16.5	45.9	207 23.1	59.6	
20	213 27.7	49.4	113 17.3	49.4	174 04.4	19.5	148 18.4	46.0	222 25.6	59.6	
21	228 30.2	49.3	128 16.4	49.3	189 05.1	20.0	163 20.3	46.1	237 28.0	59.6	
22	243 32.6	49.2	143 15.5	49.2	204 05.8	20.6	178 22.2	46.2	252 30.5	59.6	
23	258 35.1	49.0	158 14.7	49.0	219 06.5	21.2	193 24.0	46.3	267 32.9	59.6	
24	273 37.6	+23 48.9	173 13.8	48.9	234 07.2	+14 21.8	208 25.9	+20 46.4	282 35.3	-5 59.6	
Dif	—	—	-9	-1	+7	+6	+19	+1	+24	0	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 02.8 <sup>m</sup>			SD: 16.1' Edad: 18.5 <sup>d</sup> PMG: 2 <sup>h</sup> 56 <sup>m</sup> R°: 53 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 59.2' 20 <sup>h</sup> : 59.2'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	179 20.0	+23 22.8		317 40.2	77	-21 17.5	116	60 N	** **	0 52	2 38	23 42 0	6 25 109			
1	194 19.8			332 06.9	77	-21 05.9	116	58	** **	1 42	2 58	32 5	40 103			
2	209 19.7			346 33.7	78	-20 54.0	119	56	** **	2 12	3 15	23 9	6 53 98			
3	224 19.6			1 00.6	79	42.1	119	54		0 48	34	15 12	7 04 94			
4	239 19.4			15 27.6	80	30.1	120	52		1 34	2 52	41	08 15			
5	254 19.3	+23 22.4		29 54.7	81	-20 17.9	122	50		2 02	3 07	3 52	23 02 17			
6	269 19.2	+23 22.3		44 21.8	81	-20 05.6	123	45		2 47	3 37	4 15	22 48 23			
7	284 19.0			58 49.0	82	-19 53.1	125	40		3 18	4 00	33	36 28			
8	299 18.9			73 16.3	83	40.6	125	35		3 41	18	4 48	26 32			
9	314 18.8			87 43.7	84	27.9	127	30		4 00	33	5 01	18 34			
10	329 18.6			102 11.2	85	15.2	127	20		29	4 58	23	22 02 41			
11	344 18.5	+23 22.0		116 38.8	86	-19 02.3	129	10 N		4 51	5 18	5 42	21 49 46			
12	359 18.4	+23 21.9		131 06.4	86	-18 49.3	130	0		5 10	5 37	5 59	21 37 50			
13	14 18.3			145 34.1	87	36.2	131	10 S		27	5 54	6 17	24 56			
14	29 18.1			160 01.9	88	22.9	133	20		5 44	6 11	35	21 11 60			
15	44 18.0			174 29.8	89	-18 09.6	133	30		6 00	30	6 56	20 55 67			
16	59 17.9			188 57.8	90	-17 56.2	134	35		09	40	7 09	46 71			
17	74 17.7	+23 21.5		203 25.8	90	-17 42.6	136	40		6 18	6 52	7 23	20 36 74			
18	89 17.6	+23 21.4		217 54.0	92	-17 29.0	136	45		6 28	7 06	7 39	20 23 80			
19	104 17.5			232 22.2	92	15.2	138	50		40	22	8 00	09 85			
20	119 17.3			246 50.5	93	-17 01.4	138	52		45	29	10	20 01 89			
21	134 17.2			261 18.8	93	-16 47.4	140	54		51	37	21	19 54 92			
22	149 17.1			275 47.3	95	33.4	140	56		6 57	46	34	45 96			
23	164 16.9			290 15.8	95	19.3	141	58		7 04	7 57	8 48	35 100			
24	179 16.8	+23 20.9		304 44.4	96	-16 05.0	143	60 S		7 11	8 08	9 06	19 23 106			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	273 37.6	173 13.8	+23 48.9	234 07.2	+14 21.8	208 25.9	+20 46.4	282 35.3	-5 59.6							
1	288 40.0	188 12.9	48.8	249 07.8	22.4	223 27.8	46.5	297 37.8	59.6							
2	303 42.5	203 12.0	48.6	264 08.5	22.9	238 29.7	46.6	312 40.2	59.6							
3	318 44.9	218 11.1	48.5	279 09.2	23.5	253 31.6	46.6	327 42.7	59.6							
4	333 47.4	233 10.2	48.4	294 09.9	24.1	268 33.4	46.7	342 45.1	59.6							
5	348 49.9	248 09.3	+23 48.2	309 10.6	+14 24.7	283 35.3	+20 46.8	357 47.6	-5 59.6							
6	3 52.3	263 08.4	+23 48.1	324 11.3	+14 25.3	298 37.2	+20 46.9	12 50.0	-5 59.6							
7	18 54.8	278 07.5	47.9	339 12.0	25.8	313 39.1	47.0	27 52.4	59.6							
8	33 57.3	293 06.6	47.8	354 12.6	26.4	328 41.0	47.1	42 54.9	59.6							
9	48 59.7	308 05.7	47.7	9 13.3	27.0	343 42.8	47.2	57 57.3	59.6							
10	64 02.2	323 04.9	47.5	24 14.0	27.6	358 44.7	47.3	72 59.8	59.6							
11	79 04.7	338 04.0	+23 47.4	39 14.7	+14 28.1	13 46.6	+20 47.4	88 02.2	-5 59.6							
12	94 07.1	353 03.1	+23 47.2	54 15.4	+14 28.7	28 48.5	+20 47.5	103 04.7	-5 59.6							
13	109 09.6	8 02.2	47.1	69 16.1	29.3	43 50.4	47.6	118 07.1	59.6							
14	124 12.1	23 01.3	46.9	84 16.8	29.9	58 52.3	47.7	133 09.5	59.6							
15	139 14.5	38 00.4	46.8	99 17.4	30.4	73 54.1	47.8	148 12.0	59.6							
16	154 17.0	52 59.5	46.6	114 18.1	31.0	88 56.0	47.9	163 14.4	59.6							
17	169 19.4	67 58.6	+23 46.5	129 18.8	+14 31.6	103 57.9	+20 48.0	178 16.9	-5 59.6							
18	184 21.9	82 57.7	+23 46.3	144 19.5	+14 32.2	118 59.8	+20 48.0	193 19.3	-5 59.6							
19	199 24.4	97 56.9	46.1	159 20.2	32.7	134 01.7	48.1	208 21.8	59.6							
20	214 26.8	112 56.0	46.0	174 20.9	33.3	149 03.5	48.2	223 24.2	59.6							
21	229 29.3	127 55.1	45.8	189 21.6	33.9	164 05.4	48.3	238 26.7	59.6							
22	244 31.8	142 54.2	45.7	204 22.2	34.4	179 07.3	48.4	253 29.1	59.6							
23	259 34.2	157 53.3	45.5	219 22.9	35.0	194 09.2	48.5	268 31.5	59.6							
24	274 36.7	172 52.4	+23 45.4	234 23.6	+14 35.6	209 11.1	+20 48.6	283 34.0	-5 59.6							
Dif	—	-9	-1	+7	+6	+19	+1	+24	0							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 16.1'		Edad: 19.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.3' 20 <sup>h</sup> : 59.4'			R°: 50 <sup>m</sup>					
	PMG: 12 <sup>h</sup> 03.0 <sup>m</sup>		PMG: 3 <sup>h</sup> 49 <sup>m</sup>														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m			
0	179 16.8	+23 20.9	304 44.4	96	-16 05.0	143	<b>60 N</b>	21 27	23 11	** **	23 42	0	8 14	103			
1	194 16.7	20.8	319 13.0	96	-15 50.7	143	<b>58</b>	21 07	22 22	** **	37 3	0	23	98			
2	209 16.6	20.7	333 41.8	98	36.3	144	<b>56</b>	20 50	21 53	** **	32 6	6	31	94			
3	224 16.4	20.6	348 10.6	98	21.8	145	<b>54</b>	36	31	23 15	27	10	38	90			
4	239 16.3	20.5	2 39.5	99	-15 07.2	146	<b>52</b>	24	21 13	22 30	23 12	12	44	87			
5	254 16.2	+23 20.4	17 08.5	100	-14 52.6	146	<b>50</b>	20 13	20 58	22 03	23 19	15	8 49	85			
6	269 16.0	+23 20.3	31 37.5	100	-14 37.8	148	<b>45</b>	19 51	20 28	21 18	23 11	20	9 02	78			
7	284 15.9	20.2	46 06.6	101	23.0	148	<b>40</b>	33	20 06	20 47	23 04	25	11	74			
8	299 15.8	20.1	60 35.8	102	-14 08.1	149	<b>35</b>	18	19 48	24	22 58	28	20	70			
9	314 15.6	20.0	75 05.0	102	-13 53.1	150	<b>30</b>	19 05	32	20 06	52 33	27	66				
10	329 15.5	20.0	89 34.3	103	38.0	151	<b>20</b>	18 43	19 08	19 37	43 38	40	60				
11	344 15.4	+23 19.9	104 03.7	104	-13 22.9	151	<b>10 N</b>	18 24	18 47	19 14	22 35	44	9 51	54			
12	359 15.3	+23 19.8	118 33.2	105	-13 07.7	152	<b>0</b>	18 07	18 29	18 55	22 27	49	10 01	50			
13	14 15.1	19.7	133 02.7	105	-12 52.4	153	<b>10 S</b>	17 49	18 12	38	20 53	11	45				
14	29 15.0	19.6	147 32.3	106	37.1	153	<b>20</b>	31	17 55	22	11 59	22	39				
15	44 14.9	19.5	162 01.9	106	21.6	155	<b>30</b>	17 10	36	18 06	22 02	65	34	33			
16	59 14.7	19.4	176 31.6	107	-12 06.1	155	<b>35</b>	16 57	26	17 57	21 57	68	41	30			
17	74 14.6	+23 19.3	191 01.4	108	-11 50.6	155	<b>40</b>	16 43	17 14	17 48	21 50	73	10 49	26			
18	89 14.5	+23 19.2	205 31.2	108	-11 35.0	156	<b>45</b>	16 27	17 00	17 38	21 43	78	10 58	21			
19	104 14.3	19.1	220 01.1	109	19.3	157	<b>50</b>	16 06	16 44	26	34 84	11 09	16				
20	119 14.2	19.0	234 31.1	110	-11 03.6	157	<b>52</b>	15 56	37	21	30 87	14	13				
21	134 14.1	18.9	249 01.1	110	-10 47.8	158	<b>54</b>	45	29	15	26 89	19	11				
22	149 14.0	18.8	263 31.1	110	31.9	159	<b>56</b>	32	20	09	21 93	25	8				
23	164 13.8	18.7	278 01.2	111	16.0	159	<b>58</b>	18	16 10	17 02	15 97	32	4				
24	179 13.7	+23 18.6	292 31.4	112	-10 00.0	160	<b>60 S</b>	15 00	15 58	16 55	21 09	101	11 40	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 <sup>h</sup> 40.6 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.0 PMG: 10 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.0 PMG: 5 <sup>h</sup> 05 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	274 36.7	+23 45.4	172 52.4	45.2	234 23.6	+14 35.6	209 11.1	+20 48.6	283 34.0	-5 59.6
1	289 39.2	45.2	187 51.5	45.2	249 24.3	36.2	224 13.0	48.7	298 36.4	59.6
2	304 41.6	45.0	202 50.6	45.0	264 25.0	36.7	239 14.8	48.8	313 38.9	59.6
3	319 44.1	44.9	217 49.8	44.9	279 25.7	37.3	254 16.7	48.9	328 41.3	59.6
4	334 46.6	44.7	232 48.9	44.7	294 26.4	37.9	269 18.6	49.0	343 43.8	59.7
5	349 49.0	+23 44.5	247 48.0	44.5	309 27.0	+14 38.5	284 20.5	+20 49.1	358 46.2	-5 59.7
6	4 51.5	+23 44.4	262 47.1	44.4	324 27.7	+14 39.0	299 22.4	+20 49.2	13 48.7	-5 59.7
7	19 53.9	44.2	277 46.2	44.2	339 28.4	39.6	314 24.3	49.2	28 51.1	59.7
8	34 56.4	44.0	292 45.3	44.0	354 29.1	40.2	329 26.1	49.3	43 53.6	59.7
9	49 58.9	43.8	307 44.4	43.8	9 29.8	40.7	344 28.0	49.4	58 56.0	59.7
10	65 01.3	43.7	322 43.5	43.7	24 30.5	41.3	359 29.9	49.5	73 58.5	59.7
11	80 03.8	+23 43.5	337 42.7	43.5	39 31.2	+14 41.9	14 31.8	+20 49.6	89 00.9	-5 59.7
12	95 06.3	+23 43.3	352 41.8	43.3	54 31.8	+14 42.4	29 33.7	+20 49.7	104 03.3	-5 59.7
13	110 08.7	43.1	7 40.9	43.1	69 32.5	43.0	44 35.5	49.8	119 05.8	59.7
14	125 11.2	43.0	22 40.0	43.0	84 33.2	43.6	59 37.4	49.9	134 08.2	59.7
15	140 13.7	42.8	37 39.1	42.8	99 33.9	44.1	74 39.3	50.0	149 10.7	59.7
16	155 16.1	42.6	52 38.2	42.6	114 34.6	44.7	89 41.2	50.1	164 13.1	59.7
17	170 18.6	+23 42.4	67 37.3	42.4	129 35.3	+14 45.3	104 43.1	+20 50.2	179 15.6	-5 59.7
18	185 21.0	+23 42.2	82 36.5	42.2	144 35.9	+14 45.8	119 45.0	+20 50.3	194 18.0	-5 59.7
19	200 23.5	42.0	97 35.6	42.0	159 36.6	46.4	134 46.8	50.3	209 20.5	59.7
20	215 26.0	41.9	112 34.7	41.9	174 37.3	47.0	149 48.7	50.4	224 22.9	59.7
21	230 28.4	41.7	127 33.8	41.7	189 38.0	47.6	164 50.6	50.5	239 25.4	59.7
22	245 30.9	41.5	142 32.9	41.5	204 38.7	48.1	179 52.5	50.6	254 27.8	59.7
23	260 33.4	41.3	157 32.0	41.3	219 39.4	48.7	194 54.4	50.7	269 30.3	59.7
24	275 35.8	+23 41.1	172 31.2	41.1	234 40.1	+14 49.2	209 56.3	+20 50.8	284 32.7	-5 59.7

Dif	—	-9	-2	+7	+6	+19	+1	+24	0
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UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 03.2 <sup>m</sup>			SD: 16.2' Edad: 20.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 59.4' 12 <sup>h</sup> : 59.4' 20 <sup>h</sup> : 59.4' PMG: 4 <sup>h</sup> 39 <sup>m</sup> R°: 48 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m		
0	179 13.7	+23 18.6		292 31.4	-10 00.0	160	<b>60 N</b>	** **	0 56	2 39	23 42 -1	9 57 100			
1	194 13.6	18.4		307 01.6 <sup>112</sup>	-9 44.0	160	<b>58</b>	** **	1 44	2 59	40 3	10 01 96			
2	209 13.4	18.3		321 31.9 <sup>113</sup>	28.0	160	<b>56</b>	** **	2 14	3 16	38 6	05 92			
3	224 13.3	18.2		336 02.2 <sup>113</sup>	-9 11.8	162	<b>54</b>	0 51	36	30	37 8	08 89			
4	239 13.2	18.1		350 32.6 <sup>114</sup>	-8 55.7	161	<b>52</b>	1 36	2 53	42	35 12	11 86			
5	254 13.1	+23 18.0		5 03.0 <sup>114</sup>	-8 39.5	162	<b>50</b>	2 03	3 08	3 53	23 34 14	10 14 83			
6	269 12.9	+23 17.9		19 33.5 <sup>115</sup>	-8 23.2	163	<b>45</b>	2 48	3 38	4 15	23 31 19	10 20 78			
7	284 12.8	17.8		34 04.0 <sup>115</sup>	-8 06.9	163	<b>40</b>	3 19	4 00	33	29 23	25 73			
8	299 12.7	17.7		48 34.5 <sup>115</sup>	-7 50.6	163	<b>35</b>	3 42	19	4 48	26 28	30 68			
9	314 12.5	17.6		63 05.1 <sup>116</sup>	34.2	164	<b>30</b>	4 00	34	5 01	25 31	33 65			
10	329 12.4	17.5		77 35.8 <sup>117</sup>	17.8	164	<b>20</b>	29	4 59	23	21 38	40 58			
11	344 12.3	+23 17.4		92 06.5 <sup>117</sup>	-7 01.4	164	<b>10 N</b>	4 52	5 19	5 42	23 19 42	10 45 53			
12	359 12.2	+23 17.2		106 37.2 <sup>117</sup>	-6 44.9	165	<b>0</b>	5 11	5 37	6 00	23 16 48	10 51 47			
13	14 12.0	17.1		121 07.9 <sup>117</sup>	28.4	165	<b>10 S</b>	5 28	5 54	17	13 53	10 56 43			
14	29 11.9	17.0		135 38.7 <sup>118</sup>	-6 11.8	166	<b>20</b>	5 44	6 11	35	10 59	11 01 38			
15	44 11.8	16.9		150 09.5 <sup>118</sup>	-5 55.2	166	<b>30</b>	6 00	30	6 56	07 65	07 32			
16	59 11.6	16.8		164 40.4 <sup>119</sup>	38.6	166	<b>35</b>	6 09	41	7 09	05 68	11 28			
17	74 11.5	+23 16.7		179 11.3 <sup>119</sup>	-5 22.0	166	<b>40</b>	6 18	6 52	7 23	23 03 72	11 15 24			
18	89 11.4	+23 16.5		193 42.2 <sup>119</sup>	-5 05.3	167	<b>45</b>	6 29	7 06	7 40	23 01 77	11 19 20			
19	104 11.3	16.4		208 13.2 <sup>120</sup>	-4 48.6	167	<b>50</b>	40	22	8 00	22 58 83	25 14			
20	119 11.1	16.3		222 44.2 <sup>120</sup>	31.9	167	<b>52</b>	45	29	10	57 85	27 12			
21	134 11.0	16.2		237 15.2 <sup>120</sup>	-4 15.2	167	<b>54</b>	51	37	21	55 88	30 9			
22	149 10.9	16.1		251 46.2 <sup>120</sup>	-3 58.4	168	<b>56</b>	6 57	46	34	54 91	33 6			
23	164 10.7	15.9		266 17.3 <sup>121</sup>	41.7	167	<b>58</b>	7 04	7 56	8 48	52 95	36 3			
24	179 10.6	+23 15.8		280 48.3 <sup>120</sup>	-3 24.9	168	<b>60 S</b>	7 11	8 08	9 05	22 50 99	11 40 -1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 36.7 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 31 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 21 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 59 <sup>m</sup>		Mag.: +1.0 PMG: 5 <sup>h</sup> 01 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	275 35.8	+23 41.1	172 31.2	40.9	234 40.1	+14 49.2	209 56.3	+20 50.8	284 32.7	-5 59.7
1	290 38.3	40.9	187 30.3	40.9	249 40.7	49.8	224 58.2	50.9	299 35.2	59.7
2	305 40.8	40.7	202 29.4	40.7	264 41.4	50.4	240 00.0	51.0	314 37.6	59.8
3	320 43.2	40.5	217 28.5	40.5	279 42.1	50.9	255 01.9	51.1	329 40.1	59.8
4	335 45.7	40.3	232 27.6	40.3	294 42.8	51.5	270 03.8	51.2	344 42.5	59.8
5	350 48.2	+23 40.1	247 26.7	40.1	309 43.5	+14 52.1	285 05.7	+20 51.3	359 45.0	-5 59.8
6	5 50.6	+23 39.9	262 25.8	39.9	324 44.2	+14 52.6	300 07.6	+20 51.4	14 47.4	-5 59.8
7	20 53.1	39.7	277 25.0	39.7	339 44.8	53.2	315 09.5	51.4	29 49.9	59.8
8	35 55.5	39.5	292 24.1	39.5	354 45.5	53.8	330 11.3	51.5	44 52.3	59.8
9	50 58.0	39.3	307 23.2	39.3	9 46.2	54.3	345 13.2	51.6	59 54.8	59.8
10	66 00.5	39.1	322 22.3	39.1	24 46.9	54.9	0 15.1	51.7	74 57.2	59.8
11	81 02.9	+23 38.9	337 21.4	38.9	39 47.6	+14 55.5	15 17.0	+20 51.8	89 59.7	-5 59.8
12	96 05.4	+23 38.7	352 20.6	38.7	54 48.3	+14 56.0	30 18.9	+20 51.9	105 02.1	-5 59.8
13	111 07.9	38.5	7 19.7	38.5	69 48.9	56.6	45 20.8	52.0	120 04.6	59.8
14	126 10.3	38.3	22 18.8	38.3	84 49.6	57.1	60 22.7	52.1	135 07.0	59.8
15	141 12.8	38.1	37 17.9	38.1	99 50.3	57.7	75 24.5	52.2	150 09.5	59.8
16	156 15.3	37.9	52 17.0	37.9	114 51.0	58.3	90 26.4	52.3	165 11.9	59.8
17	171 17.7	+23 37.7	67 16.1	37.7	129 51.7	+14 58.8	105 28.3	+20 52.4	180 14.4	-5 59.8
18	186 20.2	+23 37.4	82 15.3	37.4	144 52.4	+14 59.4	120 30.2	+20 52.4	195 16.8	-5 59.8
19	201 22.7	37.2	97 14.4	37.2	159 53.0	+15 00.0	135 32.1	52.5	210 19.3	59.9
20	216 25.1	37.0	112 13.5	37.0	174 53.7	00.5	150 34.0	52.6	225 21.7	59.9
21	231 27.6	36.8	127 12.6	36.8	189 54.4	01.1	165 35.8	52.7	240 24.2	59.9
22	246 30.0	36.6	142 11.7	36.6	204 55.1	01.6	180 37.7	52.8	255 26.6	59.9
23	261 32.5	36.4	157 10.9	36.4	219 55.8	02.2	195 39.6	52.9	270 29.1	59.9
24	276 35.0	+23 36.1	172 10.0	36.1	234 56.5	+15 02.8	210 41.5	+20 53.0	285 31.5	-5 59.9
Dif	—	-9	-2		+7	+6	+19	+1	+25	0



UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 03.4 <sup>m</sup>			SD: 16.2' Edad: 21.5 <sup>d</sup> PMG: 5 <sup>h</sup> 27 <sup>m</sup> R <sup>o</sup> : 48 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.4' 12 <sup>h</sup> : 59.3' 20 <sup>h</sup> : 59.3'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m	
0	179 10.6	+23 15.8		280 48.3	-3 24.9	168	60 N	21 27	23 08	** **	23 41	-1	11 37	99	
1	194 10.5	15.7		295 19.4	-3 08.1	168	58	21 06	22 21	** **	43 3		37 95		
2	209 10.4	15.6		309 50.6	-2 51.2	169	56	20 50	21 52	** **	44 7		37 92		
3	224 10.2	15.5		324 21.7	34.4	168	54	36	30	23 12	45 10		37 89		
4	239 10.1	15.3		338 52.9	17.6	168	52	24	21 12	22 29	47 12		37 86		
5	254 10.0	+23 15.2		353 24.0	-2 00.7	169	50	20 13	20 57	22 02	23 48	14	11 37	83	
6	269 09.9	+23 15.1		7 55.2	-1 43.9	168	45	19 51	20 28	21 17	23 50	20	11 38	77	
7	284 09.7	15.0		22 26.4	27.0	169	40	33	20 06	20 47	52 25		38 72		
8	299 09.6	14.8		36 57.6	-1 10.1	169	35	18	19 48	24	54 29		38 68		
9	314 09.5	14.7		51 28.9	-0 53.3	168	30	19 05	33	20 06	56 32		38 64		
10	329 09.4	14.6		66 00.1	36.4	169	20	18 43	19 08	19 37	23 59	37	38 58		
11	344 09.2	+23 14.4		80 31.3	-0 19.5	169	10 N	18 24	18 48	19 15	** **	** **	11 38	53	
12	359 09.1	+23 14.3		95 02.6	-0 02.6	169	0	18 07	18 30	18 56	** **	** **	11 38	48	
13	14 09.0	14.2		109 33.8	+0 14.2	168	10 S	17 50	18 13	39	** **	** **	39 42		
14	29 08.8	14.0		124 05.1	31.1	169	20	31	17 55	23	** **	** **	39 37		
15	44 08.7	13.9		138 36.3	+0 48.0	169	30	17 10	37	18 07	** **	** **	39 31		
16	59 08.6	13.8		153 07.6	+1 04.8	168	35	16 58	26	17 58	** **	** **	39 28		
17	74 08.5	+23 13.6		167 38.9	+1 21.7	169	40	16 44	17 15	17 49	** **	** **	11 39	24	
18	89 08.3	+23 13.5		182 10.1	+1 38.5	168	45	16 27	17 01	17 38	** **	** **	11 39	19	
19	104 08.2	13.4		196 41.4	+1 55.4	169	50	16 07	16 45	27	** **	** **	39 14		
20	119 08.1	13.2		211 12.6	+2 12.2	168	52	15 57	38	22	** **	** **	39 12		
21	134 08.0	13.1		225 43.8	29.0	168	54	46	30	16	** **	** **	39 9		
22	149 07.8	13.0		240 15.1	+2 45.8	168	56	34	21	10	** **	** **	39 6		
23	164 07.7	12.8		254 46.3	+3 02.5	167	58	19	16 11	17 03	** **	** **	39 3		
24	179 07.6	+23 12.7		269 17.5	+3 19.3	168	60 S	15 02	15 59	16 56	** **	** **	11 39	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 32.8 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 56 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	276 35.0	172 10.0	+23 36.1		234 56.5	+15 02.8	210 41.5	+20 53.0	285 31.5	-5 59.9
1	291 37.4	187 09.1	35.9		249 57.2	03.3	225 43.4	53.1	300 34.0	59.9
2	306 39.9	202 08.2	35.7		264 57.8	03.9	240 45.3	53.2	315 36.5	59.9
3	321 42.4	217 07.3	35.5		279 58.5	04.4	255 47.2	53.3	330 38.9	59.9
4	336 44.8	232 06.5	35.2		294 59.2	05.0	270 49.0	53.3	345 41.4	59.9
5	351 47.3	247 05.6	+23 35.0		309 59.9	+15 05.5	285 50.9	+20 53.4	0 43.8	-5 59.9
6	6 49.8	262 04.7	+23 34.8		325 00.6	+15 06.1	300 52.8	+20 53.5	15 46.3	-5 59.9
7	21 52.2	277 03.8	34.6		340 01.3	06.7	315 54.7	53.6	30 48.7	59.9
8	36 54.7	292 02.9	34.3		355 01.9	07.2	330 56.6	53.7	45 51.2	59.9
9	51 57.1	307 02.1	34.1		10 02.6	07.8	345 58.5	53.8	60 53.6	-5 59.9
10	66 59.6	322 01.2	33.9		25 03.3	08.3	1 00.4	53.9	75 56.1	-6 00.0
11	82 02.1	337 00.3	+23 33.6		40 04.0	+15 08.9	16 02.3	+20 54.0	90 58.5	-6 00.0
12	97 04.5	351 59.4	+23 33.4		55 04.7	+15 09.4	31 04.1	+20 54.1	106 01.0	-6 00.0
13	112 07.0	6 58.6	33.2		70 05.3	10.0	46 06.0	54.2	121 03.4	00.0
14	127 09.5	21 57.7	32.9		85 06.0	10.6	61 07.9	54.2	136 05.9	00.0
15	142 11.9	36 56.8	32.7		100 06.7	11.1	76 09.8	54.3	151 08.4	00.0
16	157 14.4	51 55.9	32.4		115 07.4	11.7	91 11.7	54.4	166 10.8	00.0
17	172 16.9	66 55.0	+23 32.2		130 08.1	+15 12.2	106 13.6	+20 54.5	181 13.3	-6 00.0
18	187 19.3	81 54.2	+23 32.0		145 08.8	+15 12.8	121 15.5	+20 54.6	196 15.7	-6 00.0
19	202 21.8	96 53.3	31.7		160 09.4	13.3	136 17.3	54.7	211 18.2	00.0
20	217 24.3	111 52.4	31.5		175 10.1	13.9	151 19.2	54.8	226 20.6	00.0
21	232 26.7	126 51.5	31.2		190 10.8	14.4	166 21.1	54.9	241 23.1	00.0
22	247 29.2	141 50.7	31.0		205 11.5	15.0	181 23.0	55.0	256 25.6	00.1
23	262 31.6	156 49.8	30.7		220 12.2	15.6	196 24.9	55.0	271 28.0	00.1
24	277 34.1	171 48.9	+23 30.5		235 12.9	+15 16.1	211 26.8	+20 55.1	286 30.5	-6 00.1
Dif	—	-9	-2		+7	+6	+19	+1	+25	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 16.2'		Edad: 22.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 59.2' 12 <sup>h</sup> : 59.2' 20 <sup>h</sup> : 59.1'			R <sup>o</sup> : 48 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 03.6 <sup>m</sup>		PMG: 6 <sup>h</sup> 15 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	179 07.6	+23 12.7	269 17.5	122	+3 19.3	167	60 N	** **	1 00	2 41	23 40	1	13 16	102		
1	194 07.5	12.5	283 48.7	122	36.0	167	58	** **	1 46	3 01	46 4		12 97			
2	209 07.3	12.4	298 19.9	122	+3 52.7	167	56	** **	2 15	17	51 8		09 93			
3	224 07.2	12.3	312 51.1	122	+4 09.4	167	54	0 55	37	31	55 11		06 89			
4	239 07.1	12.1	327 22.2	121	26.1	167	52	1 38	2 55	43	23 59	14	03 86			
5	254 07.0	+23 12.0	341 53.4	122	+4 42.7	166	50	2 05	3 10	3 54	** **	** **	13 00	84		
6	269 06.8	+23 11.8	356 24.5	121	+4 59.4	167	45	2 50	3 39	4 16	** **	** **	12 55	77		
7	284 06.7	11.7	10 55.6	121	+5 16.0	166	40	3 20	4 01	34	** **	** **	50 73			
8	299 06.6	11.6	25 26.7	121	32.5	165	35	3 43	19	4 49	** **	** **	46 69			
9	314 06.5	11.4	39 57.7	120	+5 49.0	165	30	4 01	34	5 02	** **	** **	42 66			
10	329 06.3	11.3	54 28.7	120	+6 05.5	165	20	30	4 59	24	** **	** **	36 59			
11	344 06.2	+23 11.1	68 59.8	121	+6 22.0	165	10 N	4 52	5 19	5 43	0 01	43	12 31	54		
12	359 06.1	+23 11.0	83 30.7	119	+6 38.4	164	0	5 11	5 37	6 00	0 04	48	12 26	49		
13	14 06.0	10.8	98 01.7	120	+6 54.8	164	10 S	28	5 54	17	06 53		21 44			
14	29 05.8	10.7	112 32.6	119	+7 11.1	163	20	5 44	6 12	36	09 58		16 39			
15	44 05.7	10.5	127 03.5	119	27.5	164	30	6 00	30	6 57	12 64		10 33			
16	59 05.6	10.4	141 34.4	119	+7 43.7	162	35	09	41	7 09	13 69		07 29			
17	74 05.5	+23 10.2	156 05.2	118	+8 00.0	163	40	6 18	6 52	7 23	0 15	73	12 03	25		
18	89 05.3	+23 10.1	170 36.0	118	+8 16.1	161	45	6 28	7 06	7 39	0 18	77	11 58	21		
19	104 05.2	09.9	185 06.7	117	32.3	162	50	40	22	8 00	21 83		53 16			
20	119 05.1	09.8	199 37.5	118	+8 48.4	161	52	45	29	10	22 86		51 13			
21	134 05.0	09.6	214 08.1	116	+9 04.4	160	54	51	37	21	23 89		48 10			
22	149 04.9	09.5	228 38.8	117	20.4	160	56	6 57	46	33	25 92		45 7			
23	164 04.7	09.3	243 09.4	116	36.3	159	58	7 04	7 56	8 47	27 96		42 3			
24	179 04.6	+23 09.1	257 39.9	115	+9 52.2	159	60 S	7 11	8 07	9 05	0 29	100	11 38	0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 <sup>h</sup> 28.8 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 33 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 19 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 53 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	277 34.1	+23 30.5	171 48.9	30.2	235 12.9	+15 16.1	211 26.8	+20 55.1	286 30.5	-6 00.1
1	292 36.6	30.2	186 48.0	30.0	250 13.5	16.7	226 28.7	55.2	301 32.9	00.1
2	307 39.0	30.0	201 47.2	29.7	265 14.2	17.2	241 30.6	55.3	316 35.4	00.1
3	322 41.5	29.7	216 46.3	29.5	280 14.9	17.8	256 32.4	55.4	331 37.8	00.1
4	337 44.0	29.5	231 45.4	29.2	295 15.6	18.3	271 34.3	55.5	346 40.3	00.1
5	352 46.4	+23 29.2	246 44.5	29.0	310 16.3	+15 18.9	286 36.2	+20 55.6	1 42.8	-6 00.1
6	7 48.9	+23 29.0	261 43.7	28.7	325 17.0	+15 19.4	301 38.1	+20 55.7	16 45.2	-6 00.1
7	22 51.4	28.7	276 42.8	28.4	340 17.6	20.0	316 40.0	55.8	31 47.7	00.1
8	37 53.8	28.4	291 41.9	28.2	355 18.3	20.5	331 41.9	55.8	46 50.1	00.1
9	52 56.3	28.2	306 41.0	27.9	10 19.0	21.1	346 43.8	55.9	61 52.6	00.1
10	67 58.8	27.9	321 40.2	27.7	25 19.7	21.6	1 45.7	56.0	76 55.0	00.2
11	83 01.2	+23 27.7	336 39.3	27.4	40 20.4	+15 22.2	16 47.6	+20 56.1	91 57.5	-6 00.2
12	98 03.7	+23 27.4	351 38.4	27.1	55 21.0	+15 22.7	31 49.4	+20 56.2	107 00.0	-6 00.2
13	113 06.1	27.1	6 37.6	26.9	70 21.7	23.3	46 51.3	56.3	122 02.4	00.2
14	128 08.6	26.9	21 36.7	26.6	85 22.4	23.8	61 53.2	56.4	137 04.9	00.2
15	143 11.1	26.6	36 35.8	26.3	100 23.1	24.4	76 55.1	56.5	152 07.3	00.2
16	158 13.5	26.0	51 34.9	26.0	115 23.8	24.9	91 57.0	56.6	167 09.8	00.2
17	173 16.0	+23 26.0	66 34.1	25.5	130 24.5	+15 25.5	106 58.9	+20 56.6	182 12.3	-6 00.2
18	188 18.5	+23 25.8	81 33.2	25.2	145 25.1	+15 26.0	122 00.8	+20 56.7	197 14.7	-6 00.2
19	203 20.9	25.5	96 32.3	25.0	160 25.8	26.6	137 02.7	56.8	212 17.2	00.2
20	218 23.4	25.2	111 31.5	24.9	175 26.5	27.1	152 04.6	56.9	227 19.6	00.2
21	233 25.9	24.7	126 30.6	24.4	190 27.2	27.7	167 06.4	57.0	242 22.1	00.3
22	248 28.3	24.4	141 29.7	24.1	205 27.9	28.2	182 08.3	57.1	257 24.6	00.3
23	263 30.8	24.1	156 28.8	23.8	220 28.5	28.8	197 10.2	57.2	272 27.0	00.3
24	278 33.2	+23 24.1	171 28.0	23.5	235 29.2	+15 29.3	212 12.1	+20 57.3	287 29.5	-6 00.3
Dif	—		-9	-3	+7	+5	+19	+1	+25	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 03.8 <sup>m</sup>		SD: 16.1' Edad: 23.5 <sup>d</sup> PMG: 7 <sup>h</sup> 03 <sup>m</sup> R°: 51 <sup>m</sup>						PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 59.0' 20 <sup>h</sup> : 58.9'		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	179 04.6	+23 09.1	257 39.9	+ 9 52.2	158	60 N	21 25	23 04	** **	23 41	1	14 58	105			
1	194 04.5	09.0	272 10.5	+10 08.0	158	58	21 06	22 19	** **	50	7	49	100			
2	209 04.4	08.8	286 40.9	23.8	157	56	20 49	21 50	** **	23 59	11	42	95			
3	224 04.2	08.7	301 11.4	39.5	157	54	35	29	23 09	** **	** **	35	91			
4	239 04.1	08.5	315 41.7	+10 55.2	156	52	23	21 12	22 27	** **	** **	29	88			
5	254 04.0	+23 08.4	330 12.1	+11 10.8	155	50	20 13	20 57	22 01	0 02	17	14 24	85			
6	269 03.9	+23 08.2	344 42.4	+11 26.3	155	45	19 51	20 28	21 17	0 10	23	14 12	79			
7	284 03.7	08.0	359 12.6	41.8	154	40	33	20 06	20 47	17 27	14 03	74	74			
8	299 03.6	07.9	13 42.8	+11 57.2	154	35	18	19 48	24	23 30	13 55	70	70			
9	314 03.5	07.7	28 12.9	+12 12.6	154	30	19 05	33	20 06	28 34	48	66	66			
10	329 03.4	07.6	42 43.0	27.8	152	20	18 43	19 08	19 37	36 40	35	61	61			
11	344 03.3	+23 07.4	57 13.0	+12 43.0	152	10 N	18 25	18 48	19 15	0 44	45	13 25	56			
12	359 03.1	+23 07.2	71 43.0	+12 58.2	150	0	18 07	18 30	18 56	0 52	50	13 15	51			
13	14 03.0	07.1	86 12.9	+13 13.2	150	10 S	17 50	18 13	39	0 59	55	13 05	47			
14	29 02.9	06.9	100 42.8	28.2	150	20	32	17 56	23	1 07	60	12 55	41			
15	44 02.8	06.7	115 12.6	43.2	150	30	17 11	37	18 07	16 66	43	36	36			
16	59 02.6	06.6	129 42.3	+13 58.0	148	35	16 59	27	17 59	22 69	36	33	33			
17	74 02.5	+23 06.4	144 12.0	+14 12.8	148	40	16 45	17 15	17 49	1 28	73	12 28	29			
18	89 02.4	+23 06.2	158 41.6	+14 27.4	146	45	16 28	17 02	17 39	1 35	79	12 19	25			
19	104 02.3	06.1	173 11.2	42.0	146	50	16 08	16 46	28	44 84	09	18	18			
20	119 02.2	05.9	187 40.7	+14 56.6	146	52	15 58	39	23	48 87	12 04	15	15			
21	134 02.0	05.7	202 10.1	+15 11.0	144	54	47	31	17	52 91	11 58	13	13			
22	149 01.9	05.5	216 39.5	25.4	144	56	35	22	11	1 57	95	52	9			
23	164 01.8	05.4	231 08.8	39.6	142	58	21	12	17 04	2 03	99	45	6			
24	179 01.7	+23 05.2	245 38.0	+15 53.8	142	60 S	15 04	16 01	16 57	2 09	104	11 38	0			

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 24.9 <sup>m</sup>	Mag.: -3.9 PMG: 12 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 18 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 50 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	278 33.2	171 28.0	+23 24.1	235 29.2	+15 29.3	212 12.1	+20 57.3	287 29.5	-6 00.3
1	293 35.7	186 27.1	23.8	250 29.9	29.8	227 14.0	57.3	302 31.9	00.3
2	308 38.2	201 26.2	23.6	265 30.6	30.4	242 15.9	57.4	317 34.4	00.3
3	323 40.6	216 25.4	23.3	280 31.3	30.9	257 17.8	57.5	332 36.9	00.3
4	338 43.1	231 24.5	23.0	295 32.0	31.5	272 19.7	57.6	347 39.3	00.3
5	353 45.6	246 23.6	+23 22.7	310 32.6	+15 32.0	287 21.6	+20 57.7	2 41.8	-6 00.3
6	8 48.0	261 22.8	+23 22.4	325 33.3	+15 32.6	302 23.4	+20 57.8	17 44.2	-6 00.4
7	23 50.5	276 21.9	22.1	340 34.0	33.1	317 25.3	57.9	32 46.7	00.4
8	38 53.0	291 21.0	21.9	355 34.7	33.7	332 27.2	58.0	47 49.2	00.4
9	53 55.4	306 20.2	21.6	10 35.4	34.2	347 29.1	58.0	62 51.6	00.4
10	68 57.9	321 19.3	21.3	25 36.0	34.7	2 31.0	58.1	77 54.1	00.4
11	84 00.4	336 18.4	+23 21.0	40 36.7	+15 35.3	17 32.9	+20 58.2	92 56.6	-6 00.4
12	99 02.8	351 17.6	+23 20.7	55 37.4	+15 35.8	32 34.8	+20 58.3	107 59.0	-6 00.4
13	114 05.3	6 16.7	20.4	70 38.1	36.4	47 36.7	58.4	123 01.5	00.4
14	129 07.7	21 15.8	20.1	85 38.8	36.9	62 38.6	58.5	138 03.9	00.4
15	144 10.2	36 15.0	19.8	100 39.4	37.5	77 40.5	58.6	153 06.4	00.4
16	159 12.7	51 14.1	19.5	115 40.1	38.0	92 42.3	58.7	168 08.9	00.5
17	174 15.1	66 13.2	+23 19.2	130 40.8	+15 38.5	107 44.2	+20 58.7	183 11.3	-6 00.5
18	189 17.6	81 12.4	+23 18.9	145 41.5	+15 39.1	122 46.1	+20 58.8	198 13.8	-6 00.5
19	204 20.1	96 11.5	18.6	160 42.2	39.6	137 48.0	58.9	213 16.3	00.5
20	219 22.5	111 10.6	18.3	175 42.9	40.2	152 49.9	59.0	228 18.7	00.5
21	234 25.0	126 09.8	18.0	190 43.5	40.7	167 51.8	59.1	243 21.2	00.5
22	249 27.5	141 08.9	17.7	205 44.2	41.3	182 53.7	59.2	258 23.7	00.5
23	264 29.9	156 08.0	17.4	220 44.9	41.8	197 55.6	59.3	273 26.1	00.5
24	279 32.4	171 07.2	+23 17.1	235 45.6	+15 42.3	212 57.5	+20 59.3	288 28.6	-6 00.5
Dif	—	-9	-3	+7	+5	+19	+1	+25	0

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 04.0 <sup>m</sup>			SD: 16.0' Edad: 24.5 <sup>d</sup> PMG: 7 <sup>h</sup> 54 <sup>m</sup> R°: 53 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.8' 12 <sup>h</sup> : 58.7' 20 <sup>h</sup> : 58.6'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	179 01.7	+23 05.2		245 38.0		+15 53.8	141	60 N	** ** *	1 04	2 43	23 42 6	16 43 109			
1	194 01.6		05.0	260 07.2	102	+16 07.9	141	58	** ** *	1 49	3 02	23 57 13	29 102			
2	209 01.4		04.9	274 36.3	101		140	56	** ** *	2 17	19	** ** *	17 96			
3	224 01.3		04.7	289 05.3	100		139	54	0 59	39	33	0 06 16	16 06 92			
4	239 01.2		04.5	303 34.3	100	+16 49.6	138	52	1 40	2 56	45	13 19	15 57 88			
5	254 01.1	+23 04.3		318 03.2	99	+17 03.3	137	50	2 07	3 11	3 55	0 19 22	15 49 85			
6	269 01.0	+23 04.1		332 32.0	98	+17 16.9	136	45	2 51	3 40	4 17	0 33 27	15 31 79			
7	284 00.8		04.0	347 00.8	98		135	40	3 21	4 02	35	44 31	17 74			
8	299 00.7		03.8	1 29.4	96		134	35	3 44	20	4 50	0 53 36	15 05 70			
9	314 00.6		03.6	15 58.1	97	+17 57.2	134	30	4 02	4 35	5 03	1 02 38	14 54 68			
10	329 00.5		03.4	30 26.6	95	+18 10.4	132	20	31	5 00	24	16 44	36 63			
11	344 00.4	+23 03.3		44 55.1	95	+18 23.5	131	10 N	4 53	5 20	5 43	1 29 49	14 21 58			
12	359 00.2	+23 03.1		59 23.5	94	+18 36.5	130	0	5 12	5 38	6 00	1 42 52	14 06 55			
13	14 00.1		02.9	73 51.8	93	+18 49.4	129	10 S	28	5 55	17	1 54 57	13 52 50			
14	29 00.0		02.7	88 20.0	92	+19 02.2	128	20	5 44	6 12	36	2 07 62	36 47			
15	43 59.9		02.5	102 48.2	92		126	30	6 00	30	6 57	22 68	19 41			
16	58 59.8		02.3	117 16.3	91		126	35	09	41	7 09	31 71	13 09 38			
17	73 59.6	+23 02.2		131 44.3	90	+19 39.8	124	40	6 18	6 52	7 23	2 41 75	12 57 35			
18	88 59.5	+23 02.0		146 12.3	90	+19 52.2	124	45	6 28	7 05	7 39	2 54 79	12 44 30			
19	103 59.4		01.8	160 40.2	89	+20 04.4	122	50	40	21	7 59	3 08 86	27 24			
20	118 59.3		01.6	175 08.0	88		121	52	45	28	8 09	15 89	19 22			
21	133 59.2		01.4	189 35.7	87		120	54	50	36	20	23 92	11 18			
22	148 59.1		01.2	204 03.3	86		118	56	6 56	45	32	32 96	12 01 14			
23	163 58.9		01.0	218 30.9	86	+20 52.1	118	58	7 03	7 55	8 47	42 101	11 51 8			
24	178 58.8	+23 00.8		232 58.4	85	+21 03.7	116	60 S	7 10	8 07	9 04	3 53 108	11 38 3			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 21.0 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 36 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 45 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	279 32.4		171 07.2	+23 17.1	235 45.6	+15 42.3	212 57.5	+20 59.3	288 28.6	-6 00.5
1	294 34.9		186 06.3	16.8	250 46.3	42.9	227 59.4	59.4	303 31.0	00.6
2	309 37.3		201 05.4	16.5	265 46.9	43.4	243 01.3	59.5	318 33.5	00.6
3	324 39.8		216 04.6	16.1	280 47.6	44.0	258 03.2	59.6	333 36.0	00.6
4	339 42.2		231 03.7	15.8	295 48.3	44.5	273 05.0	59.7	348 38.4	00.6
5	354 44.7		246 02.8	+23 15.5	310 49.0	+15 45.0	288 06.9	+20 59.8	3 40.9	-6 00.6
6	9 47.2		261 02.0	+23 15.2	325 49.7	+15 45.6	303 08.8	+20 59.9	18 43.4	-6 00.6
7	24 49.6		276 01.1	14.9	340 50.3	46.1	318 10.7	+21 00.0	33 45.8	00.6
8	39 52.1		291 00.3	14.6	355 51.0	46.6	333 12.6	00.0	48 48.3	00.6
9	54 54.6		305 59.4	14.3	10 51.7	47.2	348 14.5	00.1	63 50.8	00.7
10	69 57.0		320 58.5	13.9	25 52.4	47.7	3 16.4	00.2	78 53.2	00.7
11	84 59.5		335 57.7	+23 13.6	40 53.1	+15 48.3	18 18.3	+21 00.3	93 55.7	-6 00.7
12	100 02.0		350 56.8	+23 13.3	55 53.7	+15 48.8	33 20.2	+21 00.4	108 58.2	-6 00.7
13	115 04.4		5 56.0	13.0	70 54.4	49.3	48 22.1	00.5	124 00.6	00.7
14	130 06.9		20 55.1	12.6	85 55.1	49.9	63 24.0	00.6	139 03.1	00.7
15	145 09.3		35 54.2	12.3	100 55.8	50.4	78 25.9	00.6	154 05.6	00.7
16	160 11.8		50 53.4	12.0	115 56.5	50.9	93 27.8	00.7	169 08.0	00.7
17	175 14.3		65 52.5	+23 11.7	130 57.1	+15 51.5	108 29.6	+21 00.8	184 10.5	-6 00.8
18	190 16.7		80 51.7	+23 11.3	145 57.8	+15 52.0	123 31.5	+21 00.9	199 13.0	-6 00.8
19	205 19.2		95 50.8	11.0	160 58.5	52.5	138 33.4	01.0	214 15.4	00.8
20	220 21.7		110 49.9	10.7	175 59.2	53.1	153 35.3	01.1	229 17.9	00.8
21	235 24.1		125 49.1	10.3	190 59.9	53.6	168 37.2	01.2	244 20.4	00.8
22	250 26.6		140 48.2	10.0	206 00.5	54.1	183 39.1	01.2	259 22.8	00.8
23	265 29.1		155 47.4	09.7	221 01.2	54.7	198 41.0	01.3	274 25.3	00.8
24	280 31.5		170 46.5	+23 09.3	236 01.9	+15 55.2	213 42.9	+21 01.4	289 27.8	-6 00.8

Dif	—	-9	-3	+7	+5	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 04.2 <sup>m</sup>		SD: 15.9' Edad: 25.5 <sup>d</sup> PMG: 8 <sup>h</sup> 47 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.5' 12 <sup>h</sup> : 58.4' 20 <sup>h</sup> : 58.2'				R°: 57 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 58.8	+23 00.8	232 58.4	84	+21 03.7	115	60 N	21 24	22 59	** **	23 48	14	18 32	106		
1	193 58.7	00.7	247 25.8	84	15.2	113	58	21 04	22 17	** **	23 48	14	18 11	96		
2	208 58.6	00.5	261 53.2	84	26.5	113	56	20 48	21 49	** **	0 10	18	17 53	90		
3	223 58.5	00.3	276 20.4	82	37.8	111	54	34	28	23 05	22 22	38	86			
4	238 58.3	+23 00.1	290 47.6	82	48.9	109	52	23	21 11	22 25	32 25	25	83			
5	253 58.2	+22 59.9	305 14.8	82	+21 59.8	109	50	20 12	20 56	22 00	0 41	28	17 14	80		
6	268 58.1	+22 59.7	319 41.8	80	+22 10.7	107	45	19 50	20 27	21 16	1 00	34	16 50	75		
7	283 58.0	59.5	334 08.8	80	21.4	106	40	33	20 05	20 46	15 38	31	72			
8	298 57.9	59.3	348 35.7	79	32.0	104	35	18	19 47	24	29 41	15	70			
9	313 57.8	59.1	3 02.5	78	42.4	103	30	19 05	32	20 06	1 40	44	16 02	67		
10	328 57.6	58.9	17 29.2	77	+22 52.7	102	20	18 44	19 08	19 37	2 00	49	15 39	63		
11	343 57.5	+22 58.7	31 55.9	76	+23 02.9	100	10 N	18 25	18 48	19 15	2 18	52	15 19	60		
12	358 57.4	+22 58.5	46 22.5	76	+23 12.9	99	0	18 08	18 30	18 56	2 34	56	15 01	57		
13	13 57.3	58.3	60 49.1	74	22.8	98	10 S	17 51	18 14	40	2 51	59	14 42	55		
14	28 57.2	58.1	75 15.5	74	32.6	96	20	33	17 57	24	3 09	63	23	51		
15	43 57.1	57.9	89 41.9	74	42.2	94	30	12	38	18 08	30 67	14 00	47			
16	58 56.9	57.7	104 08.2	73	+23 51.6	93	35	17 00	28	17 59	42 70	13 47	45			
17	73 56.8	+22 57.5	118 34.5	73	+24 00.9	92	40	16 46	17 16	17 50	3 56	73	13 32	42		
18	88 56.7	+22 57.3	133 00.7	72	+24 10.1	90	45	16 30	17 03	17 40	4 13	77	13 14	38		
19	103 56.6	57.1	147 26.8	71	19.1	89	50	09	16 48	29	34 83	12 51	34			
20	118 56.5	56.9	161 52.8	70	28.0	87	52	16 00	40	24	44 86	41	30			
21	133 56.4	56.7	176 18.8	70	36.7	85	54	15 49	32	18	4 55	90	29	27		
22	148 56.2	56.5	190 44.7	69	45.2	84	56	37	24	12	5 08	95	12 15	23		
23	163 56.1	56.3	205 10.6	68	+24 53.6	83	58	23	14	17 06	23 101	11 59	17			
24	178 56.0	+22 56.1	219 36.4	68	+25 01.9	83	60 S	15 06	16 02	16 59	5 41	110	11 41	7		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 17.0 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 15 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 41 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	280 31.5	+23 09.3	170 46.5	09.0	236 01.9	+15 55.2	213 42.9	+21 01.4	289 27.8	-6 00.8
1	295 34.0	09.0	185 45.6	08.7	251 02.6	55.7	228 44.8	01.5	304 30.2	00.9
2	310 36.5	08.7	200 44.8	08.3	266 03.3	56.3	243 46.7	01.6	319 32.7	00.9
3	325 38.9	08.3	215 43.9	08.0	281 03.9	56.8	258 48.6	01.7	334 35.2	00.9
4	340 41.4	08.0	230 43.1	07.6	296 04.6	57.3	273 50.5	01.8	349 37.7	00.9
5	355 43.8	+23 07.6	245 42.2	07.3	311 05.3	+15 57.9	288 52.4	+21 01.8	4 40.1	-6 00.9
6	10 46.3	+23 07.3	260 41.4	06.6	326 06.0	+15 58.4	303 54.3	+21 01.9	19 42.6	-6 00.9
7	25 48.8	07.0	275 40.5	06.3	341 06.7	58.9	318 56.2	02.0	34 45.1	00.9
8	40 51.2	06.6	290 39.7	06.3	356 07.3	+15 59.5	333 58.0	02.1	49 47.5	01.0
9	55 53.7	06.3	305 38.8	05.9	11 08.0	+16 00.0	348 59.9	02.2	64 50.0	01.0
10	70 56.2	05.9	320 37.9	05.6	26 08.7	00.5	4 01.8	02.3	79 52.5	01.0
11	85 58.6	+23 05.6	335 37.1	05.2	41 09.4	+16 01.1	19 03.7	+21 02.4	94 54.9	-6 01.0
12	101 01.1	+23 05.2	350 36.2	04.9	56 10.1	+16 01.6	34 05.6	+21 02.4	109 57.4	-6 01.0
13	116 03.6	04.9	5 35.4	04.5	71 10.7	02.1	49 07.5	02.5	124 59.9	01.0
14	131 06.0	04.5	20 34.5	04.2	86 11.4	02.6	64 09.4	02.6	140 02.3	01.0
15	146 08.5	04.2	35 33.7	03.8	101 12.1	03.2	79 11.3	02.7	155 04.8	01.1
16	161 11.0	03.8	50 32.8	03.5	116 12.8	03.7	94 13.2	02.8	170 07.3	01.1
17	176 13.4	+23 03.5	65 32.0	03.1	131 13.5	+16 04.2	109 15.1	+21 02.9	185 09.8	-6 01.1
18	191 15.9	+23 03.1	80 31.1	02.7	146 14.1	+16 04.8	124 17.0	+21 02.9	200 12.2	-6 01.1
19	206 18.3	02.7	95 30.3	02.4	161 14.8	05.3	139 18.9	03.0	215 14.7	01.1
20	221 20.8	02.4	110 29.4	02.0	176 15.5	05.8	154 20.8	03.1	230 17.2	01.1
21	236 23.3	02.0	125 28.6	01.7	191 16.2	06.3	169 22.7	03.2	245 19.6	01.1
22	251 25.7	01.7	140 27.7	01.3	206 16.9	06.9	184 24.6	03.3	260 22.1	01.2
23	266 28.2	01.3	155 26.9	00.9	221 17.5	07.4	199 26.5	03.4	275 24.6	01.2
24	281 30.7	+23 00.9	170 26.0	00.5	236 18.2	+16 07.9	214 28.4	+21 03.4	290 27.1	-6 01.2

Dif	—	-9	-4	+7	+5	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 15.8'		Edad: 26.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.1' 12 <sup>h</sup> : 57.9' 20 <sup>h</sup> : 57.8'			PMG: 9 <sup>h</sup> 44 <sup>m</sup>		R <sup>o</sup> : 59 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	h m	h m	h m	h m		
<b>0</b>	178 56.0	+22 56.1	219 36.4	+25 01.9	81	<b>60 N</b>	** **	1 10	2 45	** **	** **	20 18	84			
<b>1</b>	193 55.9	55.9	234 02.1	10.0	80	<b>58</b>	** **	1 52	3 04	0 10	24	19 47	77			
<b>2</b>	208 55.8	55.7	248 27.7	18.0	77	<b>56</b>	** **	2 20	21	28	30	23	74			
<b>3</b>	223 55.7	55.5	262 53.3	25.7	77	<b>54</b>	1 04	41	34	44	34	19 04	71			
<b>4</b>	238 55.6	55.3	277 18.9	33.4	74	<b>52</b>	1 43	2 58	46	0 57	37	18 48	70			
<b>5</b>	253 55.4	+22 55.0	291 44.4	+25 40.8	74	<b>50</b>	2 09	3 13	3 57	1 09	39	18 34	69			
<b>6</b>	268 55.3	+22 54.8	306 09.8	+25 48.2	71	<b>45</b>	2 53	3 42	4 19	1 34	43	18 05	67			
<b>7</b>	283 55.2	54.6	320 35.2	+25 55.3	70	<b>40</b>	3 22	4 04	36	1 53	47	17 43	65			
<b>8</b>	298 55.1	54.4	335 00.5	+26 02.3	68	<b>35</b>	3 45	21	4 51	2 10	49	25	64			
<b>9</b>	313 55.0	54.2	349 25.8	09.1	65	<b>30</b>	4 03	4 36	5 03	24	51	17 09	63			
<b>10</b>	328 54.9	54.0	3 51.0	15.8	62	<b>20</b>	31	5 01	25	2 49	54	16 42	62			
<b>11</b>	343 54.8	+22 53.8	18 16.2	+26 22.3	62	<b>10 N</b>	4 54	5 21	5 44	3 10	56	16 19	60			
<b>12</b>	358 54.6	+22 53.6	32 41.3	+26 28.6	63	<b>0</b>	5 12	5 38	6 01	3 30	58	15 58	59			
<b>13</b>	13 54.5	53.3	47 06.4	34.8	62	<b>10 S</b>	29	5 55	18	3 50	61	37	57			
<b>14</b>	28 54.4	53.1	61 31.4	40.8	60	<b>20</b>	5 44	6 12	36	4 12	63	15 14	56			
<b>15</b>	43 54.3	52.9	75 56.4	46.6	58	<b>30</b>	6 01	30	6 57	37	66	14 47	54			
<b>16</b>	58 54.2	52.7	90 21.4	52.3	57	<b>35</b>	09	41	7 09	4 52	67	32	52			
<b>17</b>	73 54.1	+22 52.5	104 46.3	+26 57.8	55	<b>40</b>	6 18	6 52	7 22	5 09	70	14 14	51			
<b>18</b>	88 54.0	+22 52.3	119 11.2	+27 03.1	53	<b>45</b>	6 28	7 05	7 39	5 30	72	13 52	49			
<b>19</b>	103 53.9	52.0	133 36.0	08.2	51	<b>50</b>	39	21	7 59	5 57	75	25	46			
<b>20</b>	118 53.7	51.8	148 00.9	13.2	50	<b>52</b>	44	28	8 08	6 10	77	13 11	44			
<b>21</b>	133 53.6	51.6	162 25.6	18.0	48	<b>54</b>	50	36	19	25	80	12 56	42			
<b>22</b>	148 53.5	51.4	176 50.4	22.7	47	<b>56</b>	6 56	45	31	6 43	83	38	38			
<b>23</b>	163 53.4	51.2	191 15.1	27.1	44	<b>58</b>	7 02	7 54	8 45	7 04	89	12 16	33			
<b>24</b>	178 53.3	+22 50.9	205 39.8	+27 31.4	43	<b>60 S</b>	7 09	8 06	9 02	7 31	100	11 48	23			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +1.0		Mag.: -2.0		Mag.: +1.0	
	5 <sup>h</sup> 13.1 <sup>m</sup>		PMG: 12 <sup>h</sup> 39 <sup>m</sup>		PMG: 8 <sup>h</sup> 14 <sup>m</sup>		PMG: 9 <sup>h</sup> 41 <sup>m</sup>		PMG: 4 <sup>h</sup> 37 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
<b>0</b>	281 30.7	170 26.0	+23 00.9	236 18.2	+16 07.9	214 28.4	+21 03.4	290 27.1	-6 01.2	
<b>1</b>	296 33.1	185 25.2	00.6	251 18.9	08.4	229 30.3	03.5	305 29.5	01.2	
<b>2</b>	311 35.6	200 24.3	+23 00.2	266 19.6	09.0	244 32.2	03.6	320 32.0	01.2	
<b>3</b>	326 38.1	215 23.5	+22 59.8	281 20.3	09.5	259 34.1	03.7	335 34.5	01.2	
<b>4</b>	341 40.5	230 22.6	59.5	296 20.9	10.0	274 36.0	03.8	350 37.0	01.2	
<b>5</b>	356 43.0	245 21.8	+22 59.1	311 21.6	+16 10.5	289 37.8	+21 03.9	5 39.4	-6 01.3	
<b>6</b>	11 45.5	260 20.9	+22 58.7	326 22.3	+16 11.1	304 39.7	+21 04.0	20 41.9	-6 01.3	
<b>7</b>	26 47.9	275 20.1	58.3	341 23.0	11.6	319 41.6	04.0	35 44.4	01.3	
<b>8</b>	41 50.4	290 19.2	58.0	356 23.6	12.1	334 43.5	04.1	50 46.8	01.3	
<b>9</b>	56 52.8	305 18.4	57.6	11 24.3	12.6	349 45.4	04.2	65 49.3	01.3	
<b>10</b>	71 55.3	320 17.5	57.2	26 25.0	13.2	4 47.3	04.3	80 51.8	01.3	
<b>11</b>	86 57.8	335 16.7	+22 56.8	41 25.7	+16 13.7	19 49.2	+21 04.4	95 54.3	-6 01.4	
<b>12</b>	102 00.2	350 15.8	+22 56.5	56 26.4	+16 14.2	34 51.1	+21 04.5	110 56.7	-6 01.4	
<b>13</b>	117 02.7	5 15.0	56.1	71 27.0	14.7	49 53.0	04.5	125 59.2	01.4	
<b>14</b>	132 05.2	20 14.1	55.7	86 27.7	15.3	64 54.9	04.6	141 01.7	01.4	
<b>15</b>	147 07.6	35 13.3	55.3	101 28.4	15.8	79 56.8	04.7	156 04.2	01.4	
<b>16</b>	162 10.1	50 12.4	54.9	116 29.1	16.3	94 58.7	04.8	171 06.6	01.4	
<b>17</b>	177 12.6	65 11.6	+22 54.6	131 29.8	+16 16.8	110 00.6	+21 04.9	186 09.1	-6 01.4	
<b>18</b>	192 15.0	80 10.7	+22 54.2	146 30.4	+16 17.3	125 02.5	+21 05.0	201 11.6	-6 01.5	
<b>19</b>	207 17.5	95 09.9	53.8	161 31.1	17.9	140 04.4	05.0	216 14.1	01.5	
<b>20</b>	222 20.0	110 09.0	53.4	176 31.8	18.4	155 06.3	05.1	231 16.5	01.5	
<b>21</b>	237 22.4	125 08.2	53.0	191 32.5	18.9	170 08.2	05.2	246 19.0	01.5	
<b>22</b>	252 24.9	140 07.4	52.6	206 33.1	19.4	185 10.1	05.3	261 21.5	01.5	
<b>23</b>	267 27.3	155 06.5	52.2	221 33.8	20.0	200 12.0	05.4	276 24.0	01.5	
<b>24</b>	282 29.8	170 05.7	+22 51.8	236 34.5	+16 20.5	215 13.9	+21 05.5	291 26.4	-6 01.6	

Dif	—	-8	-4	+7	+5	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 04.5 <sup>m</sup>		SD: 15.7' Edad: 27.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 57.6' 12 <sup>h</sup> : 57.4' 20 <sup>h</sup> : 57.3'						PMG: 10 <sup>h</sup> 43 <sup>m</sup> R°: 58 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m m	h m m	h m m				
0	178 53.3	+22 50.9	205 39.8	57	+27 31.4	42	21 22	22 54	** **	0 02 40	21 42 42					
1	193 53.2	50.7	220 04.5	56	35.6	38	21 03	22 14	** **	34 46	21 04 47					
2	208 53.1	50.5	234 29.1	56	39.5	39	20 47	21 47	** **	0 58 49	20 37 50					
3	223 53.0	50.3	248 53.7	56	43.3	36	33	26	23 00	1 18 50	20 15 52					
4	238 52.8	50.0	263 18.4	57	46.9	36	22	21 09	22 23	34 52	19 58 53					
5	253 52.7	+22 49.8	277 43.0	56	+27 50.3	34	20 11	20 55	21 58	1 48 53	19 43 53					
6	268 52.6	+22 49.6	292 07.5	55	+27 53.6	33	19 50	20 26	21 15	2 17 55	19 12 55					
7	283 52.5	49.4	306 32.1	56	56.6	30	32	20 05	20 46	40 56	18 48 56					
8	298 52.4	49.1	320 56.7	56	+27 59.5	29	35	18	19 47	2 59 56	29 56					
9	313 52.3	48.9	335 21.2	55	+28 02.3	28	30	19 05	32	20 05	3 15 57	18 12 57				
10	328 52.2	48.7	349 45.8	56	04.8	25	20	18 44	19 08	19 37	3 43 57	17 44 57				
11	343 52.1	+22 48.4	4 10.3	55	+28 07.2	24	10 N	18 25	18 48	19 15	4 06 59	17 19 58				
12	358 52.0	+22 48.2	18 34.9	56	+28 09.4	22	0	18 08	18 31	18 57	4 28 59	16 57 58				
13	13 51.8	48.0	32 59.4	55	11.4	20	10 S	17 51	18 14	40	4 51 59	34 59				
14	28 51.7	47.7	47 24.0	56	13.2	18	20	33	17 57	25	5 15 59	16 10 59				
15	43 51.6	47.5	61 48.5	55	14.9	17	30	13	39	09	43 60	15 41 60				
16	58 51.5	47.3	76 13.1	56	16.4	15	35	17 01	29	18 00	5 59 61	24 60				
17	73 51.4	+22 47.0	90 37.7	56	+28 17.7	13	40	16 47	17 17	17 51	6 19 60	15 05 60				
18	88 51.3	+22 46.8	105 02.3	56	+28 18.9	12	45	16 31	17 04	17 41	6 42 61	14 41 60				
19	103 51.2	46.6	119 26.9	56	19.8	9	50	11	16 49	30	7 12 62	14 11 60				
20	118 51.1	46.3	133 51.5	56	20.6	8	52	16 01	42	25	27 62	13 55 60				
21	133 51.0	46.1	148 16.1	56	21.2	6	54	15 51	34	20	7 45 62	38 60				
22	148 50.9	45.9	162 40.8	57	21.7	5	56	39	25	14	8 06 62	13 16 61				
23	163 50.8	45.6	177 05.5	57	21.9	2	58	25	15	07	8 33 62	12 49 60				
24	178 50.6	+22 45.4	191 30.2	57	+28 22.0	1	60 S	15 08	16 04	17 00	9 11 63	12 11 60				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 <sup>h</sup> 09.2 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 40 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 13 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 33 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "
0	282 29.8	170 05.7	+22 51.8	51.4	236 34.5	+16 20.5	215 13.9	+21 05.5	291 26.4	-6 01.6
1	297 32.3	185 04.8	51.4	51.4	251 35.2	21.0	230 15.8	05.5	306 28.9	01.6
2	312 34.7	200 04.0	51.0	51.0	266 35.9	21.5	245 17.7	05.6	321 31.4	01.6
3	327 37.2	215 03.1	50.6	50.6	281 36.5	22.0	260 19.6	05.7	336 33.9	01.6
4	342 39.7	230 02.3	50.3	50.3	296 37.2	22.5	275 21.5	05.8	351 36.4	01.6
5	357 42.1	245 01.5	+22 49.9	49.9	311 37.9	+16 23.1	290 23.4	+21 05.9	6 38.8	-6 01.6
6	12 44.6	260 00.6	+22 49.5	49.5	326 38.6	+16 23.6	305 25.3	+21 06.0	21 41.3	-6 01.7
7	27 47.1	274 59.8	49.1	49.1	341 39.3	24.1	320 27.2	06.0	36 43.8	01.7
8	42 49.5	289 58.9	48.7	48.7	356 39.9	24.6	335 29.1	06.1	51 46.3	01.7
9	57 52.0	304 58.1	48.2	48.2	11 40.6	25.1	350 31.0	06.2	66 48.7	01.7
10	72 54.5	319 57.3	47.8	47.8	26 41.3	25.7	5 32.9	06.3	81 51.2	01.7
11	87 56.9	334 56.4	+22 47.4	47.4	41 42.0	+16 26.2	20 34.8	+21 06.4	96 53.7	-6 01.7
12	102 59.4	349 55.6	+22 47.0	47.0	56 42.6	+16 26.7	35 36.7	+21 06.5	111 56.2	-6 01.8
13	118 01.8	4 54.7	46.6	46.6	71 43.3	27.2	50 38.6	06.5	126 58.6	01.8
14	133 04.3	19 53.9	46.2	46.2	86 44.0	27.7	65 40.5	06.6	142 01.1	01.8
15	148 06.8	34 53.1	45.8	45.8	101 44.7	28.2	80 42.4	06.7	157 03.6	01.8
16	163 09.2	49 52.2	45.4	45.4	116 45.4	28.7	95 44.3	06.8	172 06.1	01.8
17	178 11.7	64 51.4	+22 45.0	45.0	131 46.0	+16 29.3	110 46.2	+21 06.9	187 08.6	-6 01.9
18	193 14.2	79 50.5	+22 44.6	44.6	146 46.7	+16 29.8	125 48.1	+21 06.9	202 11.0	-6 01.9
19	208 16.6	94 49.7	44.2	44.2	161 47.4	30.3	140 50.0	07.0	217 13.5	01.9
20	223 19.1	109 48.9	43.7	43.7	176 48.1	30.8	155 51.9	07.1	232 16.0	01.9
21	238 21.6	124 48.0	43.3	43.3	191 48.8	31.3	170 53.8	07.2	247 18.5	01.9
22	253 24.0	139 47.2	42.9	42.9	206 49.4	31.8	185 55.7	07.3	262 21.0	01.9
23	268 26.5	154 46.4	42.5	42.5	221 50.1	32.3	200 57.6	07.4	277 23.4	02.0
24	283 29.0	169 45.5	+22 42.1	42.1	236 50.8	+16 32.9	215 59.5	+21 07.4	292 25.9	-6 02.0
Dif	—	-8	-4		+7	+5	+19	+1	+25	0



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 15.6'		Edad: 28.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 57.1' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 56.7'			R <sup>o</sup> : 57 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 04.7 <sup>m</sup>		PMG: 11 <sup>h</sup> 41 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /		° /		°	h m	h m	h m	h m m		h m m	h m m		
0	178 50.6	+22 45.4	191 30.2	57	+28 22.0	0	60 N	** **	1 15	2 48	0 42 79		22 24 15			
1	193 50.5	45.1	205 54.9	58	22.0	3	58	** **	1 56	3 07	1 20 73		21 51 25			
2	208 50.4	44.9	220 19.7	58	21.7	4	56	** **	2 23	3 23	1 47 70		27 30			
3	223 50.3	44.7	234 44.5	58	21.3	6	54		1 09	2 43	2 08 69		21 07 34			
4	238 50.2	44.4	249 09.3	58	20.7	8	52		1 46	3 00	26 67		20 51 36			
5	253 50.1	+22 44.2	263 34.2	59	+28 19.9	9	50		2 12	3 15	3 58		20 36 39			
6	268 50.0	+22 43.9	277 59.1	60	+28 19.0	11	45		2 54	3 43	4 20		20 07 42			
7	283 49.9	43.7	292 24.1	60	17.9	13	40		3 24	4 05	37		19 44 45			
8	298 49.8	43.4	306 49.1	60	16.6	15	35		3 46	22	4 52		25 47			
9	313 49.7	43.2	321 14.1	60	15.1	16	30		4 04	4 37	5 04		19 09 49			
10	328 49.6	42.9	335 39.2	61	13.5	18	20		32	5 01	26		18 41 52			
11	343 49.5	+22 42.7	350 04.3	62	+28 11.7	19	10 N		4 54	5 21	5 44		18 17 54			
12	358 49.4	+22 42.5	4 29.5	62	+28 09.8	22	0		5 13	5 39	6 01		17 55 56			
13	13 49.2	42.2	18 54.8	63	07.6	23	10 S		29	5 55	18		33 57			
14	28 49.1	42.0	33 20.1	63	05.3	24	20		5 45	6 12	36		17 09 59			
15	43 49.0	41.7	47 45.4	63	02.9	26	30		6 00	30	6 56		16 41 62			
16	58 48.9	41.5	62 10.8	64	+28 00.3	28	35		09	40	7 08		24 64			
17	73 48.8	+22 41.2	76 36.3	65	+27 57.5	30	40		6 18	6 52	7 22		16 05 65			
18	88 48.7	+22 41.0	91 01.8	65	+27 54.5	31	45		6 28	7 05	7 38		15 41 68			
19	103 48.6	40.7	105 27.5	66	51.4	32	50		39	20	7 58		15 11 71			
20	118 48.5	40.4	119 53.1	66	48.2	35	52		44	27	8 07		14 55 73			
21	133 48.4	40.2	134 18.9	68	44.7	35	54		49	35	18		38 75			
22	148 48.3	39.9	148 44.7	68	41.2	38	56		6 55	44	30		14 17 78			
23	163 48.2	39.7	163 10.5	68	37.4	39	58		7 01	7 53	8 44		13 49 84			
24	178 48.1	+22 39.4	177 36.5	70	+27 33.5	39	60 S		7 08	8 04	9 00		13 11 94			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +1.0		Mag.: -2.0		Mag.: +1.0	
	5 <sup>h</sup> 05.2 <sup>m</sup>		PMG: 12 <sup>h</sup> 42 <sup>m</sup>		PMG: 8 <sup>h</sup> 12 <sup>m</sup>		PMG: 9 <sup>h</sup> 35 <sup>m</sup>		PMG: 4 <sup>h</sup> 30 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	283 29.0	169 45.5	+22 42.1	236 50.8	+16 32.9	215 59.5	+21 07.4	292 25.9	-6 02.0	
1	298 31.4	184 44.7	41.6	251 51.5	33.4	231 01.4	07.5	307 28.4	02.0	
2	313 33.9	199 43.9	41.2	266 52.1	33.9	246 03.3	07.6	322 30.9	02.0	
3	328 36.3	214 43.0	40.8	281 52.8	34.4	261 05.2	07.7	337 33.4	02.0	
4	343 38.8	229 42.2	40.4	296 53.5	34.9	276 07.1	07.8	352 35.8	02.1	
5	358 41.3	244 41.4	+22 39.9	311 54.2	+16 35.4	291 09.0	+21 07.8	7 38.3	-6 02.1	
6	13 43.7	259 40.5	+22 39.5	326 54.9	+16 35.9	306 10.9	+21 07.9	22 40.8	-6 02.1	
7	28 46.2	274 39.7	39.1	341 55.5	36.4	321 12.8	08.0	37 43.3	02.1	
8	43 48.7	289 38.9	38.7	356 56.2	36.9	336 14.7	08.1	52 45.8	02.1	
9	58 51.1	304 38.0	38.2	11 56.9	37.5	351 16.6	08.2	67 48.2	02.1	
10	73 53.6	319 37.2	37.8	26 57.6	38.0	6 18.5	08.3	82 50.7	02.2	
11	88 56.1	334 36.4	+22 37.4	41 58.2	+16 38.5	21 20.4	+21 08.3	97 53.2	-6 02.2	
12	103 58.5	349 35.5	+22 36.9	56 58.9	+16 39.0	36 22.3	+21 08.4	112 55.7	-6 02.2	
13	119 01.0	4 34.7	36.5	71 59.6	39.5	51 24.2	08.5	127 58.2	02.2	
14	134 03.4	19 33.9	36.1	87 00.3	40.0	66 26.1	08.6	143 00.7	02.2	
15	149 05.9	34 33.0	35.6	102 01.0	40.5	81 28.0	08.7	158 03.1	02.3	
16	164 08.4	49 32.2	35.2	117 01.6	41.0	96 29.9	08.7	173 05.6	02.3	
17	179 10.8	64 31.4	+22 34.7	132 02.3	+16 41.5	111 31.8	+21 08.8	188 08.1	-6 02.3	
18	194 13.3	79 30.6	+22 34.3	147 03.0	+16 42.0	126 33.7	+21 08.9	203 10.6	-6 02.3	
19	209 15.8	94 29.7	33.9	162 03.7	42.5	141 35.6	09.0	218 13.1	02.3	
20	224 18.2	109 28.9	33.4	177 04.3	43.0	156 37.5	09.1	233 15.6	02.4	
21	239 20.7	124 28.1	33.0	192 05.0	43.6	171 39.4	09.1	248 18.0	02.4	
22	254 23.2	139 27.2	32.5	207 05.7	44.1	186 41.3	09.2	263 20.5	02.4	
23	269 25.6	154 26.4	32.1	222 06.4	44.6	201 43.2	09.3	278 23.0	02.4	
24	284 28.1	169 25.6	+22 31.6	237 07.1	+16 45.1	216 45.1	+21 09.4	293 25.5	-6 02.4	
Dif	—	-8	-4	+7	+5	+19	+1	+25	0	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 04.9 <sup>m</sup>		SD: 15.4' Edad: 0.0 <sup>d</sup> PMG: 12 <sup>h</sup> 38 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.5' 12 <sup>h</sup> : 56.4' 20 <sup>h</sup> : 56.2'				R°: 52 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	178 48.1	+22 39.4	177 36.5	70	+27 33.5	40	60 N	21 20	22 49	** **	2 01 98	22 39 6				
1	193 48.0	39.2	192 02.5	71	29.5	43	58	21 01	22 11	** **	33 89	22 16 12				
2	208 47.9	38.9	206 28.6	72	25.2	43	56	20 45	21 45	** **	2 57 84	21 57 18				
3	223 47.8	38.7	220 54.8	72	20.9	45	54	32	24	22 56	3 17 79	41 21				
4	238 47.7	38.4	235 21.0	72	16.4	47	52	20	21 08	22 20	3 33 77	27 25				
5	253 47.6	+22 38.1	249 47.4	74	+27 11.7	48	50	20 10	20 54	21 56	3 47 74	21 15 27				
6	268 47.5	+22 37.9	264 13.8	74	+27 06.9	50	45	19 49	20 26	21 14	4 16 70	20 49 33				
7	283 47.4	37.6	278 40.3	75	+27 01.9	51	40	32	20 04	20 45	38 67	29 36				
8	298 47.2	37.4	293 06.9	76	+26 56.8	53	35	17	19 47	23	4 57 64	20 12 39				
9	313 47.1	37.1	307 33.5	76	51.5	54	30	19 05	32	20 05	5 13 62	19 58 41				
10	328 47.0	36.8	322 00.3	78	46.1	56	20	18 44	19 08	19 37	5 40 59	33 45				
11	343 46.9	+22 36.6	336 27.1	80	+26 40.5	57	10 N	18 25	18 48	19 15	6 03 56	19 11 49				
12	358 46.8	+22 36.3	350 54.1	80	+26 34.8	58	0	18 09	18 31	18 57	6 24 54	18 51 51				
13	13 46.7	36.0	5 21.1	81	29.0	60	10 S	17 52	18 14	41	6 46 51	30 55				
14	28 46.6	35.8	19 48.2	81	23.0	61	20	34	17 58	25	7 09 48	18 08 58				
15	43 46.5	35.5	34 15.4	82	16.9	63	30	14	40	09	36 44	17 43 62				
16	58 46.4	35.2	48 42.7	83	10.6	64	35	17 02	30	18 01	7 51 43	28 64				
17	73 46.3	+22 35.0	63 10.1	84	+26 04.2	65	40	16 48	17 18	17 52	8 10 40	17 10 67				
18	88 46.2	+22 34.7	77 37.6	85	+25 57.7	67	45	16 32	17 06	17 43	8 31 37	16 49 71				
19	103 46.1	34.4	92 05.1	85	51.0	68	50	12	16 50	31	8 59 32	22 76				
20	118 46.0	34.2	106 32.8	87	44.2	69	52	16 03	43	27	9 13 29	16 08 79				
21	133 45.9	33.9	121 00.6	88	37.3	71	54	15 53	36	21	28 27	15 53 82				
22	148 45.8	33.6	135 28.5	89	30.2	71	56	41	27	16	9 47 22	35 87				
23	163 45.7	33.4	149 56.4	89	23.1	74	58	27	17	09	10 09 17	15 13 92				
24	178 45.6	+22 33.1	164 24.5	91	+25 15.7		60 S	15 11	16 06	17 02	10 38 8	14 45 101				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 5 <sup>h</sup> 01.3 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 32 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 26 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	284 28.1	169 25.6	+22 31.6	237 07.1	+16 45.1	216 45.1	+21 09.4	293 25.5	-6 02.4							
1	299 30.6	184 24.8	31.2	252 07.7	45.6	231 47.0	09.5	308 28.0	02.5							
2	314 33.0	199 23.9	30.7	267 08.4	46.1	246 48.9	09.6	323 30.5	02.5							
3	329 35.5	214 23.1	30.3	282 09.1	46.6	261 50.8	09.6	338 32.9	02.5							
4	344 37.9	229 22.3	29.8	297 09.8	47.1	276 52.7	09.7	353 35.4	02.5							
5	359 40.4	244 21.5	+22 29.4	312 10.4	+16 47.6	291 54.6	+21 09.8	8 37.9	-6 02.5							
6	14 42.9	259 20.6	+22 28.9	327 11.1	+16 48.1	306 56.5	+21 09.9	23 40.4	-6 02.6							
7	29 45.3	274 19.8	28.5	342 11.8	48.6	321 58.4	10.0	38 42.9	02.6							
8	44 47.8	289 19.0	28.0	357 12.5	49.1	337 00.3	10.0	53 45.4	02.6							
9	59 50.3	304 18.2	27.6	12 13.1	49.6	352 02.2	10.1	68 47.8	02.6							
10	74 52.7	319 17.3	27.1	27 13.8	50.1	7 04.1	10.2	83 50.3	02.6							
11	89 55.2	334 16.5	+22 26.6	42 14.5	+16 50.6	22 06.0	+21 10.3	98 52.8	-6 02.7							
12	104 57.7	349 15.7	+22 26.2	57 15.2	+16 51.1	37 07.9	+21 10.4	113 55.3	-6 02.7							
13	120 00.1	4 14.9	25.7	72 15.9	51.6	52 09.8	10.4	128 57.8	02.7							
14	135 02.6	19 14.0	25.2	87 16.5	52.1	67 11.7	10.5	144 00.3	02.7							
15	150 05.1	34 13.2	24.8	102 17.2	52.6	82 13.6	10.6	159 02.8	02.7							
16	165 07.5	49 12.4	24.3	117 17.9	53.1	97 15.5	10.7	174 05.2	02.8							
17	180 10.0	64 11.6	+22 23.9	132 18.6	+16 53.6	112 17.4	+21 10.8	189 07.7	-6 02.8							
18	195 12.4	79 10.8	+22 23.4	147 19.2	+16 54.1	127 19.4	+21 10.8	204 10.2	-6 02.8							
19	210 14.9	94 09.9	22.9	162 19.9	54.6	142 21.3	10.9	219 12.7	02.8							
20	225 17.4	109 09.1	22.4	177 20.6	55.1	157 23.2	11.0	234 15.2	02.8							
21	240 19.8	124 08.3	22.0	192 21.3	55.6	172 25.1	11.1	249 17.7	02.9							
22	255 22.3	139 07.5	21.5	207 22.0	56.1	187 27.0	11.2	264 20.2	02.9							
23	270 24.8	154 06.7	21.0	222 22.6	56.6	202 28.9	11.2	279 22.7	02.9							
24	285 27.2	169 05.8	+22 20.6	237 23.3	+16 57.1	217 30.8	+21 11.3	294 25.1	-6 02.9							
Dif	—	-8	-5	+7	+5	+19	+1	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 05.0 <sup>m</sup>		SD: 15.3' Edad: 1.0 <sup>d</sup> PMG: 13 <sup>h</sup> 30 <sup>m</sup> R°: 49 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.0' 12 <sup>h</sup> : 55.8' 20 <sup>h</sup> : 55.6'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	178 45.6	+22 33.1	164 24.5	92	+25 15.7	74	60 N	** **	1 21	2 51	3 39 99	22 45 2	28 7			
1	193 45.5	32.8	178 52.7	92	08.3	76	58	** **	1 59	3 09	4 02 91	21 52 17	21 42 20			
2	208 45.4	32.5	193 20.9	92	+25 00.7	77	56	** **	2 26	25	21 86	22 02 15	21 22 25			
3	223 45.3	32.3	207 49.3	94	+24 53.0	78	54		1 14	2 46	36 82	21 05 29	20 51 33			
4	238 45.2	32.0	222 17.8	95	45.2	78	52		1 50	3 02	3 50	4 50 78	39 35			
5	253 45.1	+22 31.7	236 46.3	95	+24 37.3	79	50		2 14	3 17	4 00	5 01 76	18 40			
6	268 45.0	+22 31.4	251 15.0	97	+24 29.2	81	45		2 56	3 45	4 21	5 26 70	21 22 25			
7	283 44.9	31.2	265 43.8	98	21.0	82	40		3 25	4 06	38	5 45 67	21 05 29			
8	298 44.8	30.9	280 12.7	99	12.7	83	35		3 47	23	4 53	6 01 64	20 51 33			
9	313 44.7	30.6	294 41.6	99	+24 04.3	84	30		4 05	4 38	5 05	15 61	39 35			
10	328 44.6	30.3	309 10.7	101	+23 55.8	85	20		33	5 02	26	39 56	18 40			
11	343 44.5	+22 30.1	323 39.9	102	+23 47.2	86	10 N		4 55	5 22	5 45	6 59 53	20 00 43			
12	358 44.4	+22 29.8	338 09.2	103	+23 38.4	88	0		5 13	5 39	6 01	7 18 50	19 42 48			
13	13 44.3	29.5	352 38.6	104	29.6	88	10 S		29	5 55	18	37 46	25 51			
14	28 44.2	29.2	7 08.0	104	20.6	90	20		5 45	6 12	36	7 57 42	19 06 56			
15	43 44.1	28.9	21 37.6	106	11.5	91	30		6 00	30	6 56	8 20 38	18 45 60			
16	58 44.0	28.6	36 07.3	107	+23 02.3	92	35		09	40	7 08	34 35	32 63			
17	73 43.9	+22 28.4	50 37.1	108	+22 53.1	92	40		6 17	6 51	7 21	8 50 32	18 17 66			
18	88 43.8	+22 28.1	65 07.0	109	+22 43.7	94	45		6 27	7 04	7 37	9 08 28	18 00 70			
19	103 43.7	27.8	79 37.0	110	34.2	95	50		38	19	7 57	31 23	17 38 75			
20	118 43.6	27.5	94 07.1	111	24.6	96	52		43	26	8 06	42 21	27 79			
21	133 43.5	27.2	108 37.3	112	14.9	97	54		48	34	17	9 55 17	15 82			
22	148 43.4	26.9	123 07.7	114	+22 05.1	98	56		6 54	42	29	10 09 14	17 02 85			
23	163 43.3	26.6	137 38.1	114	+21 55.2	99	58		7 00	7 52	42	26 8	16 45 91			
24	178 43.2	+22 26.4	152 08.6	115	+21 45.2	100	60 S		7 07	8 03	8 58	10 46 2	16 26 97			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 57.4 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 10 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 22 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	285 27.2	+22 20.6	169 05.8	20.1	237 23.3	+16 57.1	217 30.8	+21 11.3	294 25.1	-6 02.9
1	300 29.7	20.1	184 05.0	19.6	252 24.0	57.6	232 32.7	11.4	309 27.6	02.9
2	315 32.2	19.6	199 04.2	19.1	267 24.7	58.1	247 34.6	11.5	324 30.1	03.0
3	330 34.6	19.1	214 03.4	18.6	282 25.3	58.6	262 36.5	11.6	339 32.6	03.0
4	345 37.1	18.2	229 02.6	16.7	297 26.0	59.1	277 38.4	11.6	354 35.1	03.0
5	0 39.6	+22 18.2	244 01.8	16.2	312 26.7	+16 59.6	292 40.3	+21 11.7	9 37.6	-6 03.0
6	15 42.0	+22 17.7	259 00.9	15.7	327 27.4	+17 00.1	307 42.2	+21 11.8	24 40.1	-6 03.1
7	30 44.5	17.2	274 00.1	15.2	342 28.0	00.6	322 44.1	11.9	39 42.6	03.1
8	45 46.9	16.7	288 59.3	14.3	357 28.7	01.1	337 46.0	12.0	54 45.1	03.1
9	60 49.4	16.2	303 58.5	13.3	12 29.4	01.6	352 47.9	12.0	69 47.5	03.1
10	75 51.9	15.7	318 57.7	12.8	27 30.1	02.1	7 49.8	12.1	84 50.0	03.1
11	90 54.3	+22 15.3	333 56.9	12.3	42 30.8	+17 02.6	22 51.7	+21 12.2	99 52.5	-6 03.2
12	105 56.8	+22 14.8	348 56.1	14.3	57 31.4	+17 03.1	37 53.6	+21 12.3	114 55.0	-6 03.2
13	120 59.3	14.3	3 55.2	13.8	72 32.1	03.6	52 55.5	12.3	129 57.5	03.2
14	136 01.7	13.8	18 54.4	13.3	87 32.8	04.1	67 57.5	12.4	145 00.0	03.2
15	151 04.2	13.3	33 53.6	12.8	102 33.5	04.6	82 59.4	12.5	160 02.5	03.3
16	166 06.7	12.8	48 52.8	12.3	117 34.1	05.1	98 01.3	12.6	175 05.0	03.3
17	181 09.1	+22 12.3	63 52.0	11.8	132 34.8	+17 05.5	113 03.2	+21 12.7	190 07.5	-6 03.3
18	196 11.6	+22 11.8	78 51.2	11.3	147 35.5	+17 06.0	128 05.1	+21 12.7	205 09.9	-6 03.3
19	211 14.1	11.3	93 50.4	10.8	162 36.2	06.5	143 07.0	12.8	220 12.4	03.3
20	226 16.5	10.8	108 49.6	10.3	177 36.8	07.0	158 08.9	12.9	235 14.9	03.4
21	241 19.0	10.3	123 48.8	9.8	192 37.5	07.5	173 10.8	13.0	250 17.4	03.4
22	256 21.4	9.8	138 47.9	9.3	207 38.2	08.0	188 12.7	13.1	265 19.9	03.4
23	271 23.9	9.3	153 47.1	8.8	222 38.9	08.5	203 14.6	13.1	280 22.4	03.4
24	286 26.4	+22 08.8	168 46.3	8.3	237 39.5	+17 09.0	218 16.5	+21 13.2	295 24.9	-6 03.5

Dif	—	-8	-5	+7	+5	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 05.2 <sup>m</sup>		SD: 15.1' Edad: 2.0 <sup>d</sup> PMG: 14 <sup>h</sup> 19 <sup>m</sup> R°: 44 <sup>m</sup>						PHE { 4 <sup>h</sup> : 55.4' 12 <sup>h</sup> : 55.3' 20 <sup>h</sup> : 55.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 43.2	+22 26.4	152 08.6		+21 45.2	100	60 N	21 17	22 44	** **	5 18	93	22 47	0		
1	193 43.1	26.1	166 39.2	116	35.2	100	58	20 59	22 07	** **	33 88		35	4		
2	208 43.0	25.8	181 09.9	117	25.0	102	56	44	21 42	** **	47 83		26	7		
3	223 43.0	25.5	195 40.7	118	14.7	103	54	31	22	22 51	5 58	80	17	10		
4	238 42.9	25.2	210 11.6	119	+21 04.4	103	52	19	21 06	22 17	6 08	77	09	13		
5	253 42.8	+22 24.9	224 42.6	120	+20 54.0	104	50	20 09	20 52	21 53	6 17	75	22 02	15		
6	268 42.7	+22 24.6	239 13.8	122	+20 43.4	106	45	19 48	20 24	21 12	6 36	69	21 47	20		
7	283 42.6	24.3	253 45.0	122	32.8	106	40	31	20 03	20 44	6 52	65	34	24		
8	298 42.5	24.0	268 16.3	123	22.1	107	35	17	19 46	22	7 05	61	24	27		
9	313 42.4	23.7	282 47.7	124	11.4	107	30	19 04	32	20 04	16 59	21	14	30		
10	328 42.3	23.4	297 19.2	125	+20 00.5	109	20	18 44	19 08	19 37	35 54		20 58	35		
11	343 42.2	+22 23.1	311 50.8	126	+19 49.6	109	10 N	18 26	18 48	19 15	7 52	49	20 43	40		
12	358 42.1	+22 22.8	326 22.5	127	+19 38.5	111	0	18 09	18 31	18 57	8 08	45	20 30	43		
13	13 42.0	22.5	340 54.3	128	27.4	111	10 S	17 52	18 15	41	23 41		16	48		
14	28 41.9	22.2	355 26.2	129	16.3	111	20	35	17 58	26	39 38		20 02	52		
15	43 41.8	21.9	9 58.2	130	+19 05.0	113	30	15	41	10	8 58	33	19 45	57		
16	58 41.7	21.6	24 30.2	130	+18 53.7	113	35	17 03	31	18 02	9 09	30	35	60		
17	73 41.6	+22 21.4	39 02.4	132	+18 42.3	114	40	16 49	17 20	17 53	9 22	26	19 23	64		
18	88 41.5	+22 21.0	53 34.7	133	+18 30.8	115	45	16 34	17 07	17 44	9 36	23	19 10	68		
19	103 41.4	20.7	68 07.0	133	19.3	115	50	14	16 52	33	9 54	17	18 53	74		
20	118 41.3	20.4	82 39.5	135	+18 07.7	116	52	16 05	45	28	10 03	14	46	75		
21	133 41.3	20.1	97 12.0	135	+17 56.0	117	54	15 55	37	23	12 12	37	79	79		
22	148 41.2	19.8	111 44.6	136	44.2	118	56	43	29	17	23 8		27	82		
23	163 41.1	19.5	126 17.3	137	32.4	118	58	29	20	11	34 5		16	86		
24	178 41.0	+22 19.2	140 50.1	138	+17 20.5	119	60 S	15 13	16 09	17 04	10 48	1	18 03	91		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 53.4 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 46 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	286 26.4	168 46.3	+22 08.8	237 39.5	+17 09.0	218 16.5	+21 13.2	295 24.9	-6 03.5	
1	301 28.8	183 45.5	08.3	252 40.2	09.5	233 18.4	13.3	310 27.4	03.5	
2	316 31.3	198 44.7	07.8	267 40.9	10.0	248 20.3	13.4	325 29.9	03.5	
3	331 33.8	213 43.9	07.3	282 41.6	10.5	263 22.2	13.4	340 32.4	03.5	
4	346 36.2	228 43.1	06.8	297 42.3	11.0	278 24.2	13.5	355 34.9	03.5	
5	1 38.7	243 42.3	+22 06.3	312 42.9	+17 11.4	293 26.1	+21 13.6	10 37.4	-6 03.6	
6	16 41.2	258 41.5	+22 05.8	327 43.6	+17 11.9	308 28.0	+21 13.7	25 39.8	-6 03.6	
7	31 43.6	273 40.7	05.3	342 44.3	12.4	323 29.9	13.8	40 42.3	03.6	
8	46 46.1	288 39.9	04.8	357 45.0	12.9	338 31.8	13.8	55 44.8	03.6	
9	61 48.6	303 39.1	04.2	12 45.6	13.4	353 33.7	13.9	70 47.3	03.7	
10	76 51.0	318 38.3	03.7	27 46.3	13.9	8 35.6	14.0	85 49.8	03.7	
11	91 53.5	333 37.5	+22 03.2	42 47.0	+17 14.4	23 37.5	+21 14.1	100 52.3	-6 03.7	
12	106 55.9	348 36.7	+22 02.7	57 47.7	+17 14.9	38 39.4	+21 14.1	115 54.8	-6 03.7	
13	121 58.4	3 35.9	02.2	72 48.3	15.4	53 41.3	14.2	130 57.3	03.8	
14	137 00.9	18 35.0	01.7	87 49.0	15.8	68 43.2	14.3	145 59.8	03.8	
15	152 03.3	33 34.2	01.2	102 49.7	16.3	83 45.1	14.4	161 02.3	03.8	
16	167 05.8	48 33.4	00.6	117 50.4	16.8	98 47.1	14.5	176 04.8	03.8	
17	182 08.3	63 32.6	+22 00.1	132 51.0	+17 17.3	113 49.0	+21 14.5	191 07.3	-6 03.9	
18	197 10.7	78 31.8	+21 59.6	147 51.7	+17 17.8	128 50.9	+21 14.6	206 09.8	-6 03.9	
19	212 13.2	93 31.0	59.1	162 52.4	18.3	143 52.8	14.7	221 12.3	03.9	
20	227 15.7	108 30.2	58.5	177 53.1	18.8	158 54.7	14.8	236 14.8	03.9	
21	242 18.1	123 29.4	58.0	192 53.8	19.2	173 56.6	14.8	251 17.3	04.0	
22	257 20.6	138 28.6	57.5	207 54.4	19.7	188 58.5	14.9	266 19.7	04.0	
23	272 23.0	153 27.8	57.0	222 55.1	20.2	204 00.4	15.0	281 22.2	04.0	
24	287 25.5	168 27.0	+21 56.4	237 55.8	+17 20.7	219 02.3	+21 15.1	296 24.7	-6 04.0	
Dif	—	-8	-5	+7	+5	+19	+1	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 05.3 <sup>m</sup>		SD: 15.0' Edad: 3.0 <sup>d</sup> PHE { 4 <sup>h</sup> : 55.0' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 54.7'					PMG: 15 <sup>h</sup> 03 <sup>m</sup> R°: 42 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	178 41.0	+ 22 19.2	140 50.1		+ 17 20.5	119	60 N	** **	1 27	2 54	6 51 88	22 47 -1				
1	193 40.9	18.9	155 23.0	139	+ 17 08.6	119	58	** **	2 03	3 12	7 01 84	39 3				
2	208 40.8	18.6	169 56.0	140	+ 16 56.6	120	56	** **	29	27	10 80	33 5				
3	223 40.7	18.3	184 29.0	140	44.5	121	54	1 20	2 49	40	18 77	27 8				
4	238 40.6	18.0	199 02.2	142	32.4	121	52	1 54	3 05	3 52	25 74	22 11				
5	253 40.5	+ 22 17.7	213 35.4	142	+ 16 20.2	122	50	2 17	3 19	4 02	7 32 71	22 17 13				
6	268 40.4	+ 22 17.4	228 08.7	143	+ 16 07.9	123	45	2 58	3 46	4 23	7 45 67	22 07 17				
7	283 40.3	17.1	242 42.1	144	+ 15 55.6	123	40	3 27	4 08	40	7 57 62	21 58 22				
8	298 40.2	16.8	257 15.5	144	43.3	123	35	3 49	25	4 54	8 06 59	51 24				
9	313 40.1	16.5	271 49.1	146	30.9	124	30	4 06	4 39	5 06	15 55	44 28				
10	328 40.1	16.2	286 22.7	146	18.4	125	20	34	5 03	27	29 50	33 32				
11	343 40.0	+ 22 15.8	300 56.4	147	+ 15 05.9	125	10 N	4 55	5 22	5 45	8 41 46	21 23 37				
12	358 39.9	+ 22 15.5	315 30.2	148	+ 14 53.3	126	0	5 13	5 39	6 02	8 53 42	21 13 41				
13	13 39.8	15.2	330 04.0	148	40.7	126	10 S	5 19	5 56	18	9 04 38	21 04 45				
14	28 39.7	14.9	344 38.0	150	28.0	127	20	5 45	6 12	36	17 33	20 54 49				
15	43 39.6	14.6	359 12.0	150	15.3	127	30	6 00	30	6 56	31 28	42 54				
16	58 39.5	14.3	13 46.0	150	+ 14 02.5	128	35	08	40	7 07	39 25	35 58				
17	73 39.4	+ 22 14.0	28 20.2	152	+ 13 49.7	128	40	6 17	6 51	7 21	9 48 22	20 27 61				
18	88 39.3	+ 22 13.6	42 54.4	152	+ 13 36.8	129	45	6 26	7 03	7 37	9 59 18	20 18 65				
19	103 39.3	13.3	57 28.7	153	23.9	129	50	37	18	7 56	10 11 14	07 70				
20	118 39.2	13.0	72 03.0	153	+ 13 11.0	129	52	42	25	8 05	17 12	20 01 73				
21	133 39.1	12.7	86 37.5	155	+ 12 58.0	130	54	47	33	15	24 9	19 56 75				
22	148 39.0	12.4	101 12.0	155	44.9	131	56	53	41	27	31 6	49 78				
23	163 38.9	12.0	115 46.5	155	31.8	131	58	6 59	7 50	40	39 3	42 81				
24	178 38.8	+ 22 11.7	130 21.1	156	+ 12 18.7	131	60 S	7 06	8 01	8 56	10 49 -1	19 34 85				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 49.5 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 23 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 14 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	287 25.5	168 27.0	+ 21 56.4	237 55.8	+ 17 20.7	219 02.3	+ 21 15.1	296 24.7	- 6 04.0	
1	302 28.0	183 26.2	55.9	252 56.5	21.2	234 04.2	15.2	311 27.2	04.0	
2	317 30.4	198 25.4	55.4	267 57.1	21.7	249 06.1	15.2	326 29.7	04.1	
3	332 32.9	213 24.6	54.8	282 57.8	22.1	264 08.1	15.3	341 32.2	04.1	
4	347 35.4	228 23.8	54.3	297 58.5	22.6	279 10.0	15.4	356 34.7	04.1	
5	2 37.8	243 23.1	+ 21 53.8	312 59.2	+ 17 23.1	294 11.9	+ 21 15.5	11 37.2	- 6 04.1	
6	17 40.3	258 22.3	+ 21 53.2	327 59.8	+ 17 23.6	309 13.8	+ 21 15.5	26 39.7	- 6 04.2	
7	32 42.8	273 21.5	52.7	343 00.5	24.1	324 15.7	15.6	41 42.2	04.2	
8	47 45.2	288 20.7	52.2	358 01.2	24.6	339 17.6	15.7	56 44.7	04.2	
9	62 47.7	303 19.9	51.6	13 01.9	25.0	354 19.5	15.8	71 47.2	04.2	
10	77 50.2	318 19.1	51.1	28 02.5	25.5	9 21.4	15.8	86 49.7	04.3	
11	92 52.6	333 18.3	+ 21 50.5	43 03.2	+ 17 26.0	24 23.3	+ 21 15.9	101 52.2	- 6 04.3	
12	107 55.1	348 17.5	+ 21 50.0	58 03.9	+ 17 26.5	39 25.3	+ 21 16.0	116 54.7	- 6 04.3	
13	122 57.5	3 16.7	49.5	73 04.6	27.0	54 27.2	16.1	131 57.2	04.3	
14	138 00.0	18 15.9	48.9	88 05.2	27.4	69 29.1	16.2	146 59.7	04.4	
15	153 02.5	33 15.1	48.4	103 05.9	27.9	84 31.0	16.2	162 02.2	04.4	
16	168 04.9	48 14.3	47.8	118 06.6	28.4	99 32.9	16.3	177 04.7	04.4	
17	183 07.4	63 13.5	+ 21 47.3	133 07.3	+ 17 28.9	114 34.8	+ 21 16.4	192 07.2	- 6 04.5	
18	198 09.9	78 12.7	+ 21 46.7	148 08.0	+ 17 29.4	129 36.7	+ 21 16.5	207 09.7	- 6 04.5	
19	213 12.3	93 11.9	46.2	163 08.6	29.8	144 38.6	16.5	222 12.2	04.5	
20	228 14.8	108 11.1	45.6	178 09.3	30.3	159 40.5	16.6	237 14.7	04.5	
21	243 17.3	123 10.4	45.1	193 10.0	30.8	174 42.5	16.7	252 17.2	04.6	
22	258 19.7	138 09.6	44.5	208 10.7	31.3	189 44.4	16.8	267 19.7	04.6	
23	273 22.2	153 08.8	44.0	223 11.3	31.8	204 46.3	16.8	282 22.2	04.6	
24	288 24.7	168 08.0	+ 21 43.4	238 12.0	+ 17 32.2	219 48.2	+ 21 16.9	297 24.7	- 6 04.6	
Dif	—	-8	-5	+7	+5	+19	+1	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 05.5 <sup>m</sup>		SD: 14.9' Edad: 4.0 <sup>d</sup> PMG: 15 <sup>h</sup> 45 <sup>m</sup> R°: 39 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.4'	Civil	Náutico	Hora R°	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 38.8	+ 22 11.7	130 21.1	157	+ 12 18.7	131	60 N	21 14	22 38	** **	8 19 83	22 46	-1		
1	193 38.7	11.4	144 55.8	157	+ 12 05.6	131	58	20 57	22 04	** **	25 79	42	2		
2	208 38.6	11.1	159 30.5	157	+ 11 52.4	132	56	42	21 39	** **	30 77	38	5		
3	223 38.5	10.8	174 05.4	159	39.1	133	54	29	20	22 46	35 74	35	7		
4	238 38.5	10.4	188 40.2	158	25.9	132	52	18	21 04	22 14	39 72	33	9		
5	253 38.4	+ 22 10.1	203 15.1	159	+ 11 12.5	134	50	20 08	20 50	21 51	8 43 69	22 30	11		
6	268 38.3	+ 22 09.8	217 50.1	160	+ 10 59.2	133	45	19 47	20 23	21 11	8 52 64	22 24	16		
7	283 38.2	09.5	232 25.2	161	45.8	134	40	30	20 02	20 43	8 59 60	20	19		
8	298 38.1	09.1	247 00.3	161	32.4	134	35	16	19 45	21	9 05 57	15	23		
9	313 38.0	08.8	261 35.4	161	19.0	134	30	19 04	31	20 04	10 54	12	25		
10	328 37.9	08.5	276 10.6	162	+ 10 05.5	135	20	18 43	19 08	19 36	19 49	05	31		
11	343 37.9	+ 22 08.2	290 45.9	163	+ 9 52.0	135	10 N	18 26	18 48	19 15	9 27 45	22 00	35		
12	358 37.8	+ 22 07.8	305 21.2	163	+ 9 38.5	135	0	18 09	18 31	18 57	9 35 40	21 54	40		
13	13 37.7	07.5	319 56.5	163	24.9	136	10 S	17 53	18 15	41	42 36	49	43		
14	28 37.6	07.2	334 31.9	164	+ 9 11.3	136	20	35	17 59	26	50 32	43	48		
15	43 37.5	06.8	349 07.4	165	+ 8 57.7	136	30	16	42	11	9 59 27	36	54		
16	58 37.4	06.5	3 42.9	165	44.1	136	35	17 04	32	18 03	10 04 24	33	56		
17	73 37.3	+ 22 06.2	18 18.4	165	+ 8 30.4	137	40	16 51	17 21	17 55	10 10 20	21 28	60		
18	88 37.3	+ 22 05.8	32 54.0	166	+ 8 16.7	137	45	16 35	17 08	17 45	10 17 16	21 23	64		
19	103 37.2	05.5	47 29.7	167	+ 8 03.0	137	50	16	16 54	35	25 12	17	68		
20	118 37.1	05.2	62 05.3	166	+ 7 49.2	138	52	16 07	47	30	29 9	14	70		
21	133 37.0	04.8	76 41.1	168	35.5	137	54	15 57	39	25	33 7	11	73		
22	148 36.9	04.5	91 16.8	167	21.7	138	56	45	31	19	37 5	07	76		
23	163 36.8	04.2	105 52.6	168	+ 7 07.9	138	58	32	22	13	42 2	21 03	79		
24	178 36.8	+ 22 03.8	120 28.5	169	+ 6 54.1	138	60 S	15 16	16 11	17 07	10 48 -1	20 59	82		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 45.6 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 48 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 20 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 10 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	288 24.7	168 08.0	+ 21 43.4	238 12.0	+ 17 32.2	219 48.2	+ 21 16.9	297 24.7	- 6 04.6	
1	303 27.1	183 07.2	42.9	253 12.7	32.7	234 50.1	17.0	312 27.2	04.7	
2	318 29.6	198 06.4	42.3	268 13.4	33.2	249 52.0	17.1	327 29.7	04.7	
3	333 32.0	213 05.6	41.7	283 14.0	33.7	264 53.9	17.1	342 32.2	04.7	
4	348 34.5	228 04.8	41.2	298 14.7	34.1	279 55.8	17.2	357 34.7	04.7	
5	3 37.0	243 04.1	+ 21 40.6	313 15.4	+ 17 34.6	294 57.8	+ 21 17.3	12 37.2	- 6 04.8	
6	18 39.4	258 03.3	+ 21 40.1	328 16.1	+ 17 35.1	309 59.7	+ 21 17.4	27 39.7	- 6 04.8	
7	33 41.9	273 02.5	39.5	343 16.7	35.6	325 01.6	17.4	42 42.2	04.8	
8	48 44.4	288 01.7	38.9	358 17.4	36.0	340 03.5	17.5	57 44.7	04.8	
9	63 46.8	303 00.9	38.4	13 18.1	36.5	355 05.4	17.6	72 47.2	04.9	
10	78 49.3	318 00.1	37.8	28 18.8	37.0	10 07.3	17.7	87 49.7	04.9	
11	93 51.8	332 59.3	+ 21 37.2	43 19.4	+ 17 37.5	25 09.2	+ 21 17.8	102 52.2	- 6 04.9	
12	108 54.2	347 58.6	+ 21 36.7	58 20.1	+ 17 37.9	40 11.2	+ 21 17.8	117 54.7	- 6 04.9	
13	123 56.7	2 57.8	36.1	73 20.8	38.4	55 13.1	17.9	132 57.2	05.0	
14	138 59.1	17 57.0	35.5	88 21.5	38.9	70 15.0	18.0	147 59.7	05.0	
15	154 01.6	32 56.2	35.0	103 22.1	39.3	85 16.9	18.1	163 02.2	05.0	
16	169 04.1	47 55.4	34.4	118 22.8	39.8	100 18.8	18.1	178 04.7	05.1	
17	184 06.5	62 54.6	+ 21 33.8	133 23.5	+ 17 40.3	115 20.7	+ 21 18.2	193 07.2	- 6 05.1	
18	199 09.0	77 53.9	+ 21 33.2	148 24.2	+ 17 40.8	130 22.6	+ 21 18.3	208 09.7	- 6 05.1	
19	214 11.5	92 53.1	32.7	163 24.8	41.2	145 24.6	18.4	223 12.2	05.1	
20	229 13.9	107 52.3	32.1	178 25.5	41.7	160 26.5	18.4	238 14.7	05.2	
21	244 16.4	122 51.5	31.5	193 26.2	42.2	175 28.4	18.5	253 17.2	05.2	
22	259 18.9	137 50.7	30.9	208 26.9	42.6	190 30.3	18.6	268 19.7	05.2	
23	274 21.3	152 50.0	30.4	223 27.6	43.1	205 32.2	18.7	283 22.2	05.2	
24	289 23.8	167 49.2	+ 21 29.8	238 28.2	+ 17 43.6	220 34.1	+ 21 18.7	298 24.7	- 6 05.3	
Dif	—	-8	-6	+7	+5	+19	+1	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 05.6 <sup>m</sup>		SD: 14.8' Edad: 5.0 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.2' PMG: 16 <sup>h</sup> 24 <sup>m</sup> R°: 39 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	
0	178 36.8	+ 22 03.8	120 28.5	+ 6 54.1	139 40.2	139 58	** **	1 33	2 57	9 42	81	22 45	-2	
1	193 36.7	03.5	135 04.3	168 40.2	138 58	58	** **	2 08	3 15	44 78	44	44	1	
2	208 36.6	03.2	149 40.2	169 26.4	138 56	56	** **	32	30	47 75	43	43	4	
3	223 36.5	02.8	164 16.2	+ 6 12.5	139 54	54	1 26	2 51	43	49 72	42	7		
4	238 36.4	02.5	178 52.1	+ 5 58.6	139 52	52	1 58	3 07	3 54	51 70	42	9		
5	253 36.4	+ 22 02.1	193 28.2	+ 5 44.7	139 50	50	2 20	3 21	4 04	9 52	68	22 41	11	
6	268 36.3	+ 22 01.8	208 04.2	+ 5 30.8	139 45	45	3 01	3 48	4 24	9 56	63	22 40	15	
7	283 36.2	01.5	222 40.3	171 16.8	140 40	40	29	4 09	41	9 59	59	39	19	
8	298 36.1	01.1	237 16.4	+ 5 02.9	139 35	35	3 50	26	4 55	10 02	55	38	22	
9	313 36.0	00.8	251 52.5	+ 4 48.9	140 30	30	4 07	4 40	5 07	10 40	53	37	26	
10	328 35.9	00.4	266 28.6	171 34.9	140 20	20	35	5 04	28	08 48	36	30		
11	343 35.9	+ 22 00.1	281 04.8	+ 4 20.9	140 10	10 N	4 56	5 23	5 46	10 12	43	22 35	34	
12	358 35.8	+ 21 59.8	295 41.0	+ 4 06.9	140 0	0	5 14	5 40	6 02	10 15	39	22 34	38	
13	13 35.7	59.4	310 17.2	+ 3 52.9	140 10	10 S	30	5 56	18	18 35	32	43		
14	28 35.6	59.1	324 53.5	173 38.8	141 20	20	5 45	6 12	36	22 30	31	48		
15	43 35.5	58.7	339 29.7	172 24.8	140 30	30	6 00	29	6 55	26 25	30	52		
16	58 35.5	58.4	354 06.0	+ 3 10.8	140 35	35	08	39	7 07	28 22	29	55		
17	73 35.4	+ 21 58.0	8 42.3	+ 2 56.7	141 40	40	6 16	6 50	7 20	10 30	20	22 28	59	
18	88 35.3	+ 21 57.7	23 18.6	+ 2 42.7	140 45	45	6 26	7 02	7 35	10 33	16	22 27	62	
19	103 35.2	57.3	37 54.9	173 28.6	141 50	50	36	17	7 55	37 11	25	68		
20	118 35.1	57.0	52 31.3	174 14.5	141 52	52	41	24	8 04	38 9	24	70		
21	133 35.1	56.6	67 07.7	+ 2 00.4	141 54	54	46	31	14	40 7	24	72		
22	148 35.0	56.3	81 44.0	+ 1 46.3	141 56	56	51	39	25	42 5	23	75		
23	163 34.9	55.9	96 20.4	174 32.3	140 58	58	6 57	49	38	44 2	22	78		
24	178 34.8	+ 21 55.6	110 56.8	+ 1 18.2	141 60	60 S	7 04	7 59	8 54	10 47	-2	22 21	81	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 41.6 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 06 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 17 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 06 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	289 23.8	167 49.2	+ 21 29.8	238 28.2	+ 17 43.6	220 34.1	+ 21 18.7	298 24.7	- 6 05.3	
1	304 26.3	182 48.4	29.2	253 28.9	44.1	235 36.0	18.8	313 27.2	05.3	
2	319 28.7	197 47.6	28.6	268 29.6	44.5	250 38.0	18.9	328 29.7	05.3	
3	334 31.2	212 46.9	28.0	283 30.3	45.0	265 39.9	19.0	343 32.2	05.4	
4	349 33.6	227 46.1	27.4	298 30.9	45.5	280 41.8	19.0	358 34.7	05.4	
5	4 36.1	242 45.3	+ 21 26.9	313 31.6	+ 17 45.9	295 43.7	+ 21 19.1	13 37.2	- 6 05.4	
6	19 38.6	257 44.5	+ 21 26.3	328 32.3	+ 17 46.4	310 45.6	+ 21 19.2	28 39.7	- 6 05.4	
7	34 41.0	272 43.8	25.7	343 33.0	46.9	325 47.5	19.3	43 42.2	05.5	
8	49 43.5	287 43.0	25.1	358 33.6	47.3	340 49.5	19.3	58 44.7	05.5	
9	64 46.0	302 42.2	24.5	13 34.3	47.8	355 51.4	19.4	73 47.2	05.5	
10	79 48.4	317 41.4	23.9	28 35.0	48.3	10 53.3	19.5	88 49.7	05.6	
11	94 50.9	332 40.7	+ 21 23.3	43 35.7	+ 17 48.7	25 55.2	+ 21 19.5	103 52.2	- 6 05.6	
12	109 53.4	347 39.9	+ 21 22.7	58 36.3	+ 17 49.2	40 57.1	+ 21 19.6	118 54.7	- 6 05.6	
13	124 55.8	2 39.1	22.1	73 37.0	49.7	55 59.0	19.7	133 57.2	05.6	
14	139 58.3	17 38.3	21.5	88 37.7	50.1	71 01.0	19.8	148 59.8	05.7	
15	155 00.7	32 37.6	20.9	103 38.4	50.6	86 02.9	19.8	164 02.3	05.7	
16	170 03.2	47 36.8	20.3	118 39.0	51.1	101 04.8	19.9	179 04.8	05.7	
17	185 05.7	62 36.0	+ 21 19.7	133 39.7	+ 17 51.5	116 06.7	+ 21 20.0	194 07.3	- 6 05.8	
18	200 08.1	77 35.3	+ 21 19.1	148 40.4	+ 17 52.0	131 08.6	+ 21 20.1	209 09.8	- 6 05.8	
19	215 10.6	92 34.5	18.5	163 41.1	52.4	146 10.5	20.1	224 12.3	05.8	
20	230 13.1	107 33.7	17.9	178 41.7	52.9	161 12.5	20.2	239 14.8	05.8	
21	245 15.5	122 32.9	17.3	193 42.4	53.4	176 14.4	20.3	254 17.3	05.9	
22	260 18.0	137 32.2	16.7	208 43.1	53.8	191 16.3	20.4	269 19.8	05.9	
23	275 20.5	152 31.4	16.1	223 43.8	54.3	206 18.2	20.4	284 22.3	05.9	
24	290 22.9	167 30.6	+ 21 15.5	238 44.4	+ 17 54.8	221 20.1	+ 21 20.5	299 24.8	- 6 06.0	

Dif	—	-8	-6	+7	+5	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 05.7 <sup>m</sup>		SD: 14.8' Edad: 6.0 <sup>d</sup> PMG: 17 <sup>h</sup> 03 <sup>m</sup> R°: 39 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'	Civil	Náutico	Hora R°	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m	h m m		
<b>0</b>	178 34.8	+ 21 55.6	110 56.8	+ 1 18.2	141	<b>60 N</b>	21 11	22 32	** **	11 03 82	22 43 -1				
<b>1</b>	193 34.8	55.2	125 33.2 <sup>174</sup>	+ 1 04.1	141	<b>58</b>	20 54	22 00	** **	02 79	45 2				
<b>2</b>	208 34.7	54.9	140 09.6 <sup>174</sup>	+ 0 50.0	141	<b>56</b>	39	21 36	23 38	02 75	47 5				
<b>3</b>	223 34.6	54.5	154 46.0 <sup>174</sup>	35.9	141	<b>54</b>	27	17	22 40	01 73	49 7				
<b>4</b>	238 34.5	54.2	169 22.4 <sup>174</sup>	21.8	141	<b>52</b>	16	21 02	22 10	01 70	51 9				
<b>5</b>	253 34.4	+ 21 53.8	183 58.9 <sup>175</sup>	+ 0 07.7	141	<b>50</b>	20 06	20 49	21 48	11 00 68	22 52 12				
<b>6</b>	268 34.4	+ 21 53.4	198 35.3 <sup>174</sup>	- 0 06.4	141	<b>45</b>	19 46	20 22	21 09	10 59 63	22 55 17				
<b>7</b>	283 34.3	53.1	213 11.7 <sup>174</sup>	20.5	141	<b>40</b>	29	20 01	20 41	58 59	22 58 20				
<b>8</b>	298 34.2	52.7	227 48.2 <sup>175</sup>	34.6	141	<b>35</b>	15	19 45	20	57 56	23 00 24				
<b>9</b>	313 34.1	52.4	242 24.6 <sup>174</sup>	- 0 48.7	141	<b>30</b>	19 03	30	20 03	57 53	03 26				
<b>10</b>	328 34.1	52.0	257 01.0 <sup>174</sup>	- 1 02.8	141	<b>20</b>	18 43	19 07	19 36	56 47	06 31				
<b>11</b>	343 34.0	+ 21 51.7	271 37.4 <sup>174</sup>	- 1 16.9	141	<b>10 N</b>	18 26	18 48	19 15	10 55 43	23 09 36				
<b>12</b>	358 33.9	+ 21 51.3	286 13.9 <sup>175</sup>	- 1 30.9	140	<b>0</b>	18 09	18 32	18 58	10 54 39	23 12 40				
<b>13</b>	13 33.8	50.9	300 50.3 <sup>174</sup>	45.0	141	<b>10 S</b>	17 53	16	42	53 35	15 44				
<b>14</b>	28 33.8	50.6	315 26.7 <sup>174</sup>	- 1 59.1	141	<b>20</b>	36	18 00	27	52 30	19 48				
<b>15</b>	43 33.7	50.2	330 03.1 <sup>174</sup>	- 2 13.1	140	<b>30</b>	17	17 43	12	51 25	22 54				
<b>16</b>	58 33.6	49.9	344 39.5 <sup>174</sup>	27.2	141	<b>35</b>	17 05	33	18 04	50 23	24 57				
<b>17</b>	73 33.5	+ 21 49.5	359 15.8 <sup>173</sup>	- 2 41.2	140	<b>40</b>	16 52	17 22	17 56	10 50 19	23 27 59				
<b>18</b>	88 33.5	+ 21 49.1	13 52.2 <sup>174</sup>	- 2 55.3	141	<b>45</b>	16 37	17 10	17 47	10 49 15	23 29 64				
<b>19</b>	103 33.4	48.8	28 28.6 <sup>174</sup>	- 3 09.3	140	<b>50</b>	18	16 55	36	48 11	33 68				
<b>20</b>	118 33.3	48.4	43 04.9 <sup>173</sup>	23.3	140	<b>52</b>	16 09	49	32	47 10	34 71				
<b>21</b>	133 33.2	48.0	57 41.2 <sup>173</sup>	37.3	140	<b>54</b>	15 59	41	27	47 7	36 73				
<b>22</b>	148 33.2	47.7	72 17.5 <sup>173</sup>	- 3 51.3	140	<b>56</b>	48	33	21	47 4	38 76				
<b>23</b>	163 33.1	47.3	86 53.8 <sup>173</sup>	- 4 05.3	140	<b>58</b>	35	24	15	46 2	40 79				
<b>24</b>	178 33.0	+ 21 46.9	101 30.1 <sup>173</sup>	- 4 19.3	140	<b>60 S</b>	15 20	16 14	17 09	10 45 -1	23 42 83				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 37.7 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 51 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 05 <sup>m</sup>		Mag.: -2.0 PMG: 9 <sup>h</sup> 13 <sup>m</sup>		Mag.: +1.0 PMG: 4 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
<b>0</b>	290 22.9	167 30.6	+ 21 15.5	238 44.4	+ 17 54.8	221 20.1	+ 21 20.5	299 24.8	- 6 06.0	
<b>1</b>	305 25.4	182 29.9	14.9	253 45.1	55.2	236 22.0	20.6	314 27.3	06.0	
<b>2</b>	320 27.9	197 29.1	14.3	268 45.8	55.7	251 24.0	20.7	329 29.8	06.0	
<b>3</b>	335 30.3	212 28.3	13.7	283 46.5	56.1	266 25.9	20.7	344 32.3	06.0	
<b>4</b>	350 32.8	227 27.6	13.1	298 47.1	56.6	281 27.8	20.8	359 34.8	06.1	
<b>5</b>	5 35.2	242 26.8	+ 21 12.5	313 47.8	+ 17 57.1	296 29.7	+ 21 20.9	14 37.3	- 6 06.1	
<b>6</b>	20 37.7	257 26.0	+ 21 11.9	328 48.5	+ 17 57.5	311 31.6	+ 21 21.0	29 39.9	- 6 06.1	
<b>7</b>	35 40.2	272 25.3	11.2	343 49.2	58.0	326 33.6	21.0	44 42.4	06.2	
<b>8</b>	50 42.6	287 24.5	10.6	358 49.8	58.5	341 35.5	21.1	59 44.9	06.2	
<b>9</b>	65 45.1	302 23.8	10.0	13 50.5	58.9	356 37.4	21.2	74 47.4	06.2	
<b>10</b>	80 47.6	317 23.0	09.4	28 51.2	59.4	11 39.3	21.2	89 49.9	06.3	
<b>11</b>	95 50.0	332 22.2	+ 21 08.8	43 51.9	+ 17 59.8	26 41.2	+ 21 21.3	104 52.4	- 6 06.3	
<b>12</b>	110 52.5	347 21.5	+ 21 08.2	58 52.5	+ 18 00.3	41 43.1	+ 21 21.4	119 54.9	- 6 06.3	
<b>13</b>	125 55.0	2 20.7	07.5	73 53.2	00.7	56 45.1	21.5	134 57.4	06.3	
<b>14</b>	140 57.4	17 19.9	06.9	88 53.9	01.2	71 47.0	21.5	149 59.9	06.4	
<b>15</b>	155 59.9	32 19.2	06.3	103 54.6	01.7	86 48.9	21.6	165 02.4	06.4	
<b>16</b>	171 02.4	47 18.4	05.7	118 55.2	02.1	101 50.8	21.7	180 04.9	06.4	
<b>17</b>	186 04.8	62 17.7	+ 21 05.0	133 55.9	+ 18 02.6	116 52.7	+ 21 21.8	195 07.4	- 6 06.5	
<b>18</b>	201 07.3	77 16.9	+ 21 04.4	148 56.6	+ 18 03.0	131 54.7	+ 21 21.8	210 10.0	- 6 06.5	
<b>19</b>	216 09.7	92 16.1	03.8	163 57.3	03.5	146 56.6	21.9	225 12.5	06.5	
<b>20</b>	231 12.2	107 15.4	03.2	178 57.9	03.9	161 58.5	22.0	240 15.0	06.6	
<b>21</b>	246 14.7	122 14.6	02.5	193 58.6	04.4	177 00.4	22.0	255 17.5	06.6	
<b>22</b>	261 17.1	137 13.9	01.9	208 59.3	04.9	192 02.3	22.1	270 20.0	06.6	
<b>23</b>	276 19.6	152 13.1	01.3	224 00.0	05.3	207 04.3	22.2	285 22.5	06.6	
<b>24</b>	291 22.1	167 12.4	+ 21 00.6	239 00.6	+ 18 05.8	222 06.2	+ 21 22.3	300 25.0	- 6 06.7	
Dif	—	-8	-6	+7	+5	+19	+1	+25	0	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15.7' PMG: 12 <sup>h</sup> 05.9 <sup>m</sup>			SD: 14.8' Edad: 7.0 <sup>d</sup> PMG: 17 <sup>h</sup> 42 <sup>m</sup> R°: 41 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.4'	Náutico		Civil	Hora	R°	Hora	R°		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										h	m
0	178	33.0	+21 46.9	101	30.1	-4 19.3	140	60 N	** **	1 40	3 01	12 25	85	22 42	-1			
1	193	32.9	46.6	116	06.4	33.3	173	58	** **	2 12	18	21 81	47	3	3			
2	208	32.9	46.2	130	42.6	-4 47.2	139	56	0 33	36	33	17 78	52	6	6			
3	223	32.8	45.8	145	18.8	-5 01.1	139	54	1 32	2 55	45	14 74	22	56	9			
4	238	32.7	45.5	159	55.0	15.1	140	52	2 02	3 10	3 56	11 72	23	00	11			
5	253	32.7	+21 45.1	174	31.2	-5 29.0	139	50	2 24	3 23	4 06	12 08	70	23 04	13			
6	268	32.6	+21 44.7	189	07.3	-5 42.9	139	45	3 03	3 50	4 26	12 02	65	23 12	18			
7	283	32.5	44.3	203	43.4	-5 56.7	138	40	30	4 11	43	11 57	61	18	22			
8	298	32.4	44.0	218	19.5	-6 10.6	139	35	3 52	27	4 56	53	57	24	25			
9	313	32.4	43.6	232	55.6	24.4	138	30	4 09	4 41	5 08	50	54	29	28			
10	328	32.3	43.2	247	31.6	38.2	138	20	36	5 04	29	43	49	37	33			
11	343	32.2	+21 42.8	262	07.6	-6 52.0	138	10 N	4 57	5 23	5 46	11 38	44	23 45	37			
12	358	32.2	+21 42.5	276	43.5	-7 05.8	138	0	5 14	5 40	6 02	11 33	40	23 52	41			
13	13	32.1	42.1	291	19.5	19.5	137	10 S	30	5 56	18	28	36	23 59	46			
14	28	32.0	41.7	305	55.3	33.3	138	20	44	6 12	35	22	32	** **	** **			
15	43	32.0	41.3	320	31.2	-7 47.0	137	30	5 59	29	6 55	16	27	** **	** **			
16	58	31.9	41.0	335	07.8	-8 00.7	137	35	6 07	38	7 06	13	24	** **	** **			
17	73	31.8	+21 40.6	349	42.0	-8 14.3	136	40	6 16	6 49	7 19	11 09	21	** **	** **			
18	88	31.7	+21 40.2	4 18.5	167	-8 28.0	137	45	6 25	7 01	7 34	11 04	17	** **	** **			
19	103	31.7	39.8	18 54.2	167	41.6	136	50	35	16	7 53	10 59	12	** **	** **			
20	118	31.6	39.4	33 29.9	167	-8 55.2	136	52	40	22	8 02	57	10	** **	** **			
21	133	31.5	39.1	48 05.5	166	-9 08.7	135	54	45	30	12	54	8	** **	** **			
22	148	31.5	38.7	62 41.1	166	22.3	136	56	50	38	23	51	5	** **	** **			
23	163	31.4	38.3	77 16.6	165	35.8	135	58	6 56	47	36	48	2	** **	** **			
24	178	31.3	+21 37.9	91 52.0	164	-9 49.2	134	60 S	7 02	7 57	8 51	10 44	-1	** **	** **			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 4 <sup>h</sup> 33.8 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.1 PMG: 9 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 58 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	291	22.1	167	12.4	+21 00.6	239	00.6	+18 05.8	222	06.2	+21 22.3	300	25.0	-6 06.7				
1	306	24.5	182	11.6	+21 00.0	254	01.3	06.2	237	08.1	22.3	315	27.5	06.7				
2	321	27.0	197	10.9	+20 59.4	269	02.0	06.7	252	10.0	22.4	330	30.0	06.7				
3	336	29.5	212	10.1	58.7	284	02.7	07.1	267	12.0	22.5	345	32.5	06.8				
4	351	31.9	227	09.3	58.1	299	03.4	07.6	282	13.9	22.6	0	35.1	06.8				
5	6 34.4	242	08.6	+20 57.5	314	04.0	+18 08.0	297	15.8	+21 22.6	15	37.6	-6 06.8					
6	21 36.8	257	07.8	+20 56.8	329	04.7	+18 08.5	312	17.7	+21 22.7	30	40.1	-6 06.9					
7	36 39.3	272	07.1	56.2	344	05.4	08.9	327	19.6	22.8	45	42.6	06.9					
8	51 41.8	287	06.3	55.6	359	06.1	09.4	342	21.6	22.8	60	45.1	06.9					
9	66 44.2	302	05.6	54.9	14	06.7	09.8	357	23.5	22.9	75	47.6	07.0					
10	81 46.7	317	04.8	54.3	29	07.4	10.3	12	25.4	23.0	90	50.1	07.0					
11	96 49.2	332	04.1	+20 53.6	44	08.1	+18 10.7	27	27.3	+21 23.1	105	52.6	-6 07.0					
12	111 51.6	347	03.3	+20 53.0	59	08.8	+18 11.2	42	29.2	+21 23.1	120	55.1	-6 07.0					
13	126 54.1	2 02.6	52.3	74	09.4	11.7	11.7	57	31.2	23.2	135	57.7	07.1					
14	141 56.6	17 01.8	51.7	89	10.1	12.1	12.1	72	33.1	23.3	151	00.2	07.1					
15	156 59.0	32 01.1	51.0	104	10.8	12.6	12.6	87	35.0	23.3	166	02.7	07.1					
16	172 01.5	47 00.3	50.4	119	11.5	13.0	13.0	102	36.9	23.4	181	05.2	07.2					
17	187 04.0	61 59.6	+20 49.8	134	12.1	+18 13.5	13.5	117	38.9	+21 23.5	196	07.7	-6 07.2					
18	202 06.4	76 58.8	+20 49.1	149	12.8	+18 13.9	13.9	132	40.8	+21 23.6	211	10.2	-6 07.2					
19	217 08.9	91 58.1	48.5	164	13.5	14.3	14.3	147	42.7	23.6	226	12.7	07.3					
20	232 11.3	106 57.3	47.8	179	14.2	14.8	14.8	162	44.6	23.7	241	15.2	07.3					
21	247 13.8	121 56.6	47.1	194	14.8	15.2	15.2	177	46.5	23.8	256	17.8	07.3					
22	262 16.3	136 55.8	46.5	209	15.5	15.7	15.7	192	48.5	23.8	271	20.3	07.4					
23	277 18.7	151 55.1	45.8	224	16.2	16.1	16.1	207	50.4	23.9	286	22.8	07.4					
24	292 21.2	166 54.4	+20 45.2	239	16.9	+18 16.6	16.6	222	52.3	+21 24.0	301	25.3	-6 07.4					
Dif	—		-8		-6		+7		+5		+19		+1		+25		0	

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 06.0 <sup>m</sup>			SD: 14.8' Edad: 8.0 <sup>d</sup> PMG: 18 <sup>h</sup> 23 <sup>m</sup> R°: 44 <sup>m</sup>						PHE $\begin{cases} 4^h: 54.5' \\ 12^h: 54.6' \\ 20^h: 54.8' \end{cases}$	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				h m	h m	h m	h m	h m	h m
0	178 31.3	+21 37.9		91 52.0		- 9 49.2	135	60 N	21 08	22 26	** **	13 50	89	22 41	0	
1	193 31.3		37.5	106 27.5	165	-10 02.7	135	58	20 51	21 55	** **	42 85		50	5	
2	208 31.2		37.1	121 02.8	163		16.1	134	37	33	23 24	35 81		22 58	8	
3	223 31.1		36.8	135 38.2	164		29.5	134	25	21 15	22 35	28 78		23 05	11	
4	238 31.1		36.4	150 13.4	162		42.8	133	14	20 59	22 06	23 75		11	15	
5	253 31.0	+21 36.0		164 48.7	163	-10 56.1	133	50	20 04	20 46	21 45	13 18	72	23 17	17	
6	268 30.9	+21 35.6		179 23.8	161	-11 09.4	133	45	19 44	20 20	21 07	13 07	67	23 30	21	
7	283 30.9		35.2	193 58.9	161		22.7	133	28	20 00	20 40	12 58	63	40	26	
8	298 30.8		34.8	208 34.0	161		35.9	132	15	19 44	19	50	60	49	29	
9	313 30.7		34.4	223 09.0	160	-11 49.1	132	30	19 03	30	20 02	44 56		23 57	31	
10	328 30.7		34.0	237 43.9	159	-12 02.2	131	20	18 43	19 07	19 36	32 52		** **	** **	
11	343 30.6	+21 33.7		252 18.8	159	-12 15.3	131	10 N	18 26	18 48	19 15	12 22	48	** **	** **	
12	358 30.5	+21 33.3		266 53.6	158	-12 28.4	131	0	18 10	18 32	18 58	12 13	43	** **	** **	
13	13 30.5		32.9	281 28.4	158		41.4	130	17 54	16	42	12 04	39	** **	** **	
14	28 30.4		32.5	296 03.1	157	-12 54.4	130	20	37	18 01	28	11 54	35	0 07	50	
15	43 30.3		32.1	310 37.7	156	-13 07.3	129	30	18	17 44	13	43 30		16	55	
16	58 30.3		31.7	325 12.2	155		20.2	129	35	17 06	34	18 05	37	21	58	
17	73 30.2	+21 31.3		339 46.7	155	-13 33.1	129	40	16 54	17 24	17 57	11 30	23	0 26	62	
18	88 30.2	+21 30.9		354 21.1	154	-13 45.9	128	45	16 39	17 12	17 48	11 21	20	0 33	66	
19	103 30.1		30.5	8 55.5	154	-13 58.7	128	50	20	16 57	38	11 15		41	71	
20	118 30.0		30.1	23 29.8	153	-14 11.4	127	52	11	51	33	07 12		45	73	
21	133 30.0		29.7	38 04.0	152		24.1	127	54	16 02	44	29	11 02	10	49	76
22	148 29.9		29.3	52 38.1	151		36.7	126	56	15 51	36	23	10 56	7	54	79
23	163 29.8		28.9	67 12.2	151	-14 49.3	126	58	38	27	18	50 4		0 59	83	
24	178 29.8	+21 28.5		81 46.2	150	-15 01.8	125	60 S	15 23	16 17	17 11	10 43	0	1 05	87	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 29.8 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.0 PMG: 8 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.1 PMG: 9 <sup>h</sup> 07 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 54 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	292 21.2		166 54.4	+20 45.2	239 16.9	+18 16.6	222 52.3	+21 24.0	301 25.3	-6 07.4
1	307 23.7		181 53.6	44.5	254 17.5	17.0	237 54.2	24.1	316 27.8	07.5
2	322 26.1		196 52.9	43.9	269 18.2	17.5	252 56.2	24.1	331 30.3	07.5
3	337 28.6		211 52.1	43.2	284 18.9	17.9	267 58.1	24.2	346 32.8	07.5
4	352 31.1		226 51.4	42.5	299 19.6	18.4	283 00.0	24.3	1 35.4	07.6
5	7 33.5		241 50.6	+20 41.9	314 20.2	+18 18.8	298 01.9	+21 24.3	16 37.9	-6 07.6
6	22 36.0		256 49.9	+20 41.2	329 20.9	+18 19.3	313 03.9	+21 24.4	31 40.4	-6 07.6
7	37 38.5		271 49.1	40.6	344 21.6	19.7	328 05.8	24.5	46 42.9	07.7
8	52 40.9		286 48.4	39.9	359 22.3	20.2	343 07.7	24.6	61 45.4	07.7
9	67 43.4		301 47.7	39.2	14 22.9	20.6	358 09.6	24.6	76 47.9	07.7
10	82 45.8		316 46.9	38.6	29 23.6	21.0	13 11.6	24.7	91 50.5	07.8
11	97 48.3		331 46.2	+20 37.9	44 24.3	+18 21.5	28 13.5	+21 24.8	106 53.0	-6 07.8
12	112 50.8		346 45.4	+20 37.2	59 25.0	+18 21.9	43 15.4	+21 24.8	121 55.5	-6 07.8
13	127 53.2		1 44.7	36.6	74 25.6	22.4	58 17.3	24.9	136 58.0	07.9
14	142 55.7		16 44.0	35.9	89 26.3	22.8	73 19.3	25.0	152 00.5	07.9
15	157 58.2		31 43.2	35.2	104 27.0	23.3	88 21.2	25.1	167 03.0	07.9
16	173 00.6		46 42.5	34.5	119 27.7	23.7	103 23.1	25.1	182 05.5	08.0
17	188 03.1		61 41.8	+20 33.9	134 28.3	+18 24.1	118 25.0	+21 25.2	197 08.1	-6 08.0
18	203 05.6		76 41.0	+20 33.2	149 29.0	+18 24.6	133 27.0	+21 25.3	212 10.6	-6 08.0
19	218 08.0		91 40.3	32.5	164 29.7	25.0	148 28.9	25.3	227 13.1	08.1
20	233 10.5		106 39.6	31.8	179 30.4	25.5	163 30.8	25.4	242 15.6	08.1
21	248 12.9		121 38.8	31.2	194 31.0	25.9	178 32.7	25.5	257 18.1	08.1
22	263 15.4		136 38.1	30.5	209 31.7	26.4	193 34.7	25.5	272 20.6	08.2
23	278 17.9		151 37.3	29.8	224 32.4	26.8	208 36.6	25.6	287 23.2	08.2
24	293 20.3		166 36.6	+20 29.1	239 33.1	+18 27.2	223 38.5	+21 25.7	302 25.7	-6 08.2
Dif	—		-7	-7	+7	+4	+19	+1	+25	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 14.9'		Edad: 9.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 55.3'			PMG: 19 <sup>h</sup> 07 <sup>m</sup>		R <sup>o</sup> : 48 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R <sup>o</sup>	Hora	R <sup>o</sup>	
0	178 29.8	+21 28.5	81 46.2		-15 01.8	125	60 N	** **	1 46	3 04	15 19 96	22 41 2				
1	193 29.7	28.1	96 20.1 <sup>149</sup>		14.3	125	58	** **	2 17	21	15 07 90	22 55 8				
2	208 29.7	27.7	110 53.9 <sup>148</sup>		26.7	124	56	0 49	40	36	14 56 85	23 06 13				
3	223 29.6	27.3	125 27.7 <sup>148</sup>		39.1	124	54	1 38	2 58	48	14 46 82	23 16 17				
4	238 29.5	26.9	140 01.4 <sup>147</sup>		-15 51.4	123	52	2 06	3 13	3 58	14 38 78	23 26 19				
5	253 29.5	+21 26.5	154 35.0 <sup>146</sup>		-16 03.7	123	50	2 27	3 26	4 08	14 30 76	23 34 22				
6	268 29.4	+21 26.1	169 08.5 <sup>145</sup>		-16 15.9	122	45	3 05	3 52	4 28	14 14 70	23 51 28				
7	283 29.3	25.7	183 41.9 <sup>144</sup>		28.0	121	40	32	4 12	44	14 01 66	** ** *				
8	298 29.3	25.3	198 15.3 <sup>144</sup>		40.1	121	35	3 53	29	4 58	13 50 62	** ** *				
9	313 29.2	24.9	212 48.5 <sup>142</sup>		-16 52.2	121	30	4 10	4 43	5 09	13 40 60	** ** *				
10	328 29.2	24.5	227 21.7 <sup>142</sup>		-17 04.2	120	20	37	5 05	29	13 24 54	0 10 37				
11	343 29.1	+21 24.1	241 54.8 <sup>141</sup>		-17 16.1	119	10 N	4 57	5 24	5 47	13 10 50	0 22 41				
12	358 29.0	+21 23.7	256 27.8 <sup>140</sup>		-17 28.0	119	0	5 14	5 40	6 02	12 56 47	0 33 45				
13	13 29.0	23.3	271 00.7 <sup>139</sup>		39.7	117	10 S	30	5 56	18	12 43 43	0 45 48				
14	28 28.9	22.9	285 33.6 <sup>139</sup>		-17 51.5	118	20	44	6 11	35	12 29 39	0 57 53				
15	43 28.9	22.5	300 06.3 <sup>137</sup>		-18 03.2	117	30	5 59	28	6 54	12 13 34	1 11 58				
16	58 28.8	22.1	314 39.0 <sup>137</sup>		14.8	116	35	6 07	38	7 05	12 04 31	1 19 61				
17	73 28.8	+21 21.7	329 11.5 <sup>135</sup>		-18 26.3	115	40	6 15	6 48	7 18	11 53 29	1 28 64				
18	88 28.7	+21 21.3	343 44.0 <sup>135</sup>		-18 37.8	115	45	6 24	7 00	7 33	11 41 24	1 39 68				
19	103 28.6	20.8	358 16.3 <sup>133</sup>		-18 49.2	114	50	34	14	7 51	11 26 20	1 52 74				
20	118 28.6	20.4	12 48.6 <sup>133</sup>		-19 00.5	113	52	38	21	8 00	11 19 17	1 58 77				
21	133 28.5	20.0	27 20.8 <sup>132</sup>		11.7	112	54	43	28	10	11 12 14	2 05 80				
22	148 28.5	19.6	41 52.9 <sup>131</sup>		22.9	112	56	48	36	21	11 03 11	2 13 83				
23	163 28.4	19.2	56 24.8 <sup>129</sup>		34.0	111	58	6 54	44	33	10 54 6	2 22 87				
24	178 28.4	+21 18.8	70 56.7 <sup>129</sup>		-19 45.1	111	60 S	7 00	7 54	8 48	10 43 1	2 32 92				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO				
	PMG: 4 <sup>h</sup> 25.9 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.9 PMG: 8 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.1 PMG: 9 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 50 <sup>m</sup>				
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec			
0	293 20.3	+20 29.1	166 36.6	28.4	239 33.1	+18 27.2	223 38.5	+21 25.7	302 25.7	-6 08.2			
1	308 22.8	28.4	181 35.9	27.8	254 33.7	27.7	238 40.4	25.8	317 28.2	08.3			
2	323 25.3	27.8	196 35.2	27.1	269 34.4	28.1	253 42.4	25.8	332 30.7	08.3			
3	338 27.7	27.1	211 34.4	26.4	284 35.1	28.6	268 44.3	25.9	347 33.2	08.3			
4	353 30.2	26.4	226 33.7	25.7	299 35.8	29.0	283 46.2	26.0	2 35.8	08.4			
5	8 32.7	+20 25.7	241 33.0	25.0	314 36.4	+18 29.4	298 48.2	+21 26.0	17 38.3	-6 08.4			
6	23 35.1	+20 25.0	256 32.2	24.3	329 37.1	+18 29.9	313 50.1	+21 26.1	32 40.8	-6 08.4			
7	38 37.6	24.3	271 31.5	23.6	344 37.8	30.3	328 52.0	26.2	47 43.3	08.5			
8	53 40.1	23.6	286 30.8	22.9	359 38.5	30.7	343 53.9	26.2	62 45.8	08.5			
9	68 42.5	22.9	301 30.0	22.3	14 39.1	31.2	358 55.9	26.3	77 48.4	08.5			
10	83 45.0	22.3	316 29.3	21.6	29 39.8	31.6	13 57.8	26.4	92 50.9	08.6			
11	98 47.4	+20 21.6	331 28.6	20.9	44 40.5	+18 32.1	28 59.7	+21 26.5	107 53.4	-6 08.6			
12	113 49.9	+20 20.9	346 27.9	20.2	59 41.2	+18 32.5	44 01.6	+21 26.5	122 55.9	-6 08.6			
13	128 52.4	20.2	1 27.1	19.5	74 41.8	32.9	59 03.6	26.6	137 58.4	08.7			
14	143 54.8	19.5	16 26.4	18.8	89 42.5	33.4	74 05.5	26.7	153 00.9	08.7			
15	158 57.3	18.8	31 25.7	18.1	104 43.2	33.8	89 07.4	26.7	168 03.5	08.7			
16	173 59.8	18.1	46 24.9	17.4	119 43.9	34.2	104 09.4	26.8	183 06.0	08.8			
17	189 02.2	+20 17.4	61 24.2	16.7	134 44.5	+18 34.7	119 11.3	+21 26.9	198 08.5	-6 08.8			
18	204 04.7	+20 16.7	76 23.5	16.0	149 45.2	+18 35.1	134 13.2	+21 26.9	213 11.0	-6 08.8			
19	219 07.2	16.0	91 22.8	15.3	164 45.9	35.5	149 15.1	27.0	228 13.5	08.9			
20	234 09.6	15.3	106 22.1	14.6	179 46.6	36.0	164 17.1	27.1	243 16.1	08.9			
21	249 12.1	14.6	121 21.3	13.9	194 47.2	36.4	179 19.0	27.1	258 18.6	08.9			
22	264 14.6	13.9	136 20.6	13.2	209 47.9	36.8	194 20.9	27.2	273 21.1	09.0			
23	279 17.0	13.2	151 19.9	12.5	224 48.6	37.3	209 22.9	27.3	288 23.6	09.0			
24	294 19.5	+20 12.5	166 19.2	11.7	239 49.3	+18 37.7	224 24.8	+21 27.4	303 26.2	-6 09.0			
Dif	—		-7		+7		+19		+1		+25		0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 06.2 <sup>m</sup>		SD: 15.1' Edad: 10.0 <sup>d</sup> PMG: 19 <sup>h</sup> 55 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.4' 12 <sup>h</sup> : 55.7' 20 <sup>h</sup> : 55.9'				R°: 53 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	178 28.4	+21 18.8	70 56.7		-19 45.1	109	60 N	21 04	22 20	** **	16 55	102	22 43	7		
1	193 28.3	18.4	85 28.5	128	-19 56.0	109	58	20 48	21 51	** **	37 92		23 03	15		
2	208 28.2	18.0	100 00.2	127	-20 06.9	108	56	34	29	23 12	21 87		19 21	21		
3	223 28.2	17.5	114 31.8	126	17.7	107	54	22	21 12	22 29	16 08	82	33 25	25		
4	238 28.1	17.1	129 03.2	124	28.4	107	52	12	20 57	22 02	15 56	79	45 29	29		
5	253 28.1	+21 16.7	143 34.6	124	-20 39.1	107	50	20 02	20 44	21 42	15 46	76	23 56	31		
6	268 28.0	+21 16.3	158 05.9	123	-20 49.6	105	45	19 43	20 19	21 05	15 24	71	** **	***		
7	283 28.0	15.9	172 37.1	122	-21 00.1	105	40	27	19 59	20 38	15 07	67	0 06	31		
8	298 27.9	15.5	187 08.1	120	10.5	104	35	14	43	18	14 52	65	18 34	38		
9	313 27.9	15.0	201 39.1	120	20.8	103	30	19 02	29	20 01	40 62		28 38	34		
10	328 27.8	14.6	216 09.9	118	31.0	102	20	18 42	19 07	19 35	18 58		0 47	42		
11	343 27.7	+21 14.2	230 40.7	118	-21 41.1	101	10 N	18 25	18 48	19 15	14 00	55	1 03	45		
12	358 27.7	+21 13.8	245 11.3	116	-21 51.1	100	0	18 10	18 32	18 58	13 43	51	1 18	49		
13	13 27.6	13.4	259 41.8	115	-22 01.1	100	10 S	17 54	17	43	26 48		33 53	53		
14	28 27.6	12.9	274 12.3	115	10.9	98	20	38	18 01	28	13 08	45	1 50	56		
15	43 27.5	12.5	288 42.6	113	20.7	98	30	19	17 45	14	12 47	41	2 09	60		
16	58 27.5	12.1	303 12.8	112	30.3	96	35	17 08	35	18 06	35 39		20 63	60		
17	73 27.4	+21 11.7	317 42.9	111	-22 39.9	96	40	16 55	17 25	17 58	12 22	35	2 32	67		
18	88 27.4	+21 11.2	332 12.9	110	-22 49.3	94	45	16 40	17 13	17 50	12 05	32	2 47	71		
19	103 27.3	10.8	346 42.7	108	-22 58.7	94	50	22	16 59	40	11 46	26	3 06	76		
20	118 27.3	10.4	1 12.5	108	-23 08.0	93	52	14	53	35	36 24		15 78	78		
21	133 27.2	10.0	15 42.1	106	17.1	91	54	16 04	46	31	26 21		25 82	82		
22	148 27.2	09.5	30 11.7	106	26.2	91	56	15 53	38	26	14 17		36 86	86		
23	163 27.1	09.1	44 41.1	104	35.1	89	58	41	30	20	11 00	12	3 49	91		
24	178 27.1	+21 08.7	59 10.4	103	-23 44.0	89	60 S	15 27	16 20	17 14	10 44	5	4 04	98		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 22.0 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 55 <sup>m</sup>		Mag.: +0.9 PMG: 8 <sup>h</sup> 00 <sup>m</sup>		Mag.: -2.1 PMG: 9 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 46 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	294 19.5	166 19.2	+20 12.5	239 49.3	+18 37.7	224 24.8	+21 27.4	303 26.2	-6 09.0	
1	309 21.9	181 18.4	11.8	254 49.9	38.1	239 26.7	27.4	318 28.7	09.1	
2	324 24.4	196 17.7	11.1	269 50.6	38.6	254 28.7	27.5	333 31.2	09.1	
3	339 26.9	211 17.0	10.4	284 51.3	39.0	269 30.6	27.6	348 33.7	09.2	
4	354 29.3	226 16.3	09.7	299 52.0	39.4	284 32.5	27.6	3 36.2	09.2	
5	9 31.8	241 15.6	+20 08.9	314 52.6	+18 39.9	299 34.4	+21 27.7	18 38.8	-6 09.2	
6	24 34.3	256 14.8	+20 08.2	329 53.3	+18 40.3	314 36.4	+21 27.8	33 41.3	-6 09.3	
7	39 36.7	271 14.1	07.5	344 54.0	40.7	329 38.3	27.8	48 43.8	09.3	
8	54 39.2	286 13.4	06.8	359 54.7	41.1	344 40.2	27.9	63 46.3	09.3	
9	69 41.7	301 12.7	06.1	14 55.3	41.6	359 42.2	28.0	78 48.9	09.4	
10	84 44.1	316 12.0	05.4	29 56.0	42.0	14 44.1	28.0	93 51.4	09.4	
11	99 46.6	331 11.3	+20 04.7	44 56.7	+18 42.4	29 46.0	+21 28.1	108 53.9	-6 09.4	
12	114 49.0	346 10.5	+20 03.9	59 57.4	+18 42.9	44 48.0	+21 28.2	123 56.4	-6 09.5	
13	129 51.5	1 09.8	03.2	74 58.0	43.3	59 49.9	28.2	138 58.9	09.5	
14	144 54.0	16 09.1	02.5	89 58.7	43.7	74 51.8	28.3	154 01.5	09.5	
15	159 56.4	31 08.4	01.8	104 59.4	44.1	89 53.7	28.4	169 04.0	09.6	
16	174 58.9	46 07.7	01.1	120 00.1	44.6	104 55.7	28.5	184 06.5	09.6	
17	190 01.4	61 07.0	+20 00.3	135 00.7	+18 45.0	119 57.6	+21 28.5	199 09.0	-6 09.7	
18	205 03.8	76 06.3	+19 59.6	150 01.4	+18 45.4	134 59.5	+21 28.6	214 11.6	-6 09.7	
19	220 06.3	91 05.5	58.9	165 02.1	45.9	150 01.5	28.7	229 14.1	09.7	
20	235 08.8	106 04.8	58.2	180 02.8	46.3	165 03.4	28.7	244 16.6	09.8	
21	250 11.2	121 04.1	57.5	195 03.4	46.7	180 05.3	28.8	259 19.1	09.8	
22	265 13.7	136 03.4	56.7	210 04.1	47.1	195 07.3	28.9	274 21.7	09.8	
23	280 16.2	151 02.7	56.0	225 04.8	47.6	210 09.2	28.9	289 24.2	09.9	
24	295 18.6	166 02.0	+19 55.3	240 05.5	+18 48.0	225 11.1	+21 29.0	304 26.7	-6 09.9	
Dif	—	-7	-7	+7	+4	+19	+1	+25	0	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 06.2 <sup>m</sup>			SD: 15.3' Edad: 11.0 <sup>d</sup> PMG: 20 <sup>h</sup> 48 <sup>m</sup> R°: 57 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.1' 12 <sup>h</sup> : 56.4' 20 <sup>h</sup> : 56.6'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	178 27.1	+21 08.7		59 10.4		-23 44.0	87	<b>60 N</b>	** **	1 53	3 08	18 37 98	22 50 21			
1	193 27.0	08.2		73 39.6	102	-23 52.7	87	<b>58</b>	** **	2 22	25	18 09 87	23 18 32			
2	208 27.0	07.8		88 08.7	101	-24 01.3	86	<b>56</b>	1 01	2 44	39	17 48 81	40 38			
3	223 26.9	07.4		102 37.7	100	09.8	85	<b>54</b>	1 44	3 01	3 51	30 77	23 58 41			
4	238 26.9	07.0		117 06.6	99	18.2	84	<b>52</b>	2 10	16	4 01	15 75	** ** *			
5	253 26.8	+21 06.5		131 35.3	97	-24 26.5	83	<b>50</b>	2 31	3 29	4 10	17 02 73	** ** *			
6	268 26.8	+21 06.1		146 03.9	96	-24 34.7	82	<b>45</b>	3 08	3 54	4 30	16 35 69	0 19 36			
7	283 26.7	05.7		160 32.5	96	42.7	80	<b>40</b>	34	4 14	46	16 14 67	37 39			
8	298 26.7	05.2		175 00.9	94	50.7	80	<b>35</b>	3 55	30	4 59	15 57 64	0 52 42			
9	313 26.6	04.8		189 29.2	93	-24 58.5	78	<b>30</b>	4 11	4 44	5 10	14 42 63	1 06 44			
10	328 26.6	04.4		203 57.4	92	-25 06.2	77	<b>20</b>	37	5 06	30	15 16 61	29 48			
11	343 26.5	+21 03.9		218 25.5	91	-25 13.7	75	<b>10 N</b>	4 58	5 24	5 47	14 55 58	1 48 51			
12	358 26.5	+21 03.5		232 53.4	89	-25 21.2	75	<b>0</b>	5 15	5 40	6 03	14 34 56	2 07 54			
13	13 26.4	03.1		247 21.3	89	28.5	73	<b>10 S</b>	30	5 56	18	14 14 54	26 56			
14	28 26.4	02.6		261 49.0	87	35.7	72	<b>20</b>	44	6 11	35	13 53 51	2 46 59			
15	43 26.3	02.2		276 16.7	87	42.7	70	<b>30</b>	5 58	28	6 53	28 49	3 09 63			
16	58 26.3	01.7		290 44.2	85	49.7	70	<b>35</b>	6 06	37	7 04	13 14 47	23 65			
17	73 26.2	+21 01.3		305 11.6	84	-25 56.5	68	<b>40</b>	6 14	6 47	7 17	12 57 45	3 39 67			
18	88 26.2	+21 00.9		319 38.9	83	-26 03.1	66	<b>45</b>	6 22	6 59	7 32	12 37 42	3 58 71			
19	103 26.1	00.4		334 06.1	82	09.7	66	<b>50</b>	32	7 13	49	12 38	4 22 75			
20	118 26.1	+21 00.0		348 33.2	81	16.1	64	<b>52</b>	37	19	7 58	12 00 36	33 78			
21	133 26.0	+20 59.5		3 20.2	80	22.3	62	<b>54</b>	41	26	8 07	11 47 32	4 47 80			
22	148 26.0	59.1		17 27.0	78	28.4	61	<b>56</b>	46	33	18	31 29	5 02 85			
23	163 26.0	58.7		31 53.8	78	34.4	60	<b>58</b>	52	42	30	11 12 23	20 90			
24	178 25.9	+20 58.2		46 20.5	77	-26 40.2	58	<b>60 S</b>	6 58	7 52	8 44	10 49 14	5 42 100			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +0.9		Mag.: -2.1		Mag.: +0.9	
	4 <sup>h</sup> 18.1 <sup>m</sup>		PMG: 12 <sup>h</sup> 56 <sup>m</sup>		PMG: 7 <sup>h</sup> 59 <sup>m</sup>		PMG: 8 <sup>h</sup> 58 <sup>m</sup>		PMG: 3 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	295 18.6	166 02.0	+19 55.3	240 05.5	+18 48.0	225 11.1	+21 29.0	304 26.7	-6 09.9	
1	310 21.1	181 01.3	54.5	255 06.1	48.4	240 13.1	29.1	319 29.2	09.9	
2	325 23.5	196 00.6	53.8	270 06.8	48.8	255 15.0	29.1	334 31.8	10.0	
3	340 26.0	210 59.9	53.1	285 07.5	49.3	270 16.9	29.2	349 34.3	10.0	
4	355 28.5	225 59.2	52.3	300 08.2	49.7	285 18.9	29.3	4 36.8	10.1	
5	10 30.9	240 58.5	+19 51.6	315 08.8	+18 50.1	300 20.8	+21 29.3	19 39.3	-6 10.1	
6	25 33.4	255 57.7	+19 50.9	330 09.5	+18 50.5	315 22.7	+21 29.4	34 41.9	-6 10.1	
7	40 35.9	270 57.0	50.1	345 10.2	50.9	330 24.7	29.5	49 44.4	10.2	
8	55 38.3	285 56.3	49.4	0 10.9	51.4	345 26.6	29.5	64 46.9	10.2	
9	70 40.8	300 55.6	48.7	15 11.5	51.8	0 28.5	29.6	79 49.4	10.2	
10	85 43.3	315 54.9	47.9	30 12.2	52.2	15 30.5	29.7	94 52.0	10.3	
11	100 45.7	330 54.2	+19 47.2	45 12.9	+18 52.6	30 32.4	+21 29.7	109 54.5	-6 10.3	
12	115 48.2	345 53.5	+19 46.5	60 13.6	+18 53.1	45 34.3	+21 29.8	124 57.0	-6 10.4	
13	130 50.7	0 52.8	45.7	75 14.2	53.5	60 36.3	29.9	139 59.5	10.4	
14	145 53.1	15 52.1	45.0	90 14.9	53.9	75 38.2	29.9	155 02.1	10.4	
15	160 55.6	30 51.4	44.2	105 15.6	54.3	90 40.1	30.0	170 04.6	10.5	
16	175 58.0	45 50.7	43.5	120 16.3	54.7	105 42.1	30.1	185 07.1	10.5	
17	191 00.5	60 50.0	+19 42.7	135 16.9	+18 55.2	120 44.0	+21 30.1	200 09.7	-6 10.5	
18	206 03.0	75 49.3	+19 42.0	150 17.6	+18 55.6	135 45.9	+21 30.2	215 12.2	-6 10.6	
19	221 05.4	90 48.6	41.3	165 18.3	56.0	150 47.9	30.3	230 14.7	10.6	
20	236 07.9	105 47.9	40.5	180 19.0	56.4	165 49.8	30.3	245 17.2	10.7	
21	251 10.4	120 47.2	39.8	195 19.6	56.8	180 51.7	30.4	260 19.8	10.7	
22	266 12.8	135 46.5	39.0	210 20.3	57.3	195 53.7	30.5	275 22.3	10.7	
23	281 15.3	150 45.8	38.3	225 21.0	57.7	210 55.6	30.5	290 24.8	10.8	
24	296 17.8	165 45.1	+19 37.5	240 21.7	+18 58.1	225 57.6	+21 30.6	305 27.4	-6 10.8	

Dif	—	-7	-7	+7	+4	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 06.3 <sup>m</sup>		SD: 15.5' Edad: 12.0 <sup>d</sup> PMG: 21 <sup>h</sup> 45 <sup>m</sup> R°: 60 <sup>m</sup>						PHE { 4 <sup>h</sup> : 56.9' 12 <sup>h</sup> : 57.1' 20 <sup>h</sup> : 57.4'		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 25.9	+20 58.2	46 20.5	75	-26 40.2	57	60 N	21 01	22 14	** **	** **	20 15 64	23 11 62			
1	193 25.9	57.8	60 47.0	75	45.9	57	58	20 45	21 46	** **	** **	19 36 64	23 50 62			
2	208 25.8	57.3	75 13.5	75	51.5	56	56	31	25	23 02		19 09 63	** ** **			
3	223 25.8	56.9	89 39.8	73	-26 56.9	54	54	20	21 08	22 24		18 47 63	** ** **			
4	238 25.7	56.4	104 06.1	73	-27 02.1	52	52	10	20 54	21 58		30 63	0 14 43			
5	253 25.7	+20 56.0	118 32.2	71	-27 07.2	51	50	20 00	20 42	21 38		18 15 62	0 27 45			
6	268 25.6	+20 55.5	132 58.3	71	-27 12.2	50	45	19 41	20 17	21 02		17 44 62	0 55 48			
7	283 25.6	55.1	147 24.2	69	17.0	48	40	26	19 57	20 37		21 62	1 16 51			
8	298 25.6	54.6	161 50.1	69	21.7	47	35	13	41	16		17 01 62	34 52			
9	313 25.5	54.2	176 15.8	67	26.2	45	30	19 01	21 28	20 00		16 45 61	1 50 53			
10	328 25.5	53.7	190 41.5	67	30.5	43	20	18 42	19 06	19 34		16 17 60	2 17 55			
11	343 25.4	+20 53.3	205 07.1	66	-27 34.7	42	10 N	18 25	18 48	19 14		15 53 60	2 39 57			
12	358 25.4	+20 52.8	219 32.5	64	-27 38.7	40	0	18 10	18 32	18 58		15 30 60	3 01 58			
13	13 25.3	52.4	233 57.9	64	42.6	39	10 S	17 55	17	43		15 08 59	22 59			
14	28 25.3	51.9	248 23.2	63	46.3	37	20	38	18 02	29		14 44 59	3 45 61			
15	43 25.3	51.5	262 48.4	62	49.8	35	30	20	17 46	15		17 57	4 12 62			
16	58 25.2	51.0	277 13.6	62	53.2	34	35	17 09	36	07		14 01 57	28 63			
17	73 25.2	+20 50.6	291 38.6	60	-27 56.4	32	40	16 57	17 26	18 00		13 42 56	4 46 65			
18	88 25.1	+20 50.1	306 03.6	60	-27 59.5	31	45	16 42	17 15	17 51		13 19 55	5 09 66			
19	103 25.1	49.7	320 28.5	59	-28 02.4	29	50	25	17 01	42		12 50 53	37 68			
20	118 25.1	49.2	334 53.3	58	05.1	27	52	16	16 55	37		36 52	5 51 69			
21	133 25.0	48.8	349 18.0	57	07.6	25	54	16 07	48	33		19 52	6 07 71			
22	148 25.0	48.3	3 42.6	56	10.0	24	56	15 56	41	28		12 00 49	27 72			
23	163 24.9	47.9	18 07.2	56	12.2	22	58	44	32	23		11 35 47	6 50 77			
24	178 24.9	+20 47.4	32 31.7	55	-28 14.2	20	60 S	15 30	16 23	17 17		11 03 40	7 22 83			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 14.1 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 58 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 58 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 55 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	296 17.8	165 45.1	+19 37.5	240 21.7	+18 58.1	225 57.6	+21 30.6	305 27.4	-6 10.8	
1	311 20.2	180 44.4	36.8	255 22.3	58.5	240 59.5	30.7	320 29.9	10.8	
2	326 22.7	195 43.7	36.0	270 23.0	58.9	256 01.4	30.7	335 32.4	10.9	
3	341 25.2	210 43.0	35.2	285 23.7	59.3	271 03.4	30.8	350 34.9	10.9	
4	356 27.6	225 42.3	34.5	300 24.4	+18 59.8	286 05.3	30.9	5 37.5	11.0	
5	11 30.1	240 41.6	+19 33.7	315 25.0	+19 00.2	301 07.2	+21 30.9	20 40.0	-6 11.0	
6	26 32.5	255 40.9	+19 33.0	330 25.7	+19 00.6	316 09.2	+21 31.0	35 42.5	-6 11.0	
7	41 35.0	270 40.3	32.2	345 26.4	01.0	331 11.1	31.1	50 45.1	11.1	
8	56 37.5	285 39.6	31.5	0 27.1	01.4	346 13.0	31.1	65 47.6	11.1	
9	71 39.9	300 38.9	30.7	15 27.7	01.8	1 15.0	31.2	80 50.1	11.1	
10	86 42.4	315 38.2	29.9	30 28.4	02.2	16 16.9	31.3	95 52.6	11.2	
11	101 44.9	330 37.5	+19 29.2	45 29.1	+19 02.7	31 18.9	+21 31.3	110 55.2	-6 11.2	
12	116 47.3	345 36.8	+19 28.4	60 29.8	+19 03.1	46 20.8	+21 31.4	125 57.7	-6 11.3	
13	131 49.8	0 36.1	27.6	75 30.4	03.5	61 22.7	31.5	141 00.2	11.3	
14	146 52.3	15 35.4	26.9	90 31.1	03.9	76 24.7	31.5	156 02.8	11.3	
15	161 54.7	30 34.7	26.1	105 31.8	04.3	91 26.6	31.6	171 05.3	11.4	
16	176 57.2	45 34.0	25.4	120 32.5	04.7	106 28.5	31.7	186 07.8	11.4	
17	191 59.7	60 33.3	+19 24.6	135 33.1	+19 05.1	121 30.5	+21 31.7	201 10.4	-6 11.5	
18	207 02.1	75 32.7	+19 23.8	150 33.8	+19 05.5	136 32.4	+21 31.8	216 12.9	-6 11.5	
19	222 04.6	90 32.0	23.0	165 34.5	06.0	151 34.4	31.9	231 15.4	11.5	
20	237 07.0	105 31.3	22.3	180 35.2	06.4	166 36.3	31.9	246 18.0	11.6	
21	252 09.5	120 30.6	21.5	195 35.8	06.8	181 38.2	32.0	261 20.5	11.6	
22	267 12.0	135 29.9	20.7	210 36.5	07.2	196 40.2	32.1	276 23.0	11.7	
23	282 14.4	150 29.2	20.0	225 37.2	07.6	211 42.1	32.1	291 25.5	11.7	
24	297 16.9	165 28.5	+19 19.2	240 37.9	+19 08.0	226 44.0	+21 32.2	306 28.1	-6 11.7	
Dif	—	-7	-8	+7	+4	+19	+1	+25	0	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 06.4 <sup>m</sup>		SD: 15.7' Edad: 13.0 <sup>d</sup> PMG: 22 <sup>h</sup> 45 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.7' 12 <sup>h</sup> : 57.9' 20 <sup>h</sup> : 58.2'			R°: 61 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	h	m
0	178 24.9	+20 47.4	32 31.7	54	-28 14.2	19	60 N	** **	1 59	3 13	21 19	24	** **	***
1	193 24.9	46.9	46 56.1	54	16.1	19	58	** **	2 27	28	20 40	35	** **	***
2	208 24.8	46.5	61 20.5	54	17.8	17	56	1 11	2 48	42	20 12	40	0 18	62
3	223 24.8	46.0	75 44.8	53	19.3	15	54	1 49	3 05	3 53	19 50	44	39	62
4	238 24.7	45.6	90 09.0	52	20.6	13	52	2 15	19	4 04	33 46	0 57	62	62
5	253 24.7	+20 45.1	104 33.2	52	-28 21.8	12	50	2 35	3 31	4 13	19 17	48	1 12	62
6	268 24.7	+20 44.6	118 57.3	51	-28 22.8	10	45	3 11	3 56	4 32	18 46	52	1 43	62
7	283 24.6	44.2	133 21.4	51	23.6	8	40	36	4 16	4 47	23 53	2 07	61	61
8	298 24.6	43.7	147 45.4	50	24.2	6	35	3 56	32	5 00	18 03	55	26	62
9	313 24.5	43.2	162 09.4	50	24.7	5	30	4 13	4 45	12	17 46	56	2 43	62
10	328 24.5	42.8	176 33.3	49	24.9	2	20	38	5 07	31	17 17	58	3 12	61
11	343 24.5	+20 42.3	190 57.1	48	-28 25.0	1	10 N	4 58	5 25	5 47	16 53	59	3 36	61
12	358 24.4	+20 41.9	205 20.9	48	-28 24.9	1	0	5 15	5 41	6 03	16 30	61	3 59	60
13	13 24.4	41.4	219 44.7	48	24.6	3	10 S	30	5 56	18	16 07	63	4 21	61
14	28 24.4	40.9	234 08.4	47	24.2	4	20	44	6 11	34	15 43	63	4 46	59
15	43 24.3	40.5	248 32.1	47	23.5	7	30	5 58	27	6 53	15 14	66	5 14	59
16	58 24.3	40.0	262 55.7	46	22.7	8	35	6 05	36	7 03	14 58	66	31	58
17	73 24.3	+20 39.5	277 19.4	47	-28 21.7	10	40	6 13	6 46	7 16	14 38	67	5 51	57
18	88 24.2	+20 39.1	291 43.0	46	-28 20.5	12	45	6 21	6 57	7 30	14 14	69	6 15	56
19	103 24.2	38.6	306 06.5	45	19.1	14	50	31	7 11	47	13 43	71	6 45	55
20	118 24.2	38.1	320 30.0	45	17.5	16	52	35	17	7 56	28 72	7 00	55	55
21	133 24.1	37.6	334 53.5	45	15.7	18	54	39	24	8 05	13 11	73	18	53
22	148 24.1	37.2	349 17.0	45	13.8	19	56	44	31	15	12 49	75	7 39	52
23	163 24.0	36.7	3 40.5	45	11.7	21	58	49	39	27	12 22	78	8 07	48
24	178 24.0	+20 36.2	18 03.9	44	-28 09.3	24	60 S	6 55	7 49	8 41	11 43	85	8 45	43

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 <sup>h</sup> 10.2 <sup>m</sup>		Mag.: -3.9 PMG: 12 <sup>h</sup> 59 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 57 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 34 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	297 16.9	165 28.5	+19 19.2	240 37.9	+19 08.0	226 44.0	+21 32.2	306 28.1	-6 11.7	11.8
1	312 19.4	180 27.9	18.4	255 38.6	08.4	241 46.0	32.3	321 30.6	11.8	11.8
2	327 21.8	195 27.2	17.6	270 39.2	08.8	256 47.9	32.3	336 33.1	11.8	11.8
3	342 24.3	210 26.5	16.9	285 39.9	09.2	271 49.9	32.4	351 35.7	11.9	11.9
4	357 26.8	225 25.8	16.1	300 40.6	09.6	286 51.8	32.5	6 38.2	11.9	11.9
5	12 29.2	240 25.1	+19 15.3	315 41.3	+19 10.1	301 53.7	+21 32.5	21 40.7	-6 11.9	11.9
6	27 31.7	255 24.4	+19 14.5	330 41.9	+19 10.5	316 55.7	+21 32.6	36 43.3	-6 12.0	12.0
7	42 34.2	270 23.8	13.7	345 42.6	10.9	331 57.6	32.7	51 45.8	12.0	12.0
8	57 36.6	285 23.1	13.0	0 43.3	11.3	346 59.6	32.7	66 48.3	12.1	12.1
9	72 39.1	300 22.4	12.2	15 44.0	11.7	2 01.5	32.8	81 50.9	12.1	12.1
10	87 41.5	315 21.7	11.4	30 44.6	12.1	17 03.4	32.8	96 53.4	12.1	12.1
11	102 44.0	330 21.0	+19 10.6	45 45.3	+19 12.5	32 05.4	+21 32.9	111 55.9	-6 12.2	12.2
12	117 46.5	345 20.4	+19 09.8	60 46.0	+19 12.9	47 07.3	+21 33.0	126 58.5	-6 12.2	12.2
13	132 48.9	0 19.7	09.0	75 46.7	13.3	62 09.3	33.0	142 01.0	12.3	12.3
14	147 51.4	15 19.0	08.3	90 47.3	13.7	77 11.2	33.1	157 03.5	12.3	12.3
15	162 53.9	30 18.3	07.5	105 48.0	14.1	92 13.1	33.2	172 06.1	12.3	12.3
16	177 56.3	45 17.6	06.7	120 48.7	14.5	107 15.1	33.2	187 08.6	12.4	12.4
17	192 58.8	60 17.0	+19 05.9	135 49.4	+19 14.9	122 17.0	+21 33.3	202 11.1	-6 12.4	12.4
18	208 01.3	75 16.3	+19 05.1	150 50.0	+19 15.3	137 19.0	+21 33.4	217 13.7	-6 12.5	12.5
19	223 03.7	90 15.6	04.3	165 50.7	15.7	152 20.9	33.4	232 16.2	12.5	12.5
20	238 06.2	105 14.9	03.5	180 51.4	16.1	167 22.8	33.5	247 18.8	12.5	12.5
21	253 08.6	120 14.3	02.7	195 52.1	16.5	182 24.8	33.6	262 21.3	12.6	12.6
22	268 11.1	135 13.6	01.9	210 52.7	16.9	197 26.7	33.6	277 23.8	12.6	12.6
23	283 13.6	150 12.9	01.1	225 53.4	17.3	212 28.7	33.7	292 26.4	12.7	12.7
24	298 16.0	165 12.2	+19 00.3	240 54.1	+19 17.7	227 30.6	+21 33.8	307 28.9	-6 12.7	12.7

Dif	—	-7	-8	+7	+4	+19	+1	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 06.4 <sup>m</sup>		SD: 15.9' Edad: 14.0 <sup>d</sup> PMG: 23 <sup>h</sup> 46 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.7' 20 <sup>h</sup> : 58.9'				R°: 59 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 24.0	+20 36.2	18 03.9	45	-28 09.3	25	60 N	20 57	22 07	** **	21 43 8	0 13 104				
1	193 24.0	35.8	32 27.4	45	06.8	27	58	41	21 42	** **	21 15 17	0 52 92				
2	208 24.0	35.3	46 50.8	44	04.1	29	56	28	21	22 53	20 52 24	1 20 86				
3	223 23.9	34.8	61 14.2	44	-28 01.2	30	54	17	21 05	22 18	34 29	41 83				
4	238 23.9	34.3	75 37.6	44	-27 58.2	32	52	20 07	20 51	21 54	19 32	1 59 80				
5	253 23.9	+20 33.9	90 01.0	44	-27 54.9	33	50	19 58	20 39	21 35	20 05 35	2 14 78				
6	268 23.8	+20 33.4	104 24.4	44	-27 51.5	34	45	19 39	20 15	21 00	19 38 40	2 45 74				
7	283 23.8	32.9	118 47.8	44	47.8	37	40	24	19 56	20 35	19 16 44	3 08 72				
8	298 23.8	32.4	133 11.3	45	44.0	38	35	11	40	20 15	18 58 47	28 69				
9	313 23.7	32.0	147 34.7	44	40.0	40	30	19 00	27	19 59	42 50	3 45 67				
10	328 23.7	31.5	161 58.1	44	35.8	42	20	18 41	19 05	34	18 15 54	4 13 65				
11	343 23.7	+20 31.0	176 21.5	44	-27 31.4	44	10 N	18 25	18 48	19 14	17 52 57	4 37 63				
12	358 23.6	+20 30.5	190 45.0	45	-27 26.8	46	0	18 10	18 32	18 58	17 31 60	4 59 61				
13	13 23.6	30.0	205 08.4	44	22.1	47	0 S	17 55	17	43	17 10 62	5 22 58				
14	28 23.6	29.6	219 31.9	45	17.1	50	20	39	18 03	29	16 46 66	5 45 56				
15	43 23.5	29.1	233 55.4	45	12.0	51	30	21	17 47	16	20 69	6 13 53				
16	58 23.5	28.6	248 18.9	45	06.7	53	35	17 10	38	09	16 04 72	29 51				
17	73 23.5	+20 28.1	262 42.5	46	-27 01.2	55	40	16 58	17 28	18 01	15 45 75	6 48 49				
18	88 23.5	+20 27.6	277 06.0	45	-26 55.5	57	45	16 44	17 17	17 53	15 23 78	7 11 46				
19	103 23.4	27.1	291 29.6	46	49.7	58	50	27	17 03	44	14 54 84	40 42				
20	118 23.4	26.7	305 53.3	47	43.6	61	52	19	16 57	40	40 86	7 55 38				
21	133 23.4	26.2	320 16.9	46	37.4	62	54	10	51	35	24 89	8 11 36				
22	148 23.3	25.7	334 40.6	47	31.0	64	56	16 00	44	30	14 04 94	31 31				
23	163 23.3	25.2	349 04.4	48	24.4	66	58	15 48	35	25	13 40 101	8 55 26				
24	178 23.3	+20 24.7	3 28.1	47	-26 17.6	68	60 S	15 34	16 26	17 20	13 08 111	9 28 15				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 4 <sup>h</sup> 06.3 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 00 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 56 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 49 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 29 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
0	298 16.0	165 12.2	+19 00.3	240 54.1	+19 17.7	227 30.6	+21 33.8	307 28.9	-6 12.7							
1	313 18.5	180 11.6	+18 59.5	255 54.8	18.1	242 32.6	33.8	322 31.4	12.7							
2	328 21.0	195 10.9	58.7	270 55.4	18.5	257 34.5	33.9	337 34.0	12.8							
3	343 23.4	210 10.2	57.9	285 56.1	18.9	272 36.4	33.9	352 36.5	12.8							
4	358 25.9	225 09.6	57.1	300 56.8	19.4	287 38.4	34.0	7 39.0	12.9							
5	13 28.4	240 08.9	+18 56.3	315 57.5	+19 19.8	302 40.3	+21 34.1	22 41.6	-6 12.9							
6	28 30.8	255 08.2	+18 55.5	330 58.1	+19 20.2	317 42.3	+21 34.1	37 44.1	-6 12.9							
7	43 33.3	270 07.6	54.7	345 58.8	20.6	332 44.2	34.2	52 46.6	13.0							
8	58 35.8	285 06.9	53.9	0 59.5	21.0	347 46.2	34.3	67 49.2	13.0							
9	73 38.2	300 06.2	53.1	16 00.2	21.3	2 48.1	34.3	82 51.7	13.1							
10	88 40.7	315 05.6	52.3	31 00.8	21.7	17 50.0	34.4	97 54.3	13.1							
11	103 43.1	330 04.9	+18 51.5	46 01.5	+19 22.1	32 52.0	+21 34.5	112 56.8	-6 13.2							
12	118 45.6	345 04.2	+18 50.7	61 02.2	+19 22.5	47 53.9	+21 34.5	127 59.3	-6 13.2							
13	133 48.1	0 03.6	49.9	76 02.9	22.9	62 55.9	34.6	143 01.9	13.2							
14	148 50.5	15 02.9	49.1	91 03.5	23.3	77 57.8	34.7	158 04.4	13.3							
15	163 53.0	30 02.2	48.3	106 04.2	23.7	92 59.8	34.7	173 06.9	13.3							
16	178 55.5	45 01.6	47.5	121 04.9	24.1	108 01.7	34.8	188 09.5	13.4							
17	193 57.9	60 00.9	+18 46.7	136 05.6	+19 24.5	123 03.7	+21 34.8	203 12.0	-6 13.4							
18	209 00.4	75 00.2	+18 45.8	151 06.2	+19 24.9	138 05.6	+21 34.9	218 14.6	-6 13.4							
19	224 02.9	89 59.6	45.0	166 06.9	25.3	153 07.5	35.0	233 17.1	13.5							
20	239 05.3	104 58.9	44.2	181 07.6	25.7	168 09.5	35.0	248 19.6	13.5							
21	254 07.8	119 58.2	43.4	196 08.3	26.1	183 11.4	35.1	263 22.2	13.6							
22	269 10.3	134 57.6	42.6	211 09.0	26.5	198 13.4	35.2	278 24.7	13.6							
23	284 12.7	149 56.9	41.8	226 09.6	26.9	213 15.3	35.2	293 27.3	13.7							
24	299 15.2	164 56.3	+18 40.9	241 10.3	+19 27.3	228 17.3	+21 35.3	308 29.8	-6 13.7							
Dif	—	-7	-8	+7	+4	+19	+1	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 16.1' Edad: 15.0 <sup>d</sup>		PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 59.3' 20 <sup>h</sup> : 59.5'			R <sup>o</sup> : ***m			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
0	178 23.3	+20 24.7	3 28.1	49	-26 17.6	69	60 N	2 06	3 17	21 51	2	1 57	115	
1	193 23.3	24.2	17 52.0	49	10.7	72	58	32	32	21 52	9	2 24	106	
2	208 23.2	23.7	32 15.8	48	-26 03.5	73	56	2 52	45	16 14	2 46	99		
3	223 23.2	23.3	46 39.7	49	-25 56.2	75	54	3 08	3 56	21 03	18	3 04	94	
4	238 23.2	22.8	61 03.7	50	48.7	76	52	2 20	4 06	20 51	22	19 90		
5	253 23.1	+20 22.3	75 27.7	50	-25 41.1	79	50	3 34	4 15	20 40	25	3 32	87	
6	268 23.1	+20 21.8	89 51.7	50	-25 33.2	80	45	3 59	4 34	20 18	31	3 59	81	
7	283 23.1	21.3	104 15.8	51	25.2	82	40	4 18	4 49	20 00	36	4 20	77	
8	298 23.1	20.8	118 40.0	52	17.0	83	35	3 58	3 50	19 45	39	3 74		
9	313 23.0	20.3	133 04.2	52	08.7	85	30	4 14	4 46	13	32	4 52	71	
10	328 23.0	19.8	147 28.5	53	-25 00.2	87	20	3 50	5 08	32	19 09	48	5 18	66
11	343 23.0	+20 19.3	161 52.8	53	-24 51.5	89	10 N	4 59	5 25	5 48	18 49	53	5 40	62
12	358 23.0	+20 18.8	176 17.2	54	-24 42.6	90	0	5 15	5 41	6 03	18 31	57	6 00	58
13	13 22.9	18.3	190 41.7	55	33.6	92	10 S	3 50	5 56	18	18 12	61	20 55	
14	28 22.9	17.8	205 06.2	55	24.4	94	20	4 3	6 10	34	17 52	66	6 41	51
15	43 22.9	17.4	219 30.8	56	15.0	95	30	5 57	26	6 52	29 71	7 06	46	
16	58 22.9	16.9	233 55.4	56	-24 05.5	97	35	6 04	35	7 02	16 74	20 44		
17	73 22.8	+20 16.4	248 20.1	57	-23 55.8	98	40	6 11	6 45	7 14	17 00	78	7 37	40
18	88 22.8	+20 15.9	262 44.9	58	-23 46.0	100	45	6 20	6 56	7 28	16 41	83	7 57	35
19	103 22.8	15.4	277 09.8	59	36.0	102	50	29	7 09	45	18 89	8 22	29	
20	118 22.8	14.9	291 34.7	59	25.8	103	52	33	15	7 53	16 06	93	33	27
21	133 22.8	14.4	305 59.7	60	15.5	105	54	37	21	8 02	15 53	96	8 47	23
22	148 22.7	13.9	320 24.7	60	-23 05.0	106	56	42	29	12	38 101	9 02	19	
23	163 22.7	13.4	334 49.9	62	-22 54.4	108	58	47	37	24	15 21	106	21	13
24	178 22.7	+20 12.9	349 15.1	62	-22 43.6		60 S	6 52	7 46	8 37	14 59	114	9 43	6

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 4 <sup>h</sup> 02.3 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 55 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 25 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	299 15.2	164 56.3	+18 40.9	241 10.3	+19 27.3	228 17.3	+21 35.3	308 29.8	-6 13.7	
1	314 17.6	179 55.6	40.1	256 11.0	27.7	243 19.2	35.4	323 32.3	13.7	
2	329 20.1	194 54.9	39.3	271 11.7	28.1	258 21.2	35.4	338 34.9	13.8	
3	344 22.6	209 54.3	38.5	286 12.3	28.5	273 23.1	35.5	353 37.4	13.8	
4	359 25.0	224 53.6	37.7	301 13.0	28.9	288 25.0	35.5	8 39.9	13.9	
5	14 27.5	239 53.0	+18 36.8	316 13.7	+19 29.3	303 27.0	+21 35.6	23 42.5	-6 13.9	
6	29 30.0	254 52.3	+18 36.0	331 14.4	+19 29.7	318 28.9	+21 35.7	38 45.0	-6 14.0	
7	44 32.4	269 51.7	35.2	346 15.0	30.1	333 30.9	35.7	53 47.6	14.0	
8	59 34.9	284 51.0	34.4	1 15.7	30.4	348 32.8	35.8	68 50.1	14.0	
9	74 37.4	299 50.3	33.5	16 16.4	30.8	3 34.8	35.9	83 52.6	14.1	
10	89 39.8	314 49.7	32.7	31 17.1	31.2	18 36.7	35.9	98 55.2	14.1	
11	104 42.3	329 49.0	+18 31.9	46 17.7	+19 31.6	33 38.7	+21 36.0	113 57.7	-6 14.2	
12	119 44.8	344 48.4	+18 31.1	61 18.4	+19 32.0	48 40.6	+21 36.0	129 00.3	-6 14.2	
13	134 47.2	359 47.7	30.2	76 19.1	32.4	63 42.6	36.1	144 02.8	14.3	
14	149 49.7	14 47.1	29.4	91 19.8	32.8	78 44.5	36.2	159 05.4	14.3	
15	164 52.1	29 46.4	28.6	106 20.4	33.2	93 46.5	36.2	174 07.9	14.3	
16	179 54.6	44 45.8	27.7	121 21.1	33.6	108 48.4	36.3	189 10.4	14.4	
17	194 57.1	59 45.1	+18 26.9	136 21.8	+19 34.0	123 50.4	+21 36.4	204 13.0	-6 14.4	
18	209 59.5	74 44.5	+18 26.1	151 22.5	+19 34.3	138 52.3	+21 36.4	219 15.5	-6 14.5	
19	225 02.0	89 43.8	25.2	166 23.1	34.7	153 54.3	36.5	234 18.1	14.5	
20	240 04.5	104 43.2	24.4	181 23.8	35.1	168 56.2	36.5	249 20.6	14.6	
21	255 06.9	119 42.5	23.6	196 24.5	35.5	183 58.1	36.6	264 23.1	14.6	
22	270 09.4	134 41.9	22.7	211 25.2	35.9	199 00.1	36.7	279 25.7	14.6	
23	285 11.9	149 41.2	21.9	226 25.8	36.3	214 02.0	36.7	294 28.2	14.7	
24	300 14.3	164 40.6	+18 21.0	241 26.5	+19 36.7	229 04.0	+21 36.8	309 30.8	-6 14.7	
Dif	—	-7	-8	+7	+4	+19	+1	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 16.2' Edad: 16.0 <sup>d</sup> PMG: 0 <sup>h</sup> 45 <sup>m</sup>		R <sup>o</sup> : 56 <sup>m</sup>				PHE { 4 <sup>h</sup> : 59.6' 12 <sup>h</sup> : 59.8' 20 <sup>h</sup> : 59.9'		Civil		Náutico		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	h m	h m	h m		
0	178 22.7	+20 12.9	349 15.1	63	-22 43.6	109	60 N	20 53	22 01	** **	21 53	0	3 52	114		
1	193 22.7	12.4	3 40.4	63	32.7	109	58	38	21 37	** **	41 5	4	10	107		
2	208 22.7	11.9	18 05.7	63	21.6	111	56	25	17	22 44	30 10	25	101			
3	223 22.6	11.4	32 31.2	65	-22 10.3	113	54	14	21 01	22 12	21 13	38	97			
4	238 22.6	10.9	46 56.7	65	-21 59.0	113	52	20 04	20 48	21 49	13 16	49	93			
5	253 22.6	+20 10.4	61 22.3	66	-21 47.4	116	50	19 56	20 36	21 31	21 05	19	4 59	90		
6	268 22.6	+20 09.9	75 48.0	67	-21 35.8	116	45	19 38	20 12	20 57	20 49	25	5 20	83		
7	283 22.5	09.3	90 13.7	67	24.0	118	40	23	19 54	33	36 30	37	78			
8	298 22.5	08.8	104 39.6	69	-21 12.0	120	35	19 10	39	20 13	24 34	5 51	74			
9	313 22.5	08.3	119 05.5	69	-20 59.9	121	30	18 59	26	19 58	20 14	38	6 03	71		
10	328 22.5	07.8	133 31.5	70	47.7	122	20	41	19 05	33	19 57	43	24	65		
11	343 22.5	+20 07.3	147 57.6	71	-20 35.4	123	10 N	18 25	18 47	19 14	19 42	49	6 42	60		
12	358 22.5	+20 06.8	162 23.7	71	-20 22.9	125	0	18 10	18 32	18 58	19 28	53	6 58	55		
13	13 22.4	06.3	176 50.0	73	-20 10.3	126	10 S	17 55	18	43	19 13	59	7 15	50		
14	28 22.4	05.8	191 16.3	73	-19 57.5	128	20	40	18 03	30	18 58	64	32	46		
15	43 22.4	05.3	205 42.7	74	44.6	129	30	22	17 48	17	40 70	7 52	40			
16	58 22.4	04.8	220 09.2	75	31.6	130	35	12	39	10	30 73	8 04	36			
17	73 22.4	+20 04.3	234 35.7	75	-19 18.5	131	40	17 00	17 29	18 02	18 18	78	8 17	32		
18	88 22.3	+20 03.8	249 02.4	77	-19 05.3	132	45	16 46	17 18	17 55	18 04	83	8 32	28		
19	103 22.3	03.2	263 29.1	77	-18 51.9	134	50	29	06	46	17 47	89	8 51	22		
20	118 22.3	02.7	277 55.9	78	38.4	135	52	21	17 00	42	39 92	9 00	19			
21	133 22.3	02.2	292 22.8	79	24.8	136	54	13	16 53	38	29 96	10	16			
22	148 22.3	01.7	306 49.8	80	-18 11.1	137	56	16 03	46	33	19 100	21	12			
23	163 22.3	01.2	321 16.8	80	-17 57.3	138	58	15 51	38	28	17 07	105	34	7		
24	178 22.2	+20 00.7	335 44.0	82	-17 43.3	140	60 S	15 38	16 30	17 23	16 53	111	9 49	1		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 3 <sup>h</sup> 58.4 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 02 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 43 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 21 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	300 14.3	164 40.6	+18 21.0	241 26.5	+19 36.7	229 04.0	+21 36.8	309 30.8	-6 14.7							
1	315 16.8	179 39.9	20.2	256 27.2	37.1	244 05.9	36.9	324 33.3	14.8							
2	330 19.3	194 39.3	19.4	271 27.9	37.4	259 07.9	36.9	339 35.9	14.8							
3	345 21.7	209 38.6	18.5	286 28.6	37.8	274 09.8	37.0	354 38.4	14.9							
4	0 24.2	224 38.0	17.7	301 29.2	38.2	289 11.8	37.0	9 40.9	14.9							
5	15 26.6	239 37.3	+18 16.8	316 29.9	+19 38.6	304 13.7	+21 37.1	24 43.5	-6 14.9							
6	30 29.1	254 36.7	+18 16.0	331 30.6	+19 39.0	319 15.7	+21 37.2	39 46.0	-6 15.0							
7	45 31.6	269 36.1	15.1	346 31.3	39.4	334 17.6	37.2	54 48.6	15.0							
8	60 34.0	284 35.4	14.3	1 31.9	39.8	349 19.6	37.3	69 51.1	15.1							
9	75 36.5	299 34.8	13.5	16 32.6	40.1	4 21.5	37.4	84 53.7	15.1							
10	90 39.0	314 34.1	12.6	31 33.3	40.5	19 23.5	37.4	99 56.2	15.2							
11	105 41.4	329 33.5	+18 11.8	46 34.0	+19 40.9	34 25.4	+21 37.5	114 58.7	-6 15.2							
12	120 43.9	344 32.8	+18 10.9	61 34.6	+19 41.3	49 27.4	+21 37.5	130 01.3	-6 15.3							
13	135 46.4	359 32.2	10.1	76 35.3	41.7	64 29.3	37.6	145 03.8	15.3							
14	150 48.8	14 31.6	09.2	91 36.0	42.1	79 31.3	37.7	160 06.4	15.3							
15	165 51.3	29 30.9	08.4	106 36.7	42.4	94 33.2	37.7	175 08.9	15.4							
16	180 53.8	44 30.3	07.5	121 37.3	42.8	109 35.2	37.8	190 11.5	15.4							
17	195 56.2	59 29.6	+18 06.6	136 38.0	+19 43.2	124 37.1	+21 37.8	205 14.0	-6 15.5							
18	210 58.7	74 29.0	+18 05.8	151 38.7	+19 43.6	139 39.1	+21 37.9	220 16.6	-6 15.5							
19	226 01.1	89 28.4	04.9	166 39.4	44.0	154 41.0	38.0	235 19.1	15.6							
20	241 03.6	104 27.7	04.1	181 40.0	44.3	169 43.0	38.0	250 21.7	15.6							
21	256 06.1	119 27.1	03.2	196 40.7	44.7	184 44.9	38.1	265 24.2	15.7							
22	271 08.5	134 26.5	02.4	211 41.4	45.1	199 46.9	38.2	280 26.7	15.7							
23	286 11.0	149 25.8	01.5	226 42.1	45.5	214 48.9	38.2	295 29.3	15.7							
24	301 13.5	164 25.2	+18 00.6	241 42.8	+19 45.9	229 50.8	+21 38.3	310 31.8	-6 15.8							
Dif	—	-6	-9	+7	+4	+20	+1	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.7'		SD: 16.3'		Edad: 17.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 60.0'			R <sup>o</sup> : 52 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		PMG: 1 <sup>h</sup> 41 <sup>m</sup>		R <sup>o</sup> : 52 <sup>m</sup>			Náutico			Civil		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif										
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	m	h m	m		
0	178 22.2	+20 00.7	335 44.0	82	-17 43.3	140	60 N	** **	2 13	3 21	21 53	0	5 46	108		
1	193 22.2	+20 00.2	350 11.2	82	29.3	140	58	** **	37	36	46	4	5 57	103		
2	208 22.2	+19 59.6	4 38.5	83	15.1	142	56	1 29	2 56	48	40	7	6 06	99		
3	223 22.2	59.1	19 05.9	84	-17 00.8	143	54	2 01	3 12	3 59	34	10	15	94		
4	238 22.2	58.6	33 33.3	84	-16 46.5	143	52	24	26	4 09	29	13	22	92		
5	253 22.2	+19 58.1	48 00.9	86	-16 32.0	145	50	2 42	3 37	4 18	21 24	16	6 29	88		
6	268 22.2	+19 57.6	62 28.5	86	-16 17.4	146	45	3 16	4 01	4 36	21 14	22	6 43	82		
7	283 22.1	57.1	76 56.2	87	-16 02.7	147	40	3 41	20	4 51	21 06	26	6 55	77		
8	298 22.1	56.5	91 24.0	88	-15 48.0	147	35	4 00	35	5 03	20 58	30	7 05	73		
9	313 22.1	56.0	105 51.8	88	33.1	149	30	16	4 47	14	52	34	14	69		
10	328 22.1	55.5	120 19.7	89	18.1	150	20	40	5 08	32	40	40	29	62		
11	343 22.1	+19 55.0	134 47.7	90	-15 03.1	150	10 N	4 59	5 26	5 48	20 31	45	7 42	56		
12	358 22.1	+19 54.5	149 15.8	91	-14 48.0	151	0	5 15	5 41	6 03	20 21	51	7 53	52		
13	13 22.1	53.9	163 44.0	92	32.7	153	10 S	30	5 55	18	12	55	8 05	47		
14	28 22.1	53.4	178 12.2	92	17.4	153	20	43	6 10	33	20 02	61	18	41		
15	43 22.0	52.9	192 40.5	93	-14 02.0	154	30	5 56	25	6 51	19 50	68	32	35		
16	58 22.0	52.4	207 08.9	94	-13 46.5	155	35	6 03	34	7 01	43	72	40	32		
17	73 22.0	+19 51.8	221 37.3	94	-13 31.0	155	40	6 10	6 43	7 13	19 36	75	8 49	28		
18	88 22.0	+19 51.3	236 05.9	96	-13 15.4	156	45	6 18	6 54	7 26	19 27	80	9 00	23		
19	103 22.0	50.8	250 34.5	96	-12 59.6	158	50	27	7 07	43	16	87	13	17		
20	118 22.0	50.3	265 03.1	96	43.9	157	52	31	13	51	11	89	19	15		
21	133 22.0	49.7	279 31.8	97	28.0	159	54	35	19	7 59	19 05	93	26	11		
22	148 22.0	49.2	294 00.6	98	-12 12.1	159	56	39	26	8 09	18 59	96	33	8		
23	163 22.0	48.7	308 29.5	99	-11 56.1	160	58	44	34	20	52	100	41	5		
24	178 21.9	+19 48.2	322 58.4	99	-11 40.0	161	60 S	6 49	7 42	8 33	18 44	105	9 50	0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 3 <sup>h</sup> 54.5 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 03 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 53 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 17 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	301 13.5	+18 00.6	164 25.2	+18 00.6	241 42.8	+19 45.9	229 50.8	+21 38.3	310 31.8	-6 15.8
1	316 15.9	+17 59.8	179 24.5	+17 59.8	256 43.4	46.2	244 52.8	38.3	325 34.4	15.8
2	331 18.4	58.9	194 23.9	58.9	271 44.1	46.6	259 54.7	38.4	340 36.9	15.9
3	346 20.9	58.1	209 23.3	58.1	286 44.8	47.0	274 56.7	38.5	355 39.5	15.9
4	1 23.3	57.2	224 22.6	57.2	301 45.5	47.4	289 58.6	38.5	10 42.0	16.0
5	16 25.8	+17 56.3	239 22.0	+17 56.3	316 46.1	+19 47.7	305 00.6	+21 38.6	25 44.6	-6 16.0
6	31 28.2	+17 55.5	254 21.4	+17 55.5	331 46.8	+19 48.1	320 02.5	+21 38.6	40 47.1	-6 16.1
7	46 30.7	54.6	269 20.8	54.6	346 47.5	48.5	335 04.5	38.7	55 49.7	16.1
8	61 33.2	53.7	284 20.1	53.7	1 48.2	48.9	350 06.4	38.8	70 52.2	16.2
9	76 35.6	52.9	299 19.5	52.9	16 48.8	49.3	5 08.4	38.8	85 54.8	16.2
10	91 38.1	52.0	314 18.9	52.0	31 49.5	49.6	20 10.3	38.9	100 57.3	16.2
11	106 40.6	+17 51.1	329 18.2	+17 51.1	46 50.2	+19 50.0	35 12.3	+21 38.9	115 59.8	-6 16.3
12	121 43.0	+17 50.3	344 17.6	+17 50.3	61 50.9	+19 50.4	50 14.2	+21 39.0	131 02.4	-6 16.3
13	136 45.5	49.4	359 17.0	49.4	76 51.6	50.8	65 16.2	39.1	146 04.9	16.4
14	151 48.0	48.5	14 16.3	48.5	91 52.2	51.1	80 18.1	39.1	161 07.5	16.4
15	166 50.4	47.6	29 15.7	47.6	106 52.9	51.5	95 20.1	39.2	176 10.0	16.5
16	181 52.9	46.8	44 15.1	46.8	121 53.6	51.9	110 22.1	39.2	191 12.6	16.5
17	196 55.4	+17 45.9	59 14.5	+17 45.9	136 54.3	+19 52.2	125 24.0	+21 39.3	206 15.1	-6 16.6
18	211 57.8	+17 45.0	74 13.8	+17 45.0	151 54.9	+19 52.6	140 26.0	+21 39.4	221 17.7	-6 16.6
19	227 00.3	44.1	89 13.2	44.1	166 55.6	53.0	155 27.9	39.4	236 20.2	16.7
20	242 02.7	43.3	104 12.6	43.3	181 56.3	53.4	170 29.9	39.5	251 22.8	16.7
21	257 05.2	42.4	119 12.0	42.4	196 57.0	53.7	185 31.8	39.5	266 25.3	16.8
22	272 07.7	41.5	134 11.3	41.5	211 57.6	54.1	200 33.8	39.6	281 27.9	16.8
23	287 10.1	40.6	149 10.7	40.6	226 58.3	54.5	215 35.7	39.7	296 30.4	16.8
24	302 12.6	+17 39.7	164 10.1	+17 39.7	241 59.0	+19 54.9	230 37.7	+21 39.7	311 33.0	-6 16.9
Dif	—	-6	-9	-9	+7	+4	+20	+1	+25	0

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>			SD: 16.4' Edad: 18.0 <sup>d</sup> PMG: 2 <sup>h</sup> 33 <sup>m</sup> R°: 50 <sup>m</sup>						PHE { 4 <sup>h</sup> : 60.1' 12 <sup>h</sup> : 60.1' 20 <sup>h</sup> : 60.1'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 21.9	+19 48.2		322 58.4		-11 40.0	161	60 N	20 48	21 55	** **	21 53	-1	7 34	104		
1	193 21.9	47.6		337 27.4	100	23.9	161	58	34	31	23 28	50	3	40	99		
2	208 21.9	47.1		351 56.5	101	-11 07.7	162	56	22	21 13	22 36	47	6	45	95		
3	223 21.9	46.6		6 25.6	101	-10 51.4	163	54	11	20 58	22 06	44	10	49	92		
4	238 21.9	46.0		20 54.8	102	35.1	163	52	20 02	45	21 45	42	12	54	88		
5	253 21.9	+19 45.5		35 24.0	102	-10 18.7	164	50	19 53	20 33	21 27	21 40	15	7 57	86		
6	268 21.9	+19 45.0		49 53.3	103	-10 02.3	164	45	19 36	20 10	20 54	21 36	19	8 05	80		
7	283 21.9	44.4		64 22.7	104	-9 45.8	165	40	21	19 52	30	32	24	12	75		
8	298 21.9	43.9		78 52.1	104	29.3	165	35	19 09	37	20 12	28	29	18	70		
9	313 21.9	43.4		93 21.6	105	-9 12.7	166	30	18 58	25	19 56	26	32	23	66		
10	328 21.9	42.8		107 51.1	105	-8 56.1	166	20	40	19 04	32	20	39	31	60		
11	343 21.9	+19 42.3		122 20.7	106	-8 39.4	167	10 N	18 25	18 47	19 13	21 16	44	8 38	55		
12	358 21.8	+19 41.8		136 50.3	106	-8 22.7	167	0	18 10	18 32	18 58	21 12	49	8 45	50		
13	13 21.8	41.2		151 20.0	107	-8 05.9	168	10 S	17 56	18	44	07	55	52	45		
14	28 21.8	40.7		165 49.8	108	-7 49.1	168	20	40	18 04	31	21 03	60	8 59	39		
15	43 21.8	40.2		180 19.5	107	32.3	168	30	23	17 49	18	20 58	66	9 07	33		
16	58 21.8	39.6		194 49.4	109	-7 15.4	169	35	13	40	11	55	70	12	29		
17	73 21.8	+19 39.1		209 19.3	109	-6 58.5	169	40	17 02	17 31	18 04	20 51	74	9 17	25		
18	88 21.8	+19 38.6		223 49.2	109	-6 41.5	170	45	16 48	17 20	17 56	20 47	79	9 23	21		
19	103 21.8	38.0		238 19.2	110	24.5	170	50	32	08	48	43	85	30	15		
20	118 21.8	37.5		252 49.2	110	-6 07.5	170	52	24	17 02	44	40	88	34	12		
21	133 21.8	36.9		267 19.2	110	-5 50.5	170	54	16	16 56	40	38	91	37	10		
22	148 21.8	36.4		281 49.3	111	33.4	171	56	16 06	49	36	35	95	41	7		
23	163 21.8	35.9		296 19.5	112	-5 16.3	171	58	15 55	42	31	32	98	46	3		
24	178 21.8	+19 35.3		310 49.7	112	-4 59.2	171	60 S	15 42	16 33	17 26	20 29	102	9 50	0		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 3 <sup>h</sup> 50.5 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 13 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
0	302 12.6		164 10.1	+17 39.7	241 59.0	+19 54.9	230 37.7	+21 39.7	311 33.0	-6 16.9							
1	317 15.1		179 09.5	38.9	256 59.7	55.2	245 39.7	39.8	326 35.5	16.9							
2	332 17.5		194 08.9	38.0	272 00.4	55.6	260 41.6	39.8	341 38.1	17.0							
3	347 20.0		209 08.2	37.1	287 01.0	56.0	275 43.6	39.9	356 40.6	17.0							
4	2 22.5		224 07.6	36.2	302 01.7	56.3	290 45.5	40.0	11 43.2	17.1							
5	17 24.9		239 07.0	+17 35.3	317 02.4	+19 56.7	305 47.5	+21 40.0	26 45.7	-6 17.1							
6	32 27.4		254 06.4	+17 34.4	332 03.1	+19 57.1	320 49.4	+21 40.1	41 48.3	-6 17.2							
7	47 29.9		269 05.8	33.6	347 03.7	57.4	335 51.4	40.1	56 50.8	17.2							
8	62 32.3		284 05.1	32.7	2 04.4	57.8	350 53.3	40.2	71 53.4	17.3							
9	77 34.8		299 04.5	31.8	17 05.1	58.2	5 55.3	40.3	86 55.9	17.3							
10	92 37.2		314 03.9	30.9	32 05.8	58.5	20 57.3	40.3	101 58.5	17.4							
11	107 39.7		329 03.3	+17 30.0	47 06.4	+19 58.9	35 59.2	+21 40.4	117 01.0	-6 17.4							
12	122 42.2		344 02.7	+17 29.1	62 07.1	+19 59.3	51 01.2	+21 40.4	132 03.6	-6 17.5							
13	137 44.6		359 02.0	28.2	77 07.8	+19 59.7	66 03.1	40.5	147 06.1	17.5							
14	152 47.1		14 01.4	27.3	92 08.5	+20 00.0	81 05.1	40.6	162 08.7	17.5							
15	167 49.6		29 00.8	26.4	107 09.2	00.4	96 07.0	40.6	177 11.2	17.6							
16	182 52.0		44 00.2	25.5	122 09.8	00.7	111 09.0	40.7	192 13.8	17.6							
17	197 54.5		58 59.6	+17 24.6	137 10.5	+20 01.1	126 11.0	+21 40.7	207 16.3	-6 17.7							
18	212 57.0		73 59.0	+17 23.7	152 11.2	+20 01.5	141 12.9	+21 40.8	222 18.9	-6 17.7							
19	227 59.4		88 58.4	22.8	167 11.9	01.8	156 14.9	40.9	237 21.4	17.8							
20	243 01.9		103 57.7	22.0	182 12.5	02.2	171 16.8	40.9	252 24.0	17.8							
21	258 04.3		118 57.1	21.1	197 13.2	02.6	186 18.8	41.0	267 26.6	17.9							
22	273 06.8		133 56.5	20.2	212 13.9	02.9	201 20.8	41.0	282 29.1	17.9							
23	288 09.3		148 55.9	19.3	227 14.6	03.3	216 22.7	41.1	297 31.7	18.0							
24	303 11.7		163 55.3	+17 18.4	242 15.2	+20 03.7	231 24.7	+21 41.2	312 34.2	-6 18.0							
Dif	—		-6	-9	+7	+4	+20	+1	+26	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 16.4' Edad: 19.0 <sup>d</sup> PMG: 3 <sup>h</sup> 23 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.0' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 59.9'			R <sup>o</sup> : 49 <sup>m</sup>			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
0	178 21.8	+19 35.3	310 49.7	-4 59.2	172	60 N	58	0 45	2 19	3 26	21 52	-1	9 18	101
1	193 21.8	34.8	325 19.9	42.0	172	58	0 45	2 42	40	53	3		19	97
2	208 21.8	34.2	339 50.1	24.9	171	56	1 38	3 01	3 52	53	6		20	94
3	223 21.8	33.7	354 20.4	-4 07.7	172	54	2 07	16	4 03	54	9		21	91
4	238 21.8	33.1	8 50.7	-3 50.5	172	52	2 9	29	12	54	12		22	88
5	253 21.8	+19 32.6	23 21.1	-3 33.3	172	50	2 46	3 40	4 20	21 55	14	9	23	85
6	268 21.8	+19 32.0	37 51.5	-3 16.0	173	45	3 19	4 03	4 38	21 55	20	9	25	79
7	283 21.8	31.5	52 21.9	-2 58.8	172	40	3 43	21	4 52	56	25		27	73
8	298 21.8	31.0	66 52.3	41.5	173	35	4 02	36	5 05	57	28		28	70
9	313 21.8	30.4	81 22.8	24.3	172	30	17	4 49	15	58	31		29	66
10	328 21.8	29.9	95 53.3	-2 07.0	173	20	4 41	5 09	33	21 59	38		31	60
11	343 21.8	+19 29.3	110 23.8	-1 49.8	172	10 N	5 00	5 26	5 49	22 00	43	9	33	54
12	358 21.8	+19 28.8	124 54.3	-1 32.5	173	0	5 16	5 41	6 03	22 01	48	9	35	49
13	13 21.8	28.2	139 24.9	-1 15.2	173	10 S	29	5 55	17	02	53		37	43
14	28 21.8	27.7	153 55.4	-0 57.9	173	20	42	6 09	32	03	59		38	38
15	43 21.8	27.1	168 26.0	40.7	172	30	5 55	24	6 50	04	65		40	32
16	58 21.8	26.6	182 56.6	23.4	173	35	6 02	32	7 00	05	69		41	28
17	73 21.8	+19 26.0	197 27.3	-0 06.1	173	40	6 09	6 42	7 11	22 05	74	9	42	25
18	88 21.8	+19 25.5	211 57.9	+0 11.1	172	45	6 16	6 52	7 24	22 06	79	9	44	19
19	103 21.8	24.9	226 28.5	28.4	173	50	25	7 04	40	08	84		45	15
20	118 21.8	24.4	240 59.2	+0 45.6	172	52	29	10	48	08	87		46	12
21	133 21.8	23.8	255 29.9	+1 02.8	172	54	32	16	7 57	09	90		47	9
22	148 21.8	23.2	270 00.6	20.1	173	56	37	23	8 06	10	93		48	6
23	163 21.8	22.7	284 31.2	37.3	172	58	41	30	17	10	97		49	3
24	178 21.8	+19 22.1	299 01.9	+1 54.4	171	60 S	6 46	7 39	8 29	22 11	102	9	50	-1
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 3 <sup>h</sup> 46.6 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 05 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 33 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 09 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
0	303 11.7	163 55.3	+17 18.4	242 15.2	+20 03.7	231 24.7	+21 41.2	312 34.2	-6 18.0					
1	318 14.2	178 54.7	17.5	257 15.9	04.0	246 26.6	41.2	327 36.8	18.1					
2	333 16.7	193 54.1	16.6	272 16.6	04.4	261 28.6	41.3	342 39.3	18.1					
3	348 19.1	208 53.5	15.6	287 17.3	04.8	276 30.6	41.3	357 41.9	18.2					
4	3 21.6	223 52.9	14.7	302 18.0	05.1	291 32.5	41.4	12 44.4	18.2					
5	18 24.1	238 52.3	+17 13.8	317 18.6	+20 05.5	306 34.5	+21 41.4	27 47.0	-6 18.3					
6	33 26.5	253 51.7	+17 12.9	332 19.3	+20 05.8	321 36.4	+21 41.5	42 49.5	-6 18.3					
7	48 29.0	268 51.0	12.0	347 20.0	06.2	336 38.4	41.6	57 52.1	18.4					
8	63 31.5	283 50.4	11.1	2 20.7	06.6	351 40.4	41.6	72 54.6	18.4					
9	78 33.9	298 49.8	10.2	17 21.3	06.9	6 42.3	41.7	87 57.2	18.5					
10	93 36.4	313 49.2	09.3	32 22.0	07.3	21 44.3	41.7	102 59.7	18.5					
11	108 38.8	328 48.6	+17 08.4	47 22.7	+20 07.6	36 46.2	+21 41.8	118 02.3	-6 18.5					
12	123 41.3	343 48.0	+17 07.5	62 23.4	+20 08.0	51 48.2	+21 41.9	133 04.9	-6 18.6					
13	138 43.8	358 47.4	06.6	77 24.1	08.4	66 50.2	41.9	148 07.4	18.6					
14	153 46.2	13 46.8	05.7	92 24.7	08.7	81 52.1	42.0	163 10.0	18.7					
15	168 48.7	28 46.2	04.7	107 25.4	09.1	96 54.1	42.0	178 12.5	18.7					
16	183 51.2	43 45.6	03.8	122 26.1	09.4	111 56.0	42.1	193 15.1	18.8					
17	198 53.6	58 45.0	+17 02.9	137 26.8	+20 09.8	126 58.0	+21 42.1	208 17.6	-6 18.8					
18	213 56.1	73 44.4	+17 02.0	152 27.4	+20 10.2	142 00.0	+21 42.2	223 20.2	-6 18.9					
19	228 58.6	88 43.8	01.1	167 28.1	10.5	157 01.9	42.3	238 22.7	18.9					
20	244 01.0	103 43.2	+17 00.2	182 28.8	10.9	172 03.9	42.3	253 25.3	19.0					
21	259 03.5	118 42.6	+16 59.3	197 29.5	11.2	187 05.9	42.4	268 27.8	19.0					
22	274 05.9	133 42.0	58.3	212 30.2	11.6	202 07.8	42.4	283 30.4	19.1					
23	289 08.4	148 41.4	57.4	227 30.8	11.9	217 09.8	42.5	298 33.0	19.1					
24	304 10.9	163 40.8	+16 56.5	242 31.5	+20 12.3	232 11.7	+21 42.6	313 35.5	-6 19.2					
Dif	—	-6	-9	+7	+4	+20	+1	+26	0					



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 16.3' Edad: 20.0 <sup>d</sup> PMG: 4 <sup>h</sup> 12 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.8' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.5'				R°: 49 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	178 21.8	+19 22.1	299 01.9	+1 54.4	172	60 N	20 44	21 48	** **	21 51	0	10 59	102			
1	193 21.8	21.6	313 32.6 <sup>117</sup>	+2 11.6	171	58	30	26	23 11	56	3	56	98			
2	208 21.8	21.0	328 03.3 <sup>117</sup>	28.7	171	56	18	21 09	22 28	21 59	8	54	93			
3	223 21.8	20.5	342 34.1 <sup>118</sup>	+2 45.9	171	54	20 08	20 54	22 01	22 03	11	52	90			
4	238 21.8	19.9	357 04.8 <sup>117</sup>	+3 03.0	171	52	19 59	41	21 40	06	14	50	87			
5	253 21.8	+19 19.3	11 35.5 <sup>117</sup>	+3 20.1	171	50	19 51	20 30	21 23	22 09	16	10 48	84			
6	268 21.8	+19 18.8	26 06.2 <sup>117</sup>	+3 37.1	170	45	19 33	20 08	20 51	22 15	22	10 44	78			
7	283 21.8	18.2	40 36.9 <sup>117</sup>	+3 54.1	170	40	19	19 50	28	21	26	40	74			
8	298 21.8	17.7	55 07.6 <sup>117</sup>	+4 11.1	170	35	19 07	36	20 10	25	30	38	69			
9	313 21.8	17.1	69 38.2 <sup>116</sup>	28.1	170	30	18 57	23	19 55	29	34	35	66			
10	328 21.8	16.5	84 08.9 <sup>117</sup>	+4 45.0	169	20	39	19 03	31	37	39	31	59			
11	343 21.8	+19 16.0	98 39.6 <sup>117</sup>	+5 01.9	169	10 N	18 24	18 47	19 13	22 43	45	10 27	54			
12	358 21.8	+19 15.4	113 10.3 <sup>117</sup>	+5 18.8	169	0	18 10	18 32	18 57	22 49	50	10 24	48			
13	13 21.8	14.9	127 40.9 <sup>116</sup>	35.6	168	10 S	17 56	18	44	22 55	55	20	44			
14	28 21.8	14.3	142 11.5 <sup>116</sup>	+5 52.4	168	20	41	18 04	31	23 02	60	16	39			
15	43 21.8	13.7	156 42.2 <sup>117</sup>	+6 09.2	168	30	24	17 50	19	09	66	12	32			
16	58 21.8	13.2	171 12.8 <sup>116</sup>	25.9	167	35	14	42	12	14	69	09	30			
17	73 21.8	+19 12.6	185 43.4 <sup>116</sup>	+6 42.6	167	40	17 03	17 33	18 05	23 19	74	10 07	25			
18	88 21.9	+19 12.0	200 13.9 <sup>115</sup>	+6 59.2	166	45	16 50	17 22	17 58	23 25	78	10 03	21			
19	103 21.9	11.5	214 44.5 <sup>116</sup>	+7 15.8	166	50	34	10	50	32	85	10 00	15			
20	118 21.9	10.9	229 15.0 <sup>115</sup>	32.3	165	52	27	17 05	46	35	88	9 58	12			
21	133 21.9	10.3	243 45.6 <sup>116</sup>	+7 48.8	165	54	19	16 59	42	39	91	56	10			
22	148 21.9	09.8	258 16.0 <sup>114</sup>	+8 05.2	164	56	16 09	52	38	43	94	54	7			
23	163 21.9	09.2	272 46.5 <sup>115</sup>	21.6	164	58	15 59	45	34	47	99	52	3			
24	178 21.9	+19 08.6	287 17.0 <sup>115</sup>	+8 38.0	164	60 S	15 47	16 37	17 29	23 53	103	9 49	-1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 42.7 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 06 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 30 <sup>m</sup>		Mag.: +0.9 PMG: 3 <sup>h</sup> 05 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	304 10.9	163 40.8	+16 56.5	242 31.5	+20 12.3	232 11.7	+21 42.6	313 35.5	-6 19.2	
1	319 13.3	178 40.2	55.6	257 32.2	12.6	247 13.7	42.6	328 38.1	19.2	
2	334 15.8	193 39.6	54.7	272 32.9	13.0	262 15.7	42.7	343 40.6	19.3	
3	349 18.3	208 39.0	53.7	287 33.5	13.4	277 17.6	42.7	358 43.2	19.3	
4	4 20.7	223 38.4	52.8	302 34.2	13.7	292 19.6	42.8	13 45.7	19.4	
5	19 23.2	238 37.8	+16 51.9	317 34.9	+20 14.1	307 21.6	+21 42.8	28 48.3	-6 19.4	
6	34 25.7	253 37.2	+16 51.0	332 35.6	+20 14.4	322 23.5	+21 42.9	43 50.9	-6 19.5	
7	49 28.1	268 36.6	50.0	347 36.3	14.8	337 25.5	43.0	58 53.4	19.5	
8	64 30.6	283 36.0	49.1	2 36.9	15.1	352 27.4	43.0	73 56.0	19.6	
9	79 33.1	298 35.5	48.2	17 37.6	15.5	7 29.4	43.1	88 58.5	19.6	
10	94 35.5	313 34.9	47.3	32 38.3	15.8	22 31.4	43.1	104 01.1	19.7	
11	109 38.0	328 34.3	+16 46.3	47 39.0	+20 16.2	37 33.3	+21 43.2	119 03.6	-6 19.7	
12	124 40.4	343 33.7	+16 45.4	62 39.7	+20 16.5	52 35.3	+21 43.2	134 06.2	-6 19.8	
13	139 42.9	358 33.1	44.5	77 40.3	16.9	67 37.3	43.3	149 08.8	19.8	
14	154 45.4	13 32.5	43.5	92 41.0	17.2	82 39.2	43.4	164 11.3	19.9	
15	169 47.8	28 31.9	42.6	107 41.7	17.6	97 41.2	43.4	179 13.9	19.9	
16	184 50.3	43 31.3	41.7	122 42.4	17.9	112 43.2	43.5	194 16.4	20.0	
17	199 52.8	58 30.7	+16 40.7	137 43.0	+20 18.3	127 45.1	+21 43.5	209 19.0	-6 20.0	
18	214 55.2	73 30.1	+16 39.8	152 43.7	+20 18.6	142 47.1	+21 43.6	224 21.6	-6 20.1	
19	229 57.7	88 29.5	38.9	167 44.4	19.0	157 49.1	43.6	239 24.1	20.1	
20	245 00.2	103 29.0	37.9	182 45.1	19.3	172 51.0	43.7	254 26.7	20.2	
21	260 02.6	118 28.4	37.0	197 45.8	19.7	187 53.0	43.8	269 29.2	20.2	
22	275 05.1	133 27.8	36.1	212 46.4	20.0	202 55.0	43.8	284 31.8	20.3	
23	290 07.6	148 27.2	35.1	227 47.1	20.4	217 56.9	43.9	299 34.3	20.3	
24	305 10.0	163 26.6	+16 34.2	242 47.8	+20 20.7	232 58.9	+21 43.9	314 36.9	-6 20.4	

Dif	—	-6	-9	+7	+4	+20	+1	+26	0
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UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.7' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>			SD: 16.2' Edad: 21.0 <sup>d</sup> PMG: 5 <sup>h</sup> 01 <sup>m</sup> R°: 50 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.4' 12 <sup>h</sup> : 59.2' 20 <sup>h</sup> : 59.1'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
0	178	21.9	+19 08.6	287	17.0	+ 8 38.0	162	60 N	** **	2 25	3 30	21 51	1	12 41	105	
1	193	21.9	08.1	301	47.4	+ 8 54.2	162	58	1 02	2 47	44	21 59	6	34	99	
2	208	21.9	07.5	316	17.8	+ 9 10.5	163	56	1 46	3 05	3 55	22 07	10	27	95	
3	223	21.9	06.9	330	48.1	26.6	161	54	2 13	20	4 06	14	13	22	91	
4	238	21.9	06.4	345	18.4	42.7	161	52	34	32	15	20	16	17	88	
5	253	21.9	+19 05.8	359	48.7	+ 9 58.8	161	50	2 50	3 43	4 23	22 25	20	12 12	85	
6	268	22.0	+19 05.2	14	19.0	+10 14.8	160	45	3 22	4 06	4 40	22 37	25	12 02	79	
7	283	22.0	04.6	28	49.2	30.7	159	40	3 45	23	4 54	47	30	11 54	74	
8	298	22.0	04.1	43	19.4	+10 46.5	158	35	4 04	38	5 06	22 55	34	47	70	
9	313	22.0	03.5	57	49.6	+11 02.3	158	30	19	4 50	16	23 03	37	41	66	
10	328	22.0	02.9	72	19.7	18.1	158	20	4 42	5 10	34	16	43	30	61	
11	343	22.0	+19 02.3	86	49.8	+11 33.7	156	10 N	5 00	5 27	5 49	23 28	47	11 21	55	
12	358	22.0	+19 01.8	101	19.9	+11 49.3	156	0	5 16	5 41	6 03	23 39	51	11 12	51	
13	13	22.0	01.2	115	49.9	+12 04.8	155	10 S	29	5 55	17	23 50	56	11 04	46	
14	28	22.0	00.6	130	19.8	20.3	155	20	42	6 08	32	** **	** **	10 55	41	
15	43	22.1	+19 00.0	144	49.7	35.6	153	30	5 54	23	48	** **	** **	44	35	
16	58	22.1	+18 59.5	159	19.6	+12 50.9	153	35	6 01	31	6 58	** **	** **	39	31	
17	73	22.1	+18 58.9	173	49.5	+13 06.1	152	40	6 07	6 40	7 09	** **	** **	10 32	28	
18	88	22.1	+18 58.3	188	19.3	+13 21.3	152	45	6 15	6 50	7 22	** **	** **	10 24	23	
19	103	22.1	57.7	202	49.0	36.3	150	50	23	7 02	38	** **	** **	15	17	
20	118	22.1	57.1	217	18.7	+13 51.3	150	52	26	08	45	** **	** **	10	15	
21	133	22.1	56.6	231	48.3	+14 06.2	149	54	30	13	7 53	** **	** **	06	12	
22	148	22.1	56.0	246	17.9	21.0	148	56	34	20	8 03	** **	** **	10 01	8	
23	163	22.2	55.4	260	47.5	35.7	147	58	38	27	13	** **	** **	9 55	4	
24	178	22.2	+18 54.8	275	17.0	+14 50.4	147	60 S	6 43	7 35	8 25	** **	** **	9 48	0	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 3 <sup>h</sup> 38.7 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 07 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 27 <sup>m</sup>		Mag.: +0.8 PMG: 3 <sup>h</sup> 01 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	305	10.0	163	26.6	+ 16 34.2	242	47.8	+ 20 20.7	232	58.9	+ 21 43.9	314	36.9	- 6 20.4		
1	320	12.5	178	26.0	33.2	257	48.5	21.1	248	00.9	44.0	329	39.5	20.4		
2	335	14.9	193	25.4	32.3	272	49.2	21.4	263	02.8	44.0	344	42.0	20.5		
3	350	17.4	208	24.9	31.4	287	49.8	21.8	278	04.8	44.1	359	44.6	20.5		
4	5	19.9	223	24.3	30.4	302	50.5	22.1	293	06.8	44.2	14	47.1	20.6		
5	20	22.3	238	23.7	+ 16 29.5	317	51.2	+ 20 22.5	308	08.7	+ 21 44.2	29	49.7	- 6 20.6		
6	35	24.8	253	23.1	+ 16 28.5	332	51.9	+ 20 22.8	323	10.7	+ 21 44.3	44	52.3	- 6 20.7		
7	50	27.3	268	22.5	27.6	347	52.6	23.2	338	12.7	44.3	59	54.8	20.7		
8	65	29.7	283	22.0	26.6	2	53.2	23.5	353	14.6	44.4	74	57.4	20.8		
9	80	32.2	298	21.4	25.7	17	53.9	23.8	8	16.6	44.4	89	59.9	20.8		
10	95	34.7	313	20.8	24.7	32	54.6	24.2	23	18.6	44.5	105	02.5	20.9		
11	110	37.1	328	20.2	+ 16 23.8	47	55.3	+ 20 24.5	38	20.5	+ 21 44.5	120	05.1	- 6 20.9		
12	125	39.6	343	19.6	+ 16 22.9	62	55.9	+ 20 24.9	53	22.5	+ 21 44.6	135	07.6	- 6 21.0		
13	140	42.0	358	19.1	21.9	77	56.6	25.2	68	24.5	44.7	150	10.2	21.0		
14	155	44.5	13	18.5	21.0	92	57.3	25.6	83	26.4	44.7	165	12.8	21.1		
15	170	47.0	28	17.9	20.0	107	58.0	25.9	98	28.4	44.8	180	15.3	21.1		
16	185	49.4	43	17.3	19.1	122	58.7	26.2	113	30.4	44.8	195	17.9	21.2		
17	200	51.9	58	16.7	+ 16 18.1	137	59.3	+ 20 26.6	128	32.3	+ 21 44.9	210	20.4	- 6 21.2		
18	215	54.4	73	16.2	+ 16 17.1	153	00.0	+ 20 26.9	143	34.3	+ 21 44.9	225	23.0	- 6 21.3		
19	230	56.8	88	15.6	16.2	168	00.7	27.3	158	36.3	45.0	240	25.6	21.3		
20	245	59.3	103	15.0	15.2	183	01.4	27.6	173	38.3	45.0	255	28.1	21.4		
21	261	01.8	118	14.4	14.3	198	02.1	28.0	188	40.2	45.1	270	30.7	21.4		
22	276	04.2	133	13.9	13.3	213	02.7	28.3	203	42.2	45.2	285	33.2	21.5		
23	291	06.7	148	13.3	12.4	228	03.4	28.6	218	44.2	45.2	300	35.8	21.5		
24	306	09.2	163	12.7	+ 16 11.4	243	04.1	+ 20 29.0	233	46.1	+ 21 45.3	315	38.4	- 6 21.6		
Dif	—		-6		-9	+7		+3	+20		+1	+26		-1		

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna				
	SD: 15.8' PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		SD: 16.1' Edad: 22.0 <sup>d</sup> PMG: 5 <sup>h</sup> 51 <sup>m</sup>		R <sup>o</sup> : 52 <sup>m</sup>				PHE { 4 <sup>h</sup> : 58.9' 12 <sup>h</sup> : 58.8' 20 <sup>h</sup> : 58.6'		Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m	h	m
0	178 22.2	+18 54.8	275 17.0	+14 50.4	145	60 N	20 39	21 42	** **	21 52	3	14 26	108					
1	193 22.2	54.2	289 46.4	+15 04.9	145	58	26	21	22 58	22 05	11	13 10	101					
2	208 22.2	53.7	304 15.8	19.4	145	56	14	21 04	22 20	17 15	14 02	96						
3	223 22.2	53.1	318 45.2	33.7	143	54	20 05	20 50	21 55	27 20	13 53	91						
4	238 22.2	52.5	333 14.5	+15 48.0	143	52	19 56	38	35	36 23	45 87							
5	253 22.3	+18 51.9	347 43.7	+16 02.2	142	50	19 48	20 27	21 19	22 45	25	13 37	85					
6	268 22.3	+18 51.3	2 12.9	+16 16.3	141	45	19 31	20 05	20 48	23 02	32	13 21	79					
7	283 22.3	50.7	16 42.0	30.3	140	40	17	19 48	26	17 35	13 08	74						
8	298 22.3	50.1	31 11.1	44.2	139	35	19 06	34	20 08	29 39	12 57	70						
9	313 22.3	49.6	45 40.1	+16 57.9	137	30	18 56	22	19 53	40 42	47 67							
10	328 22.3	49.0	60 09.0	+17 11.6	137	20	39	19 02	30	23 59	46	31 61						
11	343 22.4	+18 48.4	74 37.9	+17 25.2	136	10 N	18 24	18 46	19 12	** **	** **	12 16	58					
12	358 22.4	+18 47.8	89 06.7	+17 38.7	135	0	18 10	18 32	18 57	** **	** **	12 03	53					
13	13 22.4	47.2	103 35.5	+17 52.1	134	10 S	17 56	18	44	** **	** **	11 50	49					
14	28 22.4	46.6	118 04.2	+18 05.4	133	20	42	18 05	32	0 02	61	36 44						
15	43 22.4	46.0	132 32.9	18.5	131	30	25	17 51	20	15 67	19 40							
16	58 22.4	45.4	147 01.5	31.6	131	35	16	43	13	23 71	10 36							
17	73 22.5	+18 44.8	161 30.0	+18 44.5	129	40	17 05	17 34	18 07	0 33	74	11 00	32					
18	88 22.5	+18 44.2	175 58.4	+18 57.4	129	45	16 52	17 24	18 00	0 43	79	10 47	28					
19	103 22.5	43.7	190 26.8	+19 10.1	127	50	37	13	17 52	0 57	85	32 22						
20	118 22.5	43.1	204 55.2	22.7	126	52	30	07	49	1 03	88	25 20						
21	133 22.5	42.5	219 23.5	35.2	125	54	22	17 02	45	10 91	18 16							
22	148 22.6	41.9	233 51.7	47.6	124	56	13	16 55	41	17 96	10 09	12						
23	163 22.6	41.3	248 19.8	+19 59.9	123	58	16 03	48	37	26 101	9 59	8						
24	178 22.6	+18 40.7	262 47.9	+20 12.0	121	60 S	15 51	16 40	17 32	1 36	107	9 48	2					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 34.8 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 24 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	306 09.2	163 12.7	+16 11.4	243 04.1	+20 29.0	233 46.1	+21 45.3	315 38.4	-6 21.6	
1	321 11.6	178 12.1	10.5	258 04.8	29.3	248 48.1	45.3	330 40.9	21.7	
2	336 14.1	193 11.6	09.5	273 05.5	29.7	263 50.1	45.4	345 43.5	21.7	
3	351 16.5	208 11.0	08.5	288 06.1	30.0	278 52.0	45.4	0 46.1	21.8	
4	6 19.0	223 10.4	07.6	303 06.8	30.3	293 54.0	45.5	15 48.6	21.8	
5	21 21.5	238 09.9	+16 06.6	318 07.5	+20 30.7	308 56.0	+21 45.5	30 51.2	-6 21.9	
6	36 23.9	253 09.3	+16 05.7	333 08.2	+20 31.0	323 58.0	+21 45.6	45 53.8	-6 21.9	
7	51 26.4	268 08.7	04.7	348 08.9	31.3	338 59.9	45.7	60 56.3	22.0	
8	66 28.9	283 08.1	03.7	3 09.5	31.7	354 01.9	45.7	75 58.9	22.0	
9	81 31.3	298 07.6	02.8	18 10.2	32.0	9 03.9	45.8	91 01.4	22.1	
10	96 33.8	313 07.0	01.8	33 10.9	32.4	24 05.8	45.8	106 04.0	22.1	
11	111 36.3	328 06.4	+16 00.8	48 11.6	+20 32.7	39 07.8	+21 45.9	121 06.6	-6 22.2	
12	126 38.7	343 05.9	+15 59.9	63 12.3	+20 33.0	54 09.8	+21 45.9	136 09.1	-6 22.2	
13	141 41.2	358 05.3	58.9	78 12.9	33.4	69 11.8	46.0	151 11.7	22.3	
14	156 43.7	13 04.7	57.9	93 13.6	33.7	84 13.7	46.0	166 14.3	22.3	
15	171 46.1	28 04.2	57.0	108 14.3	34.0	99 15.7	46.1	181 16.8	22.4	
16	186 48.6	43 03.6	56.0	123 15.0	34.4	114 17.7	46.2	196 19.4	22.4	
17	201 51.0	58 03.0	+15 55.0	138 15.7	+20 34.7	129 19.7	+21 46.2	211 22.0	-6 22.5	
18	216 53.5	73 02.5	+15 54.0	153 16.3	+20 35.0	144 21.6	+21 46.3	226 24.5	-6 22.5	
19	231 56.0	88 01.9	53.1	168 17.0	35.4	159 23.6	46.3	241 27.1	22.6	
20	246 58.4	103 01.4	52.1	183 17.7	35.7	174 25.6	46.4	256 29.7	22.6	
21	262 00.9	118 00.8	51.1	198 18.4	36.0	189 27.5	46.4	271 32.2	22.7	
22	277 03.4	133 00.2	50.2	213 19.1	36.4	204 29.5	46.5	286 34.8	22.7	
23	292 05.8	147 59.7	49.2	228 19.7	36.7	219 31.5	46.5	301 37.4	22.8	
24	307 08.3	162 59.1	+15 48.2	243 20.4	+20 37.0	234 33.5	+21 46.6	316 39.9	-6 22.9	
Dif	—	-6	-10	+7	+3	+20	+1	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.9'		Edad: 23.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.2' 20 <sup>h</sup> : 58.1'			R <sup>o</sup> : 55 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 06.5 <sup>m</sup>		PMG: 6 <sup>h</sup> 43 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	m	h m m	m		
0	178 22.6	+18 40.7	262 47.9	90	+20 12.0	120	<b>60 N</b>	** **	2 32	3 35	21 55	10	16 14	107		
1	193 22.6	40.1	277 15.9	24.0		119	<b>58</b>	1 16	2 53	48	22 16	19	15 54	98		
2	208 22.6	39.5	291 43.8	89	35.9	118	<b>56</b>	1 53	3 10	3 59	32 25		38 92			
3	223 22.7	38.9	306 11.7	89	47.7	116	<b>54</b>	2 19	24	4 09	47 29		24 88			
4	238 22.7	38.3	320 39.6	89	+20 59.3	116	<b>52</b>	38	36	18	22 59	33	12 84			
5	253 22.7	+18 37.7	335 07.3	87	+21 10.9	114	<b>50</b>	2 54	3 46	4 26	23 10	35	15 02	81		
6	268 22.7	+18 37.1	349 35.0	87	+21 22.3	113	<b>45</b>	3 25	4 08	4 42	23 34	39	14 40	75		
7	283 22.7	36.5	4 02.6	86	33.6	111	<b>40</b>	3 48	25	4 56	23 52	43	22 72			
8	298 22.8	35.9	18 30.2	86	44.7	110	<b>35</b>	4 05	39	5 07	** **	** **	14 07	69		
9	313 22.8	35.3	32 57.7	85	+21 55.7	109	<b>30</b>	20	4 51	17	** **	** **	13 54	67		
10	328 22.8	34.7	47 25.1	84	+22 06.6	107	<b>20</b>	4 43	5 11	35	** **	** **	32 63			
11	343 22.8	+18 34.1	61 52.5	84	+22 17.3	107	<b>10 N</b>	5 01	5 27	5 49	0 15	51	13 14	59		
12	358 22.9	+18 33.5	76 19.8	83	+22 28.0	104	<b>0</b>	5 16	5 41	6 03	0 30	55	12 56	56		
13	13 22.9	32.9	90 47.0	82	38.4	104	<b>10 S</b>	29	5 54	17	0 46	58	39 52			
14	28 22.9	32.3	105 14.2	82	48.8	102	<b>20</b>	41	6 08	31	1 03	62	12 20	49		
15	43 22.9	31.7	119 41.3	81	+22 59.0	101	<b>30</b>	53	22	47	22 67		11 59	44		
16	58 23.0	31.1	134 08.3	80	+23 09.1	99	<b>35</b>	5 59	30	6 57	34 69		46 42			
17	73 23.0	+18 30.5	148 35.3	80	+23 19.0	98	<b>40</b>	6 06	6 38	7 07	1 47	73	11 32	39		
18	88 23.0	+18 29.9	163 02.2	79	+23 28.8	96	<b>45</b>	6 13	6 48	7 20	2 02	78	11 15	35		
19	103 23.0	29.3	177 29.1	79	38.4	96	<b>50</b>	20	7 00	35	22 83		10 54	30		
20	118 23.1	28.7	191 55.9	78	48.0	93	<b>52</b>	24	05	42	31 87		45 26			
21	133 23.1	28.1	206 22.6	77	+23 57.3	92	<b>54</b>	27	11	50	41 91		34 23			
22	148 23.1	27.5	220 49.3	77	+24 06.5	91	<b>56</b>	31	17	7 59	2 53	95	21 19			
23	163 23.1	26.9	235 15.9	76	15.6	89	<b>58</b>	35	24	8 09	3 07	101	10 07	13		
24	178 23.2	+18 26.3	249 42.4	75	+24 24.5	89	<b>60 S</b>	6 40	7 31	8 21	3 23	109	9 50	5		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 30.9 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 09 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 46 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 53 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	307 08.3	162 59.1	+15 48.2	243 20.4	+20 37.0	234 33.5	+21 46.6	316 39.9	-6 22.9	
1	322 10.8	177 58.5	47.2	258 21.1	37.4	249 35.4	46.6	331 42.5	22.9	
2	337 13.2	192 58.0	46.3	273 21.8	37.7	264 37.4	46.7	346 45.1	23.0	
3	352 15.7	207 57.4	45.3	288 22.5	38.0	279 39.4	46.8	1 47.6	23.0	
4	7 18.1	222 56.9	44.3	303 23.2	38.4	294 41.4	46.8	16 50.2	23.1	
5	22 20.6	237 56.3	+15 43.3	318 23.8	+20 38.7	309 43.3	+21 46.9	31 52.8	-6 23.1	
6	37 23.1	252 55.7	+15 42.3	333 24.5	+20 39.0	324 45.3	+21 46.9	46 55.3	-6 23.2	
7	52 25.5	267 55.2	41.4	348 25.2	39.3	339 47.3	47.0	61 57.9	23.2	
8	67 28.0	282 54.6	40.4	3 25.9	39.7	354 49.3	47.0	77 00.5	23.3	
9	82 30.5	297 54.1	39.4	18 26.6	40.0	9 51.2	47.1	92 03.0	23.3	
10	97 32.9	312 53.5	38.4	33 27.2	40.3	24 53.2	47.1	107 05.6	23.4	
11	112 35.4	327 53.0	+15 37.4	48 27.9	+20 40.7	39 55.2	+21 47.2	122 08.2	-6 23.4	
12	127 37.9	342 52.4	+15 36.4	63 28.6	+20 41.0	54 57.2	+21 47.2	137 10.7	-6 23.5	
13	142 40.3	357 51.9	35.5	78 29.3	41.3	69 59.1	47.3	152 13.3	23.5	
14	157 42.8	12 51.3	34.5	93 30.0	41.6	85 01.1	47.3	167 15.9	23.6	
15	172 45.3	27 50.7	33.5	108 30.6	42.0	100 03.1	47.4	182 18.4	23.7	
16	187 47.7	42 50.2	32.5	123 31.3	42.3	115 05.1	47.5	197 21.0	23.7	
17	202 50.2	57 49.6	+15 31.5	138 32.0	+20 42.6	130 07.1	+21 47.5	212 23.6	-6 23.8	
18	217 52.6	72 49.1	+15 30.5	153 32.7	+20 42.9	145 09.0	+21 47.6	227 26.1	-6 23.8	
19	232 55.1	87 48.5	29.5	168 33.4	43.3	160 11.0	47.6	242 28.7	23.9	
20	247 57.6	102 48.0	28.5	183 34.1	43.6	175 13.0	47.7	257 31.3	23.9	
21	263 00.0	117 47.4	27.5	198 34.7	43.9	190 15.0	47.7	272 33.8	24.0	
22	278 02.5	132 46.9	26.6	213 35.4	44.2	205 16.9	47.8	287 36.4	24.0	
23	293 05.0	147 46.3	25.6	228 36.1	44.6	220 18.9	47.8	302 39.0	24.1	
24	308 07.4	162 45.8	+15 24.6	243 36.8	+20 44.9	235 20.9	+21 47.9	317 41.5	-6 24.1	
Dif	—	-6	-10	+7	+3	+20	+1	+26	-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 06.4 <sup>m</sup>		SD: 15.8' Edad: 24.0 <sup>d</sup> PMG: 7 <sup>h</sup> 38 <sup>m</sup> R°: 58 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 57.7' 20 <sup>h</sup> : 57.5'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	m	h m	m		
0	178 23.2	+18 26.3	249 42.4	75	+24 24.5	88	60 N	20 34	21 35	** **	22 05	28	18 01	93		
1	193 23.2	25.6	264 08.9	75	33.3	85	58	22	21 15	22 46	35	37	17 32	83		
2	208 23.2	25.0	278 35.4	74	41.9	86	56	11	20 59	22 13	22 57	42	17 10	78		
3	223 23.2	24.4	293 01.8	73	50.4	84	54	20 01	46	21 49	23 16	44	16 52	75		
4	238 23.3	23.8	307 28.1	72	+24 58.8	81	52	19 53	34	30	32 46	36	74	75		
5	253 23.3	+18 23.2	321 54.3	73	+25 06.9	81	50	19 45	20 24	21 15	23 45	48	16 23	72		
6	268 23.3	+18 22.6	336 20.6	71	+25 15.0	78	45	19 29	20 02	20 45	** **	***	15 55	69		
7	283 23.4	22.0	350 46.7	71	22.8	77	40	15	19 46	23	** **	***	34	67		
8	298 23.4	21.4	5 12.8	71	30.5	76	35	19 04	32	20 06	0 08	46	16	65		
9	313 23.4	20.8	19 38.9	71	38.1	74	30	18 54	20	19 52	22 48	15	01	63		
10	328 23.4	20.1	34 04.9	70	45.5	73	20	38	19 01	29	0 45	52	14 35	61		
11	343 23.5	+18 19.5	48 30.8	69	+25 52.8	71	10 N	18 23	18 46	19 12	1 06	54	14 13	59		
12	358 23.5	+18 18.9	62 56.7	69	+25 59.9	69	0	18 10	18 32	18 57	1 25	57	13 52	57		
13	13 23.5	18.3	77 22.6	68	+26 06.8	68	10 S	17 57	19	44	1 44	60	31	56		
14	28 23.6	17.7	91 48.4	68	13.6	66	20	43	18 06	32	2 05	62	13 09	54		
15	43 23.6	17.1	106 14.2	68	20.2	64	30	27	17 52	21	2 49	66	12 43	52		
16	58 23.6	16.5	120 39.9	67	26.6	64	35	17	17 44	15	2 43	68	12 50	50		
17	73 23.7	+18 15.8	135 05.6	67	+26 32.9	63	40	17 07	17 36	18 08	3 00	70	12 11	48		
18	88 23.7	+18 15.2	149 31.2	66	+26 39.0	61	45	16 55	17 26	18 02	3 20	73	11 50	45		
19	103 23.7	14.6	163 56.8	66	45.0	60	50	40	15	17 54	45	78	24	41		
20	118 23.8	14.0	178 22.4	66	50.8	58	52	33	10	51	3 58	79	11 11	39		
21	133 23.8	13.4	192 47.9	65	+26 56.5	57	54	25	17 04	48	4 12	82	10 57	36		
22	148 23.8	12.7	207 13.4	65	+27 01.9	54	56	16	16 58	44	28	87	40	32		
23	163 23.8	12.1	221 38.8	64	07.2	53	58	16 07	52	40	4 48	93	10 20	26		
24	178 23.9	+18 11.5	236 04.3	65	+27 12.4	52	60 S	15 55	16 44	17 36	5 12	105	9 55	15		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 26.9 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 09 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 45 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 18 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	308 07.4	162 45.8	+15 24.6	243 36.8	+20 44.9	235 20.9	+21 47.9	317 41.5	-6 24.1	
1	323 09.9	177 45.2	23.6	258 37.5	45.2	250 22.9	47.9	332 44.1	24.2	
2	338 12.4	192 44.7	22.6	273 38.1	45.5	265 24.9	48.0	347 46.7	24.2	
3	353 14.8	207 44.1	21.6	288 38.8	45.9	280 26.8	48.0	2 49.3	24.3	
4	8 17.3	222 43.6	20.6	303 39.5	46.2	295 28.8	48.1	17 51.8	24.4	
5	23 19.8	237 43.0	+15 19.6	318 40.2	+20 46.5	310 30.8	+21 48.2	32 54.4	-6 24.4	
6	38 22.2	252 42.5	+15 18.6	333 40.9	+20 46.8	325 32.8	+21 48.2	47 57.0	-6 24.5	
7	53 24.7	267 42.0	17.6	348 41.6	47.2	340 34.7	48.3	62 59.5	24.5	
8	68 27.1	282 41.4	16.6	3 42.2	47.5	355 36.7	48.3	78 02.1	24.6	
9	83 29.6	297 40.9	15.6	18 42.9	47.8	10 38.7	48.4	93 04.7	24.6	
10	98 32.1	312 40.3	14.6	33 43.6	48.1	25 40.7	48.4	108 07.2	24.7	
11	113 34.5	327 39.8	+15 13.6	48 44.3	+20 48.4	40 42.7	+21 48.5	123 09.8	-6 24.7	
12	128 37.0	342 39.2	+15 12.6	63 45.0	+20 48.8	55 44.6	+21 48.5	138 12.4	-6 24.8	
13	143 39.5	357 38.7	11.6	78 45.6	49.1	70 46.6	48.6	153 15.0	24.8	
14	158 41.9	12 38.1	10.6	93 46.3	49.4	85 48.6	48.6	168 17.5	24.9	
15	173 44.4	27 37.6	09.6	108 47.0	49.7	100 50.6	48.7	183 20.1	25.0	
16	188 46.9	42 37.1	08.6	123 47.7	50.0	115 52.6	48.7	198 22.7	25.0	
17	203 49.3	57 36.5	+15 07.6	138 48.4	+20 50.4	130 54.5	+21 48.8	213 25.2	-6 25.1	
18	218 51.8	72 36.0	+15 06.6	153 49.1	+20 50.7	145 56.5	+21 48.8	228 27.8	-6 25.1	
19	233 54.3	87 35.4	05.6	168 49.7	51.0	160 58.5	48.9	243 30.4	25.2	
20	248 56.7	102 34.9	04.6	183 50.4	51.3	176 00.5	48.9	258 33.0	25.2	
21	263 59.2	117 34.4	03.6	198 51.1	51.6	191 02.5	49.0	273 35.5	25.3	
22	279 01.6	132 33.8	02.5	213 51.8	51.9	206 04.5	49.0	288 38.1	25.3	
23	294 04.1	147 33.3	01.5	228 52.5	52.3	221 06.4	49.1	303 40.7	25.4	
24	309 06.6	162 32.7	+15 00.5	243 53.2	+20 52.6	236 08.4	+21 49.2	318 43.2	-6 25.4	

Dif	—	-5	-10	+7	+3	+20	+1	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.7'		Edad: 25.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 57.4' 12 <sup>h</sup> : 57.2' 20 <sup>h</sup> : 57.0'			PMG: 8 <sup>h</sup> 36 <sup>m</sup>		R <sup>o</sup> : 58 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	h	m	h	m
0	178 23.9	+18 11.5	236 04.3		+27 12.4	50	60 N	** **	2 38	3 39	22 33	66	19 34	54		
1	193 23.9	10.9	250 29.7	64	17.4	50	58	1 27	2 58	3 52	23 12	64	18 55	56		
2	208 23.9	10.3	264 55.0	63	22.2	48	56	2 01	3 14	4 03	23 39	63	18 28	57		
3	223 24.0	09.6	279 20.4	64	26.8	46	54	24	28	12	** **	** **	18 07	57		
4	238 24.0	09.0	293 45.7	63	31.3	45	52	43	39	21	** **	** **	17 50	57		
5	253 24.0	+18 08.4	308 11.0	63	+27 35.6	43	50	2 58	3 50	4 28	** **	** **	17 35	57		
6	268 24.1	+18 07.8	322 36.2	62	+27 39.7	41	45	3 28	4 11	4 45	0 13	51	17 04	58		
7	283 24.1	07.2	337 01.5	63	43.7	40	40	3 50	27	4 58	35	52	16 41	58		
8	298 24.2	06.5	351 26.7	62	47.5	38	35	4 07	41	5 09	0 54	53	21	58		
9	313 24.2	05.9	5 51.9	62	51.2	37	30	2 22	4 53	19	1 10	54	16 04	58		
10	328 24.2	05.3	20 17.1	62	54.6	34	20	4 44	5 12	35	1 37	55	15 36	58		
11	343 24.3	+18 04.7	34 42.3	62	+27 57.9	33	10 N	5 01	5 27	5 50	2 00	57	15 12	58		
12	358 24.3	+18 04.0	49 07.5	62	+28 01.0	31	0	5 16	5 41	6 03	2 22	58	14 49	58		
13	13 24.3	03.4	63 32.6	61	04.0	30	10 S	29	5 54	16	2 44	58	27	58		
14	28 24.4	02.8	77 57.8	62	06.8	28	20	40	6 07	30	3 07	60	14 03	57		
15	43 24.4	02.1	92 22.9	61	09.4	26	30	52	21	46	35	61	13 35	57		
16	58 24.4	01.5	106 48.1	62	11.8	24	35	5 58	28	6 55	3 51	62	13 18	57		
17	73 24.5	+18 00.9	121 13.2	61	+28 14.1	23	40	6 04	6 37	7 05	4 10	62	12 59	56		
18	88 24.5	+18 00.3	135 38.4	62	+28 16.2	21	45	6 11	6 46	7 18	4 33	64	12 35	56		
19	103 24.6	+17 59.6	150 03.5	61	18.1	19	50	18	6 57	32	5 03	65	12 05	55		
20	118 24.6	59.0	164 28.6	61	19.9	18	52	21	7 02	39	17	66	11 50	54		
21	133 24.6	58.4	178 53.8	62	21.5	16	54	24	07	47	34	67	33	53		
22	148 24.7	57.7	193 19.0	62	22.9	14	56	28	13	7 55	5 55	68	11 12	52		
23	163 24.7	57.1	207 44.1	61	24.2	13	58	32	20	8 05	6 21	71	10 46	50		
24	178 24.7	+17 56.5	222 09.3	62	+28 25.2	10	60 S	6 36	7 28	8 16	6 57	76	10 10	45		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 23.0 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 44 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 14 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 45 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	309 06.6	162 32.7	+15 00.5	243 53.2	+20 52.6	236 08.4	+21 49.2	318 43.2	-6 25.4	
1	324 09.0	177 32.2	+14 59.5	258 53.8	52.9	251 10.4	49.2	333 45.8	25.5	
2	339 11.5	192 31.7	58.5	273 54.5	53.2	266 12.4	49.3	348 48.4	25.6	
3	354 14.0	207 31.1	57.5	288 55.2	53.5	281 14.4	49.3	3 51.0	25.6	
4	9 16.4	222 30.6	56.5	303 55.9	53.8	296 16.3	49.4	18 53.5	25.7	
5	24 18.9	237 30.1	+14 55.5	318 56.6	+20 54.2	311 18.3	+21 49.4	33 56.1	-6 25.7	
6	39 21.4	252 29.5	+14 54.4	333 57.3	+20 54.5	326 20.3	+21 49.5	48 58.7	-6 25.8	
7	54 23.8	267 29.0	53.4	348 57.9	54.8	341 22.3	49.5	64 01.3	25.8	
8	69 26.3	282 28.5	52.4	3 58.6	55.1	356 24.3	49.6	79 03.8	25.9	
9	84 28.8	297 27.9	51.4	18 59.3	55.4	11 26.3	49.6	94 06.4	25.9	
10	99 31.2	312 27.4	50.4	34 00.0	55.7	26 28.2	49.7	109 09.0	26.0	
11	114 33.7	327 26.9	+14 49.4	49 00.7	+20 56.0	41 30.2	+21 49.7	124 11.5	-6 26.1	
12	129 36.1	342 26.3	+14 48.3	64 01.4	+20 56.3	56 32.2	+21 49.8	139 14.1	-6 26.1	
13	144 38.6	357 25.8	47.3	79 02.0	56.7	71 34.2	49.8	154 16.7	26.2	
14	159 41.1	12 25.3	46.3	94 02.7	57.0	86 36.2	49.9	169 19.3	26.2	
15	174 43.5	27 24.7	45.3	109 03.4	57.3	101 38.2	49.9	184 21.8	26.3	
16	189 46.0	42 24.2	44.3	124 04.1	57.6	116 40.2	50.0	199 24.4	26.3	
17	204 48.5	57 23.7	+14 43.2	139 04.8	+20 57.9	131 42.1	+21 50.0	214 27.0	-6 26.4	
18	219 50.9	72 23.2	+14 42.2	154 05.5	+20 58.2	146 44.1	+21 50.1	229 29.6	-6 26.4	
19	234 53.4	87 22.6	41.2	169 06.1	58.5	161 46.1	50.1	244 32.1	26.5	
20	249 55.9	102 22.1	40.2	184 06.8	58.8	176 48.1	50.2	259 34.7	26.6	
21	264 58.3	117 21.6	39.2	199 07.5	59.1	191 50.1	50.2	274 37.3	26.6	
22	280 00.8	132 21.0	38.1	214 08.2	59.4	206 52.1	50.3	289 39.9	26.7	
23	295 03.2	147 20.5	37.1	229 08.9	+20 59.8	221 54.1	50.3	304 42.4	26.7	
24	310 05.7	162 20.0	+14 36.1	244 09.6	+21 00.1	236 56.0	+21 50.4	319 45.0	-6 26.8	
Dif	—	-5	-10	+7	+3	+20	+1	+26	-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 12 <sup>h</sup> 06.3 <sup>m</sup>		SD: 15.5' Edad: 26.0 <sup>d</sup> PMG: 9 <sup>h</sup> 34 <sup>m</sup> R <sup>o</sup> : 56 <sup>m</sup>						PHE { 4 <sup>h</sup> : 56.8' 12 <sup>h</sup> : 56.7' 20 <sup>h</sup> : 56.5'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	m	h m	m	
0	178 24.7	+17 56.5	222 09.3	62	+28 25.2	9	60 N	20 29	21 29	23 32	23 39	95	20 28	20	
1	193 24.8	55.8	236 34.5	62	26.1	9	58	17	21 10	22 36	** ** *	** ** *	19 51	31	
2	208 24.8	55.2	250 59.7	62	26.9	8	56	20 07	20 55	22 05	** ** *	** ** *	25	35	
3	223 24.9	54.6	265 24.9	62	27.5	6	54	19 57	41	21 43	0 00	62	19 04	39	
4	238 24.9	53.9	279 50.2	63	27.9	4	52	49	30	25	18 62	61	18 47	41	
5	253 24.9	+17 53.3	294 15.5	63	+28 28.1	2	50	19 42	20 20	21 11	0 33	61	18 32	43	
6	268 25.0	+17 52.7	308 40.8	63	+28 28.1	0	45	19 26	20 00	20 42	1 04	60	18 02	46	
7	283 25.0	52.0	323 06.1	63	28.0	1	40	13	19 44	21	27 60	60	17 39	47	
8	298 25.1	51.4	337 31.4	63	27.8	2	35	19 02	30	20 04	1 47	60	19 50	50	
9	313 25.1	50.8	351 56.8	64	27.3	5	30	18 53	19	19 50	2 04	59	17 02	51	
10	328 25.1	50.1	6 22.2	64	26.7	6	20	37	19 00	28	32 59	59	16 34	53	
11	343 25.2	+17 49.5	20 47.6	64	+28 25.9	8	10 N	18 23	18 45	19 11	2 57	57	16 10	54	
12	358 25.2	+17 48.8	35 13.1	65	+28 25.0	9	0	18 10	18 31	18 57	3 20	57	15 47	56	
13	13 25.3	48.2	49 38.6	65	23.9	11	10 S	17 57	19	44	3 42	57	25	57	
14	28 25.3	47.6	64 04.2	66	22.6	13	20	43	18 06	33	4 07	56	15 00	59	
15	43 25.4	46.9	78 29.8	66	21.2	14	30	28	17 53	22	36 54	54	14 32	60	
16	58 25.4	46.3	92 55.4	66	19.6	16	35	19	46	16	4 53	53	14 15	61	
17	73 25.4	+17 45.6	107 21.1	67	+28 17.8	18	40	17 09	17 37	18 10	5 12	53	13 55	63	
18	88 25.5	+17 45.0	121 46.8	67	+28 15.9	19	45	16 57	17 28	18 04	5 37	51	13 31	65	
19	103 25.5	44.4	136 12.6	68	13.8	21	50	42	18	17 57	6 08	49	13 00	67	
20	118 25.6	43.7	150 38.4	68	11.5	23	52	36	13	54	23 49	49	12 44	69	
21	133 25.6	43.1	165 04.3	69	09.1	24	54	28	07	50	6 41	47	26	70	
22	148 25.7	42.4	179 30.2	69	06.5	26	56	20	17 02	47	7 03	45	12 04	73	
23	163 25.7	41.8	193 56.2	70	03.8	27	58	11	16 55	43	7 32	41	11 36	77	
24	178 25.8	+17 41.1	208 22.2	70	+28 00.9	29	60 S	16 00	16 48	17 39	8 13	33	10 55	85	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 19.1 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 11 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 43 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 11 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 41 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	310 05.7	162 20.0	+14 36.1	244 09.6	+21 00.1	236 56.0	+21 50.4	319 45.0	-6 26.8	
1	325 08.2	177 19.5	35.0	259 10.3	00.4	251 58.0	50.4	334 47.6	26.8	
2	340 10.6	192 18.9	34.0	274 10.9	00.7	267 00.0	50.5	349 50.2	26.9	
3	355 13.1	207 18.4	33.0	289 11.6	01.0	282 02.0	50.5	4 52.7	27.0	
4	10 15.6	222 17.9	32.0	304 12.3	01.3	297 04.0	50.6	19 55.3	27.0	
5	25 18.0	237 17.4	+14 30.9	319 13.0	+21 01.6	312 06.0	+21 50.7	34 57.9	-6 27.1	
6	40 20.5	252 16.8	+14 29.9	334 13.7	+21 01.9	327 08.0	+21 50.7	50 00.5	-6 27.1	
7	55 23.0	267 16.3	28.9	349 14.4	02.2	342 09.9	50.8	65 03.0	27.2	
8	70 25.4	282 15.8	27.8	4 15.1	02.5	357 11.9	50.8	80 05.6	27.2	
9	85 27.9	297 15.3	26.8	19 15.7	02.8	12 13.9	50.9	95 08.2	27.3	
10	100 30.4	312 14.8	25.8	34 16.4	03.1	27 15.9	50.9	110 10.8	27.4	
11	115 32.8	327 14.2	+14 24.7	49 17.1	+21 03.4	42 17.9	+21 51.0	125 13.4	-6 27.4	
12	130 35.3	342 13.7	+14 23.7	64 17.8	+21 03.7	57 19.9	+21 51.0	140 15.9	-6 27.5	
13	145 37.7	357 13.2	22.7	79 18.5	04.0	72 21.9	51.1	155 18.5	27.5	
14	160 40.2	12 12.7	21.6	94 19.2	04.3	87 23.9	51.1	170 21.1	27.6	
15	175 42.7	27 12.2	20.6	109 19.8	04.6	102 25.9	51.2	185 23.7	27.6	
16	190 45.1	42 11.6	19.6	124 20.5	04.9	117 27.8	51.2	200 26.2	27.7	
17	205 47.6	57 11.1	+14 18.5	139 21.2	+21 05.3	132 29.8	+21 51.3	215 28.8	-6 27.8	
18	220 50.1	72 10.6	+14 17.5	154 21.9	+21 05.6	147 31.8	+21 51.3	230 31.4	-6 27.8	
19	235 52.5	87 10.1	16.4	169 22.6	05.9	162 33.8	51.4	245 34.0	27.9	
20	250 55.0	102 09.6	15.4	184 23.3	06.2	177 35.8	51.4	260 36.5	27.9	
21	265 57.5	117 09.1	14.4	199 24.0	06.5	192 37.8	51.5	275 39.1	28.0	
22	280 59.9	132 08.5	13.3	214 24.6	06.8	207 39.8	51.5	290 41.7	28.0	
23	296 02.4	147 08.0	12.3	229 25.3	07.1	222 41.8	51.6	305 44.3	28.1	
24	311 04.9	162 07.5	+14 11.2	244 26.0	+21 07.4	237 43.8	+21 51.6	320 46.9	-6 28.2	
Dif	—	-5	-10	+7	+3	+20	+1	+26	-1	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15.8'		SD: 15.4'		Edad: 27.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.3' 12 <sup>h</sup> : 56.2' 20 <sup>h</sup> : 56.0'			PMG: 10 <sup>h</sup> 30 <sup>m</sup>		R°: 54 <sup>m</sup>		Hora		R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°				
h	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	m	h m	m				
0	178 25.8	+17 41.1	208 22.2	71	+28 00.9	31	60 N	0 41	2 45	3 44	** ** *	***	20 48	8				
1	193 25.8	40.5	222 48.3	72	+27 57.8	32	58	1 38	3 03	3 56	0 16	84	22	15				
2	208 25.8	39.8	237 14.5	72	54.6	34	56	2 08	19	4 07	0 42	79	20 00	21				
3	223 25.9	39.2	251 40.7	73	51.2	35	54	30	32	16	1 02	76	19 43	24				
4	238 25.9	38.6	266 07.0	73	47.7	37	52	2 48	43	24	20	73	28	28				
5	253 26.0	+17 37.9	280 33.3	74	+27 44.0	38	50	3 02	3 53	4 31	1 34	72	19 15	30				
6	268 26.0	+17 37.3	294 59.7	75	+27 40.2	40	45	3 31	4 13	4 47	2 04	68	18 48	35				
7	283 26.1	36.6	309 26.2	75	36.2	41	40	3 52	29	5 00	27	65	26	39				
8	298 26.1	36.0	323 52.7	77	32.1	43	35	4 09	43	10	2 47	63	18 09	41				
9	313 26.2	35.3	338 19.4	77	27.8	44	30	23	4 54	20	3 03	61	17 53	44				
10	328 26.2	34.7	352 46.0	78	23.4	46	20	4 45	5 13	36	31	58	27	47				
11	343 26.3	+17 34.0	7 12.8	78	+27 18.8	48	10 N	5 02	5 28	5 50	3 54	57	17 04	50				
12	358 26.3	+17 33.4	21 39.6	79	+27 14.0	49	0	5 16	5 41	6 03	4 17	54	16 43	53				
13	13 26.4	32.7	36 06.5	80	09.1	50	10 S	28	5 54	16	4 39	52	16 22	55				
14	28 26.4	32.1	50 33.5	81	+27 04.1	52	20	39	6 06	29	5 03	49	15 59	58				
15	43 26.5	31.4	65 00.6	81	+26 58.9	53	30	51	19	44	30	47	32	62				
16	58 26.5	30.8	79 27.7	82	53.6	54	35	5 56	27	6 53	5 46	45	15 16	64				
17	73 26.6	+17 30.1	93 54.9	82	+26 48.2	56	40	6 02	6 35	7 03	6 05	43	14 58	66				
18	88 26.6	+17 29.4	108 22.2	83	+26 42.6	58	45	6 08	6 44	7 15	6 28	40	14 36	69				
19	103 26.7	28.8	122 49.6	84	36.8	59	50	15	54	29	6 57	36	14 07	74				
20	118 26.7	28.1	137 17.1	85	30.9	60	52	18	6 59	36	7 12	33	13 53	77				
21	133 26.8	27.5	151 44.6	85	24.9	61	54	21	7 04	43	28	31	36	81				
22	148 26.8	26.8	166 12.3	87	18.8	63	56	25	10	7 51	7 48	26	13 17	84				
23	163 26.9	26.2	180 40.0	87	12.5	65	58	28	16	8 01	8 13	20	12 53	90				
24	178 26.9	+17 25.5	195 07.8	88	+26 06.0	65	60 S	6 32	7 23	8 11	8 46	10	12 20	101				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +0.9		Mag.: -2.1		Mag.: +0.8	
	3 <sup>h</sup> 15.1 <sup>m</sup>		PMG: 13 <sup>h</sup> 12 <sup>m</sup>		PMG: 7 <sup>h</sup> 42 <sup>m</sup>		PMG: 8 <sup>h</sup> 08 <sup>m</sup>		PMG: 2 <sup>h</sup> 36 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	311 04.9	162 07.5	+14 11.2	244 26.0	+21 07.4	237 43.8	+21 51.6	320 46.9	-6 28.2	
1	326 07.3	177 07.0	10.2	259 26.7	07.7	252 45.8	51.7	335 49.4	28.2	
2	341 09.8	192 06.5	09.1	274 27.4	08.0	267 47.7	51.7	350 52.0	28.3	
3	356 12.2	207 06.0	08.1	289 28.1	08.3	282 49.7	51.8	5 54.6	28.3	
4	11 14.7	222 05.5	07.1	304 28.8	08.6	297 51.7	51.8	20 57.2	28.4	
5	26 17.2	237 05.0	+14 06.0	319 29.5	+21 08.9	312 53.7	+21 51.9	35 59.8	-6 28.4	
6	41 19.6	252 04.4	+14 05.0	334 30.1	+21 09.2	327 55.7	+21 51.9	51 02.3	-6 28.5	
7	56 22.1	267 03.9	03.9	349 30.8	09.5	342 57.7	52.0	66 04.9	28.6	
8	71 24.6	282 03.4	02.9	4 31.5	09.7	357 59.7	52.0	81 07.5	28.6	
9	86 27.0	297 02.9	01.8	19 32.2	10.0	13 01.7	52.1	96 10.1	28.7	
10	101 29.5	312 02.4	+14 00.8	34 32.9	10.3	28 03.7	52.1	111 12.7	28.7	
11	116 32.0	327 01.9	+13 59.7	49 33.6	+21 10.6	43 05.7	+21 52.2	126 15.2	-6 28.8	
12	131 34.4	342 01.4	+13 58.7	64 34.3	+21 10.9	58 07.7	+21 52.2	141 17.8	-6 28.9	
13	146 36.9	357 00.9	57.6	79 34.9	11.2	73 09.7	52.3	156 20.4	28.9	
14	161 39.4	12 00.4	56.6	94 35.6	11.5	88 11.6	52.3	171 23.0	29.0	
15	176 41.8	26 59.9	55.5	109 36.3	11.8	103 13.6	52.4	186 25.6	29.0	
16	191 44.3	41 59.4	54.5	124 37.0	12.1	118 15.6	52.4	201 28.1	29.1	
17	206 46.7	56 58.8	+13 53.4	139 37.7	+21 12.4	133 17.6	+21 52.5	216 30.7	-6 29.1	
18	221 49.2	71 58.3	+13 52.4	154 38.4	+21 12.7	148 19.6	+21 52.5	231 33.3	-6 29.2	
19	236 51.7	86 57.8	51.3	169 39.1	13.0	163 21.6	52.6	246 35.9	29.3	
20	251 54.1	101 57.3	50.2	184 39.8	13.3	178 23.6	52.6	261 38.5	29.3	
21	266 56.6	116 56.8	49.2	199 40.4	13.6	193 25.6	52.7	276 41.0	29.4	
22	281 59.1	131 56.3	48.1	214 41.1	13.9	208 27.6	52.7	291 43.6	29.4	
23	297 01.5	146 55.8	47.1	229 41.8	14.2	223 29.6	52.8	306 46.2	29.5	
24	312 04.0	161 55.3	+13 46.0	244 42.5	+21 14.5	238 31.6	+21 52.8	321 48.8	-6 29.6	

Dif	—	-5	-11	+7	+3	+20	0	+26	-1
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UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 06.2 <sup>m</sup>		SD: 15.2' Edad: 28.0 <sup>d</sup> PHE { 4 <sup>h</sup> : 55.8' 12 <sup>h</sup> : 55.7' 20 <sup>h</sup> : 55.5'						PMG: 11 <sup>h</sup> 24 <sup>m</sup> R°: 49 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	178 26.9	+17 25.5	195 07.8	89	+26 06.0	65	20 24	21 22	23 10	1 14 99	20 56 2					
1	193 27.0	24.9	209 35.7	90	+25 59.5	65	58	13	21 04	22 26	1 40 91	37 8				
2	208 27.0	24.2	224 03.7	90	52.8	67	56	20 03	20 50	21 58	2 01 86	21 13				
3	223 27.1	23.5	238 31.8	91	45.9	69	54	19 54	37	37	18 82	20 07 17				
4	238 27.1	22.9	252 59.9	91	39.0	69	52	46	26	20	33 78	19 56 19				
5	253 27.2	+17 22.2	267 28.2	93	+25 31.9	71	50	19 39	20 17	21 06	2 46 75	19 45 22				
6	268 27.2	+17 21.6	281 56.5	93	+25 24.7	72	45	19 24	19 57	20 39	3 12 70	19 23 27				
7	283 27.3	20.9	296 24.9	94	17.3	74	40	11	41	18	32 67	19 05 31				
8	298 27.3	20.2	310 53.5	96	09.9	74	35	19 01	28	20 02	3 50 63	18 50 34				
9	313 27.4	19.6	325 22.1	96	+25 02.3	76	30	18 51	19 17	19 48	4 04 62	37 36				
10	328 27.4	18.9	339 50.8	97	+24 54.6	77	20	36	18 59	27	29 57	18 14 41				
11	343 27.5	+17 18.3	354 19.6	98	+24 46.7	79	10 N	18 22	18 44	19 10	4 51 54	17 54 45				
12	358 27.6	+17 17.6	8 48.5	99	+24 38.8	79	0	18 10	18 31	18 56	5 11 50	17 36 48				
13	13 27.6	16.9	23 17.5	100	30.7	81	10 S	17 57	19	44	3 11 47	17 17 52				
14	28 27.7	16.3	37 46.6	101	22.5	82	20	44	18 07	33	5 52 44	16 57 56				
15	43 27.7	15.6	52 15.7	101	14.2	83	30	29	17 54	23	6 17 40	34 60				
16	58 27.8	14.9	66 45.0	103	+24 05.8	84	35	20	47	17	31 38	20 63				
17	73 27.8	+17 14.3	81 14.4	104	+23 57.3	85	40	17 10	17 39	18 12	6 48 34	16 04 67				
18	88 27.9	+17 13.6	95 43.8	104	+23 48.6	87	45	16 59	17 30	18 06	7 08 31	15 45 71				
19	103 27.9	12.9	110 13.4	106	39.9	87	50	45	20	17 59	33 25	21 76				
20	118 28.0	12.3	124 43.1	107	31.0	89	52	39	15	56	45 23	15 10 78				
21	133 28.1	11.6	139 12.8	107	22.0	90	54	32	10	53	7 59 19	14 57 82				
22	148 28.1	10.9	153 42.7	109	12.9	91	56	24	17 05	50	8 14 16	41 86				
23	163 28.2	10.3	168 12.6	109	+23 03.7	92	58	15	16 59	47	33 11	23 91				
24	178 28.2	+17 09.6	182 42.6	110	+22 54.4	93	60 S	16 04	16 52	17 43	8 56 3	14 01 98				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 <sup>h</sup> 11.2 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 13 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 41 <sup>m</sup>		Mag.: -2.1 PMG: 8 <sup>h</sup> 05 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 32 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	312 04.0	161 55.3	+13 46.0	244 42.5	+21 14.5	238 31.6	+21 52.8	321 48.8	-6 29.6	
1	327 06.5	176 54.8	45.0	259 43.2	14.8	253 33.6	52.9	336 51.4	29.6	
2	342 08.9	191 54.3	43.9	274 43.9	15.0	268 35.6	52.9	351 53.9	29.7	
3	357 11.4	206 53.8	42.8	289 44.6	15.3	283 37.6	53.0	6 56.5	29.7	
4	12 13.9	221 53.3	41.8	304 45.3	15.6	298 39.6	53.0	21 59.1	29.8	
5	27 16.3	236 52.8	+13 40.7	319 46.0	+21 15.9	313 41.6	+21 53.0	37 01.7	-6 29.8	
6	42 18.8	251 52.3	+13 39.7	334 46.6	+21 16.2	328 43.6	+21 53.1	52 04.3	-6 29.9	
7	57 21.2	266 51.8	38.6	349 47.3	16.5	343 45.6	53.1	67 06.9	30.0	
8	72 23.7	281 51.3	37.5	4 48.0	16.8	358 47.5	53.2	82 09.4	30.0	
9	87 26.2	296 50.8	36.5	19 48.7	17.1	13 49.5	53.2	97 12.0	30.1	
10	102 28.6	311 50.3	35.4	34 49.4	17.4	28 51.5	53.3	112 14.6	30.1	
11	117 31.1	326 49.8	+13 34.3	49 50.1	+21 17.7	43 53.5	+21 53.3	127 17.2	-6 30.2	
12	132 33.6	341 49.3	+13 33.3	64 50.8	+21 17.9	58 55.5	+21 53.4	142 19.8	-6 30.3	
13	147 36.0	356 48.8	32.2	79 51.5	18.2	73 57.5	53.4	157 22.4	30.3	
14	162 38.5	11 48.3	31.1	94 52.1	18.5	88 59.5	53.5	172 24.9	30.4	
15	177 41.0	26 47.8	30.1	109 52.8	18.8	104 01.5	53.5	187 27.5	30.4	
16	192 43.4	41 47.3	29.0	124 53.5	19.1	119 03.5	53.6	202 30.1	30.5	
17	207 45.9	56 46.8	+13 27.9	139 54.2	+21 19.4	134 05.5	+21 53.6	217 32.7	-6 30.6	
18	222 48.4	71 46.3	+13 26.9	154 54.9	+21 19.7	149 07.5	+21 53.7	232 35.3	-6 30.6	
19	237 50.8	86 45.8	25.8	169 55.6	20.0	164 09.5	53.7	247 37.9	30.7	
20	252 53.3	101 45.4	24.7	184 56.3	20.2	179 11.5	53.8	262 40.4	30.7	
21	267 55.7	116 44.9	23.7	199 57.0	20.5	194 13.5	53.8	277 43.0	30.8	
22	282 58.2	131 44.4	22.6	214 57.7	20.8	209 15.5	53.9	292 45.6	30.9	
23	298 00.7	146 43.9	21.5	229 58.4	21.1	224 17.5	53.9	307 48.2	30.9	
24	313 03.1	161 43.4	+13 20.4	244 59.0	+21 21.4	239 19.5	+21 54.0	322 50.8	-6 31.0	
Dif	—	-5	-11	+7	+3	+20	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15.8'		SD: 15.1'		Edad: 29.0 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.4'			Náutico	Civil	Hora R <sup>o</sup>		Hora R <sup>o</sup>			
	PMG: 12 <sup>h</sup> 06.1 <sup>m</sup>		PMG: 12 <sup>h</sup> 13 <sup>m</sup>		R <sup>o</sup> : 46 <sup>m</sup>			20 <sup>h</sup> : 55.1'					h	m	m	h	m	m
h	g	Dec	g	Dif	Dec	Dif	h	m	h	m	h	m	m	h	m	m		
0	178	28.2	+17	09.6	182	42.6	+22	54.4	60 N	1 03	2 51	3 49	2 53	96	20 58	0		
1	193	28.3		08.9	197	12.8	112	45.0	58	1 47	3 09	4 00	3 11	90	45	4		
2	208	28.4		08.3	211	43.0	112	35.5	56	2 15	23	10	27	84	34	8		
3	223	28.4		07.6	226	13.3	113	25.9	54	36	36	19	40	81	24	11		
4	238	28.5		06.9	240	43.7	114	16.2	52	2 52	47	27	3 51	78	15	14		
5	253	28.5	+17	06.3	255	14.3	116	+22	50	3 07	3 56	4 34	4 01	75	20 07	16		
6	268	28.6	+17	05.6	269	44.9	116	+21	45	3 34	4 16	4 49	4 22	70	19 50	21		
7	283	28.6		04.9	284	15.6	117	46.5	40	3 55	32	5 02	39	65	36	25		
8	298	28.7		04.2	298	46.4	118	36.4	35	4 11	44	12	4 53	62	24	29		
9	313	28.8		03.6	313	17.3	119	26.3	30	24	4 55	21	5 06	59	19 13	32		
10	328	28.8		02.9	327	48.3	120	16.0	20	4 46	5 13	37	26	55	18 55	37		
11	343	28.9	+17	02.2	342	19.3	120	+21	10 N	5 02	5 28	5 50	5 45	50	18 39	41		
12	358	28.9	+17	01.6	356	50.5	122	+20	0	5 16	5 41	6 03	6 01	47	18 24	45		
13	13	29.0		00.9	11	21.8	123	44.6	10 S	28	5 53	15	18	43	18 09	49		
14	28	29.1	+17	00.2	25	53.2	124	34.0	20	39	6 05	28	36	39	17 53	53		
15	43	29.1	+16	59.5	40	24.6	124	23.3	30	49	18	43	6 57	34	34	58		
16	58	29.2		58.9	54	56.2	126	12.5	35	5 55	25	6 51	7 09	31	23	61		
17	73	29.3	+16	58.2	69	27.8	126	+20	40	6 00	6 33	7 01	7 22	28	17 11	64		
18	88	29.3	+16	57.5	83	59.5	127	+19	45	6 06	6 41	7 12	7 39	23	16 56	68		
19	103	29.4		56.8	98	31.3	128	39.6	50	13	51	26	7 58	19	37	74		
20	118	29.4		56.1	113	03.3	130	28.4	52	15	6 56	33	8 08	16	28	77		
21	133	29.5		55.5	127	35.3	130	17.2	54	18	7 01	40	18	13	19	79		
22	148	29.6		54.8	142	07.3	130	+19	56	21	06	47	30	10	16 07	84		
23	163	29.6		54.1	156	39.5	132	+18	58	25	12	7 56	44	5	15 54	88		
24	178	29.7	+16	53.4	171	11.8	133	+18	60 S	6 28	7 19	8 06	8 59	1	15 39	93		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 3 <sup>h</sup> 07.3 <sup>m</sup>		Mag.: -3.8		Mag.: +0.9		Mag.: -2.1		Mag.: +0.8									
	PMG: 13 <sup>h</sup> 14 <sup>m</sup>		PMG: 7 <sup>h</sup> 40 <sup>m</sup>		PMG: 8 <sup>h</sup> 02 <sup>m</sup>		PMG: 2 <sup>h</sup> 28 <sup>m</sup>											
h	g	Dec	h	g	Dec	h	g	Dec	h	g	Dec							
0	313	03.1	161	43.4	+13	20.4	244	59.0	+21	21.4	239	19.5	+21	54.0	322	50.8	-6	31.0
1	328	05.6	176	42.9		19.4	259	59.7		21.7	254	21.5		54.0	337	53.4		31.0
2	343	08.1	191	42.4		18.3	275	00.4		21.9	269	23.5		54.1	352	55.9		31.1
3	358	10.5	206	41.9		17.2	290	01.1		22.2	284	25.5		54.1	7	58.5		31.2
4	13	13.0	121	41.4		16.1	305	01.8		22.5	299	27.5		54.2	23	01.1		31.2
5	28	15.5	236	40.9	+13	15.1	320	02.5	+21	22.8	314	29.5	+21	54.2	38	03.7	-6	31.3
6	43	17.9	251	40.4	+13	14.0	335	03.2	+21	23.1	329	31.5	+21	54.3	53	06.3	-6	31.3
7	58	20.4	266	40.0		12.9	350	03.9		23.4	344	33.5		54.3	68	08.9		31.4
8	73	22.8	281	39.5		11.8	5	04.6		23.6	359	35.5		54.4	83	11.5		31.5
9	88	25.3	296	39.0		10.7	20	05.3		23.9	14	37.5		54.4	98	14.0		31.5
10	103	27.8	311	38.5		09.7	35	05.9		24.2	29	39.5		54.4	113	16.6		31.6
11	118	30.2	326	38.0	+13	08.6	50	06.6	+21	24.5	44	41.5	+21	54.5	128	19.2	-6	31.6
12	133	32.7	341	37.5	+13	07.5	65	07.3	+21	24.8	59	43.5	+21	54.5	143	21.8	-6	31.7
13	148	35.2	356	37.0		06.4	80	08.0		25.0	74	45.5		54.6	158	24.4		31.8
14	163	37.6	11	36.5		05.3	95	08.7		25.3	89	47.5		54.6	173	27.0		31.8
15	178	40.1	26	36.1		04.3	110	09.4		25.6	104	49.5		54.7	188	29.6		31.9
16	193	42.6	41	35.6		03.2	125	10.1		25.9	119	51.5		54.7	203	32.1		31.9
17	208	45.0	56	35.1	+13	02.1	140	10.8	+21	26.2	134	53.5	+21	54.8	218	34.7	-6	32.0
18	223	47.5	71	34.6	+13	01.0	155	11.5	+21	26.4	149	55.5	+21	54.8	233	37.3	-6	32.1
19	238	50.0	86	34.1	+12	59.9	170	12.2		26.7	164	57.5		54.9	248	39.9		32.1
20	253	52.4	101	33.6		58.8	185	12.9		27.0	179	59.5		54.9	263	42.5		32.2
21	268	54.9	116	33.2		57.8	200	13.5		27.3	195	01.5		55.0	278	45.1		32.2
22	283	57.3	131	32.7		56.7	215	14.2		27.5	210	03.5		55.0	293	47.7		32.3
23	298	59.8	146	32.2		55.6	230	14.9		27.8	225	05.5		55.1	308	50.2		32.4
24	314	02.3	161	31.7	+12	54.5	245	15.6	+21	28.1	240	07.5	+21	55.1	323	52.8	-6	32.4
Dif	—		-5		-11		+7		+3		+20		0		+26		-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.0'		Edad: 0.5 <sup>d</sup>				PHE { 4 <sup>h</sup> : 55.0' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 54.7'		R°: 42 <sup>m</sup>					
	PMG: 12 <sup>h</sup> 06.0 <sup>m</sup>		PMG: 12 <sup>h</sup> 59 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Civil	Náutico	Hora	R°	Hora	R°			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	178 29.7	+16 53.4	171 11.8		+18 43.2	115	60 N	20 19	21 16	22 54	4 29 89	20 58 -1				
1	193 29.8	52.7	185 44.1	133	31.7	115	58	20 08	20 59	22 16	4 41 85	49 3				
2	208 29.8	52.1	200 16.6	135	20.1	116	56	19 58	45	21 51	4 51 82	42 6				
3	223 29.9	51.4	214 49.1	135	+18 08.4	117	54	50	33	31	5 01 78	35 9				
4	238 30.0	50.7	229 21.7	136	+17 56.7	117	52	42	22	15	5 09 75	29 11				
5	253 30.0	+16 50.0	243 54.4	137	+17 44.9	118	50	19 35	20 13	21 02	5 16 73	20 23 14				
6	268 30.1	+16 49.3	258 27.2	138	+17 33.1	118	45	19 21	19 54	20 35	5 32 67	20 11 18				
7	283 30.2	48.7	273 00.0	138	21.1	120	40	19 09	39	20 15	44 64	20 01 22				
8	298 30.2	48.0	287 33.0	140	+17 09.1	120	35	18 59	26	19 59	5 55 60	19 53 25				
9	313 30.3	47.3	302 06.0	140	+16 57.1	120	30	50	19 15	46	6 05 56	45 28				
10	328 30.4	46.6	316 39.1	141	45.0	121	20	35	18 58	25	21 51	32 33				
11	343 30.4	+16 45.9	331 12.3	142	+16 32.8	122	10 N	18 22	18 44	19 09	6 35 47	19 20 38				
12	358 30.5	+16 45.2	345 45.5	142	+16 20.6	122	0	18 09	18 31	18 56	6 48 43	19 09 42				
13	13 30.6	44.5	0 18.9	144	+16 08.3	123	10 S	17 57	19	45	7 01 39	18 58 46				
14	28 30.6	43.9	14 52.3	144	+15 55.9	124	20	45	18 08	34	15 35	46 51				
15	43 30.7	43.2	29 25.8	145	43.5	124	30	30	17 55	24	31 29	32 56				
16	58 30.8	42.5	43 59.4	146	31.0	125	35	22	48	19	40 27	24 59				
17	73 30.8	+16 41.8	58 33.0	146	+15 18.5	125	40	17 12	17 41	18 13	7 50 24	18 15 62				
18	88 30.9	+16 41.1	73 06.7	147	+15 05.9	126	45	17 01	17 32	18 08	8 02 20	18 04 67				
19	103 31.0	40.4	87 40.5	148	+14 53.3	126	50	16 48	23	18 01	17 15	17 51 72				
20	118 31.0	39.7	102 14.4	149	40.6	127	52	42	18	17 59	24 12	45 74				
21	133 31.1	39.0	116 48.4	150	27.8	128	54	35	13	56	31 10	38 77				
22	148 31.2	38.4	131 22.4	150	15.1	127	56	27	08	53	40 6	31 80				
23	163 31.2	37.7	145 56.4	150	+14 02.2	129	58	19	17 02	50	8 49 4	22 83				
24	178 31.3	+16 37.0	160 30.6	152	+13 49.3	129	60 S	16 09	16 56	17 46	9 00 -1	17 12 88				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.8		Mag.: +0.9		Mag.: -2.1		Mag.: +0.8	
	3 <sup>h</sup> 03.3 <sup>m</sup>		PMG: 13 <sup>h</sup> 14 <sup>m</sup>		PMG: 7 <sup>h</sup> 39 <sup>m</sup>		PMG: 7 <sup>h</sup> 58 <sup>m</sup>		PMG: 2 <sup>h</sup> 24 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	314 02.3	161 31.7	+12 54.5	245 15.6	+21 28.1	240 07.5	+21 55.1	323 52.8	-6 32.4	
1	329 04.7	176 31.2	53.4	260 16.3	28.4	255 09.6	55.2	338 55.4	32.5	
2	344 07.2	191 30.8	52.3	275 17.0	28.7	270 11.6	55.2	353 58.0	32.5	
3	359 09.7	206 30.3	51.2	290 17.7	28.9	285 13.6	55.3	9 00.6	32.6	
4	14 12.1	221 29.8	50.1	305 18.4	29.2	300 15.6	55.3	24 03.2	32.7	
5	29 14.6	236 29.3	+12 49.1	320 19.1	+21 29.5	315 17.6	+21 55.3	39 05.8	-6 32.7	
6	44 17.1	251 28.8	+12 48.0	335 19.8	+21 29.8	330 19.6	+21 55.4	54 08.4	-6 32.8	
7	59 19.5	266 28.4	46.9	350 20.5	30.0	345 21.6	55.4	69 10.9	32.9	
8	74 22.0	281 27.9	45.8	5 21.2	30.3	0 23.6	55.5	84 13.5	32.9	
9	89 24.5	296 27.4	44.7	20 21.8	30.6	15 25.6	55.5	99 16.1	33.0	
10	104 26.9	311 26.9	43.6	35 22.5	30.8	30 27.6	55.6	114 18.7	33.0	
11	119 29.4	326 26.5	+12 42.5	50 23.2	+21 31.1	45 29.6	+21 55.6	129 21.3	-6 33.1	
12	134 31.8	341 26.0	+12 41.4	65 23.9	+21 31.4	60 31.6	+21 55.7	144 23.9	-6 33.2	
13	149 34.3	356 25.5	40.3	80 24.6	31.7	75 33.6	55.7	159 26.5	33.2	
14	164 36.8	11 25.0	39.2	95 25.3	31.9	90 35.6	55.8	174 29.1	33.3	
15	179 39.2	26 24.6	38.1	110 26.0	32.2	105 37.6	55.8	189 31.7	33.3	
16	194 41.7	41 24.1	37.0	125 26.7	32.5	120 39.6	55.9	204 34.2	33.4	
17	209 44.2	56 23.6	+12 35.9	140 27.4	+21 32.7	135 41.6	+21 55.9	219 36.8	-6 33.5	
18	224 46.6	71 23.1	+12 34.8	155 28.1	+21 33.0	150 43.6	+21 56.0	234 39.4	-6 33.5	
19	239 49.1	86 22.7	33.7	170 28.8	33.3	165 45.7	56.0	249 42.0	33.6	
20	254 51.6	101 22.2	32.6	185 29.5	33.6	180 47.7	56.0	264 44.6	33.7	
21	269 54.0	116 21.7	31.5	200 30.2	33.8	195 49.7	56.1	279 47.2	33.7	
22	284 56.5	131 21.3	30.4	215 30.9	34.1	210 51.7	56.1	294 49.8	33.8	
23	299 58.9	146 20.8	29.3	230 31.6	34.4	225 53.7	56.2	309 52.4	33.8	
24	315 01.4	161 20.3	+12 28.2	245 32.2	+21 34.6	240 55.7	+21 56.2	324 55.0	-6 33.9	

Dif	—	-5	-11	+7	+3	+20	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 14.9'		Edad: 1.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.4'			R <sup>o</sup> : 40 <sup>m</sup>		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 12 <sup>h</sup> 05.9 <sup>m</sup>		PMG: 13 <sup>h</sup> 41 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>			
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m m		h m m	h m m			
0	178 31.3	+ 16 37.0	160 30.6	152	+ 13 49.3	129	1 18	2 57	3 54	5 58 85		20 57	-1			
1	193 31.4	36.3	175 04.8	152	36.4	129	1 56	3 14	4 05	6 06 81		52	2			
2	208 31.5	35.6	189 39.1	153	23.4	130	2 22	28	14	13 78		48	4			
3	223 31.5	34.9	204 13.5	154	+ 13 10.4	130	41	40	23	19 75		44	7			
4	238 31.6	34.2	218 47.9	154	+ 12 57.3	131	2 57	50	30	24 72		40	10			
5	253 31.7	+ 16 33.5	233 22.4	155	+ 12 44.2	131	3 11	3 59	4 37	6 29 70		20 37	11			
6	268 31.7	+ 16 32.8	247 56.9	155	+ 12 31.1	131	3 37	4 18	4 52	6 39 65		20 29	16			
7	283 31.8	32.1	262 31.5	156	17.9	132	3 57	34	5 03	48 61		23	20			
8	298 31.9	31.4	277 06.2	157	+ 12 04.6	133	4 13	46	13	6 55 58		18	23			
9	313 32.0	30.7	291 40.9	157	+ 11 51.3	133	30	26	4 57	7 01 55		13	26			
10	328 32.0	30.0	306 15.7	158	38.0	133	20	4 47	5 14	12 50		20 05	31			
11	343 32.1	+ 16 29.3	320 50.5	158	+ 11 24.7	133	10 N	5 03	5 28	5 50		19 58	35			
12	358 32.2	+ 16 28.6	335 25.4	159	+ 11 11.3	134	0	5 16	5 41	6 02		19 51	40			
13	13 32.2	27.9	350 00.4	160	+ 10 57.9	134	10 S	27	5 53	14		40 36	44			
14	28 32.3	27.2	4 35.4	160	44.4	135	20	38	6 04	27		7 50 32	37			
15	43 32.4	26.6	19 10.5	161	30.9	135	30	48	16	41		8 00 27	28			
16	58 32.5	25.9	33 45.6	161	17.4	135	35	53	23	50		07 24	23			
17	73 32.5	+ 16 25.2	48 20.8	162	+ 10 03.8	136	40	5 58	6 30	6 59		8 14 20	19			
18	88 32.6	+ 16 24.5	62 56.0	162	+ 9 50.3	135	45	6 04	6 39	7 10		8 22 17	19			
19	103 32.7	23.8	77 31.3	163	36.6	137	50	10	48	23		32 12	19			
20	118 32.8	23.1	92 06.6	163	23.0	136	52	12	53	29		36 10	18			
21	133 32.8	22.4	106 42.0	164	+ 9 09.3	137	54	15	6 57	36		41 8	55			
22	148 32.9	21.7	121 17.5	165	+ 8 55.6	137	56	18	7 03	43		46 6	51			
23	163 33.0	21.0	135 52.9	164	41.9	137	58	21	08	7 52		53 2	45			
24	178 33.1	+ 16 20.2	150 28.4	165	+ 8 28.1	138	60 S	6 24	7 15	8 02		8 59 -1	18			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 <sup>h</sup> 59.4 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 15 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 37 <sup>m</sup>		Mag.: -2.1 PMG: 7 <sup>h</sup> 55 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 20 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	315 01.4	161 20.3	+ 12 28.2	245 32.2	+ 21 34.6	240 55.7	+ 21 56.2	324 55.0	- 6 33.9	
1	330 03.9	176 19.8	27.1	260 32.9	34.9	255 57.7	56.3	339 57.6	34.0	
2	345 06.3	191 19.4	26.0	275 33.6	35.2	270 59.7	56.3	355 00.1	34.0	
3	0 08.8	206 18.9	24.9	290 34.3	35.4	286 01.7	56.4	10 02.7	34.1	
4	15 11.3	221 18.4	23.8	305 35.0	35.7	301 03.7	56.4	25 05.3	34.2	
5	30 13.7	236 18.0	+ 12 22.7	320 35.7	+ 21 36.0	316 05.7	+ 21 56.5	40 07.9	- 6 34.2	
6	45 16.2	251 17.5	+ 12 21.6	335 36.4	+ 21 36.2	331 07.7	+ 21 56.5	55 10.5	- 6 34.3	
7	60 18.7	266 17.0	20.5	350 37.1	36.5	346 09.8	56.5	70 13.1	34.3	
8	75 21.1	281 16.6	19.4	5 37.8	36.8	1 11.8	56.6	85 15.7	34.4	
9	90 23.6	296 16.1	18.3	20 38.5	37.0	16 13.8	56.6	100 18.3	34.5	
10	105 26.1	311 15.6	17.2	35 39.2	37.3	31 15.8	56.7	115 20.9	34.5	
11	120 28.5	326 15.2	+ 12 16.1	50 39.9	+ 21 37.6	46 17.8	+ 21 56.7	130 23.5	- 6 34.6	
12	135 31.0	341 14.7	+ 12 15.0	65 40.6	+ 21 37.8	61 19.8	+ 21 56.8	145 26.1	- 6 34.6	
13	150 33.4	356 14.2	13.9	80 41.3	38.1	76 21.8	56.8	160 28.6	34.7	
14	165 35.9	11 13.8	12.7	95 42.0	38.4	91 23.8	56.9	175 31.2	34.8	
15	180 38.4	26 13.3	11.6	110 42.7	38.6	106 25.8	56.9	190 33.8	34.8	
16	195 40.8	41 12.9	10.5	125 43.4	38.9	121 27.8	57.0	205 36.4	34.9	
17	210 43.3	56 12.4	+ 12 09.4	140 44.1	+ 21 39.1	136 29.9	+ 21 57.0	220 39.0	- 6 35.0	
18	225 45.8	71 11.9	+ 12 08.3	155 44.8	+ 21 39.4	151 31.9	+ 21 57.0	235 41.6	- 6 35.0	
19	240 48.2	86 11.5	07.2	170 45.4	39.7	166 33.9	57.1	250 44.2	35.1	
20	255 50.7	101 11.0	06.1	185 46.1	39.9	181 35.9	57.1	265 46.8	35.2	
21	270 53.2	116 10.5	05.0	200 46.8	40.2	196 37.9	57.2	280 49.4	35.2	
22	285 55.6	131 10.1	03.8	215 47.5	40.5	211 39.9	57.2	295 52.0	35.3	
23	300 58.1	146 09.6	02.7	230 48.2	40.7	226 41.9	57.3	310 54.6	35.3	
24	316 00.6	161 09.2	+ 12 01.6	245 48.9	+ 21 41.0	241 43.9	+ 21 57.3	325 57.2	- 6 35.4	

Dif	—	-5	-11	+7	+3	+20	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15.8' PMG: 12 <sup>h</sup> 05.7 <sup>m</sup>		SD: 14.8' Edad: 2.5 <sup>d</sup> PMG: 14 <sup>h</sup> 21 <sup>m</sup> R°: 39 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.2'	Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h m	h m	h m	h m m	h m m	h m m		
0	178 33.1	+16 20.2	150 28.4	166	+8 28.1	137	60 N	20 14	21 09	22 40	7 23 82	20 56	-2				
1	193 33.2	19.5	165 04.0	166	14.4	138	58	20 03	20 53	22 07	27 79	54	2				
2	208 33.2	18.8	179 39.6	166	+8 00.6	139	56	19 54	40	21 44	31 75	52	5				
3	223 33.3	18.1	194 15.3	167	+7 46.7	138	54	46	28	25	34 72	51	7				
4	238 33.4	17.4	208 51.0	167	32.9	139	52	39	18	21 10	36 71	50	8				
5	253 33.5	+16 16.7	223 26.7	167	+7 19.0	139	50	19 32	20 09	20 57	7 39 68	20 48	11				
6	268 33.5	+16 16.0	238 02.5	168	+7 05.1	139	45	19 18	19 51	20 32	7 44 64	20 45	16				
7	283 33.6	15.3	252 38.3	168	+6 51.2	139	40	19 06	36	20 12	49 59	43	19				
8	298 33.7	14.6	267 14.1	168	37.3	139	35	18 57	24	19 57	53 56	41	22				
9	313 33.8	13.9	281 50.0	169	23.4	139	30	18 48	19 14	44	7 56 53	39	25				
10	328 33.9	13.2	296 25.9	169	+6 09.4	140	20	34	18 57	24	8 02 48	36	30				
11	343 33.9	+16 12.5	311 01.8	169	+5 55.4	140	10 N	18 21	18 43	19 09	8 07 43	20 33	35				
12	358 34.0	+16 11.8	325 37.8	170	+5 41.4	140	0	18 09	18 31	18 56	8 12 39	20 31	38				
13	13 34.1	11.1	340 13.8	170	27.4	140	10 S	17 58	19	45	16 35	28	43				
14	28 34.2	10.4	354 49.9	171	+5 13.4	140	20	45	18 08	34	22 30	25	48				
15	43 34.3	09.7	9 26.0	171	+4 59.3	141	30	31	17 56	25	27 26	22	52				
16	58 34.3	09.0	24 02.1	171	45.3	140	35	23	50	20	31 22	20	55				
17	73 34.4	+16 08.2	38 38.2	171	+4 31.2	141	40	17 14	17 43	18 15	8 34 20	20 18	59				
18	88 34.5	+16 07.5	53 14.3	171	+4 17.2	140	45	17 04	17 35	18 10	8 39 15	20 15	63				
19	103 34.6	06.8	67 50.5	172	+4 03.1	141	50	16 51	25	04	44 11	12	68				
20	118 34.7	06.1	82 26.7	172	+3 49.0	141	52	45	21	18 01	46 9	10	71				
21	133 34.7	05.4	97 03.0	173	34.9	141	54	38	16	17 59	49 6	09	72				
22	148 34.8	04.7	111 39.2	172	20.8	141	56	31	11	56	52 4	07	75				
23	163 34.9	04.0	126 15.5	173	+3 06.6	142	58	23	06	53	55 1	05	78				
24	178 35.0	+16 03.3	140 51.8	173	+2 52.5	141	60 S	16 13	17 00	17 50	8 58 -1	20 03	81				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 2 <sup>h</sup> 55.5 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 16 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 36 <sup>m</sup>		Mag.: -2.1 PMG: 7 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 16 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
0	316 00.6	161 09.2	+12 01.6	245 48.9	+21 41.0	241 43.9	+21 57.3	325 57.2	-6 35.4								
1	331 03.0	176 08.7	+12 00.5	260 49.6	41.2	256 46.0	57.4	340 59.8	35.5								
2	346 05.5	191 08.2	+11 59.4	275 50.3	41.5	271 48.0	57.4	356 02.3	35.5								
3	1 07.9	206 07.8	58.3	290 51.0	41.8	286 50.0	57.5	11 04.9	35.6								
4	16 10.4	221 07.3	57.2	305 51.7	42.0	301 52.0	57.5	26 07.5	35.7								
5	31 12.9	236 06.9	+11 56.0	320 52.4	+21 42.3	316 54.0	+21 57.5	41 10.1	-6 35.7								
6	46 15.3	251 06.4	+11 54.9	335 53.1	+21 42.5	331 56.0	+21 57.6	56 12.7	-6 35.8								
7	61 17.8	266 06.0	53.8	350 53.8	42.8	346 58.0	57.6	71 15.3	35.8								
8	76 20.3	281 05.5	52.7	5 54.5	43.0	2 00.1	57.7	86 17.9	35.9								
9	91 22.7	296 05.0	51.6	20 55.2	43.3	17 02.1	57.7	101 20.5	36.0								
10	106 25.2	311 04.6	50.4	35 55.9	43.6	32 04.1	57.8	116 23.1	36.0								
11	121 27.7	326 04.1	+11 49.3	50 56.6	+21 43.8	47 06.1	+21 57.8	131 25.7	-6 36.1								
12	136 30.1	341 03.7	+11 48.2	65 57.3	+21 44.1	62 08.1	+21 57.9	146 28.3	-6 36.2								
13	151 32.6	356 03.2	47.1	80 58.0	44.3	77 10.1	57.9	161 30.9	36.2								
14	166 35.0	11 02.8	45.9	95 58.7	44.6	92 12.1	57.9	176 33.5	36.3								
15	181 37.5	26 02.3	44.8	110 59.4	44.8	107 14.2	58.0	191 36.1	36.4								
16	196 40.0	41 01.9	43.7	126 00.1	45.1	122 16.2	58.0	206 38.7	36.4								
17	211 42.4	56 01.4	+11 42.6	141 00.8	+21 45.4	137 18.2	+21 58.1	221 41.3	-6 36.5								
18	226 44.9	71 01.0	+11 41.5	156 01.5	+21 45.6	152 20.2	+21 58.1	236 43.8	-6 36.5								
19	241 47.4	86 00.5	40.3	171 02.2	45.9	167 22.2	58.2	251 46.4	36.6								
20	256 49.8	101 00.1	39.2	186 02.9	46.1	182 24.2	58.2	266 49.0	36.7								
21	271 52.3	115 59.6	38.1	201 03.6	46.4	197 26.3	58.3	281 51.6	36.7								
22	286 54.8	130 59.2	36.9	216 04.3	46.6	212 28.3	58.3	296 54.2	36.8								
23	301 57.2	145 58.7	35.8	231 05.0	46.9	227 30.3	58.3	311 56.8	36.9								
24	316 59.7	160 58.3	+11 34.7	246 05.7	+21 47.1	242 32.3	+21 58.4	326 59.4	-6 36.9								
Dif	—	-5	-11	+7	+3	+20	0	+26	-1								

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.8'		SD: 14.8'					PHE	R°: 39m		R°		R°		
	PMG: 12 <sup>h</sup> 05.6 <sup>m</sup>		PMG: 15 <sup>h</sup> 00 <sup>m</sup>						4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1'		Náutico		Civil		Hora
hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m	h m	h m	h m m	h m m	h m m	h m m			
0	178 35.0	+ 16 03.3	140 51.8		+ 2 52.5	141	60 N	1 32	3 03	3 58	8 45 82	20 54 -1			
1	193 35.1	02.6	155 28.1	173	38.4	141	58	2 05	19	4 09	46 78	56 1			
2	208 35.2	01.8	170 04.4	173	24.3	141	56	28	32	18	46 75	57 4			
3	223 35.2	01.1	184 40.8	174	+ 2 10.1	142	54	2 47	44	26	46 73	58 6			
4	238 35.3	+ 16 00.4	199 17.1	173	+ 1 56.0	141	52	3 02	3 54	33	47 70	58 9			
5	253 35.4	+ 15 59.7	213 53.5	174	+ 1 41.8	142	50	3 15	4 03	4 40	8 47 68	20 59 11			
6	268 35.5	+ 15 59.0	228 29.9	174	+ 1 27.7	141	45	3 40	4 21	4 54	8 48 63	21 01 15			
7	283 35.6	58.3	243 06.3	174	+ 1 13.5	142	40	3 59	36	5 05	48 59	02 19			
8	298 35.7	57.5	257 42.7	174	+ 0 59.4	141	35	4 15	48	15	49 55	03 23			
9	313 35.7	56.8	272 19.1	174	45.2	142	30	4 27	4 58	23	49 53	04 26			
10	328 35.8	56.1	286 55.5	174	31.0	142	20	4 47	5 15	38	50 47	06 31			
11	343 35.9	+ 15 55.4	301 32.0	175	+ 0 16.9	141	10 N	5 03	5 29	5 51	8 50 43	21 08 35			
12	358 36.0	+ 15 54.7	316 08.4	174	+ 0 02.7	142	0	5 16	5 41	6 02	8 51 39	21 09 39			
13	13 36.1	54.0	330 44.9	175	- 0 11.4	141	10 S	27	5 52	14	51 35	11 43			
14	28 36.2	53.2	345 21.3	174	25.5	141	20	37	6 03	26	52 30	13 47			
15	43 36.3	52.5	359 57.8	175	39.7	142	30	46	15	40	53 25	14 53			
16	58 36.3	51.8	14 34.2	174	- 0 53.8	141	35	51	21	48	53 22	15 56			
17	73 36.4	+ 15 51.1	29 10.7	175	- 1 08.0	142	40	5 56	6 28	6 57	8 54 19	21 17 59			
18	88 36.5	+ 15 50.4	43 47.1	174	- 1 22.1	141	45	6 01	6 36	7 07	8 54 15	21 18 63			
19	103 36.6	49.6	58 23.6	175	36.2	141	50	07	45	20	55 11	20 68			
20	118 36.7	48.9	73 00.1	175	- 1 50.3	141	52	09	49	26	55 9	21 70			
21	133 36.8	48.2	87 36.5	174	- 2 04.4	141	54	12	54	32	55 7	21 73			
22	148 36.9	47.5	102 13.0	175	18.5	141	56	14	6 59	39	56 4	22 76			
23	163 37.0	46.7	116 49.4	174	32.6	141	58	17	7 04	47	56 2	23 79			
24	178 37.1	+ 15 46.0	131 25.8	174	- 2 46.7	141	60 S	6 20	7 10	7 56	8 57 -2	21 24 82			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG		Mag.: -3.8		Mag.: +0.9		Mag.: -2.2		Mag.: +0.8						
	2 <sup>h</sup> 51.6 <sup>m</sup>		PMG: 13 <sup>h</sup> 17 <sup>m</sup>		PMG: 7 <sup>h</sup> 35 <sup>m</sup>		PMG: 7 <sup>h</sup> 49 <sup>m</sup>		PMG: 2 <sup>h</sup> 12 <sup>m</sup>						
hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	316 59.7	160 58.3	+ 11 34.7	246 05.7	+ 21 47.1	242 32.3	+ 21 58.4	326 59.4	- 6 36.9						
1	332 02.2	175 57.8	33.6	261 06.4	47.4	257 34.3	58.4	342 02.0	37.0						
2	347 04.6	190 57.4	32.4	276 07.1	47.6	272 36.3	58.5	357 04.6	37.1						
3	2 07.1	205 56.9	31.3	291 07.8	47.9	287 38.4	58.5	12 07.2	37.1						
4	17 09.5	220 56.5	30.2	306 08.5	48.1	302 40.4	58.6	27 09.8	37.2						
5	32 12.0	235 56.0	+ 11 29.0	321 09.2	+ 21 48.4	317 42.4	+ 21 58.6	42 12.4	- 6 37.2						
6	47 14.5	250 55.6	+ 11 27.9	336 09.9	+ 21 48.6	332 44.4	+ 21 58.6	57 15.0	- 6 37.3						
7	62 16.9	265 55.1	26.8	351 10.6	48.9	347 46.4	58.7	72 17.6	37.4						
8	77 19.4	280 54.7	25.7	6 11.3	49.1	2 48.5	58.7	87 20.2	37.4						
9	92 21.9	295 54.2	24.5	21 12.0	49.4	17 50.5	58.8	102 22.8	37.5						
10	107 24.3	310 53.8	23.4	36 12.7	49.6	32 52.5	58.8	117 25.4	37.6						
11	122 26.8	325 53.3	+ 11 22.3	51 13.3	+ 21 49.9	47 54.5	+ 21 58.9	132 28.0	- 6 37.6						
12	137 29.3	340 52.9	+ 11 21.1	66 14.0	+ 21 50.1	62 56.5	+ 21 58.9	147 30.6	- 6 37.7						
13	152 31.7	355 52.5	20.0	81 14.7	50.4	77 58.6	59.0	162 33.2	37.8						
14	167 34.2	10 52.0	18.8	96 15.4	50.6	93 00.6	59.0	177 35.8	37.8						
15	182 36.6	25 51.6	17.7	111 16.1	50.9	108 02.6	59.0	192 38.4	37.9						
16	197 39.1	40 51.1	16.6	126 16.8	51.1	123 04.6	59.1	207 41.0	38.0						
17	212 41.6	55 50.7	+ 11 15.4	141 17.5	+ 21 51.4	138 06.6	+ 21 59.1	222 43.6	- 6 38.0						
18	227 44.0	70 50.2	+ 11 14.3	156 18.2	+ 21 51.6	153 08.7	+ 21 59.2	237 46.2	- 6 38.1						
19	242 46.5	85 49.8	13.2	171 18.9	51.9	168 10.7	59.2	252 48.8	38.2						
20	257 49.0	100 49.4	12.0	186 19.7	52.1	183 12.7	59.3	267 51.4	38.2						
21	272 51.4	115 48.9	10.9	201 20.4	52.4	198 14.7	59.3	282 54.0	38.3						
22	287 53.9	130 48.5	09.7	216 21.1	52.6	213 16.7	59.3	297 56.5	38.3						
23	302 56.4	145 48.0	08.6	231 21.8	52.8	228 18.8	59.4	312 59.1	38.4						
24	317 58.8	160 47.6	+ 11 07.5	246 22.5	+ 21 53.1	243 20.8	+ 21 59.4	328 01.7	- 6 38.5						
Dif	—	-4	-11	+7	+2	+20	0	+26	-1						



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 15.8' PMG: 12 <sup>h</sup> 05.5 <sup>m</sup>		SD: 14.7' Edad: 4.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1' PMG: 15 <sup>h</sup> 39 <sup>m</sup> R°: 40 <sup>m</sup>						hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil		Náutico		Hora R°	Hora R°			
	h	m	h	m	h	m									h	m	h	m			h	m	
0	178	37.1	+15	46.0	131	25.8	-2	46.7	140	60 N	20	08	21	02	22	28	10	07	83	20	53	-1	
1	193	37.1		45.3	146	02.3	175	-3	00.7	140	58	19	58	20	47	21	59	04	79	20	57	2	
2	208	37.2		44.6	160	38.7	174		14.8	141	56		50		35		37	10	01	76	21	01	5
3	223	37.3		43.8	175	15.1	174		28.8	140	54		42		24		19	9	59	73		04	8
4	238	37.4		43.1	189	51.5	174		42.9	141	52		35		14		21	05	57	71		07	10
5	253	37.5	+15	42.4	204	27.9	174	-3	56.9	140	50	19	29	20	05	20	53	9	55	68	21	10	12
6	268	37.6	+15	41.7	219	04.3	174	-4	10.9	140	45	19	15	19	48	20	28	9	51	63	21	16	17
7	283	37.7		40.9	233	40.6	173		24.9	140	40	19	04		33	20	09	47	60		21	21	
8	298	37.8		40.2	248	17.0	174		38.8	139	35	18	55	22	19	54	44	56		26	24		
9	313	37.9		39.5	262	53.3	173	-4	52.8	140	30	46	19	12	42	42	53	30	27		30	27	
10	328	38.0		38.8	277	29.6	173	-5	06.7	139	20	32	18	55	23	37	48		37	48		37	31
11	343	38.0	+15	38.0	292	05.9	173	-5	20.6	139	10 N	18	20	18	42	19	08	9	33	44	21	43	36
12	358	38.1	+15	37.3	306	42.2	173	-5	34.5	139	0	18	09	18	30	18	55	9	30	39	21	48	41
13	13	38.2		36.6	321	18.4	172	-5	48.4	139	10 S	17	58		19	45	26	35	21	54	45		
14	28	38.3		35.8	335	54.7	173	-6	02.3	139	20	46	18	09	35	22	31	22	00	49			
15	43	38.4		35.1	350	30.9	172		16.1	138	30	32	17	57	26	18	26		07	54			
16	58	38.5		34.4	5	07.0	171		30.0	139	35	25		51	21	15	24		11	57			
17	73	38.6	+15	33.7	19	43.2	172	-6	43.8	138	40	17	16	17	44	18	16	9	13	20	22	16	60
18	88	38.7	+15	32.9	34	19.3	171	-6	57.5	137	45	17	06	17	37	18	12	9	09	17	22	21	65
19	103	38.8		32.2	48	55.4	171	-7	11.3	138	50	16	54		28	06		06	11		28	69	
20	118	38.9		31.5	63	31.5	171		25.0	137	52	48		24	04		04	9		31	71		
21	133	39.0		30.7	78	07.5	170		38.7	137	54	42		20	18	02		02	7		34	74	
22	148	39.1		30.0	92	43.6	171	-7	52.4	137	56	35		15	17	59	9	00	5		38	77	
23	163	39.2		29.3	107	19.5	169	-8	06.1	137	58	27		10	57	8	58	2		42	80		
24	178	39.3	+15	28.5	121	55.5	170	-8	19.7	136	60 S	16	18	17	04	17	54	8	55	-1	22	46	85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 2 <sup>h</sup> 47.6 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 17 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 34 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.8 PMG: 2 <sup>h</sup> 08 <sup>m</sup>										
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	° /	° /	° /	° /	° /	° /	° /	° /	° /										
0	317	58.8	160	47.6	+11	07.5	246	22.5	+21	53.1	243	20.8	+21	59.4	328	01.7	-6	38.5	
1	333	01.3	175	47.2		06.3	261	23.2		53.3	258	22.8		59.5	343	04.3		38.5	
2	348	03.8	190	46.7		05.2	276	23.9		53.6	273	24.8		59.5	358	06.9		38.6	
3	3	06.2	205	46.3		04.0	291	24.6		53.8	288	26.9		59.6	13	09.5		38.7	
4	18	08.7	220	45.8		02.9	306	25.3		54.1	303	28.9		59.6	28	12.1		38.7	
5	33	11.1	235	45.4	+11	01.8	321	26.0	+21	54.3	318	30.9	+21	59.6	43	14.7	-6	38.8	
6	48	13.6	250	45.0	+11	00.6	336	26.7	+21	54.5	333	32.9	+21	59.7	58	17.3	-6	38.9	
7	63	16.1	265	44.5	+10	59.5	351	27.4		54.8	348	34.9		59.7	73	19.9		38.9	
8	78	18.5	280	44.1		58.3	6	28.1		55.0	3	37.0		59.8	88	22.5		39.0	
9	93	21.0	295	43.7		57.2	21	28.8		55.3	18	39.0		59.8	103	25.1		39.1	
10	108	23.5	310	43.2		56.0	36	29.5		55.5	33	41.0		59.9	118	27.7		39.1	
11	123	25.9	325	42.8	+10	54.9	51	30.2	+21	55.8	48	43.0	+21	59.9	133	30.3	-6	39.2	
12	138	28.4	340	42.4	+10	53.7	66	30.9	+21	56.0	63	45.1	+21	59.9	148	32.9	-6	39.3	
13	153	30.9	355	41.9		52.6	81	31.6		56.2	78	47.1	+22	00.0	163	35.5		39.3	
14	168	33.3	10	41.5		51.5	96	32.3		56.5	93	49.1		00.0	178	38.1		39.4	
15	183	35.8	25	41.1		50.3	111	33.0		56.7	108	51.1		00.1	193	40.7		39.5	
16	198	38.2	40	40.6		49.2	126	33.7		57.0	123	53.2		00.1	208	43.3		39.5	
17	213	40.7	55	40.2	+10	48.0	141	34.4	+21	57.2	138	55.2	+22	00.1	223	45.9	-6	39.6	
18	228	43.2	70	39.8	+10	46.9	156	35.1	+21	57.4	153	57.2	+22	00.2	238	48.5	-6	39.6	
19	243	45.6	85	39.3		45.7	171	35.8		57.7	168	59.2		00.2	253	51.1		39.7	
20	258	48.1	100	38.9		44.6	186	36.5		57.9	184	01.3		00.3	268	53.7		39.8	
21	273	50.6	115	38.5		43.4	201	37.2		58.1	199	03.3		00.3	283	56.3		39.8	
22	288	53.0	130	38.0		42.3	216	37.9		58.4	214	05.3		00.4	298	58.9		39.9	
23	303	55.5	145	37.6		41.1	231	38.6		58.6	229	07.4		00.4	314	01.5		40.0	
24	318	58.0	160	37.2	+10	40.0	246	39.3	+21	58.9	244	09.4	+22	00.4	329	04.1	-6	40.0	
Dif	—		-4		-11		+7		+2		+20		0		+26		-1		

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 14.8'		Edad: 5.5 <sup>d</sup>			R°: 42 <sup>m</sup>			PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.3'		Hora R°		Hora R°	
	PMG: 12 <sup>h</sup> 05.3 <sup>m</sup>		PMG: 16 <sup>h</sup> 19 <sup>m</sup>		R°: 42 <sup>m</sup>								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora R°	Hora R°				
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 39.3	+15 28.5	121 55.5	-	8 19.7	136	60 N	1 43	3 09	4 03	11 30 86	20 52 -1				
1	193 39.4	27.8	136 31.4	169	33.3	136	58	2 13	24	13	23 83	20 59 4				
2	208 39.5	27.1	151 07.3	169	- 8 46.9	136	56	3 35	37	22	17 79	21 06 7				
3	223 39.6	26.3	165 43.1	168	- 9 00.4	135	54	2 52	48	30	12 76	12 10				
4	238 39.6	25.6	180 18.9	168	13.9	135	52	3 06	3 58	37	08 73	17 13				
5	253 39.7	+15 24.9	194 54.7	168	- 9 27.4	135	50	3 19	4 06	4 43	11 03 71	21 22 15				
6	268 39.8	+15 24.1	209 30.4	167	- 9 40.9	135	45	3 43	4 24	4 56	10 54 66	21 33 20				
7	283 39.9	23.4	224 06.1	167	- 9 54.3	134	40	4 02	38	5 07	47 61	42 24				
8	298 40.0	22.6	238 41.7	166	-10 07.7	134	35	17	49	17	40 58	50 27				
9	313 40.1	21.9	253 17.3	166	21.1	134	30	29	4 59	25	35 55	21 57 29				
10	328 40.2	21.2	267 52.9	166	34.4	133	20	4 48	5 16	39	25 50	22 08 35				
11	343 40.3	+15 20.4	282 28.4	165	-10 47.7	133	10 N	5 03	5 29	5 51	10 17 45	22 19 39				
12	358 40.4	+15 19.7	297 03.8	164	-11 00.9	132	0	5 16	5 40	6 02	10 09 41	22 29 42				
13	13 40.5	18.9	311 39.2	164	14.1	132	10 S	26	5 51	13	10 11 38	39 46				
14	28 40.6	18.2	326 14.6	164	27.3	132	20	36	6 02	25	9 53 33	22 49 51				
15	43 40.7	17.5	340 49.9	163	40.5	132	30	45	13	38	44 28	23 01 56				
16	58 40.8	16.7	355 25.2	163	-11 53.6	131	35	49	19	46	39 25	08 59				
17	73 40.9	+15 16.0	10 00.4	162	-12 06.6	130	40	5 54	6 26	6 54	9 33 22	23 16 63				
18	88 41.0	+15 15.2	24 35.5	161	-12 19.7	131	45	5 59	6 33	7 04	9 26 18	23 26 66				
19	103 41.1	14.5	39 10.6	161	32.6	129	50	6 04	42	16	17 14	37 72				
20	118 41.2	13.8	53 45.7	161	45.6	130	52	06	46	22	13 12	42 75				
21	133 41.3	13.0	68 20.7	160	-12 58.5	129	54	08	50	28	09 9	48 77				
22	148 41.4	12.3	82 55.6	159	-13 11.3	128	56	11	6 55	35	05 6	23 55 80				
23	163 41.5	11.5	97 30.5	159	24.2	129	58	13	7 00	43	9 00 2	** ** *	** ** *	** ** *		
24	178 41.6	+15 10.8	112 05.3	158	-13 36.9	127	60 S	6 16	7 06	7 51	8 54 -1	** ** *	** ** *	** ** *		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG		Mag.: -3.8		Mag.: +0.9		Mag.: -2.2		Mag.: +0.7							
	2 <sup>h</sup> 43.7 <sup>m</sup>		PMG: 13 <sup>h</sup> 18 <sup>m</sup>		PMG: 7 <sup>h</sup> 33 <sup>m</sup>		PMG: 7 <sup>h</sup> 42 <sup>m</sup>		PMG: 2 <sup>h</sup> 03 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	318 58.0	160 37.2	+10 40.0	246 39.3	+21 58.9	244 09.4	+22 00.4	329 04.1	-6 40.0							
1	334 00.4	175 36.7	38.8	261 40.0	59.1	259 11.4	00.5	344 06.7	40.1							
2	349 02.9	190 36.3	37.6	276 40.7	59.3	274 13.4	00.5	359 09.3	40.2							
3	4 05.4	205 35.9	36.5	291 41.4	59.6	289 15.5	00.6	14 11.9	40.2							
4	19 07.8	220 35.5	35.3	306 42.1	+21 59.8	304 17.5	00.6	29 14.5	40.3							
5	34 10.3	235 35.0	+10 34.2	321 42.8	+22 00.0	319 19.5	+22 00.7	44 17.1	-6 40.4							
6	49 12.7	250 34.6	+10 33.0	336 43.5	+22 00.3	334 21.5	+22 00.7	59 19.7	-6 40.4							
7	64 15.2	265 34.2	31.9	351 44.2	00.5	349 23.6	00.7	74 22.3	40.5							
8	79 17.7	280 33.7	30.7	6 44.9	00.7	4 25.6	00.8	89 24.9	40.6							
9	94 20.1	295 33.3	29.6	21 45.6	01.0	19 27.6	00.8	104 27.5	40.6							
10	109 22.6	310 32.9	28.4	36 46.3	01.2	34 29.7	00.9	119 30.1	40.7							
11	124 25.1	325 32.5	+10 27.2	51 47.1	+22 01.4	49 31.7	+22 00.9	134 32.7	-6 40.8							
12	139 27.5	340 32.0	+10 26.1	66 47.8	+22 01.7	64 33.7	+22 00.9	149 35.3	-6 40.8							
13	154 30.0	355 31.6	24.9	81 48.5	01.9	79 35.7	01.0	164 38.0	40.9							
14	169 32.5	10 31.2	23.8	96 49.2	02.1	94 37.8	01.0	179 40.6	41.0							
15	184 34.9	25 30.8	22.6	111 49.9	02.4	109 39.8	01.1	194 43.2	41.0							
16	199 37.4	40 30.3	21.5	126 50.6	02.6	124 41.8	01.1	209 45.8	41.1							
17	214 39.9	55 29.9	+10 20.3	141 51.3	+22 02.8	139 43.9	+22 01.1	224 48.4	-6 41.2							
18	229 42.3	70 29.5	+10 19.1	156 52.0	+22 03.1	154 45.9	+22 01.2	239 51.0	-6 41.2							
19	244 44.8	85 29.1	18.0	171 52.7	03.3	169 47.9	01.2	254 53.6	41.3							
20	259 47.2	100 28.7	16.8	186 53.4	03.5	184 50.0	01.3	269 56.2	41.4							
21	274 49.7	115 28.2	15.6	201 54.1	03.7	199 52.0	01.3	284 58.8	41.4							
22	289 52.2	130 27.8	14.5	216 54.8	04.0	214 54.0	01.4	300 01.4	41.5							
23	304 54.6	145 27.4	13.3	231 55.5	04.2	229 56.1	01.4	315 04.0	41.6							
24	319 57.1	160 27.0	+10 12.2	246 56.2	+22 04.4	244 58.1	+22 01.4	330 06.6	-6 41.6							
Dif	—	-4	-12	+7	+2	+20	0	+26	-1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 05.1 <sup>m</sup>		SD: 14.8' Edad: 6.5 <sup>d</sup> PMG: 17 <sup>h</sup> 01 <sup>m</sup> R°: 45 <sup>m</sup>						PHE $\begin{cases} 4^h: 54.4' \\ 12^h: 54.6' \\ 20^h: 54.7' \end{cases}$		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 41.6	+ 15 10.8	112 05.3		- 13 36.9	127	60 N	20 03	20 56	22 17	12 56	93	20 51	1		
1	193 41.7	10.0	126 40.0	157	- 13 49.6	127	58	19 53	41	21 50	46 86	21 03	6			
2	208 41.8	09.3	141 14.7	157	- 14 02.3	127	56	45	29	30	36 83	13	10			
3	223 41.9	08.6	155 49.4	157	15.0	127	54	38	19	14	28 79	22	13			
4	238 42.0	07.8	170 23.9	155	27.5	125	52	31	10	21 00	21 75	30	16			
5	253 42.1	+ 15 07.1	184 58.4	155	- 14 40.1	126	50	19 25	20 01	20 48	12 14	73	21 37	19		
6	268 42.2	+ 15 06.3	199 32.8	154	- 14 52.5	124	45	19 12	19 44	20 24	12 00	68	21 53	24		
7	283 42.3	05.6	214 07.2	154	- 15 05.0	125	40	19 01	31	20 06	11 48	64	22 06	28		
8	298 42.4	04.8	228 41.5	153	17.4	124	35	18 52	19	19 52	38 61	17	31			
9	313 42.5	04.1	243 15.7	152	29.7	123	30	45	19 10	40	30 57	26	34			
10	328 42.6	03.3	257 49.9	152	42.0	123	20	31	18 54	21	15 53	43	39			
11	343 42.8	+ 15 02.6	272 24.0	151	- 15 54.2	122	10 N	18 19	18 41	19 07	11 02	49	22 58	42		
12	358 42.9	+ 15 01.8	286 58.0	150	- 16 06.3	121	0	18 09	18 30	18 55	10 50	45	23 11	47		
13	13 43.0	01.1	301 31.9	149	18.4	121	10 S	17 58	19	45	39 40	25	50			
14	28 43.1	+ 15 00.3	316 05.8	149	30.5	121	20	46	18 09	35	26 37	40	54			
15	43 43.2	+ 14 59.6	330 39.6	148	42.5	120	30	34	17 58	27	12 32	23 57	59			
16	58 43.3	58.8	345 13.3	147	- 16 54.4	119	35	26	52	22	10 04	29	***	***		
17	73 43.4	+ 14 58.1	359 46.9	146	- 17 06.3	119	40	17 18	17 46	18 18	9 55	25	***	***		
18	88 43.5	+ 14 57.3	14 20.4	145	- 17 18.1	118	45	17 08	17 39	18 14	9 44	21	***	***		
19	103 43.6	56.6	28 53.9	145	29.9	118	50	16 56	31	09	31 17	***	***	***		
20	118 43.7	55.8	43 27.3	144	41.5	116	52	51	27	07	25 14	***	***	***		
21	133 43.8	55.1	58 00.6	143	- 17 53.2	117	54	45	23	05	18 12	***	***	***		
22	148 43.9	54.3	72 33.9	143	- 18 04.7	115	56	38	18	03	11 8	***	***	***		
23	163 44.0	53.6	87 07.0	141	16.2	115	58	31	13	18 00	9 02	5	0 02	84		
24	178 44.1	+ 14 52.8	101 40.1	141	- 18 27.6	114	60 S	16 22	17 08	17 58	8 53	0	0 11	89		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 2 <sup>h</sup> 39.8 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.9 PMG: 7 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 59 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	319 57.1	160 27.0	+ 10 12.2	246 56.2	+ 22 04.4	244 58.1	+ 22 01.4	330 06.6	- 6 41.6							
1	334 59.6	175 26.6	11.0	261 56.9	04.7	260 00.1	01.5	345 09.2	41.7							
2	350 02.0	190 26.1	09.8	276 57.6	04.9	275 02.2	01.5	0 11.8	41.8							
3	5 04.5	205 25.7	08.7	291 58.3	05.1	290 04.2	01.6	15 14.4	41.8							
4	20 07.0	220 25.3	07.5	306 59.1	05.3	305 06.2	01.6	30 17.0	41.9							
5	35 09.4	235 24.9	+ 10 06.3	321 59.8	+ 22 05.6	320 08.3	+ 22 01.6	45 19.6	- 6 42.0							
6	50 11.9	250 24.5	+ 10 05.2	337 00.5	+ 22 05.8	335 10.3	+ 22 01.7	60 22.2	- 6 42.0							
7	65 14.3	265 24.0	04.0	352 01.2	06.0	350 12.3	01.7	75 24.8	42.1							
8	80 16.8	280 23.6	02.8	7 01.9	06.3	5 14.4	01.8	90 27.4	42.2							
9	95 19.3	295 23.2	01.7	22 02.6	06.5	20 16.4	01.8	105 30.0	42.2							
10	110 21.7	310 22.8	+ 10 00.5	37 03.3	06.7	35 18.4	01.8	120 32.6	42.3							
11	125 24.2	325 22.4	+ 9 59.3	52 04.0	+ 22 06.9	50 20.5	+ 22 01.9	135 35.2	- 6 42.4							
12	140 26.7	340 22.0	+ 9 58.2	67 04.7	+ 22 07.2	65 22.5	+ 22 01.9	150 37.8	- 6 42.4							
13	155 29.1	355 21.5	57.0	82 05.4	07.4	80 24.5	02.0	165 40.4	42.5							
14	170 31.6	10 21.1	55.8	97 06.1	07.6	95 26.6	02.0	180 43.0	42.6							
15	185 34.1	25 20.7	54.6	112 06.8	07.8	110 28.6	02.0	195 45.6	42.6							
16	200 36.5	40 20.3	53.5	127 07.5	08.1	125 30.6	02.1	210 48.2	42.7							
17	215 39.0	55 19.9	+ 9 52.3	142 08.2	+ 22 08.3	140 32.7	+ 22 02.1	225 50.8	- 6 42.8							
18	230 41.5	70 19.5	+ 9 51.1	157 09.0	+ 22 08.5	155 34.7	+ 22 02.2	240 53.5	- 6 42.8							
19	245 43.9	85 19.1	50.0	172 09.7	08.7	170 36.7	02.2	255 56.1	42.9							
20	260 46.4	100 18.6	48.8	187 10.4	08.9	185 38.8	02.2	270 58.7	43.0							
21	275 48.8	115 18.2	47.6	202 11.1	09.2	200 40.8	02.3	286 01.3	43.0							
22	290 51.3	130 17.8	46.4	217 11.8	09.4	215 42.8	02.3	301 03.9	43.1							
23	305 53.8	145 17.4	45.3	232 12.5	09.6	230 44.9	02.4	316 06.5	43.2							
24	320 56.2	160 17.0	+ 9 44.1	247 13.2	+ 22 09.8	245 46.9	+ 22 02.4	331 09.1	- 6 43.2							
Dif	—	-4	-12	+7	+2	+20	0	+26	-1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 14.9'		Edad: 7.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.2'			PMG: 17 <sup>h</sup> 46 <sup>m</sup>		R°: 50 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	178 44.1	+14 52.8	101 40.1		-18 27.6		60 N	1 54	3 15	4 08	14 29 98	20 52 3				
1	193 44.2	52.0	116 13.0 <sup>139</sup>		39.0	114	58	2 21	29	18	14 12 91	21 09 11				
2	208 44.3	51.3	130 45.9 <sup>139</sup>		-18 50.3	113	56	41	42	26	13 59 85	23 16				
3	223 44.5	50.5	145 18.7 <sup>138</sup>		-19 01.5	112	54	2 57	3 52	33	47 81	35 21				
4	238 44.6	49.8	159 51.4 <sup>137</sup>		12.7	112	52	3 11	4 01	40	36 78	46 24				
5	253 44.7	+14 49.0	174 24.1 <sup>137</sup>		-19 23.7	110	50	3 23	4 09	4 46	13 27 75	21 56 26				
6	268 44.8	+14 48.3	188 56.6 <sup>135</sup>		-19 34.7	110	45	3 46	4 26	4 59	13 08 69	22 17 31				
7	283 44.9	47.5	203 29.0 <sup>134</sup>		45.7	110	40	4 04	40	5 09	12 52 66	34 35				
8	298 45.0	46.8	218 01.4 <sup>134</sup>		-19 56.5	108	35	19	4 51	18	39 62	22 48 38				
9	313 45.1	46.0	232 33.7 <sup>133</sup>		-20 07.3	108	30	30	5 01	26	27 60	23 00 41				
10	328 45.2	45.2	247 05.8 <sup>131</sup>		18.0	107	20	4 49	16	39	12 08 55	22 44				
11	343 45.3	+14 44.5	261 37.9 <sup>131</sup>		-20 28.6	106	10 N	5 04	5 29	5 51	11 51 52	23 40 48				
12	358 45.4	+14 43.7	276 09.9 <sup>130</sup>		-20 39.2	106	0	5 15	5 40	6 02	11 35 48	23 58 50				
13	13 45.5	43.0	290 41.8 <sup>129</sup>		-20 49.6	104	10 S	25	5 51	12	19 45	** ** *				
14	28 45.7	42.2	305 13.5 <sup>127</sup>		-21 00.0	104	20	35	6 01	23	11 03 41	** ** *				
15	43 45.8	41.4	319 45.2 <sup>127</sup>		10.3	103	30	43	11	36	10 44 37	** ** *				
16	58 45.9	40.7	334 16.8 <sup>126</sup>		20.5	102	35	47	17	43	33 34	0 07 61				
17	73 46.0	+14 39.9	348 48.3 <sup>125</sup>		-21 30.6	101	40	5 51	6 23	6 52	10 20 32	0 19 64				
18	88 46.1	+14 39.2	3 19.7 <sup>124</sup>		-21 40.7	101	45	5 56	6 31	7 01	10 05 28	0 32 69				
19	103 46.2	38.4	17 51.0 <sup>123</sup>		-21 50.6	99	50	6 01	39	13	9 48 22	49 74				
20	118 46.3	37.6	32 22.2 <sup>122</sup>		-22 00.5	99	52	02	42	18	39 20	0 57 76				
21	133 46.4	36.9	46 53.3 <sup>121</sup>		10.3	98	54	05	46	24	30 17	1 05 80				
22	148 46.5	36.1	61 24.3 <sup>120</sup>		19.9	96	56	07	51	30	19 13	15 84				
23	163 46.7	35.3	75 55.2 <sup>119</sup>		29.5	96	58	09	6 56	38	9 07 9	26 89				
24	178 46.8	+14 34.6	90 26.0 <sup>118</sup>		-22 39.0	95	60 S	6 11	7 01	7 46	8 53 3	1 40 94				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 35.8 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 31 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	320 56.2		160 17.0	+9 44.1	247 13.2	+22 09.8	245 46.9	+22 02.4	331 09.1	-6 43.2
1	335 58.7		175 16.6	42.9	262 13.9	10.0	260 49.0	02.4	346 11.7	43.3
2	351 01.2		190 16.2	41.7	277 14.6	10.3	275 51.0	02.5	1 14.3	43.4
3	6 03.6		205 15.8	40.6	292 15.3	10.5	290 53.0	02.5	16 16.9	43.4
4	21 06.1		220 15.4	39.4	307 16.0	10.7	305 55.1	02.6	31 19.5	43.5
5	36 08.6		235 14.9	+9 38.2	322 16.8	+22 10.9	320 57.1	+22 02.6	46 22.1	-6 43.6
6	51 11.0		250 14.5	+9 37.0	337 17.5	+22 11.1	335 59.1	+22 02.6	61 24.7	-6 43.7
7	66 13.5		265 14.1	35.9	352 18.2	11.4	351 01.2	02.7	76 27.3	43.7
8	81 16.0		280 13.7	34.7	7 18.9	11.6	6 03.2	02.7	91 29.9	43.8
9	96 18.4		295 13.3	33.5	22 19.6	11.8	21 05.3	02.8	106 32.5	43.9
10	111 20.9		310 12.9	32.3	37 20.3	12.0	36 07.3	02.8	121 35.1	43.9
11	126 23.3		325 12.5	+9 31.1	52 21.0	+22 12.2	51 09.3	+22 02.8	136 37.8	-6 44.0
12	141 25.8		340 12.1	+9 30.0	67 21.7	+22 12.5	66 11.4	+22 02.9	151 40.4	-6 44.1
13	156 28.3		355 11.7	28.8	82 22.4	12.7	81 13.4	02.9	166 43.0	44.1
14	171 30.7		10 11.3	27.6	97 23.1	12.9	96 15.5	03.0	181 45.6	44.2
15	186 33.2		25 10.9	26.4	112 23.9	13.1	111 17.5	03.0	196 48.2	44.3
16	201 35.7		40 10.5	25.2	127 24.6	13.3	126 19.5	03.0	211 50.8	44.3
17	216 38.1		55 10.1	+9 24.1	142 25.3	+22 13.5	141 21.6	+22 03.1	226 53.4	-6 44.4
18	231 40.6		70 09.6	+9 22.9	157 26.0	+22 13.7	156 23.6	+22 03.1	241 56.0	-6 44.5
19	246 43.1		85 09.2	21.7	172 26.7	14.0	171 25.7	03.2	256 58.6	44.5
20	261 45.5		100 08.8	20.5	187 27.4	14.2	186 27.7	03.2	272 01.2	44.6
21	276 48.0		115 08.4	19.3	202 28.1	14.4	201 29.7	03.2	287 03.8	44.7
22	291 50.4		130 08.0	18.1	217 28.8	14.6	216 31.8	03.3	302 06.4	44.7
23	306 52.9		145 07.6	17.0	232 29.6	14.8	231 33.8	03.3	317 09.0	44.8
24	321 55.4		160 07.2	+9 15.8	247 30.3	+22 15.0	246 35.9	+22 03.4	332 11.6	-6 44.9
Dif	—		-4	-12	+7	+2	+20	0	+26	-1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 04.8 <sup>m</sup>		SD: 15.1' Edad: 8.5 <sup>d</sup> PMG: 18 <sup>h</sup> 36 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.4' 12 <sup>h</sup> : 55.6' 20 <sup>h</sup> : 55.9'				R°: 54 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	178 46.8	+14 34.6	90 26.0	-22 39.0	94	60 N	19 57	20 49	22 07	16 07	101	20 55	12			
1	193 46.9	33.8	104 56.7	48.4	117	58	48	36	21 42	15 43	90	21 20	22			
2	208 47.0	33.1	119 27.2	115	92	56	40	24	23	24	83	39	29			
3	223 47.1	32.3	133 57.7	115	93	54	33	14	21 08	15 08	79	21 56	32			
4	238 47.2	31.5	148 28.1	114	91	52	27	20 05	20 55	14 54	76	22 10	35			
5	253 47.3	+14 30.8	162 58.4	113	90	50	19 21	19 57	20 43	14 42	74	22 22	38			
6	268 47.5	+14 30.0	177 28.5	111	89	45	19 09	19 41	20 21	14 17	69	22 48	42			
7	283 47.6	29.2	191 58.6	111	88	40	18 59	28	20 03	13 58	66	23 09	44			
8	298 47.7	28.5	206 28.5	109	87	35	50	17	19 49	41	64	26	46			
9	313 47.8	27.7	220 58.4	109	86	30	43	19 08	38	27	62	23 41	48			
10	328 47.9	26.9	235 28.1	107	85	20	30	18 53	20	13 03	58	** ** *	** ** *			
11	343 48.0	+14 26.2	249 57.8	107	84	10 N	18 19	18 40	19 06	12 43	55	** ** *	** ** *			
12	358 48.2	+14 25.4	264 27.3	105	83	0	18 08	18 30	18 54	12 23	53	** ** *	** ** *			
13	13 48.3	24.6	278 56.7	104	81	10 S	17 58	20	45	12 04	51	0 15	54			
14	28 48.4	23.9	293 26.0	103	81	20	47	18 10	36	11 44	48	34	57			
15	43 48.5	23.1	307 55.2	102	79	30	35	17 59	28	21	44	0 56	60			
16	58 48.6	22.3	322 24.3	101	78	35	28	54	24	11 07	42	1 08	64			
17	73 48.7	+14 21.5	336 53.3	100	77	40	17 20	17 48	18 20	10 52	39	1 23	66			
18	88 48.9	+14 20.8	351 22.2	99	76	45	17 10	17 41	18 16	10 33	36	1 41	69			
19	103 49.0	20.0	5 51.0	98	75	50	16 59	33	11	10 10	32	2 03	74			
20	118 49.1	19.2	20 19.7	97	73	52	54	30	10	9 59	29	13	78			
21	133 49.2	18.5	34 48.2	95	73	54	48	26	08	47	26	25	81			
22	148 49.3	17.7	49 16.7	95	71	56	42	22	06	32	22	39	85			
23	163 49.4	16.9	63 45.0	93	70	58	35	17	04	9 16	16	2 55	90			
24	178 49.6	+14 16.1	78 13.3	93	68	60 S	16 27	17 12	18 02	8 56	8	3 14	100			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 31.9 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 20 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 30 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 33 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 51 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	321 55.4	160 07.2	+9 15.8	247 30.3	+22 15.0	246 35.9	+22 03.4	332 11.6	-6 44.9	
1	336 57.8	175 06.8	14.6	262 31.0	15.2	261 37.9	03.4	347 14.3	44.9	
2	352 00.3	190 06.4	13.4	277 31.7	15.5	276 40.0	03.4	2 16.9	45.0	
3	7 02.8	205 06.0	12.2	292 32.4	15.7	291 42.0	03.5	17 19.5	45.1	
4	22 05.2	220 05.6	11.0	307 33.1	15.9	306 44.0	03.5	32 22.1	45.2	
5	37 07.7	235 05.2	+9 09.8	322 33.8	+22 16.1	321 46.1	+22 03.5	47 24.7	-6 45.2	
6	52 10.2	250 04.8	+9 08.7	337 34.5	+22 16.3	336 48.1	+22 03.6	62 27.3	-6 45.3	
7	67 12.6	265 04.4	07.5	352 35.3	16.5	351 50.2	03.6	77 29.9	45.4	
8	82 15.1	280 04.0	06.3	7 36.0	16.7	6 52.2	03.7	92 32.5	45.4	
9	97 17.6	295 03.6	05.1	22 36.7	16.9	21 54.3	03.7	107 35.1	45.5	
10	112 20.0	310 03.2	03.9	37 37.4	17.1	36 56.3	03.7	122 37.7	45.6	
11	127 22.5	325 02.8	+9 02.7	52 38.1	+22 17.4	51 58.4	+22 03.8	137 40.3	-6 45.6	
12	142 24.9	340 02.4	+9 01.5	67 38.8	+22 17.6	67 00.4	+22 03.8	152 43.0	-6 45.7	
13	157 27.4	355 02.0	+9 00.3	82 39.5	17.8	82 02.4	03.9	167 45.6	45.8	
14	172 29.9	10 01.6	+8 59.1	97 40.2	18.0	97 04.5	03.9	182 48.2	45.8	
15	187 32.3	25 01.2	57.9	112 41.0	18.2	112 06.5	03.9	197 50.8	45.9	
16	202 34.8	40 00.8	56.8	127 41.7	18.4	127 08.6	04.0	212 53.4	46.0	
17	217 37.3	55 00.4	+8 55.6	142 42.4	+22 18.6	142 10.6	+22 04.0	227 56.0	-6 46.0	
18	232 39.7	70 00.0	+8 54.4	157 43.1	+22 18.8	157 12.7	+22 04.0	242 58.6	-6 46.1	
19	247 42.2	84 59.6	53.2	172 43.8	19.0	172 14.7	04.1	258 01.2	46.2	
20	262 44.7	99 59.2	52.0	187 44.5	19.2	187 16.8	04.1	273 03.8	46.2	
21	277 47.1	114 58.9	50.8	202 45.2	19.4	202 18.8	04.2	288 06.4	46.3	
22	292 49.6	129 58.5	49.6	217 46.0	19.6	217 20.9	04.2	303 09.0	46.4	
23	307 52.1	144 58.1	48.4	232 46.7	19.8	232 22.9	04.2	318 11.7	46.5	
24	322 54.5	159 57.7	+8 47.2	247 47.4	+22 20.0	247 24.9	+22 04.3	333 14.3	-6 46.5	
Dif	—	-4	-12	+7	+2	+20	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8'		SD: 15.3'		Edad: 9.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.1' 12 <sup>h</sup> : 56.4' 20 <sup>h</sup> : 56.7'			PMG: 19 <sup>h</sup> 30 <sup>m</sup>		R°: 58 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	178 49.6	+14 16.1	78 13.3	91	-25 55.4	67	60 N	2 03	3 21	4 13	17 48 82	21 07 38				
1	193 49.7	15.4	92 41.4	90	-26 02.1	66	58	28	35	22	17 13 74	21 42 46				
2	208 49.8	14.6	107 09.4	90	08.7	65	56	2 47	46	30	16 47 72	22 08 49				
3	223 49.9	13.8	121 37.4	90	15.2	64	54	3 02	3 56	37	27 69	28 51				
4	238 50.0	13.0	136 05.2	88	21.6	63	52	15	4 05	43	16 10 68	22 45 52				
5	253 50.2	+14 12.3	150 32.9	87	-26 27.8	62	50	3 27	4 13	4 49	15 56 66	23 00 53				
6	268 50.3	+14 11.5	165 00.5	86	-26 33.8	60	45	3 49	4 29	5 01	15 26 65	23 30 54				
7	283 50.4	10.7	179 28.0	85	39.8	60	40	4 07	42	11	15 04 63	23 53 56				
8	298 50.5	09.9	193 55.4	84	45.6	58	35	20	4 53	20	14 45 62	** ** *				
9	313 50.6	09.2	208 22.7	83	51.3	57	30	32	5 02	27	29 61	** ** *				
10	328 50.8	08.4	222 49.9	82	-26 56.8	55	20	4 50	17	40	14 01 60	0 06 51				
11	343 50.9	+14 07.6	237 17.0	81	-27 02.2	54	10 N	5 04	5 29	5 51	13 38 58	0 28 53				
12	358 51.0	+14 06.8	251 44.0	80	-27 07.4	52	0	5 15	5 40	6 01	13 16 57	0 48 55				
13	13 51.1	06.0	266 10.9	79	12.6	52	10 S	25	50	11	12 55 56	1 09 57				
14	28 51.3	05.3	280 37.7	78	17.5	49	20	33	5 59	22	32 54	31 59				
15	43 51.4	04.5	295 04.4	77	22.3	48	30	41	6 10	34	12 05 53	1 56 62				
16	58 51.5	03.7	309 31.0	76	27.0	47	35	45	15	41	11 49 52	2 12 63				
17	73 51.6	+14 02.9	323 57.5	75	-27 31.5	45	40	5 49	6 21	6 49	11 31 50	2 29 65				
18	88 51.7	+14 02.2	338 23.9	74	-27 35.9	44	45	5 53	6 28	6 58	11 09 48	2 50 68				
19	103 51.9	01.4	352 50.2	73	40.1	42	50	57	35	7 09	10 42 45	3 17 71				
20	118 52.0	+14 00.6	7 16.4	72	44.2	41	52	5 59	39	14	28 43	31 72				
21	133 52.1	+13 59.8	21 42.6	72	48.1	39	54	6 01	42	20	10 13 41	3 46 75				
22	148 52.2	59.0	36 08.6	70	51.9	38	56	03	47	26	9 54 38	4 04 78				
23	163 52.4	58.2	50 34.6	70	55.5	36	58	05	51	33	32 33	25 84				
24	178 52.5	+13 57.5	65 00.4	68	-27 59.0	35	60 S	6 07	6 56	7 41	9 04 23	4 54 93				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 <sup>h</sup> 28.0 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 47 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	322 54.5	159 57.7	+8 47.2	247 47.4	+22 20.0	247 24.9	+22 04.3	333 14.3	-6 46.5	
1	337 57.0	174 57.3	46.0	262 48.1	20.3	262 27.0	04.3	348 16.9	46.6	
2	352 59.4	189 56.9	44.8	277 48.8	20.5	277 29.0	04.4	3 19.5	46.7	
3	8 01.9	204 56.5	43.6	292 49.5	20.7	292 31.1	04.4	18 22.1	46.7	
4	23 04.4	219 56.1	42.4	307 50.3	20.9	307 33.1	04.4	33 24.7	46.8	
5	38 06.8	234 55.7	+8 41.2	322 51.0	+22 21.1	322 35.2	+22 04.5	48 27.3	-6 46.9	
6	53 09.3	249 55.3	+8 40.0	337 51.7	+22 21.3	337 37.2	+22 04.5	63 29.9	-6 46.9	
7	68 11.8	264 54.9	38.8	352 52.4	21.5	352 39.3	04.5	78 32.5	47.0	
8	83 14.2	279 54.5	37.6	7 53.1	21.7	7 41.3	04.6	93 35.2	47.1	
9	98 16.7	294 54.1	36.4	22 53.8	21.9	22 43.4	04.6	108 37.8	47.1	
10	113 19.2	309 53.7	35.2	37 54.5	22.1	37 45.4	04.7	123 40.4	47.2	
11	128 21.6	324 53.4	+8 34.0	52 55.3	+22 22.3	52 47.5	+22 04.7	138 43.0	-6 47.3	
12	143 24.1	339 53.0	+8 32.8	67 56.0	+22 22.5	67 49.5	+22 04.7	153 45.6	-6 47.4	
13	158 26.6	354 52.6	31.6	82 56.7	22.7	82 51.6	04.8	168 48.2	47.4	
14	173 29.0	9 52.2	30.4	97 57.4	22.9	97 53.6	04.8	183 50.8	47.5	
15	188 31.5	24 51.8	29.2	112 58.1	23.1	112 55.7	04.8	198 53.4	47.6	
16	203 33.9	39 51.4	28.0	127 58.8	23.3	127 57.7	04.9	213 56.0	47.6	
17	218 36.4	54 51.0	+8 26.8	142 59.6	+22 23.5	142 59.8	+22 04.9	228 58.7	-6 47.7	
18	233 38.9	69 50.6	+8 25.6	158 00.3	+22 23.7	158 01.8	+22 05.0	244 01.3	-6 47.8	
19	248 41.3	84 50.2	24.4	173 01.0	23.9	173 03.9	05.0	259 03.9	47.8	
20	263 43.8	99 49.9	23.2	188 01.7	24.1	188 05.9	05.0	274 06.5	47.9	
21	278 46.3	114 49.5	22.0	203 02.4	24.3	203 08.0	05.1	289 09.1	48.0	
22	293 48.7	129 49.1	20.8	218 03.2	24.5	218 10.0	05.1	304 11.7	48.1	
23	308 51.2	144 48.7	19.6	233 03.9	24.7	233 12.1	05.1	319 14.3	48.1	
24	323 53.7	159 48.3	+8 18.4	248 04.6	+22 24.9	248 14.1	+22 05.2	334 16.9	-6 48.2	
Dif	—	-4	-12	+7	+2	+20	0	+26	-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 12 <sup>h</sup> 04.4 <sup>m</sup>		SD: 15.5' Edad: 10.5 <sup>d</sup> PMG: 20 <sup>h</sup> 28 <sup>m</sup> R°: 60 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.0' 12 <sup>h</sup> : 57.3' 20 <sup>h</sup> : 57.6'	Civil	Náutico	Hora R°	Hora R°	Hora R°	Hora R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 52.5	+13 57.5	65 00.4	68	-27 59.0	33	60 N	19 52	20 43	21 57	19 10 39	21 45 88			
1	193 52.6	56.7	79 26.2	66	-28 02.3	31	58	43	30	34	18 27 47	22 28 79			
2	208 52.7	55.9	93 51.9	67	05.4	30	56	36	19	16	17 59 50	22 57 75			
3	223 52.9	55.1	108 17.5	66	08.4	28	54	29	09	21 02	36 52	23 19 73			
4	238 53.0	54.3	122 43.0	65	11.2	27	52	23	20 01	20 49	18 53	37 72			
5	253 53.1	+13 53.5	137 08.4	64	-28 13.9	25	50	19 18	19 53	20 39	17 02 55	23 53 70			
6	268 53.2	+13 52.8	151 33.8	64	-28 16.4	23	45	19 06	19 38	20 17	16 31 56	** ** *	** ** *		
7	283 53.4	52.0	165 59.1	63	18.7	22	40	18 56	25	20 00	16 07 57	** ** *	** ** *		
8	298 53.5	51.2	180 24.3	62	20.9	20	35	48	15	19 47	15 47 57	0 12 57			
9	313 53.6	50.4	194 49.4	61	22.9	18	30	41	19 06	36	30 58	29 57			
10	328 53.8	49.6	209 14.5	61	24.7	17	20	28	18 51	18	15 01 59	0 57 57			
11	343 53.9	+13 48.8	223 39.4	59	-28 26.4	15	10 N	18 18	18 39	19 05	14 36 60	1 21 58			
12	358 54.0	+13 48.0	238 04.4	60	-28 27.9	13	0	18 08	18 29	18 54	14 13 60	1 43 59			
13	13 54.1	47.3	252 29.2	58	29.2	11	10 S	17 58	20	44	13 51 60	2 06 59			
14	28 54.3	46.5	266 54.0	58	30.3	10	20	48	10	36	13 26 61	30 59			
15	43 54.4	45.7	281 18.7	57	31.3	8	30	36	18 01	29	12 58 61	2 58 60			
16	58 54.5	44.9	295 43.3	56	32.1	6	35	29	17 55	25	41 61	3 15 60			
17	73 54.6	+13 44.1	310 07.9	56	-28 32.7	5	40	17 22	17 50	18 21	12 21 62	3 34 60			
18	88 54.8	+13 43.3	324 32.4	55	-28 33.2	3	45	17 13	17 43	18 18	11 57 62	3 58 60			
19	103 54.9	42.5	338 56.9	55	33.5	1	50	17 02	36	14	27 62	4 28 61			
20	118 55.0	41.7	353 21.3	54	33.6	1	52	16 57	33	12	11 11 63	4 43 61			
21	133 55.2	40.9	7 45.7	54	33.5	2	54	52	29	11	10 54 62	5 01 60			
22	148 55.3	40.2	22 10.0	53	33.3	5	56	46	25	09	32 63	22 61			
23	163 55.4	39.4	36 34.3	53	32.8	6	58	39	21	07	10 05 63	5 49 61			
24	178 55.6	+13 38.6	50 58.5	52	-28 32.2		60 S	16 32	17 16	18 06	9 27 64	6 27 61			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 24.0 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 43 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	323 53.7	159 48.3	+8 18.4	248 04.6	+22 24.9	248 14.1	+22 05.2	334 16.9	-6 48.2	
1	338 56.1	174 47.9	17.2	263 05.3	25.1	263 16.2	05.2	349 19.6	48.3	
2	353 58.6	189 47.5	16.0	278 06.0	25.3	278 18.3	05.2	4 22.2	48.3	
3	9 01.1	204 47.1	14.8	293 06.7	25.5	293 20.3	05.3	19 24.8	48.4	
4	24 03.5	219 46.8	13.6	308 07.5	25.7	308 22.4	05.3	34 27.4	48.5	
5	39 06.0	234 46.4	+8 12.4	323 08.2	+22 25.9	323 24.4	+22 05.4	49 30.0	-6 48.5	
6	54 08.4	249 46.0	+8 11.2	338 08.9	+22 26.1	338 26.5	+22 05.4	64 32.6	-6 48.6	
7	69 10.9	264 45.6	10.0	353 09.6	26.3	353 28.5	05.4	79 35.2	48.7	
8	84 13.4	279 45.2	08.8	8 10.3	26.4	8 30.6	05.5	94 37.8	48.8	
9	99 15.8	294 44.8	07.6	23 11.1	26.6	23 32.6	05.5	109 40.5	48.8	
10	114 18.3	309 44.5	06.4	38 11.8	26.8	38 34.7	05.5	124 43.1	48.9	
11	129 20.8	324 44.1	+8 05.1	53 12.5	+22 27.0	53 36.7	+22 05.6	139 45.7	-6 49.0	
12	144 23.2	339 43.7	+8 03.9	68 13.2	+22 27.2	68 38.8	+22 05.6	154 48.3	-6 49.0	
13	159 25.7	354 43.3	02.7	83 13.9	27.4	83 40.8	05.7	169 50.9	49.1	
14	174 28.2	9 42.9	01.5	98 14.7	27.6	98 42.9	05.7	184 53.5	49.2	
15	189 30.6	24 42.5	+8 00.3	113 15.4	27.8	113 45.0	05.7	199 56.1	49.2	
16	204 33.1	39 42.2	+7 59.1	128 16.1	28.0	128 47.0	05.8	214 58.7	49.3	
17	219 35.5	54 41.8	+7 57.9	143 16.8	+22 28.2	143 49.1	+22 05.8	230 01.4	-6 49.4	
18	234 38.0	69 41.4	+7 56.7	158 17.5	+22 28.4	158 51.1	+22 05.8	245 04.0	-6 49.5	
19	249 40.5	84 41.0	55.5	173 18.3	28.6	173 53.2	05.9	260 06.6	49.5	
20	264 42.9	99 40.6	54.3	188 19.0	28.8	188 55.2	05.9	275 09.2	49.6	
21	279 45.4	114 40.3	53.0	203 19.7	29.0	203 57.3	05.9	290 11.8	49.7	
22	294 47.9	129 39.9	51.8	218 20.4	29.1	218 59.4	06.0	305 14.4	49.7	
23	309 50.3	144 39.5	50.6	233 21.1	29.3	234 01.4	06.0	320 17.0	49.8	
24	324 52.8	159 39.1	+7 49.4	248 21.9	+22 29.5	249 03.5	+22 06.1	335 19.7	-6 49.9	
Dif	—	-4	-12	+7	+2	+21	0	+26	-1	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 04.2 <sup>m</sup>		SD: 15.7' Edad: 11.5 <sup>d</sup> PMG: 21 <sup>h</sup> 28 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.9' 12 <sup>h</sup> : 58.2' 20 <sup>h</sup> : 58.5'			R <sup>o</sup> : 60 <sup>m</sup>					Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	h m	h m	h m	h m		
0	178 55.6	+13 38.6	50 58.5	51	-28 32.2	8	60 N	2 13	3 27	4 18	19 49	12	23 13	113		
1	193 55.7	37.8	65 22.6	50	31.4	9	58	35	40	26	19 14	23	23 47	102		
2	208 55.8	37.0	79 46.8	52	30.5	9	56	2 53	3 51	34	18 49	30	** ** *	** ** *		
3	223 55.9	36.2	94 10.8	50	29.3	12	54	3 08	4 00	40	28	35	** ** *	** ** *		
4	238 56.1	35.4	108 34.9	51	28.0	13	52	20	08	46	18 11	38	** ** *	** ** *		
5	253 56.2	+13 34.6	122 58.9	50	-28 26.5	15	50	3 31	4 16	4 52	17 57	40	** ** *	** ** *		
6	268 56.3	+13 33.8	137 22.9	50	-28 24.8	17	45	3 52	4 32	5 03	17 27	45	0 24	69		
7	283 56.5	33.0	151 46.8	49	22.9	19	40	4 09	44	13	17 04	48	0 49	66		
8	298 56.6	32.2	166 10.7	49	20.8	21	35	22	4 54	21	16 44	51	1 09	65		
9	313 56.7	31.4	180 34.6	49	18.6	22	30	33	5 03	28	28	52	26	64		
10	328 56.9	30.6	194 58.5	49	16.2	24	20	4 51	18	40	16 00	55	1 54	63		
11	343 57.0	+13 29.8	209 22.3	48	-28 13.5	27	10 N	5 04	5 29	5 51	15 36	58	2 19	62		
12	358 57.1	+13 29.0	223 46.1	48	-28 10.7	28	0	5 15	5 40	6 01	15 13	61	2 42	60		
13	13 57.3	28.2	238 09.9	48	07.7	30	10 S	24	49	11	14 51	62	3 05	59		
14	28 57.4	27.5	252 33.7	48	04.6	31	20	32	5 58	21	14 27	65	29	58		
15	43 57.5	26.7	266 57.5	48	-28 01.2	34	30	40	6 08	32	13 59	67	3 58	55		
16	58 57.7	25.9	281 21.2	47	-27 57.7	35	35	43	13	39	42	69	4 15	54		
17	73 57.8	+13 25.1	295 45.0	48	-27 53.9	38	40	5 47	6 18	6 46	13 23	71	4 34	53		
18	88 57.9	+13 24.3	310 08.7	47	-27 50.0	39	45	5 50	6 25	6 55	12 59	74	4 58	50		
19	103 58.1	23.5	324 32.4	47	45.9	41	50	54	32	7 05	29	78	5 29	47		
20	118 58.2	22.7	338 56.2	48	41.6	43	52	55	35	10	12 14	80	5 44	45		
21	133 58.3	21.9	353 19.9	47	37.2	44	54	57	38	16	11 56	83	6 01	43		
22	148 58.5	21.1	7 43.6	47	32.5	47	56	5 59	42	21	35	87	23	39		
23	163 58.6	20.3	22 07.3	47	27.7	48	58	6 00	46	28	11 08	93	6 50	34		
24	178 58.8	+13 19.5	36 31.1	48	-27 22.6	51	60 S	6 02	6 51	7 35	10 31	103	7 28	23		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 20.1 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 26 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 23 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	324 52.8	159 39.1	+7 49.4	248 21.9	+22 29.5	249 03.5	+22 06.1	335 19.7	-6 49.9	
1	339 55.3	174 38.8	48.2	263 22.6	29.7	264 05.5	06.1	350 22.3	49.9	
2	354 57.7	189 38.4	47.0	278 23.3	29.9	279 07.6	06.1	5 24.9	50.0	
3	10 00.2	204 38.0	45.8	293 24.0	30.1	294 09.6	06.2	20 27.5	50.1	
4	25 02.7	219 37.6	44.6	308 24.8	30.3	309 11.7	06.2	35 30.1	50.2	
5	40 05.1	234 37.2	+7 43.3	323 25.5	+22 30.5	324 13.8	+22 06.2	50 32.7	-6 50.2	
6	55 07.6	249 36.9	+7 42.1	338 26.2	+22 30.7	339 15.8	+22 06.3	65 35.4	-6 50.3	
7	70 10.0	264 36.5	40.9	353 26.9	30.8	354 17.9	06.3	80 38.0	50.4	
8	85 12.5	279 36.1	39.7	8 27.6	31.0	9 19.9	06.3	95 40.6	50.4	
9	100 15.0	294 35.7	38.5	23 28.4	31.2	24 22.0	06.4	110 43.2	50.5	
10	115 17.4	309 35.4	37.3	38 29.1	31.4	39 24.1	06.4	125 45.8	50.6	
11	130 19.9	324 35.0	+7 36.0	53 29.8	+22 31.6	54 26.1	+22 06.4	140 48.4	-6 50.7	
12	145 22.4	339 34.6	+7 34.8	68 30.5	+22 31.8	69 28.2	+22 06.5	155 51.0	-6 50.7	
13	160 24.8	354 34.2	33.6	83 31.3	32.0	84 30.2	06.5	170 53.7	50.8	
14	175 27.3	9 33.9	32.4	98 32.0	32.1	99 32.3	06.6	185 56.3	50.9	
15	190 29.8	24 33.5	31.2	113 32.7	32.3	114 34.4	06.6	200 58.9	50.9	
16	205 32.2	39 33.1	30.0	128 33.4	32.5	129 36.4	06.6	216 01.5	51.0	
17	220 34.7	54 32.7	+7 28.7	143 34.2	+22 32.7	144 38.5	+22 06.7	231 04.1	-6 51.1	
18	235 37.2	69 32.4	+7 27.5	158 34.9	+22 32.9	159 40.6	+22 06.7	246 06.7	-6 51.2	
19	250 39.6	84 32.0	26.3	173 35.6	33.1	174 42.6	06.7	261 09.4	51.2	
20	265 42.1	99 31.6	25.1	188 36.3	33.3	189 44.7	06.8	276 12.0	51.3	
21	280 44.5	114 31.2	23.9	203 37.1	33.4	204 46.7	06.8	291 14.6	51.4	
22	295 47.0	129 30.9	22.6	218 37.8	33.6	219 48.8	06.8	306 17.2	51.4	
23	310 49.5	144 30.5	21.4	233 38.5	33.8	234 50.9	06.9	321 19.8	51.5	
24	325 51.9	159 30.1	+7 20.2	248 39.2	+22 34.0	249 52.9	+22 06.9	336 22.4	-6 51.6	

Dif	—	-4	-12	+7	+2	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 04.0 <sup>m</sup>		SD: 16.0' Edad: 12.5 <sup>d</sup> PMG: 22 <sup>h</sup> 28 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.8' 12 <sup>h</sup> : 59.1' 20 <sup>h</sup> : 59.4'				R°: 58 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	178 58.8	+13 19.5	36 31.1	47	-27 22.6	52	60 N	19 46	20 36	21 47	20 01	3	** **	***		
1	193 58.9	18.7	50 54.8	48	17.4	54	58	38	24	26	19 37	12	** **	***		
2	208 59.0	17.9	65 18.6	48	12.0	56	56	31	13	21 10	19 17	0	12	95		
3	223 59.2	17.1	79 42.4	48	06.4	57	54	25	20 04	20 56	19 03	22	32	91		
4	238 59.3	16.3	94 06.1	47	-27 00.7	57	52	19	19 56	44	18 49	26	0	49 87		
5	253 59.4	+13 15.5	108 29.9	48	-26 54.7	60	50	19 14	19 49	20 34	18 37	29	1	03 84		
6	268 59.6	+13 14.7	122 53.8	49	-26 48.6	61	45	19 03	19 34	20 13	18 12	35	1	33 78		
7	283 59.7	13.9	137 17.6	48	42.3	63	40	18 53	22	19 57	17 52	39	1	55 75		
8	298 59.8	13.0	151 41.5	49	35.7	66	35	46	12	44	35	43	2	14 72		
9	314 00.0	12.2	166 05.3	48	29.1	66	30	39	19 04	33	17 20	46	3	0 70		
10	329 00.1	11.4	180 29.2	49	22.2	69	20	27	18 50	17	16 55	51	2	57 66		
11	344 00.3	+13 10.6	194 53.2	50	-26 15.1	71	10 N	18 17	18 38	19 04	16 34	55	3	21 62		
12	359 00.4	+13 09.8	209 17.2	50	-26 07.9	72	0	18 07	18 29	18 53	16 14	58	3	42 60		
13	14 00.5	09.0	223 41.2	49	-26 00.5	74	10 S	17 58	20	44	15 53	63	4	04 56		
14	29 00.7	08.2	238 05.2	51	-25 52.9	76	20	48	11	37	32	66	27	53		
15	44 00.8	07.4	252 29.3	51	45.2	77	30	37	18 02	30	15 06	72	4	53 49		
16	59 01.0	06.6	266 53.4	51	37.2	80	35	31	17 57	26	14 51	75	5	09 46		
17	74 01.1	+13 05.8	281 17.5	51	-25 29.1	81	40	17 23	17 51	18 23	14 34	78	5	27 43		
18	89 01.2	+13 05.0	295 41.7	52	-25 20.8	83	45	17 15	17 45	18 20	14 13	82	5	48 40		
19	104 01.4	04.2	310 05.9	52	12.3	85	50	05	39	17	13 47	88	6	16 34		
20	119 01.5	03.4	324 30.2	53	-25 03.7	86	52	17 00	36	15	34	91	29	31		
21	134 01.7	02.6	338 54.5	53	-24 54.9	88	54	16 55	32	14	19	95	6	44 28		
22	149 01.8	01.8	353 18.9	54	45.9	90	56	50	29	12	13 02	99	7	02 23		
23	164 01.9	01.0	7 43.3	54	36.7	92	58	43	25	11	12 41	106	24	17		
24	179 02.1	+13 00.1	22 07.7	54	-24 27.4	93	60 S	16 36	17 21	18 10	12 14	115	7	51 8		

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.8		Mag.: +0.8		Mag.: -2.2		Mag.: +0.7	
	2 <sup>h</sup> 16.2 <sup>m</sup>	PMG: 13 <sup>h</sup> 22 <sup>m</sup>		PMG: 7 <sup>h</sup> 25 <sup>m</sup>		PMG: 7 <sup>h</sup> 19 <sup>m</sup>		PMG: 1 <sup>h</sup> 34 <sup>m</sup>	
hG ♀	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	325 51.9	159 30.1	+7 20.2	248 39.2	+22 34.0	249 52.9	+22 06.9	336 22.4	-6 51.6
1	340 54.4	174 29.8	19.0	263 40.0	34.2	264 55.0	06.9	351 25.1	51.6
2	355 56.9	189 29.4	17.7	278 40.7	34.3	279 57.1	07.0	6 27.7	51.7
3	10 59.3	204 29.0	16.5	293 41.4	34.5	294 59.1	07.0	21 30.3	51.8
4	26 01.8	219 28.6	15.3	308 42.1	34.7	310 01.2	07.1	36 32.9	51.9
5	41 04.3	234 28.3	+7 14.1	323 42.9	+22 34.9	325 03.2	+22 07.1	51 35.5	-6 51.9
6	56 06.7	249 27.9	+7 12.9	338 43.6	+22 35.1	340 05.3	+22 07.1	66 38.1	-6 52.0
7	71 09.2	264 27.5	11.6	353 44.3	35.3	355 07.4	07.2	81 40.8	52.1
8	86 11.7	279 27.2	10.4	8 45.0	35.4	10 09.4	07.2	96 43.4	52.1
9	101 14.1	294 26.8	09.2	23 45.8	35.6	25 11.5	07.2	111 46.0	52.2
10	116 16.6	309 26.4	08.0	38 46.5	35.8	40 13.6	07.3	126 48.6	52.3
11	131 19.0	324 26.1	+7 06.7	53 47.2	+22 36.0	55 15.6	+22 07.3	141 51.2	-6 52.4
12	146 21.5	339 25.7	+7 05.5	68 47.9	+22 36.1	70 17.7	+22 07.3	156 53.8	-6 52.4
13	161 24.0	354 25.3	04.3	83 48.7	36.3	85 19.8	07.4	171 56.5	52.5
14	176 26.4	9 25.0	03.1	98 49.4	36.5	100 21.8	07.4	186 59.1	52.6
15	191 28.9	24 24.6	01.8	113 50.1	36.7	115 23.9	07.4	202 01.7	52.6
16	206 31.4	39 24.2	+7 00.6	128 50.8	36.9	130 26.0	07.5	217 04.3	52.7
17	221 33.8	54 23.9	+6 59.4	143 51.6	+22 37.0	145 28.0	+22 07.5	232 06.9	-6 52.8
18	236 36.3	69 23.5	+6 58.2	158 52.3	+22 37.2	160 30.1	+22 07.5	247 09.5	-6 52.9
19	251 38.8	84 23.1	56.9	173 53.0	37.4	175 32.2	07.6	262 12.2	52.9
20	266 41.2	99 22.8	55.7	188 53.8	37.6	190 34.2	07.6	277 14.8	53.0
21	281 43.7	114 22.4	54.5	203 54.5	37.7	205 36.3	07.6	292 17.4	53.1
22	296 46.2	129 22.0	53.2	218 55.2	37.9	220 38.4	07.7	307 20.0	53.2
23	311 48.6	144 21.7	52.0	233 55.9	38.1	235 40.4	07.7	322 22.6	53.2
24	326 51.1	159 21.3	+6 50.8	248 56.7	+22 38.3	250 42.5	+22 07.7	337 25.3	-6 53.3

Dif	—	-4	-12	+7	+2	+21	0	+26	-1
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UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 12 <sup>h</sup> 03.7 <sup>m</sup>			SD: 16.2' Edad: 13.5 <sup>d</sup> PMG: 23 <sup>h</sup> 26 <sup>m</sup> R°: 55 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.6' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 60.1'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m			
0	179 02.1	+13 00.1	22 07.7	55	-24 27.4	95	<b>60 N</b>	2 21	3 33	4 22	20 04	1	1 06 117			
1	194 02.2	+12 59.3	36 32.2	56	17.9	97	<b>58</b>	42	45	31	19 49	7	29 109			
2	209 02.4	58.5	50 56.8	56	-24 08.2	98	<b>56</b>	2 59	3 55	38	36 11	1	47 103			
3	224 02.5	57.7	65 21.4	57	-23 58.4	100	<b>54</b>	3 13	4 04	44	25 15	2	03 97			
4	239 02.6	56.9	79 46.1	57	48.4	102	<b>52</b>	24	12	50	15 19	16	93			
5	254 02.8	+12 56.1	94 10.8	57	-23 38.2	103	<b>50</b>	3 35	4 19	4 55	19 06	22	2 27 91			
6	269 02.9	+12 55.3	108 35.6	58	-23 27.9	105	<b>45</b>	3 55	4 34	5 06	18 47	28	2 51 84			
7	284 03.1	54.5	123 00.4	58	17.4	107	<b>40</b>	4 11	46	15	31 33	3	10 79			
8	299 03.2	53.7	137 25.3	59	-23 06.7	108	<b>35</b>	24	4 56	23	18 37	26	75			
9	314 03.4	52.9	151 50.3	60	-22 55.9	110	<b>30</b>	35	5 04	29	18 06	40	3 40 72			
10	329 03.5	52.0	166 15.3	60	44.9	111	<b>20</b>	4 51	18	41	17 46	46	4 03 67			
11	344 03.6	+12 51.2	180 40.4	61	-22 33.8	113	<b>10 N</b>	5 04	5 29	5 51	17 29	51	4 23 62			
12	359 03.8	+12 50.4	195 05.5	61	-22 22.5	114	<b>0</b>	5 15	5 39	6 00	17 12	56	4 42 57			
13	14 03.9	49.6	209 30.7	62	-22 11.1	116	<b>10 S</b>	23	48	10	16 56	60	5 00 53			
14	29 04.1	48.8	223 56.0	63	-21 59.5	118	<b>20</b>	31	5 57	19	38 66	20	48			
15	44 04.2	48.0	238 21.4	64	47.7	119	<b>30</b>	38	6 06	30	18 71	42	43			
16	59 04.4	47.2	252 46.8	64	35.8	120	<b>35</b>	41	11	37	16 06	75	5 55 40			
17	74 04.5	+12 46.3	267 12.2	64	-21 23.8	122	<b>40</b>	5 44	6 16	6 44	15 52	79	6 10 36			
18	89 04.7	+12 45.5	281 37.8	66	-21 11.6	123	<b>45</b>	5 47	6 22	6 52	15 35	85	6 28 31			
19	104 04.8	44.7	296 03.4	66	-20 59.3	125	<b>50</b>	50	28	7 02	15 91	6	50 25			
20	119 04.9	43.9	310 29.0	66	46.8	126	<b>52</b>	52	31	06	15 05	94	7 00 22			
21	134 05.1	43.1	324 54.8	68	34.2	128	<b>54</b>	53	34	11	14 54	98	12 19			
22	149 05.2	42.3	339 20.6	68	21.4	129	<b>56</b>	54	38	17	41 103	25	15			
23	164 05.4	41.4	353 46.5	69	-20 08.5	130	<b>58</b>	56	42	23	27 108	41	9			
24	179 05.5	+12 40.6	8 12.4	69	-19 55.5		<b>60 S</b>	5 57	6 46	7 30	14 09	115	7 59 2			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 12.2 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 23 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 16 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 30 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	326 51.1	159 21.3	+6 50.8	248 56.7	+22 38.3	250 42.5	+22 07.7	337 25.3	-6 53.3	
1	341 53.5	174 20.9	49.6	263 57.4	38.4	265 44.6	07.8	352 27.9	53.4	
2	356 56.0	189 20.6	48.3	278 58.1	38.6	280 46.6	07.8	7 30.5	53.4	
3	11 58.5	204 20.2	47.1	293 58.9	38.8	295 48.7	07.8	22 33.1	53.5	
4	27 00.9	219 19.9	45.9	308 59.6	39.0	310 50.8	07.9	37 35.7	53.6	
5	42 03.4	234 19.5	+6 44.6	324 00.3	+22 39.1	325 52.9	+22 07.9	52 38.4	-6 53.7	
6	57 05.9	249 19.1	+6 43.4	339 01.0	+22 39.3	340 54.9	+22 08.0	67 41.0	-6 53.7	
7	72 08.3	264 18.8	42.2	354 01.8	39.5	355 57.0	08.0	82 43.6	53.8	
8	87 10.8	279 18.4	40.9	9 02.5	39.6	10 59.1	08.0	97 46.2	53.9	
9	102 13.3	294 18.0	39.7	24 03.2	39.8	26 01.1	08.1	112 48.8	53.9	
10	117 15.7	309 17.7	38.5	39 04.0	40.0	41 03.2	08.1	127 51.4	54.0	
11	132 18.2	324 17.3	+6 37.2	54 04.7	+22 40.2	56 05.3	+22 08.1	142 54.1	-6 54.1	
12	147 20.6	339 17.0	+6 36.0	69 05.4	+22 40.3	71 07.4	+22 08.2	157 56.7	-6 54.2	
13	162 23.1	354 16.6	34.8	84 06.1	40.5	86 09.4	08.2	172 59.3	54.2	
14	177 25.6	9 16.2	33.5	99 06.9	40.7	101 11.5	08.2	188 01.9	54.3	
15	192 28.0	24 15.9	32.3	114 07.6	40.8	116 13.6	08.3	203 04.5	54.4	
16	207 30.5	39 15.5	31.1	129 08.3	41.0	131 15.6	08.3	218 07.2	54.4	
17	222 33.0	54 15.2	+6 29.8	144 09.1	+22 41.2	146 17.7	+22 08.3	233 09.8	-6 54.5	
18	237 35.4	69 14.8	+6 28.6	159 09.8	+22 41.4	161 19.8	+22 08.4	248 12.4	-6 54.6	
19	252 37.9	84 14.4	27.4	174 10.5	41.5	176 21.9	08.4	263 15.0	54.7	
20	267 40.4	99 14.1	26.1	189 11.3	41.7	191 23.9	08.4	278 17.6	54.7	
21	282 42.8	114 13.7	24.9	204 12.0	41.9	206 26.0	08.5	293 20.3	54.8	
22	297 45.3	129 13.4	23.7	219 12.7	42.0	221 28.1	08.5	308 22.9	54.9	
23	312 47.8	144 13.0	22.4	234 13.5	42.2	236 30.2	08.5	323 25.5	55.0	
24	327 50.2	159 12.6	+6 21.2	249 14.2	+22 42.4	251 32.2	+22 08.6	338 28.1	-6 55.0	

Dif	—	-4	-12	+7	+2	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 12 <sup>h</sup> 03.5 <sup>m</sup>		SD: 16.4' Edad: 14.5 <sup>d</sup> PMG: **h **m R°: ***m						PHE { 4 <sup>h</sup> : 60.3' 12 <sup>h</sup> : 60.5' 20 <sup>h</sup> : 60.6'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m		
0	179 05.5	+12 40.6	8 12.4	70	-19 55.5	132	<b>60 N</b> 19 40	20 29	21 38	20 05	0	3 03	114		
1	194 05.7	39.8	22 38.4	71	42.3	133	<b>58</b> 33	18	19	19 56	4	18	107		
2	209 05.8	39.0	37 04.5	72	29.0	134	<b>56</b> 26	20 08	21 03	47	8	30	102		
3	224 06.0	38.2	51 30.7	72	15.6	136	<b>54</b> 20	19 59	20 50	40	12	40	98		
4	239 06.1	37.4	65 56.9	73	-19 02.0	137	<b>52</b> 15	52	39	34	14	49	95		
5	254 06.3	+12 36.5	80 23.2	74	-18 48.3	138	<b>50</b> 19 10	19 45	20 29	19 28	17	3 58	91		
6	269 06.4	+12 35.7	94 49.6	74	-18 34.5	140	<b>45</b> 18 59	19 31	20 09	19 15	23	4 15	85		
7	284 06.6	34.9	109 16.0	75	20.5	141	<b>40</b> 51	19	19 54	19 04	28	29	80		
8	299 06.7	34.1	123 42.5	76	-18 06.4	141	<b>35</b> 43	10	41	18 55	32	41	75		
9	314 06.9	33.3	138 09.1	77	-17 52.3	144	<b>30</b> 37	19 02	31	46	36	4 52	71		
10	329 07.0	32.4	152 35.8	77	37.9	144	<b>20</b> 25	18 48	15	32	43	5 10	64		
11	344 07.2	+12 31.6	167 02.5	78	-17 23.5	145	<b>10 N</b> 18 16	18 37	19 03	18 20	48	5 25	59		
12	359 07.3	+12 30.8	181 29.3	78	-17 09.0	147	<b>0</b> 18 07	18 28	18 53	18 08	53	5 39	55		
13	14 07.5	30.0	195 56.1	79	-16 54.3	148	<b>10 S</b> 17 58	19	44	17 56	59	5 53	50		
14	29 07.6	29.1	210 23.0	80	39.5	149	<b>20</b> 49	11	37	44	64	6 08	44		
15	44 07.8	28.3	224 50.0	81	24.6	150	<b>30</b> 38	18 03	31	29	71	25	38		
16	59 07.9	27.5	239 17.1	81	-16 09.6	151	<b>35</b> 32	17 58	28	21	74	35	34		
17	74 08.1	+12 26.7	253 44.2	82	-15 54.5	152	<b>40</b> 17 25	17 53	18 25	17 11	79	6 46	31		
18	89 08.2	+12 25.9	268 11.5	82	-15 39.3	153	<b>45</b> 17 17	17 48	18 22	17 00	84	6 59	26		
19	104 08.4	25.0	282 38.7	84	24.0	154	<b>50</b> 08	41	19	16 46	90	7 15	19		
20	119 08.5	24.2	297 06.1	84	-15 08.6	155	<b>52</b> 17 04	39	18	39	94	22	17		
21	134 08.7	23.4	311 33.5	84	-14 53.1	156	<b>54</b> 16 59	36	17	32	97	31	13		
22	149 08.8	22.6	326 00.9	86	37.5	157	<b>56</b> 53	32	16	24	101	40	9		
23	164 09.0	21.7	340 28.5	86	21.8	158	<b>58</b> 48	29	15	15	105	7 50	5		
24	179 09.1	+12 20.9	354 56.1	86	-14 06.0	158	<b>60 S</b> 16 41	17 25	18 14	16 04	111	8 01	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 08.3 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 23 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 23 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 13 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 26 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	327 50.2	159 12.6	+6 21.2	249 14.2	+22 42.4	251 32.2	+22 08.6	338 28.1	-6 55.0	
1	342 52.7	174 12.3	20.0	264 14.9	42.5	266 34.3	08.6	353 30.7	55.1	
2	357 55.1	189 11.9	18.7	279 15.7	42.7	281 36.4	08.6	8 33.4	55.2	
3	12 57.6	204 11.6	17.5	294 16.4	42.9	296 38.5	08.7	23 36.0	55.2	
4	28 00.1	219 11.2	16.2	309 17.1	43.0	311 40.5	08.7	38 38.6	55.3	
5	43 02.5	234 10.9	+6 15.0	324 17.9	+22 43.2	326 42.6	+22 08.7	53 41.2	-6 55.4	
6	58 05.0	249 10.5	+6 13.8	339 18.6	+22 43.4	341 44.7	+22 08.8	68 43.8	-6 55.5	
7	73 07.5	264 10.1	12.5	354 19.3	43.5	356 46.8	08.8	83 46.5	55.5	
8	88 09.9	279 09.8	11.3	9 20.1	43.7	11 48.8	08.8	98 49.1	55.6	
9	103 12.4	294 09.4	10.0	24 20.8	43.8	26 50.9	08.9	113 51.7	55.7	
10	118 14.9	309 09.1	08.8	39 21.5	44.0	41 53.0	08.9	128 54.3	55.8	
11	133 17.3	324 08.7	+6 07.6	54 22.3	+22 44.2	56 55.1	+22 08.9	143 57.0	-6 55.8	
12	148 19.8	339 08.4	+6 06.3	69 23.0	+22 44.3	71 57.1	+22 09.0	158 59.6	-6 55.9	
13	163 22.3	354 08.0	05.1	84 23.7	44.5	86 59.2	09.0	174 02.2	56.0	
14	178 24.7	9 07.7	03.8	99 24.5	44.7	102 01.3	09.0	189 04.8	56.0	
15	193 27.2	24 07.3	02.6	114 25.2	44.8	117 03.4	09.1	204 07.4	56.1	
16	208 29.6	39 06.9	01.4	129 25.9	45.0	132 05.4	09.1	219 10.1	56.2	
17	223 32.1	54 06.6	+6 00.1	144 26.7	+22 45.1	147 07.5	+22 09.1	234 12.7	-6 56.3	
18	238 34.6	69 06.2	+5 58.9	159 27.4	+22 45.3	162 09.6	+22 09.2	249 15.3	-6 56.3	
19	253 37.0	84 05.9	57.6	174 28.1	45.5	177 11.7	09.2	264 17.9	56.4	
20	268 39.5	99 05.5	56.4	189 28.9	45.6	192 13.8	09.2	279 20.5	56.5	
21	283 42.0	114 05.2	55.2	204 29.6	45.8	207 15.8	09.3	294 23.2	56.6	
22	298 44.4	129 04.8	53.9	219 30.3	46.0	222 17.9	09.3	309 25.8	56.6	
23	313 46.9	144 04.5	52.7	234 31.1	46.1	237 20.0	09.3	324 28.4	56.7	
24	328 49.4	159 04.1	+5 51.4	249 31.8	+22 46.3	252 22.1	+22 09.4	339 31.0	-6 56.8	

Dif	—	-4	-12	+7	+2	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 12 <sup>h</sup> 03.3 <sup>m</sup>		SD: 16.5' Edad: 15.5 <sup>d</sup> PMG: 0 <sup>h</sup> 21 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.8' 20 <sup>h</sup> : 60.9'			R <sup>o</sup> : 52 <sup>m</sup>			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
0	179 09.1	+ 12 20.9	354 56.1	86	- 14 06.0	159	60 N	2 29	3 38	4 27	20 05	-1	4 57	109
1	194 09.3	20.1	9 23.7	86	- 13 50.1	159	58	2 49	3 50	35	20 00	3	5 05	104
2	209 09.4	19.3	23 51.5	88	34.2	159	56	3 04	4 00	42	19 55	7	12	100
3	224 09.6	18.4	38 19.3	88	18.1	161	54	17	08	47	52	9	18	96
4	239 09.7	17.6	52 47.1	88	- 13 02.0	161	52	29	16	53	48 13	24	92	92
5	254 09.9	+ 12 16.8	67 15.0	89	- 12 45.7	163	50	3 38	4 22	4 58	19 45	15	5 29	89
6	269 10.0	+ 12 15.9	81 43.0	90	- 12 29.4	163	45	3 58	4 37	5 08	19 38	21	5 40	83
7	284 10.2	15.1	96 11.1	91	- 12 13.0	164	40	4 14	48	17	32 26	49	78	78
8	299 10.3	14.3	110 39.2	91	- 11 56.6	164	35	26	4 58	24	27 30	5 56	74	74
9	314 10.5	13.5	125 07.3	91	40.0	166	30	36	5 06	30	22 34	6 03	70	70
10	329 10.6	12.6	139 35.5	92	23.4	166	20	4 52	19	42	15 40	14	63	63
11	344 10.8	+ 12 11.8	154 03.8	93	- 11 06.7	167	10 N	5 04	5 30	5 51	19 08	45	6 24	58
12	359 10.9	+ 12 11.0	168 32.1	93	- 10 50.0	167	0	5 14	5 39	6 00	19 01	51	6 34	51
13	14 11.1	10.1	183 00.5	94	33.2	168	10 S	22	47	09	18 55	56	43	46
14	29 11.2	09.3	197 28.9	94	- 10 16.3	169	20	29	5 55	18	48 62	6 52	41	41
15	44 11.4	08.5	211 57.4	95	- 9 59.3	170	30	36	6 04	28	40 69	7 03	35	35
16	59 11.6	07.7	226 26.0	96	42.3	170	35	39	08	34	35 73	09	31	31
17	74 11.7	+ 12 06.8	240 54.6	96	- 9 25.3	170	40	5 41	6 13	6 41	18 30	77	7 17	26
18	89 11.9	+ 12 06.0	255 23.2	96	- 9 08.1	172	45	5 44	6 18	6 49	18 24	82	7 25	22
19	104 12.0	05.2	269 51.9	97	- 8 51.0	171	50	47	25	6 58	16 89	34	16	16
20	119 12.2	04.3	284 20.6	97	33.7	173	52	48	27	7 02	13 91	39	13	13
21	134 12.3	03.5	298 49.4	98	- 8 16.4	173	54	49	30	07	09 95	44	10	10
22	149 12.5	02.7	313 18.3	99	- 7 59.1	173	56	50	33	12	05 98	49	7	7
23	164 12.6	01.8	327 47.1	98	41.7	174	58	51	37	18	18 00	102	7 55	4
24	179 12.8	+ 12 01.0	342 16.1	100	- 7 24.3	174	60 S	5 52	6 41	7 24	17 55	107	8 02	-1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 <sup>h</sup> 04.4 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 24 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 22 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	328 49.4	159 04.1	+ 5 51.4	249 31.8	+ 22 46.3	252 22.1	+ 22 09.4	339 31.0	- 6 56.8	56.8
1	343 51.8	174 03.8	50.2	264 32.5	46.4	267 24.2	09.4	354 33.7	56.8	56.9
2	358 54.3	189 03.4	48.9	279 33.3	46.6	282 26.2	09.4	9 36.3	56.9	57.0
3	13 56.7	204 03.1	47.7	294 34.0	46.7	297 28.3	09.4	24 38.9	57.0	57.1
4	28 59.2	219 02.7	46.5	309 34.7	46.9	312 30.4	09.5	39 41.5	57.1	57.1
5	44 01.7	234 02.4	+ 5 45.2	324 35.5	+ 22 47.1	327 32.5	+ 22 09.5	54 44.1	- 6 57.1	57.2
6	59 04.1	249 02.0	+ 5 44.0	339 36.2	+ 22 47.2	342 34.6	+ 22 09.5	69 46.8	- 6 57.2	57.3
7	74 06.6	264 01.7	42.7	354 37.0	47.4	357 36.6	09.6	84 49.4	57.3	57.4
8	89 09.1	279 01.3	41.5	9 37.7	47.5	12 38.7	09.6	99 52.0	57.4	57.5
9	104 11.5	294 01.0	40.2	24 38.4	47.7	27 40.8	09.6	114 54.6	57.4	57.5
10	119 14.0	309 00.6	39.0	39 39.2	47.8	42 42.9	09.7	129 57.3	57.5	57.6
11	134 16.5	324 00.3	+ 5 37.7	54 39.9	+ 22 48.0	57 45.0	+ 22 09.7	144 59.9	- 6 57.6	57.7
12	149 18.9	338 59.9	+ 5 36.5	69 40.6	+ 22 48.2	72 47.1	+ 22 09.7	160 02.5	- 6 57.7	57.8
13	164 21.4	353 59.6	35.2	84 41.4	48.3	87 49.1	09.8	175 05.1	57.7	57.8
14	179 23.9	8 59.2	34.0	99 42.1	48.5	102 51.2	09.8	190 07.8	57.8	57.9
15	194 26.3	23 58.9	32.7	114 42.9	48.6	117 53.3	09.8	205 10.4	57.9	57.9
16	209 28.8	38 58.5	31.5	129 43.6	48.8	132 55.4	09.9	220 13.0	57.9	58.0
17	224 31.2	53 58.2	+ 5 30.2	144 44.3	+ 22 48.9	147 57.5	+ 22 09.9	235 15.6	- 6 58.0	58.1
18	239 33.7	68 57.8	+ 5 29.0	159 45.1	+ 22 49.1	162 59.6	+ 22 09.9	250 18.2	- 6 58.1	58.2
19	254 36.2	83 57.5	27.8	174 45.8	49.2	178 01.6	10.0	265 20.9	58.2	58.2
20	269 38.6	98 57.1	26.5	189 46.6	49.4	193 03.7	10.0	280 23.5	58.2	58.3
21	284 41.1	113 56.8	25.3	204 47.3	49.5	208 05.8	10.0	295 26.1	58.3	58.4
22	299 43.6	128 56.4	24.0	219 48.0	49.7	223 07.9	10.1	310 28.7	58.4	58.5
23	314 46.0	143 56.1	22.8	234 48.8	49.9	238 10.0	10.1	325 31.4	58.5	58.5
24	329 48.5	158 55.7	+ 5 21.5	249 49.5	+ 22 50.0	253 12.1	+ 22 10.1	340 34.0	- 6 58.5	58.5
Dif	—	-3	-12	+7	+2	+21	0	+26	-1	-1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.8' PMG: 12 <sup>h</sup> 03.0 <sup>m</sup>		SD: 16.6' Edad: 16.5 <sup>d</sup> PMG: 1 <sup>h</sup> 13 <sup>m</sup>		R <sup>o</sup> : 51 <sup>m</sup>				PHE { 4 <sup>h</sup> : 60.9' 12 <sup>h</sup> : 60.9' 20 <sup>h</sup> : 60.8'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h m	h m	h m	h m	m	h m
0	179 12.8	+12 01.0	342 16.1	99	-7 24.3	175	<b>60 N</b>	19 35	20 23	21 29	20 04	-1	6 46	105	
1	194 13.0	+12 00.2	356 45.0	100	-7 06.8	175	<b>58</b>	28	12	21 11	03	3	49	101	
2	209 13.1	+11 59.3	11 14.0	101	-6 49.3	175	<b>56</b>	21	20 03	20 57	02	6	52	97	
3	224 13.3	58.5	25 43.1	101	31.8	176	<b>54</b>	16	19 54	44	01	10	54	94	
4	239 13.4	57.7	40 12.2	101	-6 14.2	176	<b>52</b>	10	47	33	01	12	56	91	
5	254 13.6	+11 56.8	54 41.3	101	-5 56.6	176	<b>50</b>	19 06	19 41	20 24	20 00	15	6 58	88	
6	269 13.7	+11 56.0	69 10.5	102	-5 38.9	177	<b>45</b>	18 56	19 27	20 05	19 59	20	7 03	82	
7	284 13.9	55.2	83 39.7	102	21.2	177	<b>40</b>	48	16	19 50	58	25	07	76	
8	299 14.1	54.3	98 08.9	102	-5 03.5	177	<b>35</b>	41	19 07	38	57	29	10	72	
9	314 14.2	53.5	112 38.2	103	-4 45.8	177	<b>30</b>	35	18 59	29	56	33	13	68	
10	329 14.4	52.6	127 07.5	103	28.0	178	<b>20</b>	24	47	13	55	39	17	62	
11	344 14.5	+11 51.8	141 36.8	103	-4 10.2	178	<b>10 N</b>	18 15	18 36	19 01	19 53	45	7 22	56	
12	359 14.7	+11 51.0	156 06.2	104	-3 52.4	178	<b>0</b>	18 06	18 27	18 52	19 52	50	7 25	51	
13	14 14.8	50.1	170 35.5	103	34.6	178	<b>10 S</b>	17 58	19	44	51	56	29	45	
14	29 15.0	49.3	185 05.0	105	-3 16.8	178	<b>20</b>	49	12	38	50	61	33	40	
15	44 15.2	48.5	199 34.4	104	-2 58.9	179	<b>30</b>	39	18 04	32	49	68	38	33	
16	59 15.3	47.6	214 03.9	105	41.1	178	<b>35</b>	34	17 59	29	48	72	40	30	
17	74 15.5	+11 46.8	228 33.4	105	-2 23.2	179	<b>40</b>	17 27	17 55	18 26	19 47	76	7 43	25	
18	89 15.6	+11 45.9	243 02.9	105	-2 05.3	179	<b>45</b>	17 20	17 50	18 24	19 46	81	7 47	20	
19	104 15.8	45.1	257 32.4	105	-1 47.4	179	<b>50</b>	11	44	22	45	87	50	15	
20	119 16.0	44.3	272 02.0	106	29.5	179	<b>52</b>	07	42	21	44	91	52	12	
21	134 16.1	43.4	286 31.5	105	-1 11.6	179	<b>54</b>	17 02	39	20	44	93	54	10	
22	149 16.3	42.6	301 01.1	106	-0 53.7	179	<b>56</b>	16 57	36	19	43	97	56	7	
23	164 16.4	41.7	315 30.7	106	35.8	179	<b>58</b>	52	33	18	42	101	7 59	3	
24	179 16.6	+11 40.9	330 00.4	107	-0 17.9	179	<b>60 S</b>	16 46	17 29	18 18	19 42	105	8 01	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 <sup>h</sup> 00.4 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 25 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 06 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	329 48.5	158 55.7	+5 21.5	249 49.5	+22 50.0	253 12.1	+22 10.1	340 34.0	-6 58.5	
1	344 51.0	173 55.4	20.3	264 50.2	50.2	268 14.1	10.2	355 36.6	58.6	
2	359 53.4	188 55.1	19.0	279 51.0	50.3	283 16.2	10.2	10 39.2	58.7	
3	14 55.9	203 54.7	17.8	294 51.7	50.5	298 18.3	10.2	25 41.9	58.8	
4	29 58.4	218 54.4	16.5	309 52.5	50.6	313 20.4	10.2	40 44.5	58.8	
5	45 00.8	233 54.0	+5 15.3	324 53.2	+22 50.8	328 22.5	+22 10.3	55 47.1	-6 58.9	
6	60 03.3	248 53.7	+5 14.0	339 53.9	+22 50.9	343 24.6	+22 10.3	70 49.7	-6 59.0	
7	75 05.7	263 53.3	12.7	354 54.7	51.1	358 26.7	10.3	85 52.4	59.0	
8	90 08.2	278 53.0	11.5	9 55.4	51.2	13 28.8	10.4	100 55.0	59.1	
9	105 10.7	293 52.6	10.2	24 56.2	51.4	28 30.8	10.4	115 57.6	59.2	
10	120 13.1	308 52.3	09.0	39 56.9	51.5	43 32.9	10.4	131 00.2	59.3	
11	135 15.6	323 52.0	+5 07.7	54 57.7	+22 51.7	58 35.0	+22 10.5	146 02.9	-6 59.3	
12	150 18.1	338 51.6	+5 06.5	69 58.4	+22 51.8	73 37.1	+22 10.5	161 05.5	-6 59.4	
13	165 20.5	353 51.3	05.2	84 59.1	51.9	88 39.2	10.5	176 08.1	59.5	
14	180 23.0	8 50.9	04.0	99 59.9	52.1	103 41.3	10.6	191 10.7	59.6	
15	195 25.5	23 50.6	02.7	115 00.6	52.2	118 43.4	10.6	206 13.4	59.6	
16	210 27.9	38 50.2	01.5	130 01.4	52.4	133 45.5	10.6	221 16.0	59.7	
17	225 30.4	53 49.9	+5 00.2	145 02.1	+22 52.5	148 47.5	+22 10.7	236 18.6	-6 59.8	
18	240 32.8	68 49.6	+4 59.0	160 02.8	+22 52.7	163 49.6	+22 10.7	251 21.2	-6 59.9	
19	255 35.3	83 49.2	57.7	175 03.6	52.8	178 51.7	10.7	266 23.9	-6 59.9	
20	270 37.8	98 48.9	56.5	190 04.3	53.0	193 53.8	10.7	281 26.5	-7 00.0	
21	285 40.2	113 48.5	55.2	205 05.1	53.1	208 55.9	10.8	296 29.1	00.1	
22	300 42.7	128 48.2	53.9	220 05.8	53.3	223 58.0	10.8	311 31.7	00.2	
23	315 45.2	143 47.8	52.7	235 06.6	53.4	239 00.1	10.8	326 34.4	00.2	
24	330 47.6	158 47.5	+4 51.4	250 07.3	+22 53.6	254 02.2	+22 10.9	341 37.0	-7 00.3	
Dif	—	-3	-13	+7	+1	+21	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 12 <sup>h</sup> 02.8 <sup>m</sup>		SD: 16.6' Edad: 17.5 <sup>d</sup> PMG: 2 <sup>h</sup> 04 <sup>m</sup>		R <sup>o</sup> : 50 <sup>m</sup>			PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.6' 20 <sup>h</sup> : 60.5'			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m	
<b>0</b>	179 16.6	+11 40.9	330 00.4	-0 17.9	179	<b>60 N</b>	2 37	3 44	4 32	20 03	-1	8 31	106	
<b>1</b>	194 16.8	40.1	344 30.0	+0 00.0	179	<b>58</b>	2 55	3 55	39	06	3	30	101	
<b>2</b>	209 16.9	39.2	358 59.7	17.9	179	<b>56</b>	3 10	4 04	45	08	7	29	97	
<b>3</b>	224 17.1	38.4	13 29.3	35.8	179	<b>54</b>	22	12	51	11	10	28	94	
<b>4</b>	239 17.3	37.5	27 59.0	+0 53.7	179	<b>52</b>	33	19	4 56	13	13	27	91	
<b>5</b>	254 17.4	+11 36.7	42 28.7	+1 11.5	178	<b>50</b>	3 42	4 26	5 01	20 15	15	8 26	88	
<b>6</b>	269 17.6	+11 35.8	56 58.4	+1 29.4	179	<b>45</b>	4 01	4 39	5 10	20 19	21	8 25	81	
<b>7</b>	284 17.7	35.0	71 28.0	+1 47.2	178	<b>40</b>	16	50	19	23	26	23	77	
<b>8</b>	299 17.9	34.1	85 57.7	+2 05.0	178	<b>35</b>	28	4 59	26	26	30	22	72	
<b>9</b>	314 18.1	33.3	100 27.4	22.8	178	<b>30</b>	38	5 07	32	29	34	21	68	
<b>10</b>	329 18.2	32.5	114 57.1	40.6	178	<b>20</b>	4 53	19	42	34	40	19	62	
<b>11</b>	344 18.4	+11 31.6	129 26.8	+2 58.3	177	<b>10 N</b>	5 05	5 30	5 51	20 38	46	8 18	55	
<b>12</b>	359 18.6	+11 30.8	143 56.6	+3 16.1	178	<b>0</b>	5 14	5 38	5 59	20 42	51	8 16	50	
<b>13</b>	14 18.7	29.9	158 26.3	33.7	176	<b>10 S</b>	22	46	6 08	47	56	14	45	
<b>14</b>	29 18.9	29.1	172 56.0	+3 51.4	177	<b>20</b>	28	5 54	16	51	62	13	39	
<b>15</b>	44 19.0	28.2	187 25.6	+4 09.0	176	<b>30</b>	34	6 02	26	20 57	68	11	33	
<b>16</b>	59 19.2	27.4	201 55.3	26.7	177	<b>35</b>	36	06	32	21 00	72	10	29	
<b>17</b>	74 19.4	+11 26.5	216 25.0	+4 44.2	175	<b>40</b>	5 39	6 10	6 38	21 03	76	8 08	26	
<b>18</b>	89 19.5	+11 25.7	230 54.7	+5 01.8	176	<b>45</b>	5 41	6 15	6 45	21 07	82	8 07	21	
<b>19</b>	104 19.7	24.8	245 24.4	19.2	174	<b>50</b>	43	21	54	12	88	05	15	
<b>20</b>	119 19.9	24.0	259 54.0	36.7	175	<b>52</b>	44	23	6 58	15	90	04	13	
<b>21</b>	134 20.0	23.1	274 23.7	+5 54.1	174	<b>54</b>	45	26	7 02	17	94	04	9	
<b>22</b>	149 20.2	22.3	288 53.3	+6 11.5	174	<b>56</b>	46	29	07	20	97	03	6	
<b>23</b>	164 20.4	21.5	303 22.9	28.8	173	<b>58</b>	46	32	13	23	102	02	2	
<b>24</b>	179 20.5	+11 20.6	317 52.5	+6 46.1	173	<b>60 S</b>	5 47	6 35	7 19	21 27	106	8 00	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 <sup>h</sup> 56.5 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 25 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 19 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 03 <sup>m</sup>		Mag.: +0.7 PMG: 1 <sup>h</sup> 13 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
<b>0</b>	330 47.6	158 47.5	+4 51.4	250 07.3	+22 53.6	254 02.2	+22 10.9	341 37.0	-7 00.3	
<b>1</b>	345 50.1	173 47.2	50.2	265 08.1	53.7	269 04.3	10.9	356 39.6	00.4	
<b>2</b>	0 52.6	188 46.8	48.9	280 08.8	53.8	284 06.4	10.9	11 42.2	00.5	
<b>3</b>	15 55.0	203 46.5	47.7	295 09.5	54.0	299 08.5	11.0	26 44.9	00.5	
<b>4</b>	30 57.5	218 46.1	46.4	310 10.3	54.1	314 10.6	11.0	41 47.5	00.6	
<b>5</b>	46 00.0	233 45.8	+4 45.2	325 11.0	+22 54.3	329 12.6	+22 11.0	56 50.1	-7 00.7	
<b>6</b>	61 02.4	248 45.5	+4 43.9	340 11.8	+22 54.4	344 14.7	+22 11.1	71 52.7	-7 00.8	
<b>7</b>	76 04.9	263 45.1	42.6	355 12.5	54.6	359 16.8	11.1	86 55.4	00.8	
<b>8</b>	91 07.3	278 44.8	41.4	10 13.3	54.7	14 18.9	11.1	101 58.0	00.9	
<b>9</b>	106 09.8	293 44.4	40.1	25 14.0	54.8	29 21.0	11.1	117 00.6	01.0	
<b>10</b>	121 12.3	308 44.1	38.9	40 14.8	55.0	44 23.1	11.2	132 03.3	01.0	
<b>11</b>	136 14.7	323 43.8	+4 37.6	55 15.5	+22 55.1	59 25.2	+22 11.2	147 05.9	-7 01.1	
<b>12</b>	151 17.2	338 43.4	+4 36.4	70 16.2	+22 55.3	74 27.3	+22 11.2	162 08.5	-7 01.2	
<b>13</b>	166 19.7	353 43.1	35.1	85 17.0	55.4	89 29.4	11.3	177 11.1	01.3	
<b>14</b>	181 22.1	8 42.7	33.8	100 17.7	55.5	104 31.5	11.3	192 13.8	01.3	
<b>15</b>	196 24.6	23 42.4	32.6	115 18.5	55.7	119 33.6	11.3	207 16.4	01.4	
<b>16</b>	211 27.1	38 42.1	31.3	130 19.2	55.8	134 35.7	11.4	222 19.0	01.5	
<b>17</b>	226 29.5	53 41.7	+4 30.1	145 20.0	+22 56.0	149 37.8	+22 11.4	237 21.6	-7 01.6	
<b>18</b>	241 32.0	68 41.4	+4 28.8	160 20.7	+22 56.1	164 39.9	+22 11.4	252 24.3	-7 01.6	
<b>19</b>	256 34.4	83 41.1	27.5	175 21.5	56.2	179 42.0	11.4	267 26.9	01.7	
<b>20</b>	271 36.9	98 40.7	26.3	190 22.2	56.4	194 44.1	11.5	282 29.5	01.8	
<b>21</b>	286 39.4	113 40.4	25.0	205 23.0	56.5	209 46.2	11.5	297 32.1	01.9	
<b>22</b>	301 41.8	128 40.0	23.8	220 23.7	56.7	224 48.3	11.5	312 34.8	01.9	
<b>23</b>	316 44.3	143 39.7	22.5	235 24.5	56.8	239 50.3	11.6	327 37.4	02.0	
<b>24</b>	331 46.8	158 39.4	+4 21.2	250 25.2	+22 56.9	254 52.4	+22 11.6	342 40.0	-7 02.1	

Dif	—	-3	-13	+7	+1	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 02.5 <sup>m</sup>		SD: 16.5' Edad: 18.5 <sup>d</sup> PMG: 2 <sup>h</sup> 54 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.4' 12 <sup>h</sup> : 60.2' 20 <sup>h</sup> : 60.0'				R°: 51 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	179 20.5	+11 20.6	317 52.5	+ 6 46.1	172	<b>60 N</b>	19 29	20 16	21 21	20 02	0	10 17	107			
1	194 20.7	19.8	332 22.1	+ 7 03.3	172	<b>58</b>	22	20 06	21 04	09 5	11 102					
2	209 20.9	18.9	346 51.7	20.5	171	<b>56</b>	16	19 57	20 50	15 9	06 98					
3	224 21.0	18.1	1 21.2	37.6	171	<b>54</b>	11	49	38	21 12	10 02	93				
4	239 21.2	17.2	15 50.7	+ 7 54.7	170	<b>52</b>	06	43	28	26 16	9 58	90				
5	254 21.4	+11 16.4	30 20.3	+ 8 11.7	170	<b>50</b>	19 02	19 36	20 19	20 30	19	9 54	87			
6	269 21.5	+11 15.5	44 49.7	+ 8 28.7	169	<b>45</b>	18 52	19 23	20 01	20 40	25	9 46	81			
7	284 21.7	14.7	59 19.2	+ 8 45.6	168	<b>40</b>	45	13	19 47	49 29	40 76					
8	299 21.8	13.8	73 48.6	+ 9 02.4	168	<b>35</b>	38	19 04	36	20 56	33	34 72				
9	314 22.0	12.9	88 18.1	19.2	167	<b>30</b>	32	18 57	26	21 03	36	29 68				
10	329 22.2	12.1	102 47.4	35.9	167	<b>20</b>	22	45	11	14 42	21 62					
11	344 22.4	+11 11.2	117 16.8	+ 9 52.6	166	<b>10 N</b>	18 14	18 35	19 00	21 24	47	9 13	57			
12	359 22.5	+11 10.4	131 46.1	+10 09.1	165	<b>0</b>	18 06	18 27	18 51	21 33	53	9 06	52			
13	14 22.7	09.5	146 15.4	25.7	164	<b>10 S</b>	17 58	19	44	43 57	8 59	47				
14	29 22.9	08.7	160 44.7	42.1	164	<b>20</b>	50	12	38	21 53	62	52 41				
15	44 23.0	07.8	175 13.9	+10 58.5	163	<b>30</b>	40	05	33	22 05	68	44 35				
16	59 23.2	07.0	189 43.1	+11 14.8	162	<b>35</b>	35	18 01	30	12 72	39 32					
17	74 23.4	+11 06.1	204 12.3	+11 31.0	161	<b>40</b>	17 29	17 57	18 28	22 19	77	8 34	27			
18	89 23.5	+11 05.3	218 41.5	+11 47.1	161	<b>45</b>	17 22	17 52	18 26	22 29	81	8 28	22			
19	104 23.7	04.4	233 10.6	+12 03.2	160	<b>50</b>	14	47	24	40 87	20 17					
20	119 23.9	03.6	247 39.6	19.2	159	<b>52</b>	10	45	24	45 91	17 14					
21	134 24.0	02.7	262 08.6	35.1	158	<b>54</b>	06	42	23	51 94	13 11					
22	149 24.2	01.8	276 37.6	+12 50.9	158	<b>56</b>	17 01	39	23	22 57	99	09 8				
23	164 24.4	01.0	291 06.6	+13 06.7	156	<b>58</b>	16 56	37	22	23 05	103	8 04	4			
24	179 24.5	+11 00.1	305 35.5	+13 22.3	156	<b>60 S</b>	16 50	17 33	18 22	23 13	109	7 59	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 <sup>h</sup> 52.6 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 18 <sup>m</sup>		Mag.: -2.2 PMG: 7 <sup>h</sup> 00 <sup>m</sup>		Mag.: +0.6 PMG: 1 <sup>h</sup> 09 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	331 46.8	158 39.4	+ 4 21.2	250 25.2	+ 22 56.9	254 52.4	+ 22 11.6	342 40.0	- 7 02.1	
1	346 49.2	173 39.0	20.0	265 25.9	57.1	269 54.5	11.6	357 42.7	02.2	
2	1 51.7	188 38.7	18.7	280 26.7	57.2	284 56.6	11.7	12 45.3	02.2	
3	16 54.2	203 38.4	17.4	295 27.4	57.3	299 58.7	11.7	27 47.9	02.3	
4	31 56.6	218 38.0	16.2	310 28.2	57.5	315 00.8	11.7	42 50.5	02.4	
5	46 59.1	233 37.7	+ 4 14.9	325 28.9	+ 22 57.6	330 02.9	+ 22 11.7	57 53.2	- 7 02.5	
6	62 01.6	248 37.4	+ 4 13.7	340 29.7	+ 22 57.7	345 05.0	+ 22 11.8	72 55.8	- 7 02.5	
7	77 04.0	263 37.0	12.4	355 30.4	57.9	0 07.1	11.8	87 58.4	02.6	
8	92 06.5	278 36.7	11.1	10 31.2	58.0	15 09.2	11.8	103 01.0	02.7	
9	107 08.9	293 36.4	09.9	25 31.9	58.1	30 11.3	11.9	118 03.7	02.8	
10	122 11.4	308 36.0	08.6	40 32.7	58.3	45 13.4	11.9	133 06.3	02.8	
11	137 13.9	323 35.7	+ 4 07.3	55 33.4	+ 22 58.4	60 15.5	+ 22 11.9	148 08.9	- 7 02.9	
12	152 16.3	338 35.4	+ 4 06.1	70 34.2	+ 22 58.5	75 17.6	+ 22 12.0	163 11.6	- 7 03.0	
13	167 18.8	353 35.0	04.8	85 34.9	58.7	90 19.7	12.0	178 14.2	03.1	
14	182 21.3	8 34.7	03.6	100 35.7	58.8	105 21.8	12.0	193 16.8	03.1	
15	197 23.7	23 34.4	02.3	115 36.4	58.9	120 23.9	12.0	208 19.4	03.2	
16	212 26.2	38 34.0	+ 4 01.0	130 37.2	59.1	135 26.0	12.1	223 22.1	03.3	
17	227 28.7	53 33.7	+ 3 59.8	145 37.9	+ 22 59.2	150 28.1	+ 22 12.1	238 24.7	- 7 03.4	
18	242 31.1	68 33.4	+ 3 58.5	160 38.7	+ 22 59.3	165 30.2	+ 22 12.1	253 27.3	- 7 03.4	
19	257 33.6	83 33.0	57.2	175 39.4	59.5	180 32.3	12.2	268 30.0	03.5	
20	272 36.0	98 32.7	56.0	190 40.2	59.6	195 34.4	12.2	283 32.6	03.6	
21	287 38.5	113 32.4	54.7	205 40.9	59.7	210 36.5	12.2	298 35.2	03.7	
22	302 41.0	128 32.0	53.4	220 41.7	+ 22 59.9	225 38.6	12.2	313 37.8	03.7	
23	317 43.4	143 31.7	52.2	235 42.4	+ 23 00.0	240 40.7	12.3	328 40.5	03.8	
24	332 45.9	158 31.4	+ 3 50.9	250 43.2	+ 23 00.1	255 42.8	+ 22 12.3	343 43.1	- 7 03.9	
Dif	—	-3	-13	+7	+1	+21	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.8' PMG: 12 <sup>h</sup> 02.2 <sup>m</sup>		SD: 16.3' Edad: 19.5 <sup>d</sup> PMG: 3 <sup>h</sup> 45 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.8' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.4'			R°: 53 <sup>m</sup>			Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m	
0	179 24.5	+11 00.1	305 35.5	98	+13 22.3	156	60 N	2 45	3 49	4 37	20 02	2	12 04	110
1	194 24.7	+10 59.3	320 04.3	98	37.9	156	58	3 02	4 00	43	14	8	11 53	103
2	209 24.9	58.4	334 33.2	99	+13 53.3	154	56	15	08	49	24	14	44	98
3	224 25.1	57.6	349 01.9	97	+14 08.7	154	54	27	16	55	33	18	35	94
4	239 25.2	56.7	3 30.7	98	24.0	153	52	37	23	4 59	42	20	28	90
5	254 25.4	+10 55.8	17 59.4	97	+14 39.2	152	50	3 46	4 29	5 04	20 49	24	11 21	88
6	269 25.6	+10 55.0	32 28.0	96	+14 54.3	151	45	4 04	4 42	5 13	21 05	29	11 07	81
7	284 25.7	54.1	46 56.6	96	+15 09.3	150	40	18	4 52	21	18	34	10 56	76
8	299 25.9	53.3	61 25.2	96	24.2	149	35	30	5 01	27	29	38	46	72
9	314 26.1	52.4	75 53.7	95	39.0	148	30	39	08	33	39	41	37	69
10	329 26.2	51.6	90 22.1	94	+15 53.7	147	20	4 54	20	43	21 56	46	23	62
11	344 26.4	+10 50.7	104 50.5	94	+16 08.3	146	10 N	5 05	5 30	5 51	22 11	51	10 10	58
12	359 26.6	+10 49.8	119 18.9	94	+16 22.8	145	0	5 13	5 38	5 59	22 26	54	9 58	53
13	14 26.8	49.0	133 47.2	93	37.2	144	10 S	21	45	6 07	40	59	46	49
14	29 26.9	48.1	148 15.5	93	+16 51.4	142	20	27	5 52	15	22 55	63	33	44
15	44 27.1	47.2	162 43.7	92	+17 05.6	142	30	32	6 00	24	23 13	69	19	38
16	59 27.3	46.4	177 11.8	91	19.7	141	35	34	03	29	24	71	11	35
17	74 27.4	+10 45.5	191 39.9	91	+17 33.6	139	40	5 36	6 08	6 35	23 36	75	9 01	32
18	89 27.6	+10 44.7	206 08.0	91	+17 47.5	139	45	5 38	6 12	6 42	23 50	80	8 50	27
19	104 27.8	43.8	220 36.0	90	+18 01.2	137	50	39	17	50	*** **	***	37	21
20	119 28.0	42.9	235 03.9	89	14.8	136	52	40	19	54	*** **	***	31	18
21	134 28.1	42.1	249 31.8	89	28.3	135	54	41	22	6 58	*** **	***	24	15
22	149 28.3	41.2	263 59.6	88	41.6	133	56	41	24	7 02	*** **	***	17	10
23	164 28.5	40.3	278 27.4	88	+18 54.9	133	58	41	27	07	*** **	***	8 08	6
24	179 28.7	+10 39.5	292 55.1	87	+19 08.0	131	60 S	5 42	6 30	7 13	*** **	***	7 59	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 <sup>h</sup> 48.6 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.2 PMG: 6 <sup>h</sup> 56 <sup>m</sup>		Mag.: +0.6 PMG: 1 <sup>h</sup> 05 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	332 45.9	158 31.4	+3 50.9	250 43.2	+23 00.1	255 42.8	+22 12.3	343 43.1	-7 03.9	
1	347 48.4	173 31.0	49.6	265 43.9	00.2	270 45.0	12.3	358 45.7	04.0	
2	2 50.8	188 30.7	48.4	280 44.7	00.4	285 47.1	12.4	13 48.4	04.0	
3	17 53.3	203 30.4	47.1	295 45.5	00.5	300 49.2	12.4	28 51.0	04.1	
4	32 55.8	218 30.0	45.8	310 46.2	00.6	315 51.3	12.4	43 53.6	04.2	
5	47 58.2	233 29.7	+3 44.6	325 47.0	+23 00.8	330 53.4	+22 12.4	58 56.2	-7 04.3	
6	63 00.7	248 29.4	+3 43.3	340 47.7	+23 00.9	345 55.5	+22 12.5	73 58.9	-7 04.3	
7	78 03.2	263 29.0	42.0	355 48.5	01.0	0 57.6	12.5	89 01.5	04.4	
8	93 05.6	278 28.7	40.8	10 49.2	01.1	15 59.7	12.5	104 04.1	04.5	
9	108 08.1	293 28.4	39.5	25 50.0	01.3	31 01.8	12.6	119 06.8	04.6	
10	123 10.5	308 28.0	38.2	40 50.7	01.4	46 03.9	12.6	134 09.4	04.6	
11	138 13.0	323 27.7	+3 37.0	55 51.5	+23 01.5	61 06.0	+22 12.6	149 12.0	-7 04.7	
12	153 15.5	338 27.4	+3 35.7	70 52.2	+23 01.7	76 08.1	+22 12.6	164 14.7	-7 04.8	
13	168 17.9	353 27.1	34.4	85 53.0	01.8	91 10.2	12.7	179 17.3	04.9	
14	183 20.4	8 26.7	33.2	100 53.7	01.9	106 12.3	12.7	194 19.9	04.9	
15	198 22.9	23 26.4	31.9	115 54.5	02.0	121 14.4	12.7	209 22.5	05.0	
16	213 25.3	38 26.1	30.6	130 55.3	02.2	136 16.5	12.8	224 25.2	05.1	
17	228 27.8	53 25.7	+3 29.3	145 56.0	+23 02.3	151 18.6	+22 12.8	239 27.8	-7 05.2	
18	243 30.3	68 25.4	+3 28.1	160 56.8	+23 02.4	166 20.7	+22 12.8	254 30.4	-7 05.2	
19	258 32.7	83 25.1	26.8	175 57.5	02.5	181 22.9	12.8	269 33.1	05.3	
20	273 35.2	98 24.8	25.5	190 58.3	02.6	196 25.0	12.9	284 35.7	05.4	
21	288 37.7	113 24.4	24.3	205 59.0	02.8	211 27.1	12.9	299 38.3	05.5	
22	303 40.1	128 24.1	23.0	220 59.8	02.9	226 29.2	12.9	314 40.9	05.5	
23	318 42.6	143 23.8	21.7	236 00.5	03.0	241 31.3	13.0	329 43.6	05.6	
24	333 45.0	158 23.4	+3 20.5	251 01.3	+23 03.1	256 33.4	+22 13.0	344 46.2	-7 05.7	

Dif	—	-3	-13	+8	+1	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 01.7 <sup>m</sup>		SD: 15.9' Edad: 21.5 <sup>d</sup> PMG: 5 <sup>h</sup> 34 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 57.9'			R°: 57 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	179 32.9	+10 18.7	279 43.8	74	+23 43.5	97	2 52	3 55	4 42	20 11 19	15 45 101					
1	194 33.1	17.8	294 10.2	74	+23 53.2	96	3 08	4 04	48	38 30	15 18 90					
2	209 33.2	16.9	308 36.5	73	+24 02.8	96	21	13	53	20 59 36	14 57 85					
3	224 33.4	16.1	323 02.7	72	12.2	94	32	20	4 58	21 17 39	40 81					
4	239 33.6	15.2	337 28.9	72	21.4	92	41	26	5 03	32 41	25 78					
5	254 33.8	+10 14.3	351 55.1	72	+24 30.5	91	3 50	4 32	5 07	21 45 44	14 13 75					
6	269 33.9	+10 13.4	6 21.2	71	+24 39.5	90	4 07	4 44	5 15	22 12 47	13 46 72					
7	284 34.1	12.6	20 47.3	71	48.2	87	21	4 54	22	33 50	26 69					
8	299 34.3	11.7	35 13.3	70	+24 56.9	87	31	5 02	29	22 51 51	13 09 66					
9	314 34.5	10.8	49 39.2	69	+25 05.3	84	40	09	34	23 07 52	12 54 65					
10	329 34.7	09.9	64 05.1	69	13.7	84	4 54	21	43	33 54	29 62					
11	344 34.8	+10 09.1	78 31.0	69	+25 21.8	81	5 05	5 30	5 51	23 56 56	12 07 60					
12	359 35.0	+10 08.2	92 56.9	69	+25 29.8	80	5 13	5 37	5 58	** ** *	11 47 58					
13	14 35.2	07.3	107 22.6	67	37.6	78	20	44	6 06	** ** *	27 55					
14	29 35.4	06.4	121 48.4	68	45.3	77	25	51	13	** ** *	11 06 52					
15	44 35.6	05.6	136 14.1	67	+25 52.8	75	30	5 57	22	0 22 66	10 41 50					
16	59 35.7	04.7	150 39.8	67	+26 00.2	74	35	6 01	27	35 69	27 47					
17	74 35.9	+10 03.8	165 05.4	66	+26 07.4	72	40	5 33	6 05	6 32	0 51 72	10 10 45				
18	89 36.1	+10 02.9	179 31.0	66	+26 14.4	70	45	5 35	6 09	6 38	1 10 75	9 50 42				
19	104 36.3	02.1	193 56.6	66	21.3	69	50	36	13	46	34 80	25 38				
20	119 36.5	01.2	208 22.1	65	27.9	66	52	36	15	49	45 84	9 13 35				
21	134 36.6	+10 00.3	222 47.6	65	34.5	66	54	36	17	53	1 58 87	8 59 32				
22	149 36.8	+ 9 59.4	237 13.1	65	40.8	63	56	36	19	6 57	2 13 92	44 27				
23	164 37.0	58.6	251 38.5	64	47.0	62	58	37	22	7 02	32 98	25 21				
24	179 37.2	+ 9 57.7	266 03.9	64	+26 53.1	61	60 S	5 36	6 25	7 07	2 54 109	8 02 10				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 1 <sup>h</sup> 40.8 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 27 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 14 <sup>m</sup>		Mag.: -2.2 PMG: 6 <sup>h</sup> 49 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 57 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	334 44.2	158 15.6	+ 2 49.9	251 19.5	+ 23 06.0	257 24.1	+ 22 13.7	345 49.4	- 7 07.5							
1	349 46.6	173 15.3	48.6	266 20.3	06.1	272 26.2	13.7	0 52.0	07.6							
2	4 49.1	188 15.0	47.4	281 21.0	06.2	287 28.3	13.7	15 54.6	07.7							
3	19 51.6	203 14.6	46.1	296 21.8	06.3	302 30.4	13.7	30 57.2	07.7							
4	34 54.0	218 14.3	44.8	311 22.6	06.4	317 32.5	13.8	45 59.9	07.8							
5	49 56.5	233 14.0	+ 2 43.5	326 23.3	+ 23 06.5	332 34.7	+ 22 13.8	61 02.5	- 7 07.9							
6	64 59.0	248 13.7	+ 2 42.3	341 24.1	+ 23 06.7	347 36.8	+ 22 13.8	76 05.1	- 7 08.0							
7	80 01.4	263 13.3	41.0	356 24.8	06.8	2 38.9	13.8	91 07.8	08.0							
8	95 03.9	278 13.0	39.7	11 25.6	06.9	17 41.0	13.9	106 10.4	08.1							
9	110 06.4	293 12.7	38.4	26 26.4	07.0	32 43.1	13.9	121 13.0	08.2							
10	125 08.8	308 12.4	37.2	41 27.1	07.1	47 45.2	13.9	136 15.7	08.3							
11	140 11.3	323 12.0	+ 2 35.9	56 27.9	+ 23 07.2	62 47.4	+ 22 13.9	151 18.3	- 7 08.3							
12	155 13.8	338 11.7	+ 2 34.6	71 28.7	+ 23 07.3	77 49.5	+ 22 14.0	166 20.9	- 7 08.4							
13	170 16.2	353 11.4	33.3	86 29.4	07.4	92 51.6	14.0	181 23.6	08.5							
14	185 18.7	8 11.1	32.1	101 30.2	07.6	107 53.7	14.0	196 26.2	08.6							
15	200 21.1	23 10.8	30.8	116 30.9	07.7	122 55.8	14.1	211 28.8	08.6							
16	215 23.6	38 10.4	29.5	131 31.7	07.8	137 58.0	14.1	226 31.5	08.7							
17	230 26.1	53 10.1	+ 2 28.2	146 32.5	+ 23 07.9	153 00.1	+ 22 14.1	241 34.1	- 7 08.8							
18	245 28.5	68 09.8	+ 2 26.9	161 33.2	+ 23 08.0	168 02.2	+ 22 14.1	256 36.7	- 7 08.9							
19	260 31.0	83 09.5	25.7	176 34.0	08.1	183 04.3	14.2	271 39.4	08.9							
20	275 33.5	98 09.1	24.4	191 34.8	08.2	198 06.4	14.2	286 42.0	09.0							
21	290 35.9	113 08.8	23.1	206 35.5	08.3	213 08.6	14.2	301 44.6	09.1							
22	305 38.4	128 08.5	21.8	221 36.3	08.4	228 10.7	14.2	316 47.3	09.2							
23	320 40.9	143 08.2	20.6	236 37.1	08.5	243 12.8	14.3	331 49.9	09.2							
24	335 43.3	158 07.9	+ 2 19.3	251 37.8	+ 23 08.6	258 14.9	+ 22 14.3	346 52.5	- 7 09.3							
Dif	—	-3	-13	+8	+1	+21	0	+26	-1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 01.4 <sup>m</sup>		SD: 15.7' Edad: 22.5 <sup>d</sup> PMG: 6 <sup>h</sup> 31 <sup>m</sup> R°: 58 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.6' 12 <sup>h</sup> : 57.4' 20 <sup>h</sup> : 57.2'		Civil Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h m	m	h m	m	h m	m	h m	m
0	179 37.2	+9 57.7	266 03.9	64	+26 53.1	58	60 N	19 17	20 03	21 04	20 30	54	17 26	66		
1	194 37.4	56.8	280 29.3	64	+26 58.9	57	58	11	19 54	20 50	21 08	56	16 48	65		
2	209 37.6	55.9	294 54.7	63	+27 04.6	56	56	06	46	37	35	56	22	63		
3	224 37.7	55.1	309 20.0	63	10.2	55	54	19 02	39	27	21 56	57	16 01	62		
4	239 37.9	54.2	323 45.3	63	15.5	53	52	18 57	33	18	22 13	58	15 43	63		
5	254 38.1	+9 53.3	338 10.6	63	+27 20.7	52	50	18 54	19 28	20 10	22 29	57	15 28	62		
6	269 38.3	+9 52.4	352 35.9	62	+27 25.7	50	45	18 45	19 16	19 53	22 59	57	14 58	61		
7	284 38.5	51.5	7 01.1	62	30.6	49	40	39	19 07	40	23 23	57	35	60		
8	299 38.6	50.7	21 26.4	62	35.3	47	35	33	18 59	30	42	58	14 15	61		
9	314 38.8	49.8	35 51.6	62	39.8	45	30	28	52	21	23 59	58	13 59	60		
10	329 39.0	48.9	50 16.8	62	44.1	43	20	19	42	19 08	** ** *	** ** *	31	59		
11	344 39.2	+9 48.0	64 42.0	62	+27 48.3	42	10 N	18 12	18 33	18 58	** ** *	** ** *	13 07	58		
12	359 39.4	+9 47.1	79 07.2	62	+27 52.3	40	0	18 05	18 26	18 50	0 17	58	12 45	57		
13	14 39.6	46.3	93 32.3	61	56.1	38	10 S	17 58	19	44	0 38	60	12 22	57		
14	29 39.7	45.4	107 57.5	62	+27 59.8	37	20	51	13	39	1 01	61	11 58	57		
15	44 39.9	44.5	122 22.7	62	+28 03.2	34	30	43	07	35	28	63	31	55		
16	59 40.1	43.6	136 47.8	61	06.6	34	35	38	04	33	1 44	64	11 14	55		
17	74 40.3	+9 42.7	151 13.0	62	+28 09.7	31	40	17 33	18 00	18 32	2 03	65	10 55	54		
18	89 40.5	+9 41.8	165 38.2	62	+28 12.7	30	45	17 27	17 57	18 31	2 25	67	10 32	53		
19	104 40.7	41.0	180 03.3	61	15.5	28	50	20	52	30	2 54	70	10 03	50		
20	119 40.8	40.1	194 28.5	62	18.1	26	52	16	51	30	3 09	70	9 48	49		
21	134 41.0	39.2	208 53.7	62	20.6	25	54	13	49	30	25	73	31	48		
22	149 41.2	38.3	223 18.9	62	22.8	22	56	09	47	30	3 45	75	9 11	46		
23	164 41.4	37.4	237 44.1	62	25.0	22	58	17 04	44	30	4 10	79	8 46	42		
24	179 41.6	+9 36.5	252 09.3	62	+28 26.9	19	60 S	16 59	17 42	18 30	4 43	89	8 12	33		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 <sup>h</sup> 36.8 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 28 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 13 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 52 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	335 43.3	158 07.9	+ 2 19.3	251 37.8	+ 23 08.6	258 14.9	+ 22 14.3	346 52.5	- 7 09.3	
1	350 45.8	173 07.5	18.0	266 38.6	08.8	273 17.0	14.3	1 55.2	09.4	
2	5 48.3	188 07.2	16.7	281 39.4	08.9	288 19.2	14.3	16 57.8	09.5	
3	20 50.7	203 06.9	15.4	296 40.1	09.0	303 21.3	14.4	32 00.4	09.6	
4	35 53.2	218 06.6	14.2	311 40.9	09.1	318 23.4	14.4	47 03.1	09.6	
5	50 55.6	233 06.2	+ 2 12.9	326 41.7	+ 23 09.2	333 25.5	+ 22 14.4	62 05.7	- 7 09.7	
6	65 58.1	248 05.9	+ 2 11.6	341 42.4	+ 23 09.3	348 27.7	+ 22 14.5	77 08.3	- 7 09.8	
7	81 00.6	263 05.6	10.3	356 43.2	09.4	3 29.8	14.5	92 11.0	09.9	
8	96 03.0	278 05.3	09.0	11 44.0	09.5	18 31.9	14.5	107 13.6	09.9	
9	111 05.5	293 05.0	07.8	26 44.7	09.6	33 34.0	14.5	122 16.2	10.0	
10	126 08.0	308 04.6	06.5	41 45.5	09.7	48 36.2	14.6	137 18.9	10.1	
11	141 10.4	323 04.3	+ 2 05.2	56 46.3	+ 23 09.8	63 38.3	+ 22 14.6	152 21.5	- 7 10.2	
12	156 12.9	338 04.0	+ 2 03.9	71 47.0	+ 23 09.9	78 40.4	+ 22 14.6	167 24.1	- 7 10.2	
13	171 15.4	353 03.7	02.6	86 47.8	10.0	93 42.5	14.6	182 26.8	10.3	
14	186 17.8	8 03.4	01.4	101 48.6	10.1	108 44.6	14.7	197 29.4	10.4	
15	201 20.3	23 03.0	+ 2 00.1	116 49.3	10.2	123 46.8	14.7	212 32.0	10.5	
16	216 22.8	38 02.7	+ 1 58.8	131 50.1	10.3	138 48.9	14.7	227 34.7	10.5	
17	231 25.2	53 02.4	+ 1 57.5	146 50.9	+ 23 10.4	153 51.0	+ 22 14.7	242 37.3	- 7 10.6	
18	246 27.7	68 02.1	+ 1 56.2	161 51.7	+ 23 10.5	168 53.2	+ 22 14.8	257 39.9	- 7 10.7	
19	261 30.1	83 01.8	55.0	176 52.4	10.6	183 55.3	14.8	272 42.6	10.8	
20	276 32.6	98 01.4	53.7	191 53.2	10.7	198 57.4	14.8	287 45.2	10.8	
21	291 35.1	113 01.1	52.4	206 54.0	10.8	213 59.5	14.8	302 47.8	10.9	
22	306 37.5	128 00.8	51.1	221 54.7	10.9	229 01.7	14.9	317 50.5	11.0	
23	321 40.0	143 00.5	49.8	236 55.5	11.0	244 03.8	14.9	332 53.1	11.1	
24	336 42.5	158 00.2	+ 1 48.6	251 56.3	+ 23 11.1	259 05.9	+ 22 14.9	347 55.7	- 7 11.2	

Dif	—	-3	-13	+8	+1	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna											
	SD: 15.8' PMG: 12 <sup>h</sup> 01.1 <sup>m</sup>		SD: 15.5' Edad: 23.5 <sup>d</sup> PMG: 7 <sup>h</sup> 29 <sup>m</sup> R°: 56 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.9' 12 <sup>h</sup> : 56.7' 20 <sup>h</sup> : 56.5'			Náutico	Civil		Hora	R°	Hora	R°										
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									h	m	h	m	h	m	h	m		
0	179	41.6	+9	36.5	252	09.3	62	+28	26.9	18	60 N	2	59	4	00	4	46	21	24	89	18	32	27	
1	194	41.8			266	34.5	62		28.7	16	58	3	14	09	52	22	04	79	17	53	35			
2	209	42.0			280	59.7	62		30.3	14	56	26	17	4	57	31	75	25	40					
3	224	42.1			295	25.0	63		31.7	13	54	36	24	5	02	22	53	72	17	03	43			
4	239	42.3			309	50.2	63		33.0	11	52	46	30	06	23	11	70	16	46	44				
5	254	42.5	+9	32.1	324	15.5	63	+28	34.1	9	50	3	54	4	35	5	10	23	26	68	16	30	46	
6	269	42.7	+9	31.2	338	40.8	64	+28	35.0	7	45	4	10	4	47	5	18	23	56	66	15	59	49	
7	284	42.9			353	06.2	64		35.7	6	40	23	4	56	24	**	**	**	**	**	**	**	**	
8	299	43.1			7	31.5	63		36.3	4	35	33	5	04	30	**	**	**	**	**	**	**	**	
9	314	43.3			21	56.9	64		36.7	3	30	42	10	35	**	**	**	**	**	**	**	**	**	
10	329	43.4			36	22.3	64		37.0	1	20	4	55	21	44	0	27	58	30	54				
11	344	43.6	+9	26.8	50	47.8	65	+28	37.1	1	10 N	5	05	5	30	5	51	0	52	57	14	05	56	
12	359	43.8	+9	25.9	65	13.2	66	+28	37.0	3	0	5	12	5	37	5	58	1	15	57	13	42	57	
13	14	44.0			79	38.8	66		36.7	4	10 S	19	43	6	04	1	38	57	13	19	58			
14	29	44.2			94	04.3	65		36.3	6	20	24	49	12	2	02	57	12	55	58				
15	44	44.4			108	29.9	66		35.7	8	30	27	55	19	3	41	56	26	59					
16	59	44.6			122	55.5	66		34.9	9	35	29	5	58	24	2	48	56	12	09	60			
17	74	44.8	+9	21.5	137	21.2	67	+28	34.0	11	40	5	30	6	02	6	29	3	08	55	11	49	61	
18	89	44.9	+9	20.6	151	46.9	67	+28	32.9	12	45	5	31	6	05	6	35	3	32	55	11	25	62	
19	104	45.1			166	12.7	68		31.7	14	50	32	09	42	4	04	53	10	53	64				
20	119	45.3			180	38.5	68		30.3	16	52	32	11	45	19	53	37	65						
21	134	45.5			195	04.3	68		28.7	17	54	32	13	49	4	38	52	10	19	66				
22	149	45.7			209	30.2	69		27.0	19	56	32	15	52	5	00	51	9	57	67				
23	164	45.9			223	56.2	70		25.1	21	58	31	17	6	57	5	29	49	9	28	69			
24	179	46.1	+9	15.2	238	22.2	70	+28	23.0	19	60 S	5	31	6	19	7	02	6	12	43	8	45	75	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO															
	PMG: 1 <sup>h</sup> 32.9 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 28 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 12 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 43 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 48 <sup>m</sup>															
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec														
0	336	42.5	158	00.2	+1	48.6	251	56.3	+23	11.1	259	05.9	+22	14.9	347	55.7	-7	11.2						
1	351	44.9	172	59.8		47.3	266	57.0		11.2	274	08.0		14.9	2	58.4		11.2						
2	6	47.4	187	59.5		46.0	281	57.8		11.3	289	10.2		15.0	18	01.0		11.3						
3	21	49.9	202	59.2		44.7	296	58.6		11.4	304	12.3		15.0	33	03.6		11.4						
4	36	52.3	217	58.9		43.4	311	59.4		11.5	319	14.4		15.0	48	06.3		11.5						
5	51	54.8	232	58.6	+1	42.2	327	00.1	+23	11.6	334	16.6	+22	15.1	63	08.9	-7	11.5						
6	66	57.2	247	58.3	+1	40.9	342	00.9	+23	11.7	349	18.7	+22	15.1	78	11.5	-7	11.6						
7	81	59.7	262	57.9		39.6	357	01.7		11.8	4	20.8		15.1	93	14.2		11.7						
8	97	02.2	277	57.6		38.3	12	02.4		11.9	19	22.9		15.1	108	16.8		11.8						
9	112	04.6	292	57.3		37.0	27	03.2		12.0	34	25.1		15.2	123	19.4		11.8						
10	127	07.1	307	57.0		35.7	42	04.0		12.1	49	27.2		15.2	138	22.1		11.9						
11	142	09.6	322	56.7	+1	34.5	57	04.8	+23	12.2	64	29.3	+22	15.2	153	24.7	-7	12.0						
12	157	12.0	337	56.3	+1	33.2	72	05.5	+23	12.3	79	31.5	+22	15.2	168	27.3	-7	12.1						
13	172	14.5	352	56.0		31.9	87	06.3		12.4	94	33.6		15.3	183	30.0		12.1						
14	187	17.0	7	55.7		30.6	102	07.1		12.5	109	35.7		15.3	198	32.6		12.2						
15	202	19.4	22	55.4		29.3	117	07.9		12.6	124	37.9		15.3	213	35.3		12.3						
16	217	21.9	37	55.1		28.0	132	08.6		12.7	139	40.0		15.3	228	37.9		12.4						
17	232	24.4	52	54.8	+1	26.8	147	09.4	+23	12.8	154	42.1	+22	15.4	243	40.5	-7	12.5						
18	247	26.8	67	54.4	+1	25.5	162	10.2	+23	12.9	169	44.3	+22	15.4	258	43.2	-7	12.5						
19	262	29.3	82	54.1		24.2	177	11.0		13.0	184	46.4		15.4	273	45.8		12.6						
20	277	31.7	97	53.8		22.9	192	11.7		13.1	199	48.5		15.4	288	48.4		12.7						
21	292	34.2	112	53.5		21.6	207	12.5		13.2	214	50.7		15.5	303	51.1		12.8						
22	307	36.7	127	53.2		20.3	222	13.3		13.3	229	52.8		15.5	318	53.7		12.8						
23	322	39.1	142	52.8		19.1	237	14.1		13.4	244	54.9		15.5	333	56.3		12.9						
24	337	41.6	157	52.5	+1	17.8	252	14.8	+23	13.5	259	57.1	+22	15.5	348	59.0	-7	13.0						
Dif	—		-3		-13		+8		+1		+21		0		+26		-1							

UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 00.8 <sup>m</sup>			SD: 15.4' Edad: 24.5 <sup>d</sup> PMG: 8 <sup>h</sup> 25 <sup>m</sup> R°: 54 <sup>m</sup>					PHE { 4 <sup>h</sup> : 56.3' 12 <sup>h</sup> : 56.1' 20 <sup>h</sup> : 55.9'		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec			Dif							
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m	
0	179 46.1	+9 15.2	238 22.2	71	+28 23.0	22	<b>60 N</b>	19 11	19 57	20 56	22 53	100	18 59	9		
1	194 46.3	14.4	252 48.3	71	20.8	24	<b>58 N</b>	06	48	43	23 23	90	28	18		
2	209 46.5	13.5	267 14.4	71	18.4	25	<b>56</b>	19 01	41	31	23 46	84	18 05	24		
3	224 46.6	12.6	281 40.6	72	15.9	27	<b>54</b>	18 57	34	21	** ** *	** ** *	17 46	28		
4	239 46.8	11.7	296 06.8	72	13.2	27	<b>52</b>	53	28	12	** ** *	** ** *	30	31		
5	254 47.0	+9 10.8	310 33.1	73	+28 10.3	29	<b>50</b>	18 49	19 23	20 05	** ** *	** ** *	17 16	33		
6	269 47.2	+9 09.9	324 59.4	73	+28 07.3	30	<b>45</b>	18 42	19 12	19 49	** ** *	** ** *	16 48	38		
7	284 47.4	09.0	339 25.9	75	04.2	31	<b>40</b>	36	19 03	37	0 20	64	26	40		
8	299 47.6	08.1	353 52.4	75	+28 00.9	33	<b>35</b>	30	18 56	27	40	62	16 07	43		
9	314 47.8	07.2	8 18.9	75	+27 57.4	35	<b>30</b>	26	50	19	0 57	60	15 51	45		
10	329 48.0	06.3	22 45.5	76	53.8	36	<b>20</b>	17	40	19 06	1 25	58	24	48		
11	344 48.2	+9 05.4	37 12.2	77	+27 50.0	38	<b>10 N</b>	18 11	18 32	18 57	1 49	57	15 01	50		
12	359 48.3	+9 04.5	51 39.0	78	+27 46.1	39	<b>0</b>	18 04	18 25	18 49	2 12	55	14 39	53		
13	14 48.5	03.6	66 05.8	78	42.0	41	<b>10 S</b>	17 58	19	44	35	53	14 17	55		
14	29 48.7	02.7	80 32.7	79	37.8	42	<b>20</b>	51	13	39	2 59	51	13 53	58		
15	44 48.9	01.9	94 59.7	80	33.4	44	<b>30</b>	44	08	36	3 27	49	25	61		
16	59 49.1	01.0	109 26.7	80	28.9	45	<b>35</b>	39	05	34	3 44	47	13 09	63		
17	74 49.3	+9 00.1	123 53.8	81	+27 24.2	47	<b>40</b>	17 35	18 02	18 33	4 03	46	12 50	65		
18	89 49.5	+8 59.2	138 21.0	82	+27 19.4	48	<b>45</b>	17 29	17 59	18 33	4 27	43	12 27	68		
19	104 49.7	58.3	152 48.3	83	14.5	49	<b>50</b>	23	55	33	4 57	39	11 57	72		
20	119 49.9	57.4	167 15.7	84	09.4	51	<b>52</b>	20	54	33	5 12	37	42	74		
21	134 50.1	56.5	181 43.1	84	+27 04.1	53	<b>54</b>	16	52	33	30	34	25	77		
22	149 50.3	55.6	196 10.6	85	+26 58.8	53	<b>56</b>	13	50	33	5 51	30	11 04	81		
23	164 50.4	54.7	210 38.2	86	53.3	55	<b>58</b>	09	48	34	6 18	24	10 37	88		
24	179 50.6	+8 53.8	225 05.9	87	+26 47.6	57	<b>60 S</b>	17 04	17 46	18 35	6 55	13	10 00	99		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 <sup>h</sup> 29.0 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 44 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	337 41.6	157 52.5	+1 17.8	252 14.8	+23 13.5	259 57.1	+22 15.5	348 59.0	-7 13.0	
1	352 44.1	172 52.2	16.5	267 15.6	13.6	274 59.2	15.6	4 01.6	13.1	
2	7 46.5	187 51.9	15.2	282 16.4	13.7	290 01.3	15.6	19 04.2	13.1	
3	22 49.0	202 51.6	13.9	297 17.2	13.7	305 03.5	15.6	34 06.9	13.2	
4	37 51.5	217 51.3	12.6	312 17.9	13.8	320 05.6	15.6	49 09.5	13.3	
5	52 53.9	232 50.9	+1 11.4	327 18.7	+23 13.9	335 07.7	+22 15.7	64 12.1	-7 13.4	
6	67 56.4	247 50.6	+1 10.1	342 19.5	+23 14.0	350 09.9	+22 15.7	79 14.8	-7 13.4	
7	82 58.9	262 50.3	08.8	357 20.3	14.1	5 12.0	15.7	94 17.4	13.5	
8	98 01.3	277 50.0	07.5	12 21.1	14.2	20 14.1	15.7	109 20.1	13.6	
9	113 03.8	292 49.7	06.2	27 21.8	14.3	35 16.3	15.8	124 22.7	13.7	
10	128 06.2	307 49.4	04.9	42 22.6	14.4	50 18.4	15.8	139 25.3	13.8	
11	143 08.7	322 49.0	+1 03.7	57 23.4	+23 14.5	65 20.5	+22 15.8	154 28.0	-7 13.8	
12	158 11.2	337 48.7	+1 02.4	72 24.2	+23 14.6	80 22.7	+22 15.8	169 30.6	-7 13.9	
13	173 13.6	352 48.4	+1 01.1	87 24.9	14.7	95 24.8	15.8	184 33.2	14.0	
14	188 16.1	7 48.1	+0 59.8	102 25.7	14.7	110 27.0	15.9	199 35.9	14.1	
15	203 18.6	22 47.8	58.5	117 26.5	14.8	125 29.1	15.9	214 38.5	14.1	
16	218 21.0	37 47.5	57.2	132 27.3	14.9	140 31.2	15.9	229 41.1	14.2	
17	233 23.5	52 47.2	+0 55.9	147 28.1	+23 15.0	155 33.4	+22 15.9	244 43.8	-7 14.3	
18	248 26.0	67 46.8	+0 54.7	162 28.8	+23 15.1	170 35.5	+22 16.0	259 46.4	-7 14.4	
19	263 28.4	82 46.5	53.4	177 29.6	15.2	185 37.7	16.0	274 49.0	14.4	
20	278 30.9	97 46.2	52.1	192 30.4	15.3	200 39.8	16.0	289 51.7	14.5	
21	293 33.4	112 45.9	50.8	207 31.2	15.4	215 41.9	16.0	304 54.3	14.6	
22	308 35.8	127 45.6	49.5	222 32.0	15.4	230 44.1	16.1	319 57.0	14.7	
23	323 38.3	142 45.3	48.2	237 32.7	15.5	245 46.2	16.1	334 59.6	14.8	
24	338 40.7	157 44.9	+0 46.9	252 33.5	+23 15.6	260 48.4	+22 16.1	350 02.2	-7 14.8	

Dif	—	-3	-13	+8	+1	+21	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 00.5 <sup>m</sup>		SD: 15.2' Edad: 25.5 <sup>d</sup> PMG: 9 <sup>h</sup> 19 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.8' 12 <sup>h</sup> : 55.6' 20 <sup>h</sup> : 55.4'R°: 51 <sup>m</sup>								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	179 50.6	+8 53.8	225 05.9	88	+26 47.6	58	60 N	3 06	4 06	4 51	** ** *	19 08	2			
1	194 50.8	52.9	239 33.7	88	41.8	58	58	20	14	4 56	** ** *	18 46	10			
2	209 51.0	52.0	254 01.5	88	35.9	59	56	31	21	5 01	** ** *	29	14			
3	224 51.2	51.1	268 29.5	90	29.8	62	54	41	28	05	0 05	80	14			
4	239 51.4	50.2	282 57.5	90	23.6	62	52	50	34	09	21	76	18			
5	254 51.6	+8 49.3	297 25.6	91	+26 17.3	63	50	3 57	4 39	5 13	0 34	74	17			
6	269 51.8	+8 48.4	311 53.8	92	+26 10.8	65	45	4 13	4 50	5 20	1 02	69	17			
7	284 52.0	47.5	326 22.1	93	+26 04.3	65	40	25	4 58	26	24	65	17			
8	299 52.2	46.6	340 50.4	93	+25 57.5	68	35	35	5 06	31	42	63	16			
9	314 52.4	45.7	355 18.9	95	50.7	68	30	43	12	36	1 57	61	36			
10	329 52.6	44.8	9 47.4	95	43.7	70	20	4 55	22	44	2 23	57	16			
11	344 52.8	+8 43.9	24 16.1	97	+25 36.6	71	10 N	5 05	5 30	5 51	2 46	54	15			
12	359 53.0	+8 43.0	38 44.8	97	+25 29.4	72	0	5 12	5 36	5 57	3 07	51	15			
13	14 53.1	42.1	53 13.6	98	22.0	74	10 S	18	42	6 03	28	48	15			
14	29 53.3	41.2	67 42.5	99	14.6	74	20	22	48	10	3 50	45	14			
15	44 53.5	40.3	82 11.5	100	+25 07.0	76	30	25	53	17	4 16	41	26			
16	59 53.7	39.4	96 40.6	101	+24 59.3	77	35	26	56	21	31	39	14			
17	74 53.9	+8 38.5	111 09.8	102	+24 51.4	79	40	5 27	5 59	6 26	4 49	36	13			
18	89 54.1	+8 37.6	125 39.1	103	+24 43.5	79	45	5 28	6 02	6 31	5 10	32	13			
19	104 54.3	36.7	140 08.4	103	35.4	81	50	28	05	38	36	28	13			
20	119 54.5	35.8	154 37.9	105	27.2	82	52	28	07	41	5 49	25	12			
21	134 54.7	34.9	169 07.4	105	18.9	83	54	27	08	44	6 04	22	42			
22	149 54.9	34.0	183 37.1	107	10.5	84	56	27	10	47	21	18	25			
23	164 55.1	33.1	198 06.8	107	+24 02.0	85	58	26	12	51	6 42	12	12			
24	179 55.3	+8 32.2	212 36.6	108	+23 53.4	86	60 S	5 26	6 14	6 56	7 08	4	11			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 1 <sup>h</sup> 25.1 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.8 PMG: 7 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 40 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	338 40.7	157 44.9	+0 46.9	252 33.5	+23 15.6	260 48.4	+22 16.1	350 02.2	-7 14.8							
1	353 43.2	172 44.6	45.7	267 34.3	15.7	275 50.5	16.1	5 04.9	14.9							
2	8 45.7	187 44.3	44.4	282 35.1	15.8	290 52.6	16.2	20 07.5	15.0							
3	23 48.1	202 44.0	43.1	297 35.9	15.9	305 54.8	16.2	35 10.1	15.1							
4	38 50.6	217 43.7	41.8	312 36.7	16.0	320 56.9	16.2	50 12.8	15.1							
5	53 53.1	232 43.4	+0 40.5	327 37.4	+23 16.0	335 59.1	+22 16.2	65 15.4	-7 15.2							
6	68 55.5	247 43.1	+0 39.2	342 38.2	+23 16.1	351 01.2	+22 16.3	80 18.0	-7 15.3							
7	83 58.0	262 42.7	37.9	357 39.0	16.2	6 03.3	16.3	95 20.7	15.4							
8	99 00.5	277 42.4	36.7	12 39.8	16.3	21 05.5	16.3	110 23.3	15.4							
9	114 02.9	292 42.1	35.4	27 40.6	16.4	36 07.6	16.3	125 26.0	15.5							
10	129 05.4	307 41.8	34.1	42 41.4	16.5	51 09.8	16.4	140 28.6	15.6							
11	144 07.9	322 41.5	+0 32.8	57 42.1	+23 16.6	66 11.9	+22 16.4	155 31.2	-7 15.7							
12	159 10.3	337 41.2	+0 31.5	72 42.9	+23 16.6	81 14.1	+22 16.4	170 33.9	-7 15.7							
13	174 12.8	352 40.9	30.2	87 43.7	16.7	96 16.2	16.4	185 36.5	15.8							
14	189 15.2	7 40.5	28.9	102 44.5	16.8	111 18.3	16.4	200 39.1	15.9							
15	204 17.7	22 40.2	27.6	117 45.3	16.9	126 20.5	16.5	215 41.8	16.0							
16	219 20.2	37 39.9	26.4	132 46.1	17.0	141 22.6	16.5	230 44.4	16.1							
17	234 22.6	52 39.6	+0 25.1	147 46.9	+23 17.0	156 24.8	+22 16.5	245 47.0	-7 16.1							
18	249 25.1	67 39.3	+0 23.8	162 47.6	+23 17.1	171 26.9	+22 16.5	260 49.7	-7 16.2							
19	264 27.6	82 39.0	22.5	177 48.4	17.2	186 29.1	16.6	275 52.3	16.3							
20	279 30.0	97 38.7	21.2	192 49.2	17.3	201 31.2	16.6	290 55.0	16.4							
21	294 32.5	112 38.3	19.9	207 50.0	17.4	216 33.4	16.6	305 57.6	16.4							
22	309 35.0	127 38.0	18.6	222 50.8	17.5	231 35.5	16.6	321 00.2	16.5							
23	324 37.4	142 37.7	17.4	237 51.6	17.5	246 37.7	16.7	336 02.9	16.6							
24	339 39.9	157 37.4	+0 16.1	252 52.4	+23 17.6	261 39.8	+22 16.7	351 05.5	-7 16.7							
Dif	—	-3	-13	+8	+1	+21	0	+26	-1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 12 <sup>h</sup> 00.2 <sup>m</sup>		SD: 15.1' Edad: 26.5 <sup>d</sup> PMG: 10 <sup>h</sup> 10 <sup>m</sup>		R°: 46 <sup>m</sup>				PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.1' 20 <sup>h</sup> : 55.0'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	179 55.3	+ 8 32.2	212 36.6	+ 23 53.4	88	<b>60 N</b>	19 05	19 50	20 48	0 33 96	19 10 1	19 10 1				
1	194 55.5	31.3	227 06.6	44.6	88	<b>58</b>	19 00	42 36	0 53 90	18 56 5	18 56 5					
2	209 55.7	30.4	241 36.6	35.8	90	<b>56</b>	18 56	35 25	1 10 85	43 9	43 9					
3	224 55.9	29.5	256 06.7	26.8	90	<b>54</b>	52	29 15	25 81	32 12	32 12					
4	239 56.1	28.6	270 36.9	17.8	90	<b>52</b>	48	24 07	37 78	22 15	22 15					
5	254 56.3	+ 8 27.7	285 07.2	+ 23 08.6	92	<b>50</b>	18 45	19 19	20 00	1 48 75	18 13 18	18 13 18				
6	269 56.5	+ 8 26.8	299 37.6	+ 22 59.3	93	<b>45</b>	18 38	19 09	19 45	2 11 70	17 54 23	17 54 23				
7	284 56.7	25.9	314 08.0	50.0	93	<b>40</b>	32	19 00	33 29	66 39	66 39					
8	299 56.9	25.0	328 38.6	40.5	95	<b>35</b>	28	18 53	24 45	62 26	62 26					
9	314 57.0	24.1	343 09.3	30.9	96	<b>30</b>	23	48 16	2 58 59	17 14 33	17 14 33					
10	329 57.2	23.2	357 40.0	21.2	97	<b>20</b>	16	38 19	04 3 20	55 16	55 16					
11	344 57.4	+ 8 22.3	12 10.9	+ 22 11.5	97	<b>10 N</b>	18 09	18 31	18 55	3 40 51	16 37 42	16 37 42				
12	359 57.6	+ 8 21.4	26 41.8	+ 22 01.6	99	<b>0</b>	18 03	18 24	18 49	3 58 47	16 21 46	16 21 46				
13	14 57.8	20.5	41 12.8	+ 21 51.7	99	<b>10 S</b>	17 58	19 43	4 16 44	16 05 49	16 05 49					
14	29 58.0	19.5	55 43.9	41.6	101	<b>20</b>	52	14 39	35 40	15 47 54	15 47 54					
15	44 58.2	18.6	70 15.2	31.5	101	<b>30</b>	45	09 37	4 57 35	27 58	27 58					
16	59 58.4	17.7	84 46.5	21.2	103	<b>35</b>	41	06 36	5 10 32	15 61	15 61					
17	74 58.6	+ 8 16.8	99 17.8	+ 21 10.9	103	<b>40</b>	17 36	18 04	18 35	5 25 29	15 01 65	15 01 65				
18	89 58.8	+ 8 15.9	113 49.3	+ 21 00.5	104	<b>45</b>	17 31	18 01	18 35	5 42 25	14 45 69	14 45 69				
19	104 59.0	15.0	128 20.9	+ 20 50.0	105	<b>50</b>	25	17 58	35 6 04	20 24	24 75					
20	119 59.2	14.1	142 52.6	39.4	106	<b>52</b>	23	57 36	14 18	14 78	14 78					
21	134 59.4	13.2	157 24.3	28.7	107	<b>54</b>	20	55 36	26 14	14 04 80	14 04 80					
22	149 59.6	12.3	171 56.1	18.0	107	<b>56</b>	16	54 37	39 11	13 51 84	13 51 84					
23	164 59.8	11.4	186 28.1	+ 20 07.1	109	<b>58</b>	13	52 38	6 54 6	36 89	36 89					
24	180 00.0	+ 8 10.5	201 00.1	+ 19 56.2	109	<b>60 S</b>	17 09	17 51	18 39	7 12 1	13 19 95	13 19 95				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 <sup>h</sup> 21.1 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 30 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 32 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 36 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	339 39.9	157 37.4	+ 0 16.1	252 52.4	+ 23 17.6	261 39.8	+ 22 16.7	351 05.5	- 7 16.7	16.7
1	354 42.3	172 37.1	14.8	267 53.1	17.7	276 42.0	16.7	6 08.1	16.7	16.7
2	9 44.8	187 36.8	13.5	282 53.9	17.8	291 44.1	16.7	21 10.8	16.8	16.8
3	24 47.3	202 36.5	12.2	297 54.7	17.8	306 46.3	16.8	36 13.4	16.9	16.9
4	39 49.7	217 36.1	10.9	312 55.5	17.9	321 48.4	16.8	51 16.1	17.0	17.0
5	54 52.2	232 35.8	+ 0 09.6	327 56.3	+ 23 18.0	336 50.5	+ 22 16.8	66 18.7	- 7 17.1	17.1
6	69 54.7	247 35.5	+ 0 08.3	342 57.1	+ 23 18.1	351 52.7	+ 22 16.8	81 21.3	- 7 17.1	17.1
7	84 57.1	262 35.2	07.1	357 57.9	18.2	6 54.8	16.8	96 24.0	17.2	17.2
8	99 59.6	277 34.9	05.8	12 58.7	18.2	21 57.0	16.9	111 26.6	17.3	17.3
9	115 02.1	292 34.6	04.5	27 59.4	18.3	36 59.1	16.9	126 29.2	17.4	17.4
10	130 04.5	307 34.3	03.2	43 00.2	18.4	52 01.3	16.9	141 31.9	17.4	17.4
11	145 07.0	322 33.9	+ 0 01.9	58 01.0	+ 23 18.5	67 03.4	+ 22 16.9	156 34.5	- 7 17.5	17.5
12	160 09.5	337 33.6	+ 0 00.6	73 01.8	+ 23 18.5	82 05.6	+ 22 17.0	171 37.2	- 7 17.6	17.6
13	175 11.9	352 33.3	- 0 00.7	88 02.6	18.6	97 07.7	17.0	186 39.8	17.7	17.7
14	190 14.4	7 33.0	02.0	103 03.4	18.7	112 09.9	17.0	201 42.4	17.7	17.7
15	205 16.8	22 32.7	03.2	118 04.2	18.8	127 12.0	17.0	216 45.1	17.8	17.8
16	220 19.3	37 32.4	04.5	133 05.0	18.8	142 14.2	17.1	231 47.7	17.9	17.9
17	235 21.8	52 32.1	- 0 05.8	148 05.8	+ 23 18.9	157 16.4	+ 22 17.1	246 50.3	- 7 18.0	18.0
18	250 24.2	67 31.7	- 0 07.1	163 06.6	+ 23 19.0	172 18.5	+ 22 17.1	261 53.0	- 7 18.1	18.1
19	265 26.7	82 31.4	08.4	178 07.4	19.1	187 20.7	17.1	276 55.6	18.1	18.1
20	280 29.2	97 31.1	09.7	193 08.1	19.1	202 22.8	17.1	291 58.3	18.2	18.2
21	295 31.6	112 30.8	11.0	208 08.9	19.2	217 25.0	17.2	307 00.9	18.3	18.3
22	310 34.1	127 30.5	12.3	223 09.7	19.3	232 27.1	17.2	322 03.5	18.4	18.4
23	325 36.6	142 30.2	13.6	238 10.5	19.4	247 29.3	17.2	337 06.2	18.4	18.4
24	340 39.0	157 29.9	- 0 14.8	253 11.3	+ 23 19.4	262 31.4	+ 22 17.2	352 08.8	- 7 18.5	18.5

Dif	—	-3	-13	+8	+1	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.8' PMG: 11 <sup>h</sup> 59.8 <sup>m</sup>		SD: 15.0' Edad: 27.5 <sup>d</sup> PMG: 10 <sup>h</sup> 56 <sup>m</sup>		R°: 43 <sup>m</sup>			PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.6'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h	m	m
0	180 00.0	+ 8 10.5	201 00.1		+ 19 56.2	110	60 N	3 12	4 11	4 56	2 09 91	19 11 -1				
1	195 00.2	09.6	215 32.2	131	45.2	110	58	25	19	5 01	23 86	19 01 3				
2	210 00.4	08.7	230 04.3	131	34.1	111	56	36	26	05	35 82	18 52 6				
3	225 00.6	07.8	244 36.6	133	23.0	111	54	45	32	09	46 78	44 9				
4	240 00.8	06.8	259 09.0	134	11.7	113	52	3 54	37	12	2 55 76	37 12				
5	255 01.0	+ 8 05.9	273 41.4	134	+ 19 00.4	113	50	4 01	4 42	5 16	3 03 73	18 31 14				
6	270 01.2	+ 8 05.0	288 13.9	135	+ 18 49.0	114	45	4 16	4 52	5 22	3 21 68	18 17 19				
7	285 01.4	04.1	302 46.5	136	37.5	115	40	27	5 00	28	35 64	18 06 22				
8	300 01.6	03.2	317 19.2	137	26.0	115	35	36	07	33	47 60	17 56 26				
9	315 01.8	02.3	331 52.0	138	14.4	116	30	44	13	37	3 57 58	47 29				
10	330 02.0	01.4	346 24.8	138	+ 18 02.7	117	20	4 56	22	44	4 15 52	32 34				
11	345 02.2	+ 8 00.5	0 57.7	139	+ 17 51.0	117	10 N	5 05	5 30	5 51	4 31 48	17 19 38				
12	0 02.4	+ 7 59.6	15 30.7	140	+ 17 39.2	118	0	5 11	5 36	5 57	4 45 44	17 07 42				
13	15 02.6	58.7	30 03.8	141	27.3	119	10 S	17	41	6 02	5 00 39	16 54 47				
14	30 02.8	57.7	44 37.0	142	15.3	120	20	20	46	08	15 35	41 51				
15	45 03.0	56.8	59 10.2	142	+ 17 03.3	120	30	23	51	15	32 31	25 56				
16	60 03.2	55.9	73 43.5	143	+ 16 51.2	121	35	24	53	19	42 28	16 59				
17	75 03.4	+ 7 55.0	88 16.9	144	+ 16 39.1	121	40	5 24	5 56	6 23	5 54 24	16 06 62				
18	90 03.6	+ 7 54.1	102 50.4	145	+ 16 26.9	122	45	5 24	5 58	6 28	6 07 21	15 54 66				
19	105 03.8	53.2	117 23.9	145	14.6	123	50	24	6 01	34	24 15	39 72				
20	120 04.0	52.3	131 57.5	146	+ 16 02.3	123	52	23	02	36	32 13	32 74				
21	135 04.2	51.4	146 31.2	147	+ 15 49.9	124	54	23	04	39	40 10	24 77				
22	150 04.4	50.4	161 05.0	148	37.5	124	56	22	05	42	6 50 7	15 81				
23	165 04.6	49.5	175 38.8	148	25.0	125	58	21	06	46	7 00 4	15 05 84				
24	180 04.8	+ 7 48.6	190 12.7	149	+ 15 12.4	126	60 S	5 20	6 08	6 50	7 13 -1	14 54 88				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 1 <sup>h</sup> 17.2 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 30 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 31 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	340 39.0	157 29.9	- 0 14.8	253 11.3	+ 23 19.4	262 31.4	+ 22 17.2	352 08.8	- 7 18.5							
1	355 41.5	172 29.6	16.1	268 12.1	19.5	277 33.6	17.3	7 11.5	18.6							
2	10 44.0	187 29.2	17.4	283 12.9	19.6	292 35.7	17.3	22 14.1	18.7							
3	25 46.4	202 28.9	18.7	298 13.7	19.6	307 37.9	17.3	37 16.7	18.8							
4	40 48.9	217 28.6	20.0	313 14.5	19.7	322 40.0	17.3	52 19.4	18.8							
5	55 51.3	232 28.3	- 0 21.3	328 15.3	+ 23 19.8	337 42.2	+ 22 17.3	67 22.0	- 7 18.9							
6	70 53.8	247 28.0	- 0 22.6	343 16.1	+ 23 19.9	352 44.3	+ 22 17.4	82 24.6	- 7 19.0							
7	85 56.3	262 27.7	23.9	358 16.9	19.9	7 46.5	17.4	97 27.3	19.1							
8	100 58.7	277 27.4	25.1	13 17.7	20.0	22 48.7	17.4	112 29.9	19.1							
9	116 01.2	292 27.0	26.4	28 18.5	20.1	37 50.8	17.4	127 32.6	19.2							
10	131 03.7	307 26.7	27.7	43 19.3	20.1	52 53.0	17.5	142 35.2	19.3							
11	146 06.1	322 26.4	- 0 29.0	58 20.1	+ 23 20.2	67 55.1	+ 22 17.5	157 37.8	- 7 19.4							
12	161 08.6	337 26.1	- 0 30.3	73 20.8	+ 23 20.3	82 57.3	+ 22 17.5	172 40.5	- 7 19.4							
13	176 11.1	352 25.8	31.6	88 21.6	20.3	97 59.4	17.5	187 43.1	19.5							
14	191 13.5	7 25.5	32.9	103 22.4	20.4	113 01.6	17.5	202 45.7	19.6							
15	206 16.0	22 25.2	34.2	118 23.2	20.5	128 03.8	17.6	217 48.4	19.7							
16	221 18.4	37 24.9	35.5	133 24.0	20.6	143 05.9	17.6	232 51.0	19.8							
17	236 20.9	52 24.5	- 0 36.7	148 24.8	+ 23 20.6	158 08.1	+ 22 17.6	247 53.7	- 7 19.8							
18	251 23.4	67 24.2	- 0 38.0	163 25.6	+ 23 20.7	173 10.2	+ 22 17.6	262 56.3	- 7 19.9							
19	266 25.8	82 23.9	39.3	178 26.4	20.8	188 12.4	17.7	277 58.9	20.0							
20	281 28.3	97 23.6	40.6	193 27.2	20.8	203 14.6	17.7	293 01.6	20.1							
21	296 30.8	112 23.3	41.9	208 28.0	20.9	218 16.7	17.7	308 04.2	20.1							
22	311 33.2	127 23.0	43.2	223 28.8	21.0	233 18.9	17.7	323 06.9	20.2							
23	326 35.7	142 22.7	44.5	238 29.6	21.0	248 21.0	17.7	338 09.5	20.3							
24	341 38.2	157 22.4	- 0 45.8	253 30.4	+ 23 21.1	263 23.2	+ 22 17.8	353 12.1	- 7 20.4							
Dif	—	-3	-13	+8	+1	+22	0	+26	-1							

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 59.5 <sup>m</sup>		SD: 14.9' Edad: 28.5 <sup>d</sup> PMG: 11 <sup>h</sup> 39 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.3'				R°: 41 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	180 04.8	+7 48.6	190 12.7	150	+15 12.4	126	60 N	18 59	19 44	20 41	3 40 87	19 10 -2				
1	195 05.0	47.7	204 46.7	151	+14 59.8	126	58	55	36	29	49 83	19 04 2				
2	210 05.2	46.8	219 20.7	151	47.2	128	56	51	30	18	3 57 79	18 58 5				
3	225 05.4	45.9	233 54.8	152	34.4	127	54	47	24	10	4 04 76	53 8				
4	240 05.6	45.0	248 29.0	152	21.7	128	52	44	19	20 02	11 73	49 9				
5	255 05.8	+7 44.0	263 03.2	153	+14 08.9	129	50	18 41	19 14	19 55	4 16 71	18 45 11				
6	270 06.0	+7 43.1	277 37.5	154	+13 56.0	129	45	18 35	19 05	19 41	4 29 65	18 36 16				
7	285 06.2	42.2	292 11.9	154	43.1	130	40	29	18 57	30	39 61	28 20				
8	300 06.4	41.3	306 46.3	155	30.1	130	35	25	51	21	47 58	22 23				
9	315 06.6	40.4	321 20.8	155	17.1	130	30	21	45	14	4 55 54	16 27				
10	330 06.8	39.5	335 55.4	156	+13 04.1	131	20	14	36	19 02	5 07 50	18 06 32				
11	345 07.0	+7 38.6	350 30.0	156	+12 51.0	132	10 N	18 08	18 29	18 54	5 19 45	17 57 36				
12	0 07.2	+7 37.6	5 04.7	157	+12 37.8	132	0	18 03	18 24	18 48	5 29 41	17 49 40				
13	15 07.4	36.7	19 39.4	157	24.6	132	10 S	17 58	19	43	39 37	41 44				
14	30 07.6	35.8	34 14.2	158	+12 11.4	133	20	52	14	40	5 50 33	32 49				
15	45 07.8	34.9	48 49.0	158	+11 58.1	133	30	46	10	38	6 03 27	21 54				
16	60 08.0	34.0	63 24.0	160	44.8	133	35	42	08	37	10 25	15 57				
17	75 08.2	+7 33.1	77 58.9	159	+11 31.5	134	40	17 38	18 06	18 37	6 18 22	17 08 61				
18	90 08.4	+7 32.1	92 33.9	160	+11 18.1	134	45	17 34	18 03	18 37	6 28 17	17 00 65				
19	105 08.6	31.2	107 09.0	161	+11 04.7	135	50	28	01	38	39 13	16 51 69				
20	120 08.8	30.3	121 44.1	161	+10 51.2	135	52	26	18 00	39	45 10	46 72				
21	135 09.1	29.4	136 19.3	162	37.7	135	54	23	17 59	40	50 8	41 75				
22	150 09.3	28.5	150 54.5	162	24.2	135	56	20	58	41	6 57 5	36 77				
23	165 09.5	27.5	165 29.8	163	+10 10.6	136	58	17	57	42	7 04 2	29 81				
24	180 09.7	+7 26.6	180 05.1	163	+9 57.0	136	60 S	17 13	17 55	18 43	7 12 -1	16 22 85				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 <sup>h</sup> 13.3 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 31 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 06 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 27 <sup>m</sup>	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	341 38.2	157 22.4	-0 45.8	253 30.4	+23 21.1	263 23.2	+22 17.8	353 12.1	-7 20.4	
1	356 40.6	172 22.0	47.1	268 31.2	21.2	278 25.4	17.8	8 14.8	20.4	
2	11 43.1	187 21.7	48.3	283 32.0	21.2	293 27.5	17.8	23 17.4	20.5	
3	26 45.6	202 21.4	49.6	298 32.8	21.3	308 29.7	17.8	38 20.1	20.6	
4	41 48.0	217 21.1	50.9	313 33.6	21.3	323 31.8	17.9	53 22.7	20.7	
5	56 50.5	232 20.8	-0 52.2	328 34.4	+23 21.4	338 34.0	+22 17.9	68 25.3	-7 20.8	
6	71 52.9	247 20.5	-0 53.5	343 35.2	+23 21.5	353 36.2	+22 17.9	83 28.0	-7 20.8	
7	86 55.4	262 20.2	54.8	358 36.0	21.5	8 38.3	17.9	98 30.6	20.9	
8	101 57.9	277 19.9	56.1	13 36.8	21.6	23 40.5	17.9	113 33.2	21.0	
9	117 00.3	292 19.5	57.4	28 37.6	21.7	38 42.7	18.0	128 35.9	21.1	
10	132 02.8	307 19.2	58.7	43 38.4	21.7	53 44.8	18.0	143 38.5	21.1	
11	147 05.3	322 18.9	-0 59.9	58 39.2	+23 21.8	68 47.0	+22 18.0	158 41.2	-7 21.2	
12	162 07.7	337 18.6	-1 01.2	73 40.0	+23 21.9	83 49.1	+22 18.0	173 43.8	-7 21.3	
13	177 10.2	352 18.3	02.5	88 40.8	21.9	98 51.3	18.0	188 46.4	21.4	
14	192 12.7	7 18.0	03.8	103 41.6	22.0	113 53.5	18.1	203 49.1	21.5	
15	207 15.1	22 17.7	05.1	118 42.4	22.0	128 55.6	18.1	218 51.7	21.5	
16	222 17.6	37 17.4	06.4	133 43.2	22.1	143 57.8	18.1	233 54.4	21.6	
17	237 20.0	52 17.0	-1 07.7	148 44.0	+23 22.2	159 00.0	+22 18.1	248 57.0	-7 21.7	
18	252 22.5	67 16.7	-1 09.0	163 44.8	+23 22.2	174 02.1	+22 18.2	263 59.6	-7 21.8	
19	267 25.0	82 16.4	10.3	178 45.6	22.3	189 04.3	18.2	279 02.3	21.8	
20	282 27.4	97 16.1	11.5	193 46.4	22.3	204 06.5	18.2	294 04.9	21.9	
21	297 29.9	112 15.8	12.8	208 47.2	22.4	219 08.6	18.2	309 07.6	22.0	
22	312 32.4	127 15.5	14.1	223 48.1	22.5	234 10.8	18.2	324 10.2	22.1	
23	327 34.8	142 15.2	15.4	238 48.9	22.5	249 13.0	18.3	339 12.8	22.1	
24	342 37.3	157 14.8	-1 16.7	253 49.7	+23 22.6	264 15.1	+22 18.3	354 15.5	-7 22.2	
Dif	—	-3	-13	+8	+1	+22	0	+26	-1	

UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 59.2 <sup>m</sup>		SD: 14.8' Edad: 29.5 <sup>d</sup> PMG: 12 <sup>h</sup> 20 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.1'			R°: 39 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora R°	R°	Hora R°	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180 09.7	+7 26.6	180 05.1	+9 57.0	136	60 N	3 19	4 16	5 01	5 07 82	19 08	-1		
1	195 09.9	25.7	194 40.5	43.4	164	58	31	23	05	12 79	06	1		
2	210 10.1	24.8	209 15.9	29.8	136	56	41	30	09	16 76	03	4		
3	225 10.3	23.9	223 51.3	16.1	137	54	50	36	12	20 74	19 01	6		
4	240 10.5	23.0	238 26.9	+9 02.4	137	52	3 58	41	16	24 71	18 58	9		
5	255 10.7	+7 22.0	253 02.4	+8 48.6	138	50	4 04	4 45	5 19	5 27 69	18 56	11		
6	270 10.9	+7 21.1	267 38.0	+8 34.9	137	45	4 18	4 55	5 25	5 34 64	18 52	15		
7	285 11.1	20.2	282 13.6	21.1	138	40	29	5 02	30	40 60	48	20		
8	300 11.3	19.3	296 49.3	+8 07.2	139	35	38	09	34	45 56	45	23		
9	315 11.5	18.4	311 25.0	+7 53.4	138	30	45	14	38	49 54	43	25		
10	330 11.7	17.4	326 00.8	39.5	139	20	4 57	23	45	5 57 48	38	30		
11	345 11.9	+7 16.5	340 36.5	+7 25.6	139	10 N	5 05	5 29	5 51	6 04 43	18 33	35		
12	0 12.1	+7 15.6	355 12.4	+7 11.7	139	0	5 11	5 35	5 56	6 10 39	18 29	39		
13	15 12.3	14.7	9 48.2	+6 57.8	139	10 S	15	40	6 01	16 35	25	43		
14	30 12.5	13.7	24 24.1	43.8	140	20	19	44	06	23 31	21	47		
15	45 12.7	12.8	39 00.1	29.8	140	30	21	48	12	30 26	15	53		
16	60 12.9	11.9	53 36.0	15.8	140	35	21	50	16	35 22	12	56		
17	75 13.1	+7 11.0	68 12.0	+6 01.8	140	40	5 21	5 53	6 20	6 40 19	18 09	59		
18	90 13.4	+7 10.1	82 48.0	+5 47.8	140	45	5 21	5 55	6 24	6 45 16	18 05	64		
19	105 13.6	09.1	97 24.1	33.7	141	50	20	57	29	52 11	18 00	69		
20	120 13.8	08.2	112 00.2	19.7	140	52	19	58	32	55 9	17 58	71		
21	135 14.0	07.3	126 36.3	+5 05.6	141	54	18	5 59	34	6 58 7	56	73		
22	150 14.2	06.4	141 12.4	+4 51.5	141	56	17	6 00	37	7 02 4	53	76		
23	165 14.4	05.4	155 48.6	37.4	141	58	16	01	40	06 2	50	79		
24	180 14.6	+7 04.5	170 24.8	+4 23.3	141	60 S	5 14	6 02	6 44	7 11 -2	17 47	82		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 <sup>h</sup> 09.3 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 31 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 23 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	342 37.3	157 14.8	-1 16.7	253 49.7	+23 22.6	264 15.1	+22 18.3	354 15.5	-7 22.2	
1	357 39.8	172 14.5	18.0	268 50.5	22.6	279 17.3	18.3	9 18.1	22.3	
2	12 42.2	187 14.2	19.3	283 51.3	22.7	294 19.5	18.3	24 20.8	22.4	
3	27 44.7	202 13.9	20.6	298 52.1	22.8	309 21.6	18.3	39 23.4	22.5	
4	42 47.2	217 13.6	21.9	313 52.9	22.8	324 23.8	18.4	54 26.0	22.5	
5	57 49.6	232 13.3	-1 23.1	328 53.7	+23 22.9	339 26.0	+22 18.4	69 28.7	-7 22.6	
6	72 52.1	247 13.0	-1 24.4	343 54.5	+23 22.9	354 28.1	+22 18.4	84 31.3	-7 22.7	
7	87 54.5	262 12.7	25.7	358 55.3	23.0	9 30.3	18.4	99 33.9	22.8	
8	102 57.0	277 12.3	27.0	13 56.1	23.0	24 32.5	18.4	114 36.6	22.8	
9	117 59.5	292 12.0	28.3	28 56.9	23.1	39 34.7	18.5	129 39.2	22.9	
10	133 01.9	307 11.7	29.6	43 57.7	23.2	54 36.8	18.5	144 41.9	23.0	
11	148 04.4	322 11.4	-1 30.9	58 58.5	+23 23.2	69 39.0	+22 18.5	159 44.5	-7 23.1	
12	163 06.9	337 11.1	-1 32.2	73 59.3	+23 23.3	84 41.2	+22 18.5	174 47.1	-7 23.2	
13	178 09.3	352 10.8	33.5	89 00.1	23.3	99 43.3	18.5	189 49.8	23.2	
14	193 11.8	7 10.5	34.7	104 01.0	23.4	114 45.5	18.6	204 52.4	23.3	
15	208 14.3	22 10.2	36.0	119 01.8	23.4	129 47.7	18.6	219 55.1	23.4	
16	223 16.7	37 09.8	37.3	134 02.6	23.5	144 49.9	18.6	234 57.7	23.5	
17	238 19.2	52 09.5	-1 38.6	149 03.4	+23 23.5	159 52.0	+22 18.6	250 00.3	-7 23.5	
18	253 21.7	67 09.2	-1 39.9	164 04.2	+23 23.6	174 54.2	+22 18.6	265 03.0	-7 23.6	
19	268 24.1	82 08.9	41.2	179 05.0	23.7	189 56.4	18.7	280 05.6	23.7	
20	283 26.6	97 08.6	42.5	194 05.8	23.7	204 58.5	18.7	295 08.3	23.8	
21	298 29.0	112 08.3	43.8	209 06.6	23.8	220 00.7	18.7	310 10.9	23.8	
22	313 31.5	127 08.0	45.1	224 07.4	23.8	235 02.9	18.7	325 13.5	23.9	
23	328 34.0	142 07.6	46.3	239 08.2	23.9	250 05.1	18.8	340 16.2	24.0	
24	343 36.4	157 07.3	-1 47.6	254 09.1	+23 23.9	265 07.2	+22 18.8	355 18.8	-7 24.1	

Dif	—	-3	-13	+8	+1	+22	0	+26	-1
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UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 58.9 <sup>m</sup>		SD: 14.7' Edad: 0.9 <sup>d</sup> PMG: 12 <sup>h</sup> 59 <sup>m</sup>		R <sup>o</sup> : 39 <sup>m</sup>				PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h m	h m	h m	h m m	h m m	h m m		
0	180 14.6	+7 04.5	170 24.8		+4 23.3	142	60 N	18 53	19 37	20 33	6 29 82	19 07 -2				
1	195 14.8	03.6	185 01.0	172	+4 09.1	142	58	49	30	22	31 78	07 1				
2	210 15.0	02.7	199 37.2	172	+3 55.0	141	56	46	24	12	32 75	07 4				
3	225 15.2	01.7	214 13.5	173	40.9	141	54	42	19	20 04	34 72	07 7				
4	240 15.4	+7 00.8	228 49.8	173	26.7	142	52	39	14	19 57	35 70	07 9				
5	255 15.6	+6 59.9	243 26.1	173	+3 12.5	142	50	18 37	19 10	19 50	6 36 68	19 07 11				
6	270 15.8	+6 59.0	258 02.4	173	+2 58.3	142	45	18 31	19 01	19 37	6 38 63	19 07 16				
7	285 16.0	58.1	272 38.7	173	44.2	141	40	26	18 54	26	40 59	08 18				
8	300 16.2	57.1	287 15.1	174	30.0	142	35	22	48	18	41 56	08 22				
9	315 16.5	56.2	301 51.4	173	15.8	142	30	18	43	11	43 53	08 25				
10	330 16.7	55.3	316 27.8	174	+2 01.6	142	20	12	35	19 00	45 48	08 30				
11	345 16.9	+6 54.3	331 04.2	174	+1 47.4	142	10 N	18 07	18 28	18 53	6 47 43	19 08 35				
12	0 17.1	+6 53.4	345 40.6	174	+1 33.2	142	0	18 02	18 23	18 47	6 49 39	19 08 39				
13	15 17.3	52.5	0 17.1	175	19.0	142	10 S	17 57	18	43	51 35	08 43				
14	30 17.5	51.6	14 53.5	174	+1 04.7	143	20	52	15	40	54 30	08 48				
15	45 17.7	50.6	29 29.9	174	+0 50.5	142	30	47	11	39	56 25	08 53				
16	60 17.9	49.7	44 06.4	175	36.3	142	35	44	09	38	57 23	08 56				
17	75 18.1	+6 48.8	58 42.8	174	+0 22.1	142	40	17 40	18 07	18 39	6 59 19	19 08 60				
18	90 18.3	+6 47.9	73 19.3	175	+0 07.9	142	45	17 36	18 06	18 40	7 01 15	19 09 63				
19	105 18.5	46.9	87 55.8	175	-0 06.3	142	50	31	04	41	03 11	09 67				
20	120 18.7	46.0	102 32.2	174	20.5	142	52	29	03	42	04 9	09 70				
21	135 19.0	45.1	117 08.7	175	34.7	142	54	27	02	43	05 7	09 72				
22	150 19.2	44.2	131 45.2	175	-0 48.9	142	56	24	01	44	06 4	09 75				
23	165 19.4	43.2	146 21.7	175	-1 03.1	142	58	21	01	46	08 1	09 78				
24	180 19.6	+6 42.3	160 58.1	174	-1 17.3	142	60 S	17 18	18 00	18 48	7 09 -2	19 09 81				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 1 <sup>h</sup> 05.4 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 32 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 03 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 19 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	343 36.4		157 07.3	-1 47.6	254 09.1	+23 23.9	265 07.2	+22 18.8	355 18.8	-7 24.1						
1	358 38.9		172 07.0	48.9	269 09.9	24.0	280 09.4	18.8	10 21.5	24.2						
2	13 41.4		187 06.7	50.2	284 10.7	24.0	295 11.6	18.8	25 24.1	24.2						
3	28 43.8		202 06.4	51.5	299 11.5	24.1	310 13.8	18.8	40 26.7	24.3						
4	43 46.3		217 06.1	52.8	314 12.3	24.1	325 15.9	18.9	55 29.4	24.4						
5	58 48.8		232 05.8	-1 54.1	329 13.1	+23 24.2	340 18.1	+22 18.9	70 32.0	-7 24.5						
6	73 51.2		247 05.5	-1 55.4	344 13.9	+23 24.2	355 20.3	+22 18.9	85 34.7	-7 24.5						
7	88 53.7		262 05.1	56.6	359 14.7	24.3	10 22.5	18.9	100 37.3	24.6						
8	103 56.1		277 04.8	57.9	14 15.6	24.3	25 24.6	18.9	115 39.9	24.7						
9	118 58.6		292 04.5	-1 59.2	29 16.4	24.4	40 26.8	19.0	130 42.6	24.8						
10	134 01.1		307 04.2	-2 00.5	44 17.2	24.4	55 29.0	19.0	145 45.2	24.8						
11	149 03.5		322 03.9	-2 01.8	59 18.0	+23 24.5	70 31.2	+22 19.0	160 47.9	-7 24.9						
12	164 06.0		337 03.6	-2 03.1	74 18.8	+23 24.5	85 33.4	+22 19.0	175 50.5	-7 25.0						
13	179 08.5		352 03.3	04.4	89 19.6	24.6	100 35.5	19.0	190 53.1	25.1						
14	194 10.9		7 02.9	05.7	104 20.4	24.6	115 37.7	19.1	205 55.8	25.2						
15	209 13.4		22 02.6	07.0	119 21.3	24.7	130 39.9	19.1	220 58.4	25.2						
16	224 15.9		37 02.3	08.2	134 22.1	24.7	145 42.1	19.1	236 01.1	25.3						
17	239 18.3		52 02.0	-2 09.5	149 22.9	+23 24.8	160 44.3	+22 19.1	251 03.7	-7 25.4						
18	254 20.8		67 01.7	-2 10.8	164 23.7	+23 24.8	175 46.4	+22 19.1	266 06.3	-7 25.5						
19	269 23.3		82 01.4	12.1	179 24.5	24.9	190 48.6	19.1	281 09.0	25.5						
20	284 25.7		97 01.1	13.4	194 25.3	24.9	205 50.8	19.2	296 11.6	25.6						
21	299 28.2		112 00.7	14.7	209 26.2	25.0	220 53.0	19.2	311 14.3	25.7						
22	314 30.6		127 00.4	16.0	224 27.0	25.0	235 55.2	19.2	326 16.9	25.8						
23	329 33.1		142 00.1	17.3	239 27.8	25.0	250 57.3	19.2	341 19.5	25.9						
24	344 35.6		156 59.8	-2 18.5	254 28.6	+23 25.1	265 59.5	+22 19.2	356 22.2	-7 25.9						
Dif	—		-3	-13	+8	0	+22	0	+26	-1						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 14.7'		Edad: 1.9 <sup>d</sup>			PHE $\begin{cases} 4^h: 54.0' \\ 12^h: 54.0' \\ 20^h: 54.0' \end{cases}$			PMG: 13 <sup>h</sup> 38 <sup>m</sup>		R°: 39 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 19.6	+ 6 42.3	160 58.1	175	- 1 17.3	142	60 N	3 25	4 21	5 05	7 51 82	19 05 -1				
1	195 19.8	41.4	175 34.6	175	31.5	142	58	36	28	09	49 79	08 2				
2	210 20.0	40.4	190 11.1	175	45.7	142	56	46	34	13	47 76	11 5				
3	225 20.2	39.5	204 47.6	174	- 1 59.8	141	54	3 54	39	16	46 73	14 7				
4	240 20.4	38.6	219 24.0	174	- 2 14.0	142	52	4 02	44	19	45 70	16 9				
5	255 20.6	+ 6 37.7	234 00.5	175	- 2 28.1	141	50	4 08	4 48	5 22	7 44 68	19 18 12				
6	270 20.8	+ 6 36.7	248 37.0	175	- 2 42.3	142	45	4 21	4 57	5 27	7 41 63	19 23 16				
7	285 21.0	35.8	263 13.4	174	- 2 56.4	141	40	32	5 04	32	39 59	26 20				
8	300 21.3	34.9	277 49.9	175	- 3 10.5	141	35	40	10	36	37 56	30 23				
9	315 21.5	33.9	292 26.3	174	24.6	141	30	47	15	39	36 52	33 26				
10	330 21.7	33.0	307 02.7	174	38.7	141	20	4 57	23	45	33 48	38 31				
11	345 21.9	+ 6 32.1	321 39.1	174	- 3 52.8	141	10 N	5 05	5 29	5 51	7 30 44	19 43 35				
12	0 22.1	+ 6 31.1	336 15.5	174	- 4 06.8	140	0	5 10	5 34	5 55	7 28 39	19 47 39				
13	15 22.3	30.2	350 51.9	174	20.9	141	10 S	14	39	6 00	26 35	51 44				
14	30 22.5	29.3	5 28.3	174	34.9	140	20	17	43	05	24 30	19 56 48				
15	45 22.7	28.4	20 04.7	174	- 4 48.9	140	30	18	46	10	21 25	20 01 53				
16	60 22.9	27.4	34 41.0	173	- 5 02.9	140	35	5 18	48	13	20 22	04 56				
17	75 23.1	+ 6 26.5	49 17.3	173	- 5 16.9	140	40	5 18	5 49	6 17	7 18 19	20 08 59				
18	90 23.4	+ 6 25.6	63 53.7	174	- 5 30.9	140	45	5 17	5 51	6 20	7 16 16	20 12 63				
19	105 23.6	24.6	78 29.9	172	44.8	139	50	15	53	25	14 11	16 69				
20	120 23.8	23.7	93 06.2	173	- 5 58.7	139	52	14	53	27	13 9	19 71				
21	135 24.0	22.8	107 42.5	173	- 6 12.6	139	54	13	54	30	12 6	21 74				
22	150 24.2	21.8	122 18.7	172	26.5	139	56	12	55	32	10 5	24 76				
23	165 24.4	20.9	136 54.9	172	40.3	138	58	10	56	35	09 1	27 79				
24	180 24.6	+ 6 20.0	151 31.1	172	- 6 54.2	139	60 S	5 08	5 56	6 38	7 07 -1	20 30 83				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.8		Mag.: +0.7		Mag.: -2.3		Mag.: +0.6	
	1 <sup>h</sup> 01.5 <sup>m</sup>	PMG: 13 <sup>h</sup> 32 <sup>m</sup>		PMG: 7 <sup>h</sup> 02 <sup>m</sup>		PMG: 6 <sup>h</sup> 15 <sup>m</sup>		PMG: 0 <sup>h</sup> 14 <sup>m</sup>	
h	hG ♂	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	344 35.6	156 59.8	- 2 18.5	254 28.6	+ 23 25.1	265 59.5	+ 22 19.2	356 22.2	- 7 25.9
1	359 38.0	171 59.5	19.8	269 29.4	25.1	281 01.7	19.3	11 24.8	26.0
2	14 40.5	186 59.2	21.1	284 30.2	25.2	296 03.9	19.3	26 27.5	26.1
3	29 43.0	201 58.9	22.4	299 31.1	25.2	311 06.1	19.3	41 30.1	26.2
4	44 45.4	216 58.6	23.7	314 31.9	25.3	326 08.2	19.3	56 32.8	26.2
5	59 47.9	231 58.2	- 2 25.0	329 32.7	+ 23 25.3	341 10.4	+ 22 19.3	71 35.4	- 7 26.3
6	74 50.4	246 57.9	- 2 26.3	344 33.5	+ 23 25.4	356 12.6	+ 22 19.4	86 38.0	- 7 26.4
7	89 52.8	261 57.6	27.6	359 34.3	25.4	11 14.8	19.4	101 40.7	26.5
8	104 55.3	276 57.3	28.8	14 35.2	25.5	26 17.0	19.4	116 43.3	26.5
9	119 57.7	291 57.0	30.1	29 36.0	25.5	41 19.2	19.4	131 46.0	26.6
10	135 00.2	306 56.7	31.4	44 36.8	25.5	56 21.3	19.4	146 48.6	26.7
11	150 02.7	321 56.3	- 2 32.7	59 37.6	+ 23 25.6	71 23.5	+ 22 19.5	161 51.2	- 7 26.8
12	165 05.1	336 56.0	- 2 34.0	74 38.4	+ 23 25.6	86 25.7	+ 22 19.5	176 53.9	- 7 26.9
13	180 07.6	351 55.7	35.3	89 39.3	25.7	101 27.9	19.5	191 56.5	26.9
14	195 10.1	6 55.4	36.6	104 40.1	25.7	116 30.1	19.5	206 59.2	27.0
15	210 12.5	21 55.1	37.8	119 40.9	25.7	131 32.3	19.5	222 01.8	27.1
16	225 15.0	36 54.8	39.1	134 41.7	25.8	146 34.5	19.6	237 04.4	27.2
17	240 17.5	51 54.5	- 2 40.4	149 42.5	+ 23 25.8	161 36.6	+ 22 19.6	252 07.1	- 7 27.2
18	255 19.9	66 54.1	- 2 41.7	164 43.4	+ 23 25.9	176 38.8	+ 22 19.6	267 09.7	- 7 27.3
19	270 22.4	81 53.8	43.0	179 44.2	25.9	191 41.0	19.6	282 12.4	27.4
20	285 24.9	96 53.5	44.3	194 45.0	26.0	206 43.2	19.6	297 15.0	27.5
21	300 27.3	111 53.2	45.6	209 45.8	26.0	221 45.4	19.6	312 17.6	27.5
22	315 29.8	126 52.9	46.9	224 46.7	26.0	236 47.6	19.7	327 20.3	27.6
23	330 32.2	141 52.6	48.1	239 47.5	26.1	251 49.8	19.7	342 22.9	27.7
24	345 34.7	156 52.3	- 2 49.4	254 48.3	+ 23 26.1	266 52.0	+ 22 19.7	357 25.6	- 7 27.8

Dif	—	-3	-13	+8	0	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 58.2 <sup>m</sup>		SD: 14.7' Edad: 2.9 <sup>d</sup> PMG: 14 <sup>h</sup> 17 <sup>m</sup> R°: 41 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.1'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 24.6	+6 20.0	151 31.1	171	- 6 54.2	138	60 N	18 47	19 31	20 26	9 13 85	19 04 -2				
1	195 24.8	19.0	166 07.2	172	- 7 08.0	138	58	44	24	15	08 81	10 3				
2	210 25.0	18.1	180 43.4	171	21.8	137	56	40	19	20 06	9 03 78	16 5				
3	225 25.3	17.2	195 19.5	170	35.5	137	54	37	14	19 58	8 59 75	21 8				
4	240 25.5	16.2	209 55.5	171	- 7 49.2	137	52	35	09	51	55 72	25 12				
5	255 25.7	+6 15.3	224 31.6	170	- 8 02.9	137	50	18 32	19 05	19 45	8 52 69	19 30 13				
6	270 25.9	+6 14.4	239 07.6	168	- 8 16.6	137	45	18 27	18 57	19 33	8 44 65	19 39 18				
7	285 26.1	13.4	253 43.6	169	30.3	136	40	23	50	23	38 61	46 23				
8	300 26.3	12.5	268 19.5	169	43.9	136	35	19	45	15	33 57	53 25				
9	315 26.5	11.6	282 55.5	168	- 8 57.5	136	30	16	40	19 09	28 55	19 59 28				
10	330 26.7	10.6	297 31.3	168	- 9 11.0	135	20	11	33	18 59	21 48	20 09 33				
11	345 27.0	+6 09.7	312 07.2	169	- 9 24.6	136	10 N	18 06	18 27	18 52	8 14 44	20 18 37				
12	0 27.2	+6 08.8	326 43.0	168	- 9 38.0	134	0	18 01	18 22	18 46	8 07 41	20 26 42				
13	15 27.4	07.8	341 18.8	168	- 9 51.5	135	10 S	17 57	18	43	8 01 36	35 45				
14	30 27.6	06.9	355 54.5	167	- 10 04.9	134	20	53	15	40	7 54 32	44 50				
15	45 27.8	06.0	10 30.2	167	18.3	134	30	48	12	40	46 28	20 54 55				
16	60 28.0	05.0	25 05.9	167	31.7	134	35	45	11	40	42 24	21 00 58				
17	75 28.2	+6 04.1	39 41.5	166	- 10 45.0	133	40	17 42	18 09	18 41	7 37 21	21 07 62				
18	90 28.4	+6 03.1	54 17.1	166	- 10 58.3	133	45	17 38	18 08	18 42	7 32 17	21 15 66				
19	105 28.7	02.2	68 52.6	165	- 11 11.5	132	50	34	07	44	25 12	25 71				
20	120 28.9	01.3	83 28.1	165	24.7	132	52	32	06	45	22 10	30 73				
21	135 29.1	+6 00.3	98 03.5	164	37.9	132	54	30	06	47	18 8	35 75				
22	150 29.3	+5 59.4	112 38.9	164	- 11 51.0	131	56	28	05	48	15 5	40 79				
23	165 29.5	58.5	127 14.3	164	- 12 04.1	131	58	25	05	50	10 3	46 83				
24	180 29.7	+5 57.5	141 49.6	163	- 12 17.2	131	60 S	17 23	18 04	18 52	7 06 -1	21 53 87				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 <sup>h</sup> 57.5 <sup>m</sup>	Mag.: -3.8 PMG: 13 <sup>h</sup> 33 <sup>m</sup>		Mag.: +0.7 PMG: 7 <sup>h</sup> 00 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 12 <sup>m</sup>		Mag.: +0.6 PMG: 0 <sup>h</sup> 10 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	345 34.7	156 52.3	- 2 49.4	254 48.3	+ 23 26.1	266 52.0	+ 22 19.7	357 25.6	- 7 27.8
1	0 37.2	171 51.9	50.7	269 49.1	26.2	281 54.1	19.7	12 28.2	27.9
2	15 39.6	186 51.6	52.0	284 50.0	26.2	296 56.3	19.7	27 30.8	27.9
3	30 42.1	201 51.3	53.3	299 50.8	26.2	311 58.5	19.8	42 33.5	28.0
4	45 44.6	216 51.0	54.6	314 51.6	26.3	327 00.7	19.8	57 36.1	28.1
5	60 47.0	231 50.7	- 2 55.9	329 52.4	+ 23 26.3	342 02.9	+ 22 19.8	72 38.8	- 7 28.2
6	75 49.5	246 50.4	- 2 57.1	344 53.3	+ 23 26.3	357 05.1	+ 22 19.8	87 41.4	- 7 28.2
7	90 52.0	261 50.0	58.4	359 54.1	26.4	12 07.3	19.8	102 44.0	28.3
8	105 54.4	276 49.7	- 2 59.7	14 54.9	26.4	27 09.5	19.9	117 46.7	28.4
9	120 56.9	291 49.4	- 3 01.0	29 55.7	26.5	42 11.7	19.9	132 49.3	28.5
10	135 59.3	306 49.1	02.3	44 56.6	26.5	57 13.9	19.9	147 52.0	28.6
11	151 01.8	321 48.8	- 3 03.6	59 57.4	+ 23 26.5	72 16.1	+ 22 19.9	162 54.6	- 7 28.6
12	166 04.3	336 48.5	- 3 04.8	74 58.2	+ 23 26.6	87 18.2	+ 22 19.9	177 57.3	- 7 28.7
13	181 06.7	351 48.1	06.1	89 59.0	26.6	102 20.4	19.9	192 59.9	28.8
14	196 09.2	6 47.8	07.4	104 59.9	26.6	117 22.6	20.0	208 02.5	28.9
15	211 11.7	21 47.5	08.7	120 00.7	26.7	132 24.8	20.0	223 05.2	28.9
16	226 14.1	36 47.2	10.0	135 01.5	26.7	147 27.0	20.0	238 07.8	29.0
17	241 16.6	51 46.9	- 3 11.3	150 02.4	+ 23 26.7	162 29.2	+ 22 20.0	253 10.5	- 7 29.1
18	256 19.1	66 46.6	- 3 12.6	165 03.2	+ 23 26.8	177 31.4	+ 22 20.0	268 13.1	- 7 29.2
19	271 21.5	81 46.2	13.8	180 04.0	26.8	192 33.6	20.1	283 15.7	29.2
20	286 24.0	96 45.9	15.1	195 04.9	26.8	207 35.8	20.1	298 18.4	29.3
21	301 26.5	111 45.6	16.4	210 05.7	26.9	222 38.0	20.1	313 21.0	29.4
22	316 28.9	126 45.3	17.7	225 06.5	26.9	237 40.2	20.1	328 23.7	29.5
23	331 31.4	141 45.0	19.0	240 07.3	26.9	252 42.4	20.1	343 26.3	29.6
24	346 33.8	156 44.7	- 3 20.3	255 08.2	+ 23 27.0	267 44.6	+ 22 20.1	358 28.9	- 7 29.6

Dif	—	-3	-13	+8	0	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 57.8 <sup>m</sup>		SD: 14.7' Edad: 3.9 <sup>d</sup> PMG: 14 <sup>h</sup> 58 <sup>m</sup> R°: 43 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.3'			Náutico	Civil		Hora R°	Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180 29.7	+ 5 57.5	141 49.6	162	- 12 17.2	130	60 N	3 31	4 26	5 10	10 38 90	19 02 0		
1	195 29.9	56.6	156 24.8	162	30.2	130	58	42	33	14	29 84	13 4		
2	210 30.2	55.7	171 00.0	162	43.1	129	56	51	38	17	21 80	21 9		
3	225 30.4	54.7	185 35.2	162	- 12 56.0	129	54	3 59	43	20	14 77	29 12		
4	240 30.6	53.8	200 10.3	161	- 13 08.9	129	52	4 05	47	22	07 74	37 14		
5	255 30.8	+ 5 52.8	214 45.3	160	- 13 21.7	128	50	4 11	4 51	5 25	10 01 72	19 43 17		
6	270 31.0	+ 5 51.9	229 20.3	160	- 13 34.5	128	45	4 24	5 00	5 30	9 49 66	19 57 22		
7	285 31.2	51.0	243 55.2	159	47.2	127	40	34	06	34	39 62	20 09 25		
8	300 31.4	50.0	258 30.1	159	- 13 59.9	127	35	42	12	37	30 59	18 30		
9	315 31.6	49.1	273 04.9	158	- 14 12.5	126	30	48	16	40	23 55	27 32		
10	330 31.9	48.2	287 39.7	158	25.1	126	20	4 58	24	46	9 09 52	42 37		
11	345 32.1	+ 5 47.2	302 14.4	157	- 14 37.7	126	10 N	5 05	5 29	5 50	8 58 47	20 55 41		
12	0 32.3	+ 5 46.3	316 49.0	156	- 14 50.1	124	0	5 10	5 34	5 55	8 48 43	21 08 44		
13	15 32.5	45.3	331 23.6	156	- 15 02.6	125	10 S	13	38	5 59	37 39	20 49		
14	30 32.7	44.4	345 58.1	155	14.9	123	20	15	41	6 03	26 35	34 52		
15	45 32.9	43.5	0 32.6	155	27.3	124	30	16	44	08	14 30	49 57		
16	60 33.1	42.5	15 07.0	154	39.5	122	35	16	45	10	8 06 27	21 58 60		
17	75 33.4	+ 5 41.6	29 41.3	153	- 15 51.7	122	40	5 15	5 46	6 13	7 58 24	22 09 63		
18	90 33.6	+ 5 40.6	44 15.6	153	- 16 03.9	122	45	5 14	5 47	6 17	7 49 20	22 21 67		
19	105 33.8	39.7	58 49.8	152	16.0	121	50	11	49	21	37 15	36 72		
20	120 34.0	38.8	73 23.9	151	28.0	120	52	10	49	23	32 13	43 75		
21	135 34.2	37.8	87 58.0	151	40.0	120	54	09	49	25	26 10	50 79		
22	150 34.4	36.9	102 32.0	150	- 16 51.9	119	56	07	50	27	20 7	22 59 82		
23	165 34.7	35.9	117 05.9	149	- 17 03.8	119	58	05	50	29	13 3	23 09 86		
24	180 34.9	+ 5 35.0	131 39.7	148	- 17 15.6	118	60 S	5 02	5 51	6 32	7 05 -1	23 20 92		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 0 <sup>h</sup> 53.6 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 33 <sup>m</sup>		Mag.: +0.7 PMG: 6 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.3 PMG: 6 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.5 PMG: 0 <sup>h</sup> 06 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	346 33.8	156 44.7	- 3 20.3	255 08.2	+ 23 27.0	267 44.6	+ 22 20.1	358 28.9	- 7 29.6	
1	1 36.3	171 44.3	21.5	270 09.0	27.0	282 46.8	20.2	13 31.6	29.7	
2	16 38.8	186 44.0	22.8	285 09.8	27.0	297 49.0	20.2	28 34.2	29.8	
3	31 41.2	201 43.7	24.1	300 10.7	27.1	312 51.2	20.2	43 36.9	29.9	
4	46 43.7	216 43.4	25.4	315 11.5	27.1	327 53.4	20.2	58 39.5	29.9	
5	61 46.2	231 43.1	- 3 26.7	330 12.3	+ 23 27.1	342 55.6	+ 22 20.2	73 42.1	- 7 30.0	
6	76 48.6	246 42.8	- 3 28.0	345 13.2	+ 23 27.2	357 57.8	+ 22 20.3	88 44.8	- 7 30.1	
7	91 51.1	261 42.4	29.2	0 14.0	27.2	13 00.0	20.3	103 47.4	30.2	
8	106 53.6	276 42.1	30.5	15 14.8	27.2	28 02.1	20.3	118 50.1	30.2	
9	121 56.0	291 41.8	31.8	30 15.7	27.3	43 04.3	20.3	133 52.7	30.3	
10	136 58.5	306 41.5	33.1	45 16.5	27.3	58 06.5	20.3	148 55.4	30.4	
11	152 01.0	321 41.2	- 3 34.4	60 17.3	+ 23 27.3	73 08.7	+ 22 20.3	163 58.0	- 7 30.5	
12	167 03.4	336 40.9	- 3 35.7	75 18.2	+ 23 27.4	88 10.9	+ 22 20.4	179 00.6	- 7 30.6	
13	182 05.9	351 40.5	36.9	90 19.0	27.4	103 13.1	20.4	194 03.3	30.6	
14	197 08.3	6 40.2	38.2	105 19.8	27.4	118 15.3	20.4	209 05.9	30.7	
15	212 10.8	21 39.9	39.5	120 20.7	27.4	133 17.5	20.4	224 08.6	30.8	
16	227 13.3	36 39.6	40.8	135 21.5	27.5	148 19.7	20.4	239 11.2	30.9	
17	242 15.7	51 39.3	- 3 42.1	150 22.3	+ 23 27.5	163 21.9	+ 22 20.4	254 13.8	- 7 30.9	
18	257 18.2	66 38.9	- 3 43.4	165 23.2	+ 23 27.5	178 24.1	+ 22 20.5	269 16.5	- 7 31.0	
19	272 20.7	81 38.6	44.6	180 24.0	27.6	193 26.3	20.5	284 19.1	31.1	
20	287 23.1	96 38.3	45.9	195 24.9	27.6	208 28.5	20.5	299 21.8	31.2	
21	302 25.6	111 38.0	47.2	210 25.7	27.6	223 30.8	20.5	314 24.4	31.2	
22	317 28.1	126 37.7	48.5	225 26.5	27.6	238 33.0	20.5	329 27.0	31.3	
23	332 30.5	141 37.3	49.8	240 27.4	27.7	253 35.2	20.5	344 29.7	31.4	
24	347 33.0	156 37.0	- 3 51.1	255 28.2	+ 23 27.7	268 37.4	+ 22 20.6	359 32.3	- 7 31.5	

Dif	—	-3	-13	+8	0	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 14.8'		Edad: 4.9 <sup>d</sup>				PHE { 4 <sup>h</sup> : 54.4' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.6'			PMG: 15 <sup>h</sup> 41 <sup>m</sup>		R <sup>o</sup> : 47 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m				
0	180 34.9	+5 35.0	131 39.7		-17 15.6	117 58	18 41	19 24	20 18	12 08 95	19 02 2	19 02 2	19 02 2				
1	195 35.1	34.1	146 13.5	148	27.3	117 58	38	18	09	11 53 89	17 8	17 8	17 8				
2	210 35.3	33.1	160 47.2	147	39.0	117 56	35	13	20 00	41 84	30 13	30 13	30 13				
3	225 35.5	32.2	175 20.9	147	-17 50.6	116 54	32	09	19 53	31 79	41 17	41 17	41 17				
4	240 35.7	31.2	189 54.4	145	-18 02.1	115 52	30	05	46	21 77	19 51 20	19 51 20	19 51 20				
5	255 35.9	+5 30.3	204 27.9	145	-18 13.6	115 50	18 28	19 01	19 40	11 13 74	20 00 23	20 00 23	20 00 23				
6	270 36.2	+5 29.3	219 01.3	144	-18 25.0	114 45	18 23	18 53	19 29	10 55 69	20 19 28	20 19 28	20 19 28				
7	285 36.4	28.4	233 34.7	144	36.3	113 40	20	47	19	41 64	34 32	34 32	34 32				
8	300 36.6	27.5	248 07.9	142	47.6	113 35	16	42	12	29 61	48 34	48 34	48 34				
9	315 36.8	26.5	262 41.1	142	-18 58.8	112 30	14	38	19 06	18 59	20 59 37	20 59 37	20 59 37				
10	330 37.0	25.6	277 14.2	141	-19 09.9	111 20	09	31	18 57	10 01 53	21 19 41	21 19 41	21 19 41				
11	345 37.2	+5 24.6	291 47.2	140	-19 20.9	110 10	10 N	18 05	18 26	9 45 50	21 36 45	21 36 45	21 36 45				
12	0 37.5	+5 23.7	306 20.2	140	-19 31.9	110 0	18 01	18 22	18 46	9 31 46	21 52 48	21 52 48	21 52 48				
13	15 37.7	22.8	320 53.0	138	42.8	109 10 S	17 57	18	43	16 43	22 09 51	22 09 51	22 09 51				
14	30 37.9	21.8	335 25.8	138	-19 53.6	108 20	53	15	41	9 01 39	26 55	26 55	26 55				
15	45 38.1	20.9	349 58.5	137	-20 04.4	108 30	49	13	41	8 44 34	46 59	46 59	46 59				
16	60 38.3	19.9	4 31.1	136	15.0	106 35	47	12	41	33 32	22 58 62	22 58 62	22 58 62				
17	75 38.5	+5 19.0	19 03.6	135	-20 25.6	106 40	17 44	18 11	18 42	8 22 29	23 12 64	23 12 64	23 12 64				
18	90 38.8	+5 18.0	33 36.1	135	-20 36.1	105 45	17 41	18 10	18 44	8 09 24	23 28 68	23 28 68	23 28 68				
19	105 39.0	17.1	48 08.4	133	46.6	105 50	37	10	47	7 52 20	48 74	48 74	48 74				
20	120 39.2	16.1	62 40.7	133	-20 56.9	103 52	36	09	48	45 17	23 58 76	23 58 76	23 58 76				
21	135 39.4	15.2	77 12.9	132	-21 07.2	103 54	34	09	50	36 14	** ** *	** ** *	** ** *				
22	150 39.6	14.3	91 45.0	131	17.4	102 56	32	09	52	27 11	** ** *	** ** *	** ** *				
23	165 39.8	13.3	106 17.0	130	27.4	100 58	30	09	54	16 7	** ** *	** ** *	** ** *				
24	180 40.1	+5 12.4	120 48.9	129	-21 37.5	100 60 S	17 27	18 09	18 57	7 04 1	** ** *	** ** *	** ** *				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.8		Mag.: +0.7		Mag.: -2.3		Mag.: +0.5	
	0 <sup>h</sup> 49.7 <sup>m</sup>	PMG: 13 <sup>h</sup> 34 <sup>m</sup>		PMG: 6 <sup>h</sup> 58 <sup>m</sup>		PMG: 6 <sup>h</sup> 05 <sup>m</sup>		PMG: 0 <sup>h</sup> 02 <sup>m</sup>	
hG ♂	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	347 33.0	156 37.0	-3 51.1	255 28.2	+23 27.7	268 37.4	+22 20.6	359 32.3	-7 31.5
1	2 35.4	171 36.7	52.3	270 29.0	27.7	283 39.6	20.6	14 35.0	31.5
2	17 37.9	186 36.4	53.6	285 29.9	27.7	298 41.8	20.6	29 37.6	31.6
3	32 40.4	201 36.1	54.9	300 30.7	27.8	313 44.0	20.6	44 40.3	31.7
4	47 42.8	216 35.7	56.2	315 31.6	27.8	328 46.2	20.6	59 42.9	31.8
5	62 45.3	231 35.4	-3 57.5	330 32.4	+23 27.8	343 48.4	+22 20.7	74 45.5	-7 31.9
6	77 47.8	246 35.1	-3 58.7	345 33.2	+23 27.8	358 50.6	+22 20.7	89 48.2	-7 31.9
7	92 50.2	261 34.8	-4 00.0	0 34.1	27.9	13 52.8	20.7	104 50.8	32.0
8	107 52.7	276 34.5	01.3	15 34.9	27.9	28 55.0	20.7	119 53.5	32.1
9	122 55.2	291 34.1	02.6	30 35.8	27.9	43 57.2	20.7	134 56.1	32.2
10	137 57.6	306 33.8	03.9	45 36.6	27.9	58 59.4	20.7	149 58.7	32.2
11	153 00.1	321 33.5	-4 05.1	60 37.4	+23 28.0	74 01.6	+22 20.8	165 01.4	-7 32.3
12	168 02.6	336 33.2	-4 06.4	75 38.3	+23 28.0	89 03.8	+22 20.8	180 04.0	-7 32.4
13	183 05.0	351 32.9	07.7	90 39.1	28.0	104 06.0	20.8	195 06.7	32.5
14	198 07.5	6 32.5	09.0	105 40.0	28.0	119 08.2	20.8	210 09.3	32.5
15	213 09.9	21 32.2	10.3	120 40.8	28.1	134 10.4	20.8	225 11.9	32.6
16	228 12.4	36 31.9	11.5	135 41.6	28.1	149 12.6	20.8	240 14.6	32.7
17	243 14.9	51 31.6	-4 12.8	150 42.5	+23 28.1	164 14.9	+22 20.9	255 17.2	-7 32.8
18	258 17.3	66 31.3	-4 14.1	165 43.3	+23 28.1	179 17.1	+22 20.9	270 19.9	-7 32.9
19	273 19.8	81 30.9	15.4	180 44.2	28.2	194 19.3	20.9	285 22.5	32.9
20	288 22.3	96 30.6	16.7	195 45.0	28.2	209 21.5	20.9	300 25.2	33.0
21	303 24.7	111 30.3	17.9	210 45.9	28.2	224 23.7	20.9	315 27.8	33.1
22	318 27.2	126 30.0	19.2	225 46.7	28.2	239 25.9	20.9	330 30.4	33.2
23	333 29.7	141 29.7	20.5	240 47.6	28.2	254 28.1	21.0	345 33.1	33.2
24	348 32.1	156 29.3	-4 21.8	255 48.4	+23 28.3	269 30.3	+22 21.0	0 35.7	-7 33.3

Dif	—	-3	-13	+8	0	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 14.9'		Edad: 5.9 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 54.9' 20 <sup>h</sup> : 55.1'			PMG: 16 <sup>h</sup> 28 <sup>m</sup>		R°: 52 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	180 40.1	+5 12.4	120 48.9		-21 37.5	99	60 N	3 37	4 31	5 15	13 43 99	19 04 6				
1	195 40.3	11.4	135 20.7	128	47.4	98	58	47	37	18	22 90	25 16				
2	210 40.5	10.5	149 52.5	128	-21 57.2	98	56	3 55	42	21	13 05 83	43 22				
3	225 40.7	09.5	164 24.1	126	-22 07.0	96	54	4 03	47	23	12 50 79	19 58 26				
4	240 40.9	08.6	178 55.7	126	16.6	96	52	09	51	25	38 76	20 11 29				
5	255 41.2	+5 07.6	193 27.2	125	-22 26.2	96	50	4 15	4 55	5 27	12 27 73	20 23 31				
6	270 41.4	+5 06.7	207 58.5	123	-22 35.7	95	45	4 27	5 02	5 32	12 04 68	20 47 36				
7	285 41.6	05.8	222 29.8	123	45.0	93	40	36	08	36	11 45 65	21 06 39				
8	300 41.8	04.8	237 01.0	122	-22 54.3	93	35	43	13	39	30 62	22 42				
9	315 42.0	03.9	251 32.1	121	-23 03.5	92	30	49	17	42	11 17 59	21 36 44				
10	330 42.2	02.9	266 03.1	120	12.6	91	20	4 58	24	46	10 54 56	22 00 47				
11	345 42.5	+5 02.0	280 34.1	120	-23 21.6	90	10 N	5 05	5 29	5 50	10 35 53	22 21 49				
12	0 42.7	+5 01.0	295 04.9	118	-23 30.5	89	0	5 09	5 33	5 54	10 17 50	22 40 52				
13	15 42.9	+5 00.1	309 35.6	117	39.3	88	10 S	12	36	5 57	9 59 47	23 00 54				
14	30 43.1	+4 59.1	324 06.2	116	48.0	87	20	14	39	6 01	40 44	21 57				
15	45 43.3	58.2	338 36.8	116	-23 56.5	85	30	14	41	05	18 40	23 45 60				
16	60 43.5	57.2	353 07.2	114	-24 05.0	85	35	13	42	08	9 05 38	*** **				
17	75 43.8	+4 56.3	7 37.6	114	-24 13.4	84	40	5 12	5 43	6 10	8 51 35	*** **				
18	90 44.0	+4 55.3	22 07.8	112	-24 21.7	83	45	5 10	5 44	6 13	8 33 32	*** **				
19	105 44.2	54.4	36 38.0	112	29.9	82	50	07	44	16	12 27	*** **				
20	120 44.4	53.5	51 08.0	110	37.9	80	52	05	44	18	8 02 24	*** **				
21	135 44.6	52.5	65 38.0	110	45.9	80	54	04	45	20	7 50 22	0 09 79				
22	150 44.9	51.6	80 07.9	109	-24 53.7	78	56	5 02	45	22	38 17	21 83				
23	165 45.1	50.6	94 37.6	107	-25 01.4	77	58	4 59	45	24	23 12	35 89				
24	180 45.3	+4 49.7	109 07.3	107	-25 09.0	76	60 S	4 56	5 45	6 26	7 05 4	0 52 97				

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.8		Mag.: +0.7		Mag.: -2.3		Mag.: +0.5	
	0 <sup>h</sup> 45.7 <sup>m</sup>	PMG: 13 <sup>h</sup> 34 <sup>m</sup>		PMG: 6 <sup>h</sup> 56 <sup>m</sup>		PMG: 6 <sup>h</sup> 01 <sup>m</sup>		PMG: 23 <sup>h</sup> 53 <sup>m</sup>	
	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	348 32.1	156 29.3	-4 21.8	255 48.4	+23 28.3	269 30.3	+22 21.0	0 35.7	-7 33.3
1	3 34.6	171 29.0	23.0	270 49.2	28.3	284 32.5	21.0	15 38.4	33.4
2	18 37.0	186 28.7	24.3	285 50.1	28.3	299 34.7	21.0	30 41.0	33.5
3	33 39.5	201 28.4	25.6	300 50.9	28.3	314 37.0	21.0	45 43.6	33.5
4	48 42.0	216 28.0	26.9	315 51.8	28.3	329 39.2	21.0	60 46.3	33.6
5	63 44.4	231 27.7	-4 28.2	330 52.6	+23 28.4	344 41.4	+22 21.1	75 48.9	-7 33.7
6	78 46.9	246 27.4	-4 29.4	345 53.5	+23 28.4	359 43.6	+22 21.1	90 51.6	-7 33.8
7	93 49.4	261 27.1	30.7	0 54.3	28.4	14 45.8	21.1	105 54.2	33.8
8	108 51.8	276 26.8	32.0	15 55.2	28.4	29 48.0	21.1	120 56.8	33.9
9	123 54.3	291 26.4	33.3	30 56.0	28.4	44 50.2	21.1	135 59.5	34.0
10	138 56.8	306 26.1	34.5	45 56.9	28.4	59 52.4	21.1	151 02.1	34.1
11	153 59.2	321 25.8	-4 35.8	60 57.7	+23 28.5	74 54.7	+22 21.2	166 04.8	-7 34.2
12	169 01.7	336 25.5	-4 37.1	75 58.6	+23 28.5	89 56.9	+22 21.2	181 07.4	-7 34.2
13	184 04.2	351 25.1	38.4	90 59.4	28.5	104 59.1	21.2	196 10.1	34.3
14	199 06.6	6 24.8	39.7	106 00.3	28.5	120 01.3	21.2	211 12.7	34.4
15	214 09.1	21 24.5	40.9	121 01.1	28.5	135 03.5	21.2	226 15.3	34.5
16	229 11.5	36 24.2	42.2	136 02.0	28.6	150 05.7	21.2	241 18.0	34.5
17	244 14.0	51 23.8	-4 43.5	151 02.8	+23 28.6	165 07.9	+22 21.3	256 20.6	-7 34.6
18	259 16.5	66 23.5	-4 44.8	166 03.7	+23 28.6	180 10.2	+22 21.3	271 23.3	-7 34.7
19	274 18.9	81 23.2	46.0	181 04.5	28.6	195 12.4	21.3	286 25.9	34.8
20	289 21.4	96 22.9	47.3	196 05.4	28.6	210 14.6	21.3	301 28.5	34.8
21	304 23.9	111 22.5	48.6	211 06.2	28.6	225 16.8	21.3	316 31.2	34.9
22	319 26.3	126 22.2	49.9	226 07.1	28.6	240 19.0	21.3	331 33.8	35.0
23	334 28.8	141 21.9	51.1	241 07.9	28.7	255 21.2	21.3	346 36.5	35.1
24	349 31.3	156 21.6	-4 52.4	256 08.8	+23 28.7	270 23.5	+22 21.4	1 39.1	-7 35.1
Dif	—	-3	-13	+8	0	+22	0	+26	-1

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 56.8 <sup>m</sup>			SD: 15.0' Edad: 6.9 <sup>d</sup> PMG: 17 <sup>h</sup> 20 <sup>m</sup> R <sup>o</sup> : 54 <sup>m</sup>						PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.8'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180 45.3	+ 4 49.7	109 07.3	106	- 25 09.0	75	60 N	18 35	19 18	20 11	15 22 93	19 10 22				
1	195 45.5	48.7	123 36.9	106	16.5	74	58	32	12	20 02	14 52 81	19 41 33				
2	210 45.7	47.8	138 06.4	105	23.9	73	56	30	08	19 54	28 76	20 05 38				
3	225 46.0	46.8	152 35.8	104	31.2	72	54	28	03	47	14 09 73	24 41				
4	240 46.2	45.9	167 05.1	103	38.3	71	52	25	19 00	41	13 54 70	40 43				
5	255 46.4	+ 4 44.9	181 34.2	101	- 25 45.4	71	50	18 24	18 56	19 36	13 40 68	20 54 45				
6	270 46.6	+ 4 44.0	196 03.4	102	- 25 52.3	69	45	18 20	18 49	19 25	13 12 65	21 23 47				
7	285 46.8	43.0	210 32.4	100	- 25 59.1	68	40	16	44	16	12 50 63	21 45 49				
8	300 47.1	42.1	225 01.3	99	- 26 05.7	66	35	14	39	09	12 61	22 04 50				
9	315 47.3	41.1	239 30.1	98	12.3	66	30	11	35	19 03	13 16 60	20 51				
10	330 47.5	40.2	253 58.8	97	18.7	64	20	07	29	18 55	11 50 58	22 47 53				
11	345 47.7	+ 4 39.2	268 27.4	96	- 26 25.0	63	10 N	18 03	18 24	18 49	11 28 56	23 10 55				
12	0 47.9	+ 4 38.3	282 56.0	96	- 26 31.2	62	0	18 00	18 21	18 45	11 07 54	23 32 56				
13	15 48.1	37.3	297 24.8	94	37.2	60	10 S	17 57	18	42	10 46 52	23 54 57				
14	30 48.4	36.4	311 52.4	94	43.1	59	20	54	16	41	10 24 50	** ** *				
15	45 48.6	35.4	326 21.0	92	48.9	58	30	50	14	42	9 58 48	** ** *				
16	60 48.8	34.5	340 49.2	92	- 26 54.6	57	35	48	13	43	43 46	0 00 62				
17	75 49.0	+ 4 33.5	355 17.2	90	- 27 00.1	55	40	17 46	18 13	18 44	9 26 44	0 16 65				
18	90 49.2	+ 4 32.6	9 45.2	90	- 27 05.4	53	45	17 43	18 13	18 47	9 05 42	0 36 68				
19	105 49.5	31.6	24 13.1	89	10.7	53	50	40	12	50	8 39 38	1 02 71				
20	120 49.7	30.7	38 40.9	88	15.8	51	52	39	12	52	26 36	14 74				
21	135 49.9	29.7	53 08.6	87	20.8	50	54	37	13	54	8 12 33	28 76				
22	150 50.1	28.8	67 36.2	86	25.6	48	56	36	13	56	7 55 29	1 44 81				
23	165 50.3	27.8	82 03.8	86	30.3	47	58	34	13	18 59	35 23	2 04 86				
24	180 50.6	+ 4 26.9	96 31.2	84	- 27 34.9	46	60 S	17 32	18 13	19 02	7 09 14	2 29 97				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 <sup>h</sup> 41.8 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 35 <sup>m</sup>		Mag.: +0.7 PMG: 6 <sup>h</sup> 55 <sup>m</sup>		Mag.: -2.3 PMG: 5 <sup>h</sup> 58 <sup>m</sup>		Mag.: +0.5 PMG: 23 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	349 31.3	156 21.6	- 4 52.4	256 08.8	+ 23 28.7	270 23.5	+ 22 21.4	1 39.1	- 7 35.1	
1	4 33.7	171 21.2	53.7	271 09.6	28.7	285 25.7	21.4	16 41.7	35.2	
2	19 36.2	186 20.9	55.0	286 10.5	28.7	300 27.9	21.4	31 44.4	35.3	
3	34 38.7	201 20.6	56.2	301 11.3	28.7	315 30.1	21.4	46 47.0	35.4	
4	49 41.1	216 20.3	57.5	316 12.2	28.7	330 32.3	21.4	61 49.7	35.4	
5	64 43.6	231 19.9	- 4 58.8	331 13.0	+ 23 28.7	345 34.6	+ 22 21.4	76 52.3	- 7 35.5	
6	79 46.0	246 19.6	- 5 00.1	346 13.9	+ 23 28.8	0 36.8	+ 22 21.5	91 55.0	- 7 35.6	
7	94 48.5	261 19.3	01.3	1 14.7	28.8	15 39.0	21.5	106 57.6	35.7	
8	109 51.0	276 19.0	02.6	16 15.6	28.8	30 41.2	21.5	122 00.2	35.8	
9	124 53.4	291 18.6	03.9	31 16.5	28.8	45 43.4	21.5	137 02.9	35.8	
10	139 55.9	306 18.3	05.2	46 17.3	28.8	60 45.7	21.5	152 05.5	35.9	
11	154 58.4	321 18.0	- 5 06.4	61 18.2	+ 23 28.8	75 47.9	+ 22 21.5	167 08.2	- 7 36.0	
12	170 00.8	336 17.7	- 5 07.7	76 19.0	+ 23 28.8	90 50.1	+ 22 21.6	182 10.8	- 7 36.1	
13	185 03.3	351 17.3	09.0	91 19.9	28.8	105 52.3	21.6	197 13.4	36.1	
14	200 05.8	6 17.0	10.2	106 20.7	28.9	120 54.5	21.6	212 16.1	36.2	
15	215 08.2	21 16.7	11.5	121 21.6	28.9	135 56.8	21.6	227 18.7	36.3	
16	230 10.7	36 16.4	12.8	136 22.4	28.9	150 59.0	21.6	242 21.4	36.4	
17	245 13.2	51 16.0	- 5 14.1	151 23.3	+ 23 28.9	166 01.2	+ 22 21.6	257 24.0	- 7 36.4	
18	260 15.6	66 15.7	- 5 15.3	166 24.2	+ 23 28.9	181 03.4	+ 22 21.6	272 26.6	- 7 36.5	
19	275 18.1	81 15.4	16.6	181 25.0	28.9	196 05.7	21.7	287 29.3	36.6	
20	290 20.5	96 15.1	17.9	196 25.9	28.9	211 07.9	21.7	302 31.9	36.7	
21	305 23.0	111 14.7	19.2	211 26.7	28.9	226 10.1	21.7	317 34.6	36.7	
22	320 25.5	126 14.4	20.4	226 27.6	28.9	241 12.3	21.7	332 37.2	36.8	
23	335 27.9	141 14.1	21.7	241 28.4	28.9	256 14.6	21.7	347 39.9	36.9	
24	350 30.4	156 13.7	- 5 23.0	256 29.3	+ 23 28.9	271 16.8	+ 22 21.7	2 42.5	- 7 37.0	
Dif	—	-3	-13	+9	0	+22	0	+26	-1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 56.5 <sup>m</sup>			SD: 15.2' Edad: 7.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 56.0' 12 <sup>h</sup> : 56.3' 20 <sup>h</sup> : 56.5' PMG: 18 <sup>h</sup> 14 <sup>m</sup> R°: 58 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	180 50.6	+ 4 26.9	96 31.2	84	- 27 34.9	44	60 N	3 43	4 37	5 19	16 55 56	19 32 64			
1	195 50.8	25.9	110 58.6	84	39.3	44	58	3 52	42	22	16 13 57	20 14 63			
2	210 51.0	25.0	125 25.8	82	43.5	42	56	4 00	47	25	15 44 58	20 43 62			
3	225 51.2	24.0	139 53.0	82	47.7	42	54	07	51	27	22 58	21 05 62			
4	240 51.5	23.1	154 20.1	81	51.6	39	52	13	54	29	15 04 58	23 62			
5	255 51.7	+ 4 22.1	168 47.2	81	- 27 55.5	39	50	4 18	4 58	5 30	14 48 59	21 39 61			
6	270 51.9	+ 4 21.2	183 14.1	79	- 27 59.2	37	45	4 29	5 05	5 34	14 17 59	22 10 61			
7	285 52.1	20.2	197 41.0	79	- 28 02.7	35	40	38	10	37	13 53 58	34 61			
8	300 52.3	19.3	212 07.7	77	06.1	34	35	45	15	40	33 58	22 54 60			
9	315 52.6	18.3	226 34.5	78	09.3	32	30	50	19	43	13 16 58	23 11 60			
10	330 52.8	17.3	241 01.1	76	12.4	31	20	4 59	25	47	12 48 58	23 40 59			
11	345 53.0	+ 4 16.4	255 27.6	75	- 28 15.3	29	10 N	5 04	5 29	5 50	12 24 57	** ** *	** ** *		
12	0 53.2	+ 4 15.4	269 54.1	75	- 28 18.1	28	0	5 08	5 32	5 53	12 01 57	** ** *	** ** *		
13	15 53.4	14.5	284 20.5	74	20.8	27	10 S	11	35	56	11 38 57	** ** *	** ** *		
14	30 53.7	13.5	298 46.8	73	23.2	24	20	12	37	5 59	11 14 56	0 18 58			
15	45 53.9	12.6	313 13.1	73	25.5	23	30	11	39	6 03	10 46 56	0 45 59			
16	60 54.1	11.6	327 39.3	72	27.7	22	35	10	39	05	29 56	1 02 60			
17	75 54.3	+ 4 10.7	342 05.4	71	- 28 29.7	20	40	5 08	5 40	6 07	10 10 55	1 21 60			
18	90 54.5	+ 4 09.7	356 31.4	70	- 28 31.5	18	45	5 06	5 40	6 09	9 47 54	1 44 62			
19	105 54.8	08.8	10 57.4	70	33.2	17	50	03	40	12	17 53	2 13 64			
20	120 55.0	07.8	25 23.3	69	34.7	15	52	5 01	40	13	9 02 52	28 64			
21	135 55.2	06.9	39 49.2	69	36.1	14	54	4 59	40	15	8 45 51	2 44 66			
22	150 55.4	05.9	54 15.0	68	37.3	12	56	56	39	16	8 24 50	3 05 67			
23	165 55.6	05.0	68 40.7	67	38.3	10	58	54	39	18	7 58 48	3 30 71			
24	180 55.9	+ 4 04.0	83 06.4	67	- 28 39.2	9	60 S	4 50	5 39	6 20	7 23 42	4 06 76			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 0 <sup>h</sup> 37.9 <sup>m</sup>		Mag.: -3.8 PMG: 13 <sup>h</sup> 35 <sup>m</sup>		Mag.: +0.7 PMG: 6 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.3 PMG: 5 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.5 PMG: 23 <sup>h</sup> 45 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	350 30.4	156 13.7	- 5 23.0	256 29.3	+ 23 28.9	271 16.8	+ 22 21.7	2 42.5	- 7 37.0	
1	5 32.9	171 13.4	24.2	271 30.2	29.0	286 19.0	21.8	17 45.1	37.0	
2	20 35.3	186 13.1	25.5	286 31.0	29.0	301 21.2	21.8	32 47.8	37.1	
3	35 37.8	201 12.8	26.8	301 31.9	29.0	316 23.5	21.8	47 50.4	37.2	
4	50 40.3	216 12.4	28.1	316 32.8	29.0	331 25.7	21.8	62 53.1	37.3	
5	65 42.7	231 12.1	- 5 29.3	331 33.6	+ 23 29.0	346 27.9	+ 22 21.8	77 55.7	- 7 37.3	
6	80 45.2	246 11.8	- 5 30.6	346 34.5	+ 23 29.0	1 30.1	+ 22 21.8	92 58.3	- 7 37.4	
7	95 47.6	261 11.4	31.9	1 35.3	29.0	16 32.4	21.8	108 01.0	37.5	
8	110 50.1	276 11.1	33.1	16 36.2	29.0	31 34.6	21.9	123 03.6	37.6	
9	125 52.6	291 10.8	34.4	31 37.1	29.0	46 36.8	21.9	138 06.3	37.7	
10	140 55.0	306 10.4	35.7	46 37.9	29.0	61 39.0	21.9	153 08.9	37.7	
11	155 57.5	321 10.1	- 5 36.9	61 38.8	+ 23 29.0	76 41.3	+ 22 21.9	168 11.5	- 7 37.8	
12	171 00.0	336 09.8	- 5 38.2	76 39.6	+ 23 29.0	91 43.5	+ 22 21.9	183 14.2	- 7 37.9	
13	186 02.4	351 09.5	39.5	91 40.5	29.0	106 45.7	21.9	198 16.8	38.0	
14	201 04.9	6 09.1	40.7	106 41.4	29.0	121 48.0	21.9	213 19.5	38.0	
15	216 07.4	21 08.8	42.0	121 42.2	29.0	136 50.2	22.0	228 22.1	38.1	
16	231 09.8	36 08.5	43.3	136 43.1	29.1	151 52.4	22.0	243 24.7	38.2	
17	246 12.3	51 08.1	- 5 44.5	151 44.0	+ 23 29.1	166 54.7	+ 22 22.0	258 27.4	- 7 38.3	
18	261 14.8	66 07.8	- 5 45.8	166 44.8	+ 23 29.1	181 56.9	+ 22 22.0	273 30.0	- 7 38.3	
19	276 17.2	81 07.5	47.1	181 45.7	29.1	196 59.1	22.0	288 32.7	38.4	
20	291 19.7	96 07.1	48.4	196 46.6	29.1	212 01.4	22.0	303 35.3	38.5	
21	306 22.1	111 06.8	49.6	211 47.4	29.1	227 03.6	22.1	318 38.0	38.6	
22	321 24.6	126 06.5	50.9	226 48.3	29.1	242 05.8	22.1	333 40.6	38.6	
23	336 27.1	141 06.1	52.2	241 49.2	29.1	257 08.0	22.1	348 43.2	38.7	
24	351 29.5	156 05.8	- 5 53.4	256 50.0	+ 23 29.1	272 10.3	+ 22 22.1	3 45.9	- 7 38.8	

Dif	—	-3	-13	+9	0	+22	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 56.1 <sup>m</sup>		SD: 15.4' Edad: 8.9 <sup>d</sup> PMG: 19 <sup>h</sup> 12 <sup>m</sup> R <sup>o</sup> : 59 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.8' 12 <sup>h</sup> : 57.1' 20 <sup>h</sup> : 57.4'				Civil	Náutico	Hora R <sup>o</sup>	Hora R <sup>o</sup>		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180 55.9	+ 4 04.0	83 06.4	66	-28 39.2	7	60 N	18 29	19 11	20 04	17 51 19	20 36 104		
1	195 56.1	03.0	97 32.0	66	39.9	5	58	27	07	19 55	17 10 31	21 17 91		
2	210 56.3	02.1	111 57.6	66	40.4	5	56	24	19 02	48	16 42 37	21 45 85		
3	225 56.5	01.1	126 23.1	65	40.8	4	54	23	18 58	42	20 41	22 07 81		
4	240 56.8	+ 4 00.2	140 48.6	65	41.0	2	52	21	55	36	16 02 43	25 78		
5	255 57.0	+ 3 59.2	155 14.0	64	-28 41.0	0	50	18 19	18 52	19 31	15 47 45	22 40 76		
6	270 57.2	+ 3 58.3	169 39.3	63	-28 40.9	1	45	18 16	18 45	19 20	15 16 48	23 11 72		
7	285 57.4	57.3	184 04.7	64	40.6	3	40	13	40	12	14 51 51	35 69		
8	300 57.6	56.4	198 29.9	62	40.1	5	35	11	36	06	31 53	23 54 68		
9	315 57.9	55.4	212 55.1	62	39.5	6	30	09	33	19 01	14 14 54	** ** *	** ** *	
10	330 58.1	54.5	227 20.3	62	38.7	8	20	05	27	18 53	13 46 55	** ** *	** ** *	
11	345 58.3	+ 3 53.5	241 45.5	62	-28 37.7	10	10 N	18 02	18 23	18 48	13 21 57	0 05 59		
12	0 58.5	+ 3 52.5	256 10.6	61	-28 36.6	11	0	17 59	18 20	18 44	12 58 59	0 28 58		
13	15 58.8	51.6	270 35.6	60	35.2	14	10 S	57	18	42	35 60	0 51 58		
14	30 59.0	50.6	285 00.7	61	33.7	15	20	54	16	42	12 10 62	1 16 57		
15	45 59.2	49.7	299 25.7	60	32.0	17	30	51	15	43	11 42 63	1 44 56		
16	60 59.4	48.7	313 50.6	59	30.2	18	35	49	15	44	25 64	2 02 55		
17	75 59.6	+ 3 47.8	328 15.6	60	-28 28.2	20	40	17 48	18 15	18 46	11 05 65	2 21 55		
18	90 59.9	+ 3 46.8	342 40.5	59	-28 26.0	22	45	17 46	18 15	18 49	10 41 67	2 46 53		
19	106 00.1	45.8	357 05.4	59	23.6	24	50	43	15	53	10 10 69	3 17 51		
20	121 00.3	44.9	11 30.2	58	21.1	25	52	42	16	55	9 54 71	32 51		
21	136 00.5	43.9	25 55.1	59	18.3	28	54	41	16	18 57	36 72	3 50 50		
22	151 00.8	43.0	40 19.9	58	15.4	29	56	39	17	19 00	9 14 75	4 12 47		
23	166 01.0	42.0	54 44.7	58	12.4	30	58	38	17	03	8 46 78	4 41 43		
24	181 01.2	+ 3 41.1	69 09.5	58	-28 09.1	33	60 S	17 36	18 18	19 06	8 05 86	5 22 36		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 <sup>h</sup> 33.9 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.7 PMG: 6 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.5 PMG: 23 <sup>h</sup> 41 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	351 29.5	156 05.8	- 5 53.4	256 50.0	+ 23 29.1	272 10.3	+ 22 22.1	3 45.9	- 7 38.8	
1	6 32.0	171 05.5	54.7	271 50.9	29.1	287 12.5	22.1	18 48.5	38.9	
2	21 34.5	186 05.2	56.0	286 51.8	29.1	302 14.7	22.1	33 51.2	38.9	
3	36 36.9	201 04.8	57.2	301 52.6	29.1	317 17.0	22.1	48 53.8	39.0	
4	51 39.4	216 04.5	58.5	316 53.5	29.1	332 19.2	22.2	63 56.4	39.1	
5	66 41.9	231 04.2	- 5 59.7	331 54.4	+ 23 29.1	347 21.4	+ 22 22.2	78 59.1	- 7 39.2	
6	81 44.3	246 03.8	- 6 01.0	346 55.2	+ 23 29.1	2 23.7	+ 22 22.2	94 01.7	- 7 39.2	
7	96 46.8	261 03.5	02.3	1 56.1	29.1	17 25.9	22.2	109 04.4	39.3	
8	111 49.3	276 03.2	03.5	16 57.0	29.1	32 28.2	22.2	124 07.0	39.4	
9	126 51.7	291 02.8	04.8	31 57.8	29.1	47 30.4	22.2	139 09.6	39.5	
10	141 54.2	306 02.5	06.1	46 58.7	29.1	62 32.6	22.2	154 12.3	39.5	
11	156 56.6	321 02.2	- 6 07.3	61 59.6	+ 23 29.1	77 34.9	+ 22 22.3	169 14.9	- 7 39.6	
12	171 59.1	336 01.8	- 6 08.6	77 00.5	+ 23 29.1	92 37.1	+ 22 22.3	184 17.6	- 7 39.7	
13	187 01.6	351 01.5	09.9	92 01.3	29.1	107 39.3	22.3	199 20.2	39.8	
14	202 04.0	6 01.2	11.1	107 02.2	29.1	122 41.6	22.3	214 22.8	39.8	
15	217 06.5	21 00.8	12.4	122 03.1	29.1	137 43.8	22.3	229 25.5	39.9	
16	232 09.0	36 00.5	13.7	137 03.9	29.1	152 46.0	22.3	244 28.1	40.0	
17	247 11.4	51 00.1	- 6 14.9	152 04.8	+ 23 29.1	167 48.3	+ 22 22.3	259 30.8	- 7 40.1	
18	262 13.9	65 59.8	- 6 16.2	167 05.7	+ 23 29.1	182 50.5	+ 22 22.4	274 33.4	- 7 40.1	
19	277 16.4	80 59.5	17.4	182 06.6	29.1	197 52.8	22.4	289 36.0	40.2	
20	292 18.8	95 59.1	18.7	197 07.4	29.1	212 55.0	22.4	304 38.7	40.3	
21	307 21.3	110 58.8	20.0	212 08.3	29.1	227 57.2	22.4	319 41.3	40.4	
22	322 23.8	125 58.5	21.2	227 09.2	29.1	242 59.5	22.4	334 44.0	40.4	
23	337 26.2	140 58.1	22.5	242 10.1	29.1	258 01.7	22.4	349 46.6	40.5	
24	352 28.7	155 57.8	- 6 23.8	257 10.9	+ 23 29.1	273 04.0	+ 22 22.4	4 49.2	- 7 40.6	

Dif	—	-3	-13	+9	0	+22	0	+26	-1
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UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 55.7 <sup>m</sup>			SD: 15.7' Edad: 9.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 57.8' 12 <sup>h</sup> : 58.1' 20 <sup>h</sup> : 58.4'				R <sup>o</sup> : 58 <sup>m</sup>			Náutico	Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec		Dif								
0	181 01.2	+3 41.1	69 09.5	58	-28 09.1	34	60 N	3 49	4 42	5 24	18 10	6	22 20	115		
1	196 01.4	40.1	83 34.3	57	05.7	34	58	3 57	4 46	5 26	17 41	16	22 48	105		
2	211 01.6	39.1	97 59.0	57	-28 02.1	36	56	4 05	5 1	5 28	19 22	23 10	98			
3	226 01.9	38.2	112 23.8	58	-27 58.3	38	54	11	54	30	17 01	26	28	93		
4	241 02.1	37.2	126 48.5	57	54.3	40	52	17	4 58	32	16 45	30	43	90		
5	256 02.3	+3 36.3	141 13.3	58	-27 50.2	41	50	4 22	5 01	5 33	16 32	33	23 56	87		
6	271 02.5	+3 35.3	155 38.0	57	-27 45.9	43	45	4 32	5 07	5 37	16 04	38	** ** *	** ** *		
7	286 02.8	34.4	170 02.7	57	41.4	45	40	40	12	39	15 42	42	** ** *	** ** *		
8	301 03.0	33.4	184 27.4	57	36.7	47	35	46	16	42	24 45		** ** *	** ** *		
9	316 03.2	32.4	198 52.2	58	31.9	48	30	52	20	44	15 08	48	0 11	66		
10	331 03.4	31.5	213 16.9	57	26.8	51	20	4 59	25	47	14 41	52	0 39	64		
11	346 03.7	+3 30.5	227 41.6	57	-27 21.6	52	10 N	5 04	5 29	5 50	14 18	55	1 04	60		
12	1 03.9	+3 29.6	242 06.3	57	-27 16.3	53	0	5 08	5 32	5 52	13 57	58	1 26	59		
13	16 04.1	28.6	256 31.1	58	10.7	56	10 S	10	34	55	35 61	1	1 49	56		
14	31 04.3	27.7	270 55.8	57	-27 05.0	57	20	10	36	5 58	13 12	64	2 13	53		
15	46 04.5	26.7	285 20.6	58	-26 59.1	59	30	09	36	6 00	12 45	68	40	51		
16	61 04.8	25.7	299 45.4	58	53.0	61	35	07	37	02	29 71	1	2 57	49		
17	76 05.0	+3 24.8	314 10.2	58	-26 46.7	63	40	5 05	5 37	6 04	12 10	74	3 16	46		
18	91 05.2	+3 23.8	328 35.0	58	-26 40.3	64	45	5 02	5 36	6 05	11 48	77	3 39	43		
19	106 05.4	22.9	342 59.8	58	33.7	66	50	4 58	36	08	19 82	4	4 08	39		
20	121 05.7	21.9	357 24.6	58	26.9	68	52	56	35	09	11 05	85	23	36		
21	136 05.9	20.9	11 49.5	59	20.0	69	54	54	35	10	10 48	89	40	33		
22	151 06.1	20.0	26 14.4	59	12.8	72	56	51	34	11	29 93	4	5 59	29		
23	166 06.3	19.0	40 39.3	59	-26 05.5	73	58	48	34	13	10 04	100	5 24	23		
24	181 06.6	+3 18.1	55 04.2	59	-25 58.0	75	60 S	4 44	5 33	6 14	9 31	111	5 58	11		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG: 0 <sup>h</sup> 30.0 <sup>m</sup>			Mag.: -3.9 PMG: 13 <sup>h</sup> 36 <sup>m</sup>			Mag.: +0.7 PMG: 6 <sup>h</sup> 51 <sup>m</sup>			Mag.: -2.4 PMG: 5 <sup>h</sup> 47 <sup>m</sup>			Mag.: +0.6 PMG: 23 <sup>h</sup> 37 <sup>m</sup>		
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
0	352 28.7	155 57.8	-6 23.8	257 10.9	+23 29.1	273 04.0	+22 22.4	0 49.2	-7 40.6						
1	7 31.1	170 57.5	25.0	272 11.8	29.1	288 06.2	22.5	19 51.9	40.7						
2	22 33.6	185 57.1	26.3	287 12.7	29.1	303 08.4	22.5	34 54.5	40.7						
3	37 36.1	200 56.8	27.5	302 13.6	29.1	318 10.7	22.5	49 57.2	40.8						
4	52 38.5	215 56.5	28.8	317 14.4	29.1	333 12.9	22.5	64 59.8	40.9						
5	67 41.0	230 56.1	-6 30.1	332 15.3	+23 29.1	348 15.2	+22 22.5	80 02.5	-7 41.0						
6	82 43.5	245 55.8	-6 31.3	347 16.2	+23 29.1	3 17.4	+22 22.5	95 05.1	-7 41.0						
7	97 45.9	260 55.4	32.6	2 17.1	29.0	18 19.7	22.5	110 07.7	41.1						
8	112 48.4	275 55.1	33.8	17 17.9	29.0	33 21.9	22.5	125 10.4	41.2						
9	127 50.9	290 54.8	35.1	32 18.8	29.0	48 24.1	22.6	140 13.0	41.3						
10	142 53.3	305 54.4	36.4	47 19.7	29.0	63 26.4	22.6	155 15.7	41.3						
11	157 55.8	320 54.1	-6 37.6	62 20.6	+23 29.0	78 28.6	+22 22.6	170 18.3	-7 41.4						
12	172 58.3	335 53.8	-6 38.9	77 21.4	+23 29.0	93 30.9	+22 22.6	185 20.9	-7 41.5						
13	188 00.7	350 53.4	40.1	92 22.3	29.0	108 33.1	22.6	200 23.6	41.6						
14	203 03.2	5 53.1	41.4	107 23.2	29.0	123 35.4	22.6	215 26.2	41.6						
15	218 05.6	20 52.7	42.7	122 24.1	29.0	138 37.6	22.6	230 28.9	41.7						
16	233 08.1	35 52.4	43.9	137 25.0	29.0	153 39.9	22.7	245 31.5	41.8						
17	248 10.6	50 52.1	-6 45.2	152 25.8	+23 29.0	168 42.1	+22 22.7	260 34.1	-7 41.9						
18	263 13.0	65 51.7	-6 46.4	167 26.7	+23 29.0	183 44.3	+22 22.7	275 36.8	-7 41.9						
19	278 15.5	80 51.4	47.7	182 27.6	29.0	198 46.6	22.7	290 39.4	42.0						
20	293 18.0	95 51.0	48.9	197 28.5	29.0	213 48.8	22.7	305 42.1	42.1						
21	308 20.4	110 50.7	50.2	212 29.4	29.0	228 51.1	22.7	320 44.7	42.2						
22	323 22.9	125 50.4	51.5	227 30.3	29.0	243 53.3	22.7	335 47.3	42.2						
23	338 25.4	140 50.0	52.7	242 31.1	28.9	258 55.6	22.8	350 50.0	42.3						
24	353 27.8	155 49.7	-6 54.0	257 32.0	+23 28.9	273 57.8	+22 22.8	5 52.6	-7 42.4						
Dif	—	-3	-13	+9	0	+22	0	+26	-1						

UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 55.4 <sup>m</sup>			SD: 16.0' Edad: 10.9 <sup>d</sup> PMG: 21 <sup>h</sup> 09 <sup>m</sup> R°: 55 <sup>m</sup>					PHE { 4 <sup>h</sup> : 58.7' 12 <sup>h</sup> : 59.0' 20 <sup>h</sup> : 59.4'	Civl	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	m	h m	m	
0	181 06.6	+3 18.1	55 04.2	60	-25 58.0	76	60 N	18 23	19 05	19 57	18 16	1	** ** *	** ** *	
1	196 06.8		69 29.2	60	50.4	80	58	21	19 01	49	17 57	8	** ** *	** ** *	
2	211 07.0	16.1	83 54.1	59	42.6	78	56	19	18 57	42	41 13		** ** *	** ** *	
3	226 07.2	15.2	98 19.1	60	34.6	80	54	18	53	36	27 18		** ** *	** ** *	
4	241 07.4	14.2	112 44.2	61	26.4	82	52	16	50	31	15 22		** ** *	** ** *	
5	256 07.7	+3 13.3	127 09.3	61	-25 18.1	83	50	18 15	18 47	19 26	17 05	24	** ** *	** ** *	
6	271 07.9	+3 12.3	141 34.4	61	-25 09.6	85	45	18 12	18 42	19 16	16 42	31	0 23	81	
7	286 08.1	11.3	155 59.5	61	-25 00.9	87	40	10	37	09	24 36		0 44	76	
8	301 08.3	10.4	170 24.7	62	-24 52.1	88	35	08	33	19 03	16 09	39	1 02	73	
9	316 08.6	09.4	184 49.9	62	43.1	90	30	06	30	18 58	15 56	42	17	70	
10	331 08.8	08.5	199 15.1	62	33.9	92	20	03	25	51	33 48		1 43	65	
11	346 09.0	+3 07.5	213 40.4	63	-24 24.6	93	10 N	18 01	18 22	18 46	15 13	53	2 04	61	
12	1 09.2	+3 06.5	228 05.8	64	-24 15.1	95	0	17 59	18 19	18 43	14 55	56	2 25	57	
13	16 09.5	05.6	242 31.1	63	-24 05.4	97	10 S	57	18	42	36 61		2 45	54	
14	31 09.7	04.6	256 56.5	64	-23 55.6	98	20	54	16	42	14 16	66	3 06	50	
15	46 09.9	03.7	271 22.0	65	45.6	100	30	52	16	44	13 53	71	31	45	
16	61 10.1	02.7	285 47.5	65	35.4	102	35	51	16	46	40 73		3 46	42	
17	76 10.4	+3 01.7	300 13.0	65	-23 25.1	103	40	17 50	18 17	18 48	13 24	78	4 02	39	
18	91 10.6	+3 00.8	314 38.6	66	-23 14.7	104	45	17 48	18 17	18 51	13 05	82	4 22	34	
19	106 10.8	+2 59.8	329 04.3	67	-23 04.0	107	50	46	18	56	12 41	89	47	28	
20	121 11.0	58.8	343 29.9	66	-22 53.3	107	52	45	19	18 58	30 92		4 59	25	
21	136 11.2	57.9	357 55.7	68	42.3	110	54	44	20	19 01	17 96		5 13	21	
22	151 11.5	56.9	12 21.4	67	31.2	111	56	43	20	04	12 02	100	28	17	
23	166 11.7	56.0	26 47.3	69	20.0	112	58	42	21	07	11 44	106	5 47	11	
24	181 11.9	+2 55.0	41 13.1	68	-22 08.6	114	60 S	17 41	18 22	19 11	11 22	114	6 09	4	

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 0 <sup>h</sup> 26.1 <sup>m</sup>			Mag.: -3.9 PMG: 13 <sup>h</sup> 37 <sup>m</sup>			Mag.: +0.6 PMG: 6 <sup>h</sup> 49 <sup>m</sup>			Mag.: -2.4 PMG: 5 <sup>h</sup> 43 <sup>m</sup>			Mag.: +0.6 PMG: 23 <sup>h</sup> 32 <sup>m</sup>		
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	353 27.8	155 49.7	-6 54.0	257 32.0	+23 28.9	273 57.8	+22 22.8	5 52.6	-7 42.4						
1	8 30.3	170 49.3	55.2	272 32.9	28.9	289 00.1	22.8	20 55.3	42.5						
2	23 32.7	185 49.0	56.5	287 33.8	28.9	304 02.3	22.8	35 57.9	42.5						
3	38 35.2	200 48.7	57.7	302 34.7	28.9	319 04.6	22.8	51 00.5	42.6						
4	53 37.7	215 48.3	-6 59.0	317 35.5	28.9	334 06.8	22.8	66 03.2	42.7						
5	68 40.1	230 48.0	-7 00.2	332 36.4	+23 28.9	349 09.1	+22 22.8	81 05.8	-7 42.8						
6	83 42.6	245 47.6	-7 01.5	347 37.3	+23 28.9	4 11.3	+22 22.8	96 08.5	-7 42.8						
7	98 45.1	260 47.3	02.8	2 38.2	28.9	19 13.6	22.9	111 11.1	42.9						
8	113 47.5	275 46.9	04.0	17 39.1	28.9	34 15.8	22.9	126 13.7	43.0						
9	128 50.0	290 46.6	05.3	32 40.0	28.8	49 18.1	22.9	141 16.4	43.1						
10	143 52.5	305 46.3	06.5	47 40.9	28.8	64 20.3	22.9	156 19.0	43.1						
11	158 54.9	320 45.9	-7 07.8	62 41.7	+23 28.8	79 22.6	+22 22.9	171 21.7	-7 43.2						
12	173 57.4	335 45.6	-7 09.0	77 42.6	+23 28.8	94 24.8	+22 22.9	186 24.3	-7 43.3						
13	188 59.9	350 45.2	10.3	92 43.5	28.8	109 27.1	22.9	201 26.9	43.4						
14	204 02.3	5 44.9	11.5	107 44.4	28.8	124 29.3	22.9	216 29.6	43.4						
15	219 04.8	20 44.5	12.8	122 45.3	28.8	139 31.6	23.0	231 32.2	43.5						
16	234 07.2	35 44.2	14.0	137 46.2	28.8	154 33.8	23.0	246 34.9	43.6						
17	249 09.7	50 43.9	-7 15.3	152 47.1	+23 28.8	169 36.1	+22 23.0	261 37.5	-7 43.7						
18	264 12.2	65 43.5	-7 16.5	167 48.0	+23 28.7	184 38.3	+22 23.0	276 40.1	-7 43.7						
19	279 14.6	80 43.2	17.8	182 48.8	28.7	199 40.6	23.0	291 42.8	43.8						
20	294 17.1	95 42.8	19.0	197 49.7	28.7	214 42.9	23.0	306 45.4	43.9						
21	309 19.6	110 42.5	20.3	212 50.6	28.7	229 45.1	23.0	321 48.0	44.0						
22	324 22.0	125 42.1	21.5	227 51.5	28.7	244 47.4	23.1	336 50.7	44.0						
23	339 24.5	140 41.8	22.8	242 52.4	28.7	259 49.6	23.1	351 53.3	44.1						
24	354 27.0	155 41.4	-7 24.0	257 53.3	+23 28.7	274 51.9	+22 23.1	6 56.0	-7 44.2						
Dif	—	-3	-13	+9	0	+23	0	+26	-1						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 16.2'		Edad: 11.9 <sup>d</sup>			PHE { 4 <sup>h</sup> : 59.7' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 60.2'			PMG: 22 <sup>h</sup> 04 <sup>m</sup>		R°: 54 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	181 11.9	+2 55.0	41 13.1	70	-22 08.6	116	60 N	3 54	4 46	5 29	18 17	0	0 15	115		
1	196 12.1	54.0	55 39.1	71	-21 57.0	117	58	4 02	51	31	18 05	5	33	108		
2	211 12.4	53.1	70 05.0	69	45.3	117	56	09	55	32	17 54	9	0 48	102		
3	226 12.6	52.1	84 31.1	71	33.5	120	54	15	4 58	34	45 13	1	01	98		
4	241 12.8	51.2	98 57.2	71	21.5	121	52	20	5 01	35	37 16	13	93	93		
5	256 13.0	+2 50.2	113 23.3	71	-21 09.4	121	50	4 25	5 04	5 36	17 29	19	1 23	90		
6	271 13.3	+2 49.2	127 49.5	72	-20 57.1	123	45	4 35	5 10	5 39	17 13	25	1 44	83		
7	286 13.5	48.3	142 15.7	72	44.6	125	40	42	14	41	17 00	30	2 00	79		
8	301 13.7	47.3	156 42.0	73	32.1	125	35	48	18	43	16 48	34	15	74		
9	316 13.9	46.3	171 08.3	73	19.3	128	30	4 53	21	45	38 38	27	71	71		
10	331 14.2	45.4	185 34.7	74	-20 06.5	128	20	5 00	25	47	21 44	2	48	64		
11	346 14.4	+2 44.4	200 01.2	75	-19 53.5	130	10 N	5 04	5 29	5 50	16 06	49	3 05	60		
12	1 14.6	+2 43.5	214 27.7	75	-19 40.4	131	0	5 07	5 31	5 52	15 51	55	3 22	55		
13	16 14.8	42.5	228 54.3	76	27.1	133	10 S	08	33	54	37 59	39	50	50		
14	31 15.1	41.5	243 20.9	76	13.7	134	20	08	34	56	22 64	3	56	46		
15	46 15.3	40.6	257 47.6	77	-19 00.2	135	30	06	34	58	15 04	71	4 16	40		
16	61 15.5	39.6	272 14.3	77	-18 46.5	137	35	04	34	5 59	14 53	75	28	36		
17	76 15.7	+2 38.6	286 41.1	78	-18 32.7	138	40	5 02	5 33	6 00	14 42	78	4 41	32		
18	91 16.0	+2 37.7	301 07.9	78	-18 18.8	139	45	4 58	5 32	6 02	14 27	85	4 56	28		
19	106 16.2	36.7	315 34.8	79	-18 04.7	141	50	54	31	03	10 91	5	15	22		
20	121 16.4	35.7	330 01.7	79	-17 50.6	141	52	51	31	04	14 02	94	24	19		
21	136 16.6	34.8	344 28.7	80	36.3	143	54	49	30	05	13 53	97	34	15		
22	151 16.8	33.8	358 55.8	81	21.9	144	56	46	29	06	42 102	45	12	12		
23	166 17.1	32.9	13 22.9	81	-17 07.3	146	58	42	28	07	30 107	5	58	7		
24	181 17.3	+2 31.9	27 50.0	81	-16 52.7	146	60 S	4 38	5 27	6 08	13 16	113	6 13	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 0 <sup>h</sup> 22.1 <sup>m</sup>		Mag.: -3.9		Mag.: +0.6		Mag.: -2.4		Mag.: +0.6	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	354 27.0	155 41.4	-7 24.0	257 53.3	+23 28.7	274 51.9	+22 23.1	6 56.0	-7 44.2	
1	9 29.4	170 41.1	25.3	272 54.2	28.6	289 54.1	23.1	21 58.6	44.3	
2	24 31.9	185 40.7	26.5	287 55.1	28.6	304 56.4	23.1	37 01.2	44.3	
3	39 34.4	200 40.4	27.8	302 56.0	28.6	319 58.6	23.1	52 03.9	44.4	
4	54 36.8	215 40.1	29.0	317 56.9	28.6	335 00.9	23.1	67 06.5	44.5	
5	69 39.3	230 39.7	-7 30.3	332 57.7	+23 28.6	350 03.2	+22 23.1	82 09.2	-7 44.6	
6	84 41.7	245 39.4	-7 31.5	347 58.6	+23 28.6	5 05.4	+22 23.2	97 11.8	-7 44.6	
7	99 44.2	260 39.0	32.8	2 59.5	28.6	20 07.7	23.2	112 14.4	44.7	
8	114 46.7	275 38.7	34.0	18 00.4	28.5	35 09.9	23.2	127 17.1	44.8	
9	129 49.1	290 38.3	35.3	33 01.3	28.5	50 12.2	23.2	142 19.7	44.9	
10	144 51.6	305 38.0	36.5	48 02.2	28.5	65 14.5	23.2	157 22.4	44.9	
11	159 54.1	320 37.6	-7 37.8	63 03.1	+23 28.5	80 16.7	+22 23.2	172 25.0	-7 45.0	
12	174 56.5	335 37.3	-7 39.0	78 04.0	+23 28.5	95 19.0	+22 23.2	187 27.6	-7 45.1	
13	189 59.0	350 36.9	40.3	93 04.9	28.5	110 21.2	23.2	202 30.3	45.2	
14	205 01.5	5 36.6	41.5	108 05.8	28.4	125 23.5	23.3	217 32.9	45.2	
15	220 03.9	20 36.2	42.8	123 06.7	28.4	140 25.8	23.3	232 35.6	45.3	
16	235 06.4	35 35.9	44.0	138 07.6	28.4	155 28.0	23.3	247 38.2	45.4	
17	250 08.8	50 35.5	-7 45.2	153 08.5	+23 28.4	170 30.3	+22 23.3	262 40.8	-7 45.4	
18	265 11.3	65 35.2	-7 46.5	168 09.4	+23 28.4	185 32.5	+22 23.3	277 43.5	-7 45.5	
19	280 13.8	80 34.8	47.7	183 10.3	28.3	200 34.8	23.3	292 46.1	45.6	
20	295 16.2	95 34.5	49.0	198 11.2	28.3	215 37.1	23.3	307 48.8	45.7	
21	310 18.7	110 34.1	50.2	213 12.1	28.3	230 39.3	23.3	322 51.4	45.7	
22	325 21.2	125 33.8	51.5	228 13.0	28.3	245 41.6	23.4	337 54.0	45.8	
23	340 23.6	140 33.4	52.7	243 13.9	28.3	260 43.8	23.4	352 56.7	45.9	
24	355 26.1	155 33.1	-7 54.0	258 14.8	+23 28.2	275 46.1	+22 23.4	7 59.3	-7 46.0	
Dif	—	-3	-12	+9	0	+23	0	+26	-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15.9' PMG: 11 <sup>h</sup> 54.7 <sup>m</sup>		SD: 16.4' Edad: 12.9 <sup>d</sup> PMG: 22 <sup>h</sup> 58 <sup>m</sup> R <sup>o</sup> : 52 <sup>m</sup>						PHE { 4 <sup>h</sup> : 60.5' 12 <sup>h</sup> : 60.7' 20 <sup>h</sup> : 60.9'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	m	h m	m	
0	181 17.3	+2 31.9	27 50.0	82	-16 52.7	148	<b>60 N</b>	18 17	18 59	19 50	18 17	-1	2 10	111	
1	196 17.5	30.9	42 17.2	83	37.9	150	<b>58</b>	15	55	43	10	3	21	105	
2	211 17.7	30.0	56 44.5	83	23.0	149	<b>56</b>	14	51	36	18 03	7	30	101	
3	226 18.0	29.0	71 11.8	84	-16 08.0	151	<b>54</b>	13	48	31	17 58	10	39	97	
4	241 18.2	28.0	85 39.2	84	-15 52.9	151	<b>52</b>	11	45	26	53	13	46	94	
5	256 18.4	+2 27.1	100 06.6	84	-15 37.7	152	<b>50</b>	18 10	18 43	19 21	17 48	16	2 53	91	
6	271 18.6	+2 26.1	114 34.1	85	-15 22.4	153	<b>45</b>	18 08	18 38	19 12	17 38	22	3 07	84	
7	286 18.9	25.1	129 01.6	85	-15 06.9	155	<b>40</b>	06	34	05	30	26	19	79	
8	301 19.1	24.2	143 29.2	86	-14 51.4	155	<b>35</b>	05	30	19 00	22	31	29	74	
9	316 19.3	23.2	157 56.8	86	35.7	157	<b>30</b>	04	28	18 55	16	35	38	70	
10	331 19.5	22.2	172 24.5	87	20.0	157	<b>20</b>	01	23	49	17 05	41	3 52	64	
11	346 19.8	+2 21.3	186 52.2	87	-14 04.1	159	<b>10 N</b>	18 00	18 21	18 45	16 55	47	4 05	59	
12	1 20.0	+2 20.3	201 19.9	87	-13 48.2	159	<b>0</b>	17 58	18 19	18 43	16 46	52	4 17	53	
13	16 20.2	19.4	215 47.8	89	32.2	160	<b>10 S</b>	56	17	42	36	58	29	48	
14	31 20.4	18.4	230 15.6	88	-13 16.0	162	<b>20</b>	55	17	42	26	64	42	42	
15	46 20.7	17.4	244 43.5	89	-12 59.8	162	<b>30</b>	53	17	45	15	70	4 56	36	
16	61 20.9	16.5	259 11.5	90	43.5	163	<b>35</b>	52	18	47	08	74	5 04	32	
17	76 21.1	+2 15.5	273 39.5	90	-12 27.1	164	<b>40</b>	17 51	18 18	18 50	16 00	79	5 13	28	
18	91 21.3	+2 14.5	288 07.5	90	-12 10.6	165	<b>45</b>	17 50	18 20	18 54	15 52	83	5 24	23	
19	106 21.6	13.6	302 35.6	91	-11 54.0	166	<b>50</b>	49	21	18 59	41	90	37	17	
20	121 21.8	12.6	317 03.7	91	37.4	166	<b>52</b>	48	22	19 02	36	93	43	14	
21	136 22.0	11.6	331 31.9	92	20.6	168	<b>54</b>	48	23	05	30	97	49	12	
22	151 22.2	10.7	346 00.1	92	-11 03.8	168	<b>56</b>	47	24	08	24	100	5 57	8	
23	166 22.5	09.7	0 28.3	92	-10 46.9	169	<b>58</b>	46	26	12	17	105	6 05	4	
24	181 22.7	+2 08.7	14 56.6	93	-10 29.9	170	<b>60 S</b>	17 46	18 27	19 16	15 09	109	6 14	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 <sup>h</sup> 18.2 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 38 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 36 <sup>m</sup>		Mag.: +0.6 PMG: 23 <sup>h</sup> 24 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	355 26.1	155 33.1	-7 54.0	258 14.8	+23 28.2	275 46.1	+22 23.4	7 59.3	-7 46.0	
1	10 28.6	170 32.7	55.2	273 15.6	28.2	290 48.4	23.4	23 01.9	46.0	
2	25 31.0	185 32.4	56.4	288 16.5	28.2	305 50.6	23.4	38 04.6	46.1	
3	40 33.5	200 32.0	57.7	303 17.4	28.2	320 52.9	23.4	53 07.2	46.2	
4	55 36.0	215 31.7	-7 58.9	318 18.3	28.2	335 55.2	23.4	68 09.9	46.3	
5	70 38.4	230 31.3	-8 00.2	333 19.2	+23 28.1	350 57.4	+22 23.4	83 12.5	-7 46.3	
6	85 40.9	245 31.0	-8 01.4	348 20.1	+23 28.1	5 59.7	+22 23.4	98 15.1	-7 46.4	
7	100 43.3	260 30.6	02.7	3 21.0	28.1	21 02.0	23.5	113 17.8	46.5	
8	115 45.8	275 30.3	03.9	18 21.9	28.1	36 04.2	23.5	128 20.4	46.6	
9	130 48.3	290 29.9	05.1	33 22.8	28.1	51 06.5	23.5	143 23.1	46.6	
10	145 50.7	305 29.6	06.4	48 23.8	28.0	66 08.8	23.5	158 25.7	46.7	
11	160 53.2	320 29.2	-8 07.6	63 24.7	+23 28.0	81 11.0	+22 23.5	173 28.3	-7 46.8	
12	175 55.7	335 28.8	-8 08.9	78 25.6	+23 28.0	96 13.3	+22 23.5	188 31.0	-7 46.9	
13	190 58.1	350 28.5	10.1	93 26.5	28.0	111 15.6	23.5	203 33.6	46.9	
14	206 00.6	5 28.1	11.3	108 27.4	28.0	126 17.8	23.5	218 36.3	47.0	
15	221 03.1	20 27.8	12.6	123 28.3	27.9	141 20.1	23.6	233 38.9	47.1	
16	236 05.5	35 27.4	13.8	138 29.2	27.9	156 22.4	23.6	248 41.5	47.1	
17	251 08.0	50 27.1	-8 15.1	153 30.1	+23 27.9	171 24.6	+22 23.6	263 44.2	-7 47.2	
18	266 10.5	65 26.7	-8 16.3	168 31.0	+23 27.9	186 26.9	+22 23.6	278 46.8	-7 47.3	
19	281 12.9	80 26.4	17.5	183 31.9	27.8	201 29.2	23.6	293 49.4	47.4	
20	296 15.4	95 26.0	18.8	198 32.8	27.8	216 31.5	23.6	308 52.1	47.4	
21	311 17.8	110 25.6	20.0	213 33.7	27.8	231 33.7	23.6	323 54.7	47.5	
22	326 20.3	125 25.3	21.2	228 34.6	27.8	246 36.0	23.6	338 57.4	47.6	
23	341 22.8	140 24.9	22.5	243 35.5	27.7	261 38.3	23.6	354 00.0	47.7	
24	356 25.2	155 24.6	-8 23.7	258 36.4	+23 27.7	276 40.5	+22 23.7	9 02.6	-7 47.7	

Dif	—	-4	-12	+9	0	+23	0	+26	-1
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UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.9' PMG: 11 <sup>h</sup> 54.3 <sup>m</sup>			SD: 16.6' Edad: 13.9 <sup>d</sup> PMG: 23 <sup>h</sup> 50 <sup>m</sup> R°: 51 <sup>m</sup>				PHE { 4 <sup>h</sup> : 61.1' 12 <sup>h</sup> : 61.2' 20 <sup>h</sup> : 61.3'	Náutico		Civil	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	181 22.7	+2 08.7		14 56.6	93	-10 29.9	170	<b>60 N</b>	4 00	4 51	5 33	18 16	-1	4 01 108	
1	196 22.9	07.8		29 24.9	93	-10 12.9	171	<b>58</b>	07	55	35	13	3	06 104	
2	211 23.1	06.8		43 53.3	94	-9 55.8	172	<b>56</b>	14	4 59	36	10	7	11 100	
3	226 23.4	05.8		58 21.7	94	-8 38.6	173	<b>54</b>	19	5 02	37	08	10	16 96	
4	241 23.6	04.9		72 50.1	94	-7 21.3	173	<b>52</b>	24	05	38	06	12	20 93	
5	256 23.8	+2 03.9		87 18.6	95	-9 04.0	173	<b>50</b>	4 28	5 07	5 39	18 04	15	4 24 90	
6	271 24.0	+2 02.9		101 47.1	95	-8 46.6	174	<b>45</b>	4 37	5 12	5 41	18 00	21	4 31 84	
7	286 24.3	02.0		116 15.6	95	-7 29.2	174	<b>40</b>	44	16	43	17 56	26	38 78	
8	301 24.5	01.0		130 44.2	96	-8 11.7	175	<b>35</b>	50	19	45	53	30	43 74	
9	316 24.7	+2 00.0		145 12.8	96	-7 54.2	175	<b>30</b>	4 54	22	46	51	33	48 70	
10	331 24.9	+1 59.1		159 41.4	96	-7 36.5	177	<b>20</b>	5 00	26	48	46	40	4 56 64	
11	346 25.2	+1 58.1		174 10.1	97	-7 18.9	176	<b>10 N</b>	5 04	5 29	5 50	17 42	46	5 04 57	
12	1 25.4	+1 57.1		188 38.8	97	-7 01.2	177	<b>0</b>	5 06	5 30	5 51	17 38	51	5 10 52	
13	16 25.6	56.2		203 07.5	97	-6 43.4	178	<b>10 S</b>	07	31	52	34	57	17 46	
14	31 25.8	55.2		217 36.2	97	-6 25.6	178	<b>20</b>	06	32	54	30	63	24 40	
15	46 26.0	54.2		232 04.9	97	-6 07.7	179	<b>30</b>	04	31	55	25	70	32 34	
16	61 26.3	53.3		246 33.7	98	-5 49.8	179	<b>35</b>	5 02	31	56	22	74	36 30	
17	76 26.5	+1 52.3		261 02.5	98	-5 31.9	179	<b>40</b>	4 59	5 30	5 57	17 19	78	5 41 26	
18	91 26.7	+1 51.3		275 31.3	98	-5 13.9	180	<b>45</b>	4 55	5 29	5 58	17 15	84	5 47 21	
19	106 26.9	50.4		290 00.2	99	-4 55.9	180	<b>50</b>	49	27	59	11	90	54 15	
20	121 27.2	49.4		304 29.0	98	-4 37.8	181	<b>52</b>	47	26	5 59	09	93	5 57 13	
21	136 27.4	48.4		318 57.9	99	-4 19.7	181	<b>54</b>	44	25	6 00	07	96	6 01 9	
22	151 27.6	47.5		333 26.8	99	-4 01.6	181	<b>56</b>	40	24	01	04	100	05 6	
23	166 27.8	46.5		347 55.7	99	-3 43.5	181	<b>58</b>	36	22	01	17	02 103	09 3	
24	181 28.1	+1 45.5		2 24.6	99	-3 25.3	182	<b>60 S</b>	4 32	5 21	6 02	16 58	108	6 13 -1	

UT	ARIES	VENUS		MARTE		JÚPITER		SATURNO	
	PMG	Mag.: -3.9		Mag.: +0.6		Mag.: -2.4		Mag.: +0.6	
	0 <sup>h</sup> 14.3 <sup>m</sup>	PMG: 13 <sup>h</sup> 39 <sup>m</sup>		PMG: 6 <sup>h</sup> 45 <sup>m</sup>		PMG: 5 <sup>h</sup> 32 <sup>m</sup>		PMG: 23 <sup>h</sup> 20 <sup>m</sup>	
hG ♀	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	356 25.2	155 24.6	-8 23.7	258 36.4	+23 27.7	276 40.5	+22 23.7	9 02.6	-7 47.7
1	11 27.7	170 24.2	25.0	273 37.3	27.7	291 42.8	23.7	24 05.3	47.8
2	26 30.2	185 23.9	26.2	288 38.2	27.7	306 45.1	23.7	39 07.9	47.9
3	41 32.6	200 23.5	27.4	303 39.1	27.6	321 47.4	23.7	54 10.6	48.0
4	56 35.1	215 23.1	28.7	318 40.0	27.6	336 49.6	23.7	69 13.2	48.0
5	71 37.6	230 22.8	-8 29.9	333 40.9	+23 27.6	351 51.9	+22 23.7	84 15.8	-7 48.1
6	86 40.0	245 22.4	-8 31.1	348 41.9	+23 27.6	6 54.2	+22 23.7	99 18.5	-7 48.2
7	101 42.5	260 22.1	32.4	3 42.8	27.5	21 56.4	23.7	114 21.1	48.2
8	116 44.9	275 21.7	33.6	18 43.7	27.5	36 58.7	23.7	129 23.7	48.3
9	131 47.4	290 21.4	34.8	33 44.6	27.5	52 01.0	23.8	144 26.4	48.4
10	146 49.9	305 21.0	36.1	48 45.5	27.5	67 03.3	23.8	159 29.0	48.5
11	161 52.3	320 20.6	-8 37.3	63 46.4	+23 27.4	82 05.5	+22 23.8	174 31.7	-7 48.5
12	176 54.8	335 20.3	-8 38.5	78 47.3	+23 27.4	97 07.8	+22 23.8	189 34.3	-7 48.6
13	191 57.3	350 19.9	39.8	93 48.2	27.4	112 10.1	23.8	204 36.9	48.7
14	206 59.7	5 19.6	41.0	108 49.1	27.3	127 12.4	23.8	219 39.6	48.8
15	222 02.2	20 19.2	42.2	123 50.0	27.3	142 14.7	23.8	234 42.2	48.8
16	237 04.7	35 18.8	43.5	138 51.0	27.3	157 16.9	23.8	249 44.8	48.9
17	252 07.1	50 18.5	-8 44.7	153 51.9	+23 27.3	172 19.2	+22 23.8	264 47.5	-7 49.0
18	267 09.6	65 18.1	-8 45.9	168 52.8	+23 27.2	187 21.5	+22 23.9	279 50.1	-7 49.1
19	282 12.1	80 17.7	47.2	183 53.7	27.2	202 23.8	23.9	294 52.8	49.1
20	297 14.5	95 17.4	48.4	198 54.6	27.2	217 26.0	23.9	309 55.4	49.2
21	312 17.0	110 17.0	49.6	213 55.5	27.1	232 28.3	23.9	324 58.0	49.3
22	327 19.4	125 16.7	50.8	228 56.4	27.1	247 30.6	23.9	340 00.7	49.3
23	342 21.9	140 16.3	52.1	243 57.3	27.1	262 32.9	23.9	355 03.3	49.4
24	357 24.4	155 15.9	-8 53.3	258 58.3	+23 27.0	277 35.2	+22 23.9	10 05.9	-7 49.5

Dif	—	-4	-12	+9	0	+23	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna					
	SD: 15.9'		SD: 16.7'		Edad: 14.9 <sup>d</sup>				PHE { 4 <sup>h</sup> : 61.3' 12 <sup>h</sup> : 61.4' 20 <sup>h</sup> : 61.4'	R <sup>o</sup> : ***m									
	PMG: 11 <sup>h</sup> 54.0 <sup>m</sup>		PMG: **h **m		R <sup>o</sup> : ***m														
hG ☉		Dec		hG ☾		Dif		Dec		Dif		Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h	m	h	m	h	m	h	m	h	m	h	m
0	181 28.1	+1 45.5	2 24.6	100	-3 25.3	182	<b>60 N</b>	18 11	18 52	19 43	18 15	-1	5 49	109					
1	196 28.3	44.6	16 53.6	100	-3 07.1	182	<b>58</b>	10	49	36	16	3	50	104					
2	211 28.5	43.6	31 22.5	99	-2 48.9	182	<b>56</b>	09	46	30	17	6	51	100					
3	226 28.7	42.6	45 51.5	100	30.7	183	<b>54</b>	08	43	25	18	9	52	96					
4	241 29.0	41.7	60 20.4	99	-2 12.4	183	<b>52</b>	07	41	21	18	13	53	93					
5	256 29.2	+1 40.7	74 49.4	100	-1 54.1	183	<b>50</b>	18 06	18 38	19 17	18 19	15	5 54	90					
6	271 29.4	+1 39.7	89 18.4	100	-1 35.9	182	<b>45</b>	18 04	18 34	19 08	18 21	21	5 55	84					
7	286 29.6	38.8	103 47.4	100	-1 17.6	183	<b>40</b>	03	30	19 02	22	26	56	79					
8	301 29.9	37.8	118 16.4	100	-0 59.3	183	<b>35</b>	02	27	18 57	23	30	57	74					
9	316 30.1	36.8	132 45.3	99	40.9	184	<b>30</b>	01	25	53	24	34	5 58	70					
10	331 30.3	35.9	147 14.3	100	22.6	183	<b>20</b>	18 00	22	47	26	41	6 00	63					
11	346 30.5	+1 34.9	161 43.3	100	-0 04.3	183	<b>10 N</b>	17 58	18 19	18 44	18 28	46	6 01	57					
12	1 30.8	+1 33.9	176 12.3	100	+0 14.0	183	<b>0</b>	17 57	18 18	18 42	18 29	52	6 02	52					
13	16 31.0	32.9	190 41.3	100	32.3	183	<b>10 S</b>	56	17	42	31	57	03	46					
14	31 31.2	32.0	205 10.3	100	+0 50.7	184	<b>20</b>	55	17	43	33	63	04	41					
15	46 31.4	31.0	219 39.3	100	+1 09.0	183	<b>30</b>	54	18	46	35	70	06	33					
16	61 31.7	30.0	234 08.3	100	27.3	183	<b>35</b>	54	19	48	36	74	06	30					
17	76 31.9	+1 29.1	248 37.2	99	+1 45.6	183	<b>40</b>	17 53	18 20	18 52	18 37	79	6 07	26					
18	91 32.1	+1 28.1	263 06.2	100	+2 03.9	183	<b>45</b>	17 53	18 22	18 56	18 39	84	6 08	21					
19	106 32.3	27.1	277 35.1	99	22.1	182	<b>50</b>	52	24	19 02	41	90	09	15					
20	121 32.5	26.2	292 04.1	100	40.4	183	<b>52</b>	52	25	05	42	93	10	12					
21	136 32.8	25.2	306 33.0	99	+2 58.6	182	<b>54</b>	51	27	08	43	96	10	10					
22	151 33.0	24.2	321 01.9	99	+3 16.8	182	<b>56</b>	51	28	12	44	100	11	6					
23	166 33.2	23.3	335 30.8	99	35.0	182	<b>58</b>	51	30	16	45	104	12	2					
24	181 33.4	+1 22.3	349 59.7	99	+3 53.2	182	<b>60 S</b>	17 50	18 32	19 21	18 46	109	6 12	-1					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 0 <sup>h</sup> 10.3 <sup>m</sup>		Mag.: -3.9		Mag.: +0.6		Mag.: -2.4		Mag.: +0.6	
	PMG: 13 <sup>h</sup> 39 <sup>m</sup>		PMG: 6 <sup>h</sup> 44 <sup>m</sup>		PMG: 5 <sup>h</sup> 29 <sup>m</sup>		PMG: 23 <sup>h</sup> 16 <sup>m</sup>			
hG ♂		hG ♀		hG ♂		hG ♃		hG ♄		
h	° / ' / "	° / ' / "	Dec	° / ' / "	Dec	° / ' / "	Dec	° / ' / "	Dec	
0	357 24.4	155 15.9	- 8 53.3	258 58.3	+ 23 27.0	277 35.2	+ 22 23.9	10 05.9	- 7 49.5	
1	12 26.8	170 15.6	54.5	273 59.2	27.0	292 37.4	23.9	25 08.6	49.6	
2	27 29.3	185 15.2	55.8	289 00.1	27.0	307 39.7	23.9	40 11.2	49.6	
3	42 31.8	200 14.8	57.0	304 01.0	27.0	322 42.0	24.0	55 13.9	49.7	
4	57 34.2	215 14.5	58.2	319 01.9	26.9	337 44.3	24.0	70 16.5	49.8	
5	72 36.7	230 14.1	- 8 59.4	334 02.8	+ 23 26.9	352 46.6	+ 22 24.0	85 19.1	- 7 49.9	
6	87 39.2	245 13.7	- 9 00.7	349 03.8	+ 23 26.9	7 48.8	+ 22 24.0	100 21.8	- 7 49.9	
7	102 41.6	260 13.4	01.9	4 04.7	26.8	22 51.1	24.0	115 24.4	50.0	
8	117 44.1	275 13.0	03.1	19 05.6	26.8	37 53.4	24.0	130 27.0	50.1	
9	132 46.5	290 12.7	04.3	34 06.5	26.8	52 55.7	24.0	145 29.7	50.1	
10	147 49.0	305 12.3	05.6	49 07.4	26.7	67 58.0	24.0	160 32.3	50.2	
11	162 51.5	320 11.9	- 9 06.8	64 08.3	+ 23 26.7	83 00.3	+ 22 24.0	175 35.0	- 7 50.3	
12	177 53.9	335 11.6	- 9 08.0	79 09.3	+ 23 26.7	98 02.5	+ 22 24.1	190 37.6	- 7 50.4	
13	192 56.4	350 11.2	09.2	94 10.2	26.6	113 04.8	24.1	205 40.2	50.4	
14	207 58.9	5 10.8	10.5	109 11.1	26.6	128 07.1	24.1	220 42.9	50.5	
15	223 01.3	20 10.5	11.7	124 12.0	26.6	143 09.4	24.1	235 45.5	50.6	
16	238 03.8	35 10.1	12.9	139 12.9	26.5	158 11.7	24.1	250 48.1	50.6	
17	253 06.3	50 09.7	- 9 14.1	154 13.9	+ 23 26.5	173 14.0	+ 22 24.1	265 50.8	- 7 50.7	
18	268 08.7	65 09.3	- 9 15.4	169 14.8	+ 23 26.5	188 16.2	+ 22 24.1	280 53.4	- 7 50.8	
19	283 11.2	80 09.0	16.6	184 15.7	26.4	203 18.5	24.1	295 56.0	50.9	
20	298 13.7	95 08.6	17.8	199 16.6	26.4	218 20.8	24.1	310 58.7	50.9	
21	313 16.1	110 08.2	19.0	214 17.5	26.4	233 23.1	24.1	326 01.3	51.0	
22	328 18.6	125 07.9	20.3	229 18.5	26.3	248 25.4	24.2	341 04.0	51.1	
23	343 21.0	140 07.5	21.5	244 19.4	26.3	263 27.7	24.2	356 06.6	51.2	
24	358 23.5	155 07.1	- 9 22.7	259 20.3	+ 23 26.3	278 30.0	+ 22 24.2	11 09.2	- 7 51.2	

Dif	—	-4	-12	+9	0	+23	0	+26	-1
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UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15.9' PMG: 11 <sup>h</sup> 53.6 <sup>m</sup>			SD: 16.7' Edad: 15.9 <sup>d</sup> PMG: 0 <sup>h</sup> 41 <sup>m</sup> R <sup>o</sup> : 53 <sup>m</sup>						PHE { 4 <sup>h</sup> : 61.3' 12 <sup>h</sup> : 61.2' 20 <sup>h</sup> : 61.1'	Náutico		Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	h m									
0	181	33.4	+1 22.3	349	59.7	99	+ 3 53.2	182	<b>60 N</b>	4 05	4 56	5 38	18 14	-1	7 38	110	
1	196	33.7	21.3	4	28.6	99	+ 4 11.4	181	<b>58</b>	12	5 00	39	19	4	34	105	
2	211	33.9	20.4	18	57.5	99	29.5	181	<b>56</b>	18	03	40	23	8	31	101	
3	226	34.1	19.4	33	26.3	98	+ 4 47.6	181	<b>54</b>	23	05	41	27	12	28	97	
4	241	34.3	18.4	47	55.1	98	+ 5 05.6	180	<b>52</b>	28	08	42	31	15	26	93	
5	256	34.6	+1 17.4	62	23.9	98	+ 5 23.6	180	<b>50</b>	4 32	5 10	5 42	18 34	18	7 24	90	
6	271	34.8	+1 16.5	76	52.7	98	+ 5 41.6	180	<b>45</b>	4 40	5 14	5 44	18 42	23	7 19	84	
7	286	35.0	15.5	91	21.4	97	+ 5 59.6	180	<b>40</b>	46	18	45	48	29	15	78	
8	301	35.2	14.5	105	50.2	98	+ 6 17.5	179	<b>35</b>	51	21	46	53	33	11	74	
9	316	35.5	13.6	120	18.9	97	35.3	178	<b>30</b>	4 55	23	47	18 58	37	08	70	
10	331	35.7	12.6	134	47.5	96	+ 6 53.1	178	<b>20</b>	5 01	26	48	19 07	42	7 03	63	
11	346	35.9	+1 11.6	149	16.2	97	+ 7 10.9	178	<b>10 N</b>	5 04	5 28	5 49	19 14	48	6 58	58	
12	1	36.1	+1 10.7	163	44.8	96	+ 7 28.6	177	<b>0</b>	5 06	5 30	5 50	19 21	54	6 54	52	
13	16	36.4	09.7	178	13.4	96	+ 7 46.3	177	<b>10 S</b>	06	30	51	28	59	49	47	
14	31	36.6	08.7	192	42.0	96	+ 8 03.9	176	<b>20</b>	04	30	52	36	64	45	41	
15	46	36.8	07.7	207	10.5	95	21.5	176	<b>30</b>	5 01	29	53	45	71	39	35	
16	61	37.0	06.8	221	39.0	95	39.0	175	<b>35</b>	4 59	28	53	50	75	36	32	
17	76	37.2	+1 05.8	236	07.4	94	+ 8 56.4	174	<b>40</b>	4 55	5 27	5 54	19 56	79	6 33	27	
18	91	37.5	+1 04.8	250	35.9	95	+ 9 13.8	174	<b>45</b>	4 51	5 25	5 54	20 03	84	6 29	22	
19	106	37.7	03.9	265	04.2	93	31.1	173	<b>50</b>	45	22	55	11	91	24	17	
20	121	37.9	02.9	279	32.6	94	+ 9 48.4	173	<b>52</b>	42	21	55	15	94	22	14	
21	136	38.1	01.9	294	00.9	93	+10 05.5	171	<b>54</b>	38	20	55	19	98	20	10	
22	151	38.4	01.0	308	29.2	93	22.7	172	<b>56</b>	35	18	55	24	102	17	7	
23	166	38.6	+1 00.0	322	57.4	92	39.7	170	<b>58</b>	30	17	56	29	107	14	4	
24	181	38.8	+0 59.0	337	25.6	92	+10 56.7	170	<b>60 S</b>	4 25	5 14	5 56	20 35	112	6 11	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 0 <sup>h</sup> 06.4 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 40 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 42 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 25 <sup>m</sup>		Mag.: +0.6 PMG: 23 <sup>h</sup> 11 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
0	358	23.5	155	07.1	- 9 22.7	259	20.3	+ 23 26.3	278	30.0	+ 22 24.2	11 09.2	- 7 51.2	
1	13	26.0	170	06.8	23.9	274	21.2	26.2	293	32.3	24.2	26	11.9	51.3
2	28	28.4	185	06.4	25.1	289	22.2	26.2	308	34.5	24.2	41	14.5	51.4
3	43	30.9	200	06.0	26.4	304	23.1	26.2	323	36.8	24.2	56	17.1	51.4
4	58	33.4	215	05.6	27.6	319	24.0	26.1	338	39.1	24.2	71	19.8	51.5
5	73	35.8	230	05.3	- 9 28.8	334	24.9	+ 23 26.1	353	41.4	+ 22 24.2	86	22.4	- 7 51.6
6	88	38.3	245	04.9	- 9 30.0	349	25.9	+ 23 26.0	8	43.7	+ 22 24.2	101	25.1	- 7 51.7
7	103	40.8	260	04.5	31.2	4	26.8	26.0	23	46.0	24.2	116	27.7	51.7
8	118	43.2	275	04.2	32.4	19	27.7	26.0	38	48.3	24.3	131	30.3	51.8
9	133	45.7	290	03.8	33.7	34	28.6	25.9	53	50.6	24.3	146	33.0	51.9
10	148	48.1	305	03.4	34.9	49	29.6	25.9	68	52.9	24.3	161	35.6	51.9
11	163	50.6	320	03.0	- 9 36.1	64	30.5	+ 23 25.9	83	55.1	+ 22 24.3	176	38.2	- 7 52.0
12	178	53.1	335	02.7	- 9 37.3	79	31.4	+ 23 25.8	98	57.4	+ 22 24.3	191	40.9	- 7 52.1
13	193	55.5	350	02.3	38.5	94	32.3	25.8	113	59.7	24.3	206	43.5	52.2
14	208	58.0	5	01.9	39.7	109	33.3	25.7	129	02.0	24.3	221	46.1	52.2
15	224	00.5	20	01.5	41.0	124	34.2	25.7	144	04.3	24.3	236	48.8	52.3
16	239	02.9	35	01.2	42.2	139	35.1	25.7	159	06.6	24.3	251	51.4	52.4
17	254	05.4	50	00.8	- 9 43.4	154	36.1	+ 23 25.6	174	08.9	+ 22 24.3	266	54.0	- 7 52.5
18	269	07.9	65	00.4	- 9 44.6	169	37.0	+ 23 25.6	189	11.2	+ 22 24.4	281	56.7	- 7 52.5
19	284	10.3	80	00.0	45.8	184	37.9	25.6	204	13.5	24.4	296	59.3	52.6
20	299	12.8	94	59.7	47.0	199	38.8	25.5	219	15.8	24.4	312	02.0	52.7
21	314	15.3	109	59.3	48.3	214	39.8	25.5	234	18.1	24.4	327	04.6	52.7
22	329	17.7	124	58.9	49.5	229	40.7	25.4	249	20.4	24.4	342	07.2	52.8
23	344	20.2	139	58.5	50.7	244	41.6	25.4	264	22.7	24.4	357	09.9	52.9
24	359	22.6	154	58.2	- 9 51.9	259	42.6	+ 23 25.4	279	25.0	+ 22 24.4	12	12.5	- 7 53.0

Dif	—	-4	-12	+9	0	+23	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 53.2 <sup>m</sup>		SD: 16.6' Edad: 16.9 <sup>d</sup> PMG: 1 <sup>h</sup> 34 <sup>m</sup>		R <sup>o</sup> : 54 <sup>m</sup>				PHE { 4 <sup>h</sup> : 61.0' 12 <sup>h</sup> : 60.8' 20 <sup>h</sup> : 60.6'	Civil		Náutico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h	m	h	m	h	m	h	m
0	181 38.8	+0 59.0	337 25.6	91	+10 56.7	169	60 N	18 05	18 46	19 37	18 13	1	9 28	113			
1	196 39.0	58.0	351 53.7	91	+11 13.6	169	58	04	43	30	23	7	19	107			
2	211 39.3	57.1	6 21.8	91	30.4	168	56	03	40	25	31	12	12	102			
3	226 39.5	56.1	20 49.9	91	+11 47.1	167	54	03	38	20	39	16	9 05	98			
4	241 39.7	55.1	35 17.9	90	+12 03.8	167	52	02	36	16	46	19	8 59	95			
5	256 39.9	+0 54.2	49 45.9	90	+12 20.4	166	50	18 02	18 34	19 12	18 52	22	8 54	91			
6	271 40.1	+0 53.2	64 13.8	89	+12 36.9	165	45	18 01	18 30	19 04	19 05	29	8 43	84			
7	286 40.4	52.2	78 41.7	89	+12 53.3	164	40	18 00	27	18 58	17	33	33	80			
8	301 40.6	51.3	93 09.5	88	+13 09.6	163	35	17 59	24	54	26	37	25	75			
9	316 40.8	50.3	107 37.3	88	25.8	162	30	59	22	50	35	40	18	72			
10	331 41.0	49.3	122 05.0	87	41.9	161	20	58	20	45	19 49	47	8 06	65			
11	346 41.3	+0 48.3	136 32.7	87	+13 58.0	161	10 N	17 57	18 18	18 42	20 02	51	7 56	59			
12	1 41.5	+0 47.4	151 00.3	86	+14 13.9	159	0	17 56	18 17	18 41	20 15	55	7 46	55			
13	16 41.7	46.4	165 27.9	86	29.8	159	10 S	56	17	41	27	60	36	50			
14	31 41.9	45.4	179 55.4	85	+14 45.5	157	20	56	18	43	40	66	26	44			
15	46 42.2	44.5	194 22.9	85	+15 01.1	156	30	55	19	47	20 56	71	14	39			
16	61 42.4	43.5	208 50.3	84	16.7	156	35	55	21	50	21 05	74	08	34			
17	76 42.6	+0 42.5	223 17.7	84	+15 32.1	154	40	17 55	18 22	18 54	21 15	79	7 00	30			
18	91 42.8	+0 41.5	237 45.0	83	+15 47.4	153	45	17 55	18 24	18 59	21 27	84	6 51	26			
19	106 43.0	40.6	252 12.3	83	+16 02.7	153	50	55	27	19 05	42	91	41	19			
20	121 43.3	39.6	266 39.5	82	17.8	151	52	55	29	08	49	94	36	16			
21	136 43.5	38.6	281 06.6	81	32.8	150	54	55	30	12	21 57	98	30	13			
22	151 43.7	37.7	295 33.7	81	+16 47.6	148	56	55	32	16	22 06	102	24	10			
23	166 43.9	36.7	310 00.7	80	+17 02.4	148	58	55	34	21	16	108	18	5			
24	181 44.2	+0 35.7	324 27.7	80	+17 17.1	147	60 S	17 55	18 37	19 26	22 27	116	6 10	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 <sup>h</sup> 02.5 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 40 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 41 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.6 PMG: 23 <sup>h</sup> 07 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	359 22.6	154 58.2	- 9 51.9	259 42.6	+23 25.4	279 25.0	+22 24.4	12 12.5	- 7 53.0	
1	14 25.1	169 57.8	53.1	274 43.5	25.3	294 27.3	24.4	27 15.1	53.0	
2	29 27.6	184 57.4	54.3	289 44.4	25.3	309 29.6	24.4	42 17.8	53.1	
3	44 30.0	199 57.0	55.5	304 45.4	25.2	324 31.9	24.4	57 20.4	53.2	
4	59 32.5	214 56.7	56.7	319 46.3	25.2	339 34.1	24.5	72 23.0	53.2	
5	74 35.0	229 56.3	- 9 57.9	334 47.2	+23 25.1	354 36.4	+22 24.5	87 25.7	- 7 53.3	
6	89 37.4	244 55.9	- 9 59.2	349 48.2	+23 25.1	9 38.7	+22 24.5	102 28.3	- 7 53.4	
7	104 39.9	259 55.5	- 10 00.4	4 49.1	25.1	24 41.0	24.5	117 30.9	53.5	
8	119 42.4	274 55.1	01.6	19 50.0	25.0	39 43.3	24.5	132 33.6	53.5	
9	134 44.8	289 54.8	02.8	34 51.0	25.0	54 45.6	24.5	147 36.2	53.6	
10	149 47.3	304 54.4	04.0	49 51.9	24.9	69 47.9	24.5	162 38.9	53.7	
11	164 49.8	319 54.0	- 10 05.2	64 52.8	+23 24.9	84 50.2	+22 24.5	177 41.5	- 7 53.7	
12	179 52.2	334 53.6	- 10 06.4	79 53.8	+23 24.9	99 52.5	+22 24.5	192 44.1	- 7 53.8	
13	194 54.7	349 53.2	07.6	94 54.7	24.8	114 54.8	24.5	207 46.8	53.9	
14	209 57.1	4 52.9	08.8	109 55.6	24.8	129 57.1	24.5	222 49.4	54.0	
15	224 59.6	19 52.5	10.0	124 56.6	24.7	144 59.4	24.6	237 52.0	54.0	
16	240 02.1	34 52.1	11.2	139 57.5	24.7	160 01.7	24.6	252 54.7	54.1	
17	255 04.5	49 51.7	- 10 12.4	154 58.5	+23 24.6	175 04.0	+22 24.6	267 57.3	- 7 54.2	
18	270 07.0	64 51.3	- 10 13.6	169 59.4	+23 24.6	190 06.3	+22 24.6	282 59.9	- 7 54.2	
19	285 09.5	79 50.9	14.9	185 00.3	24.5	205 08.6	24.6	298 02.6	54.3	
20	300 11.9	94 50.6	16.1	200 01.3	24.5	220 10.9	24.6	313 05.2	54.4	
21	315 14.4	109 50.2	17.3	215 02.2	24.5	235 13.2	24.6	328 07.8	54.5	
22	330 16.9	124 49.8	18.5	230 03.2	24.4	250 15.6	24.6	343 10.5	54.5	
23	345 19.3	139 49.4	19.7	245 04.1	24.4	265 17.9	24.6	358 13.1	54.6	
24	0 21.8	154 49.0	- 10 20.9	260 05.0	+23 24.3	280 20.2	+22 24.6	13 15.7	- 7 54.7	
Dif	—	-4	-12	+9	0	+23	0	+26	-1	

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15.9' PMG: 11 <sup>h</sup> 52.9 <sup>m</sup>		SD: 16.5' Edad: 17.9 <sup>d</sup> PHE { 4 <sup>h</sup> : 60.3' 12 <sup>h</sup> : 60.1' 20 <sup>h</sup> : 59.8' PMG: 2 <sup>h</sup> 28 <sup>m</sup> R°: 56 <sup>m</sup>						Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m		
0	181 44.2	+0 35.7	324 27.7	79	+17 17.1	145	60 N	4 11	5 01	5 43	18 14	4	11 21 116		
1	196 44.4	34.7	338 54.6	79	31.6	144	58	17	04	43	30 12	11 06 108			
2	211 44.6	33.8	353 21.5	78	+17 46.0	143	56	22	07	44	43 18	10 54 101			
3	226 44.8	32.8	7 48.3	77	+18 00.3	143	54	27	09	45	18 55 22	43 96			
4	241 45.0	31.8	22 15.0	77	14.4	141	52	31	11	45	19 05 26	34 92			
5	256 45.3	+0 30.9	36 41.7	77	+18 28.5	141	50	4 35	5 13	5 45	19 14 29	10 25 89			
6	271 45.5	+0 29.9	51 08.4	77	+18 42.4	139	45	4 42	5 17	5 46	19 34 35	10 07 83			
7	286 45.7	28.9	65 34.9	75	+18 56.2	138	40	48	20	47	19 50 39	9 53 78			
8	301 45.9	27.9	80 01.4	75	+19 09.8	136	35	53	22	47	20 03 43	40 74			
9	316 46.2	27.0	94 27.9	75	23.3	135	30	4 56	24	48	15 46	30 71			
10	331 46.4	26.0	108 54.3	74	36.7	134	20	5 01	27	49	36 50	9 11 66			
11	346 46.6	+0 25.0	123 20.6	73	+19 50.0	133	10 N	5 04	5 28	5 49	20 53 55	8 55 62			
12	1 46.8	+0 24.1	137 46.9	73	+20 03.1	131	0	5 05	5 29	5 50	21 10 58	8 41 57			
13	16 47.0	23.1	152 13.1	72	16.1	130	10 S	05	29	50	27 62	26 53			
14	31 47.3	22.1	166 39.3	72	28.9	128	20	5 03	28	50	21 46 65	8 10 49			
15	46 47.5	21.1	181 05.4	71	41.6	127	30	4 59	26	50	22 07 70	7 53 43			
16	61 47.7	20.2	195 31.4	70	+20 54.1	125	35	56	25	50	19 73	42 40			
17	76 47.9	+0 19.2	209 57.4	70	+21 06.6	125	40	4 52	5 23	5 50	22 34 76	7 30 36			
18	91 48.1	+0 18.2	224 23.4	70	+21 18.8	122	45	4 47	5 21	5 50	22 51 81	7 17 31			
19	106 48.4	17.2	238 49.2	68	30.9	121	50	40	18	50	23 13 86	7 00 25			
20	121 48.6	16.3	253 15.1	69	42.9	120	52	37	17	50	23 90	6 52 22			
21	136 48.8	15.3	267 40.8	67	+21 54.7	118	54	33	15	50	35 93	43 19			
22	151 49.0	14.3	282 06.5	67	+22 06.4	117	56	29	13	50	23 48 99	34 14			
23	166 49.3	13.4	296 32.2	67	17.9	115	58	24	11	50	** ** *	23 8			
24	181 49.5	+0 12.4	310 57.8	66	+22 29.3	114	60 S	4 19	5 08	5 50	** ** *	6 10 2			
UT	ARIAS		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 23 <sup>h</sup> 54.6 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 41 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 18 <sup>m</sup>		Mag.: +0.6 PMG: 23 <sup>h</sup> 03 <sup>m</sup>						
	hG ♃	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "					
0	0 21.8	154 49.0	- 10 20.9	260 05.0	+ 23 24.3	280 20.2	+ 22 24.6	13 15.7	- 7 54.7						
1	15 24.2	169 48.6	22.1	275 06.0	24.3	295 22.5	24.6	28 18.4	54.7						
2	30 26.7	184 48.3	23.3	290 06.9	24.2	310 24.8	24.7	43 21.0	54.8						
3	45 29.2	199 47.9	24.5	305 07.9	24.2	325 27.1	24.7	58 23.6	54.9						
4	60 31.6	214 47.5	25.7	320 08.8	24.1	340 29.4	24.7	73 26.3	54.9						
5	75 34.1	229 47.1	- 10 26.9	335 09.7	+ 23 24.1	355 31.7	+ 22 24.7	88 28.9	- 7 55.0						
6	90 36.6	244 46.7	- 10 28.1	350 10.7	+ 23 24.0	10 34.0	+ 22 24.7	103 31.6	- 7 55.1						
7	105 39.0	259 46.3	29.3	5 11.6	24.0	25 36.3	24.7	118 34.2	55.2						
8	120 41.5	274 45.9	30.5	20 12.6	24.0	40 38.6	24.7	133 36.8	55.2						
9	135 44.0	289 45.6	31.7	35 13.5	23.9	55 40.9	24.7	148 39.5	55.3						
10	150 46.4	304 45.2	32.9	50 14.5	23.9	70 43.2	24.7	163 42.1	55.4						
11	165 48.9	319 44.8	- 10 34.1	65 15.4	+ 23 23.8	85 45.5	+ 22 24.7	178 44.7	- 7 55.4						
12	180 51.4	334 44.4	- 10 35.3	80 16.3	+ 23 23.8	100 47.8	+ 22 24.7	193 47.4	- 7 55.5						
13	195 53.8	349 44.0	36.5	95 17.3	23.7	115 50.1	24.8	208 50.0	55.6						
14	210 56.3	4 43.6	37.7	110 18.2	23.7	130 52.4	24.8	223 52.6	55.7						
15	225 58.7	19 43.2	38.9	125 19.2	23.6	145 54.8	24.8	238 55.3	55.7						
16	241 01.2	34 42.8	40.1	140 20.1	23.6	160 57.1	24.8	253 57.9	55.8						
17	256 03.7	49 42.4	- 10 41.3	155 21.1	+ 23 23.5	175 59.4	+ 22 24.8	269 00.5	- 7 55.9						
18	271 06.1	64 42.0	- 10 42.5	170 22.0	+ 23 23.5	191 01.7	+ 22 24.8	284 03.2	- 7 55.9						
19	286 08.6	79 41.7	43.7	185 23.0	23.4	206 04.0	24.8	299 05.8	56.0						
20	301 11.1	94 41.3	44.9	200 23.9	23.4	221 06.3	24.8	314 08.4	56.1						
21	316 13.5	109 40.9	46.1	215 24.9	23.3	236 08.6	24.8	329 11.1	56.1						
22	331 16.0	124 40.5	47.3	230 25.8	23.3	251 10.9	24.8	344 13.7	56.2						
23	346 18.5	139 40.1	48.4	245 26.8	23.2	266 13.2	24.8	359 16.3	56.3						
24	1 20.9	154 39.7	- 10 49.6	260 27.7	+ 23 23.2	281 15.6	+ 22 24.8	14 19.0	- 7 56.4						
Dif	—	-4	-12	+9	0	+23	0	+26	-1						

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15.9' PMG: 11 <sup>h</sup> 52.5 <sup>m</sup>		SD: 16.3' Edad: 18.9 <sup>d</sup> PMG: 3 <sup>h</sup> 24 <sup>m</sup>		R <sup>o</sup> : 59 <sup>m</sup>				PHE { 4 <sup>h</sup> : 59.5' 12 <sup>h</sup> : 59.2' 20 <sup>h</sup> : 58.9'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	181 49.5	+0 12.4	310 57.8	65	+22 29.3	112	60 N	17 59	18 40	19 30	18 18	14	13 17	110		
1	196 49.7	11.4	325 23.3	65	40.5	111	58	58	37	24	18 42	24	12 54	99		
2	211 49.9	10.4	339 48.8	65	+22 51.6	109	56	58	35	19	19 01	31	35	93		
3	226 50.1	09.5	354 14.2	64	+23 02.5	107	54	58	33	15	17 35		19	89		
4	241 50.4	08.5	8 39.6	64	13.2	106	52	57	31	11	31 38		12 06	85		
5	256 50.6	+0 07.5	23 04.9	63	+23 23.8	104	50	17 57	18 29	19 07	19 43	41	11 54	82		
6	271 50.8	+0 06.6	37 30.2	63	+23 34.2	103	45	17 57	18 26	19 00	20 09	45	11 30	77		
7	286 51.0	05.6	51 55.5	63	44.5	101	40	57	23	18 55	29	48	11 11	73		
8	301 51.2	04.6	66 20.6	61	+23 54.6	99	35	56	21	51	20 46	50	10 54	71		
9	316 51.5	03.6	80 45.8	62	+24 04.5	97	30	56	20	48	21 01	52	41	68		
10	331 51.7	02.7	95 10.9	61	14.3	96	20	56	18	43	26 55		10 17	65		
11	346 51.9	+0 01.7	109 35.9	60	+24 23.9	94	10 N	17 56	18 17	18 41	21 48	57	9 57	61		
12	1 52.1	+0 00.7	124 00.9	60	+24 33.3	93	0	17 56	18 16	18 40	22 08	60	9 38	59		
13	16 52.3	-0 00.3	138 25.8	59	42.6	91	10 S	56	17	41	29 61		9 19	56		
14	31 52.6	01.2	152 50.7	59	+24 51.7	90	20	56	18	44	22 51	64	8 59	53		
15	46 52.8	02.2	167 15.6	59	+25 00.7	89	30	56	20	48	23 17	66	36	48		
16	61 53.0	03.2	181 40.4	58	09.4	87	35	57	22	52	32	68	22	47		
17	76 53.2	-0 04.1	196 05.2	58	+25 18.0	86	40	17 57	18 24	18 56	23 50	70	8 06	44		
18	91 53.4	-0 05.1	210 30.0	58	+25 26.5	85	45	17 57	18 27	19 01	** ** *	** ** *	7 48	40		
19	106 53.7	06.1	224 54.7	57	34.7	82	50	58	30	08	** ** *	** ** *	25	34		
20	121 53.9	07.1	239 19.4	57	42.8	81	52	58	32	12	** ** *	** ** *	14	32		
21	136 54.1	08.0	253 44.0	56	50.7	79	54	59	34	16	** ** *	** ** *	7 02	28		
22	151 54.3	09.0	268 08.6	56	+25 58.5	78	56	59	36	20	** ** *	** ** *	6 48	23		
23	166 54.5	10.0	282 33.2	56	+26 06.0	75	58	17 59	39	26	0 04	105	31	17		
24	181 54.8	-0 11.0	296 57.7	55	+26 13.4	74	60 S	18 00	18 41	19 32	0 23	116	6 12	6		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 <sup>h</sup> 50.7 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 42 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 38 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 14 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 59 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	1 20.9	154 39.7	-10 49.6	260 27.7	+23 23.2	281 15.6	+22 24.8	14 19.0	-7 56.4	
1	16 23.4	169 39.3	50.8	275 28.7	23.1	296 17.9	24.9	29 21.6	56.4	
2	31 25.9	184 38.9	52.0	290 29.6	23.1	311 20.2	24.9	44 24.2	56.5	
3	46 28.3	199 38.5	53.2	305 30.6	23.0	326 22.5	24.9	59 26.9	56.6	
4	61 30.8	214 38.1	54.4	320 31.5	23.0	341 24.8	24.9	74 29.5	56.6	
5	76 33.2	229 37.7	-10 55.6	335 32.5	+23 22.9	356 27.1	+22 24.9	89 32.1	-7 56.7	
6	91 35.7	244 37.3	-10 56.8	350 33.4	+23 22.9	11 29.4	+22 24.9	104 34.8	-7 56.8	
7	106 38.2	259 36.9	58.0	5 34.4	22.8	26 31.7	24.9	119 37.4	56.8	
8	121 40.6	274 36.5	-10 59.2	20 35.3	22.8	41 34.1	24.9	134 40.0	56.9	
9	136 43.1	289 36.2	-11 00.4	35 36.3	22.7	56 36.4	24.9	149 42.7	57.0	
10	151 45.6	304 35.8	01.6	50 37.2	22.7	71 38.7	24.9	164 45.3	57.1	
11	166 48.0	319 35.4	-11 02.7	65 38.2	+23 22.6	86 41.0	+22 24.9	179 47.9	-7 57.1	
12	181 50.5	334 35.0	-11 03.9	80 39.1	+23 22.6	101 43.3	+22 24.9	194 50.6	-7 57.2	
13	196 53.0	349 34.6	05.1	95 40.1	22.5	116 45.6	25.0	209 53.2	57.3	
14	211 55.4	4 34.2	06.3	110 41.0	22.5	131 48.0	25.0	224 55.8	57.3	
15	226 57.9	19 33.8	07.5	125 42.0	22.4	146 50.3	25.0	239 58.5	57.4	
16	242 00.3	34 33.4	08.7	140 43.0	22.4	161 52.6	25.0	255 01.1	57.5	
17	257 02.8	49 33.0	-11 09.9	155 43.9	+23 22.3	176 54.9	+22 25.0	270 03.7	-7 57.5	
18	272 05.3	64 32.6	-11 11.1	170 44.9	+23 22.3	191 57.2	+22 25.0	285 06.4	-7 57.6	
19	287 07.7	79 32.2	12.2	185 45.8	22.2	206 59.5	25.0	300 09.0	57.7	
20	302 10.2	94 31.8	13.4	200 46.8	22.1	222 01.9	25.0	315 11.6	57.8	
21	317 12.7	109 31.4	14.6	215 47.7	22.1	237 04.2	25.0	330 14.3	57.8	
22	332 15.1	124 31.0	15.8	230 48.7	22.0	252 06.5	25.0	345 16.9	57.9	
23	347 17.6	139 30.6	17.0	245 49.6	22.0	267 08.8	25.0	0 19.5	58.0	
24	2 20.1	154 30.2	-11 18.2	260 50.6	+23 21.9	282 11.1	+22 25.0	15 22.2	-7 58.0	
Dif	—	-4	-12	+10	-1	+23	0	+26	-1	

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 16.0'		Edad: 19.9 <sup>d</sup>				R <sup>o</sup> : 59 <sup>m</sup>			PHE {		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 52.2 <sup>m</sup>		PMG: 4 <sup>h</sup> 23 <sup>m</sup>						R <sup>o</sup> : 59 <sup>m</sup>			4 <sup>h</sup> : 58.6' 12 <sup>h</sup> : 58.3' 20 <sup>h</sup> : 58.0'		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	181 54.8	-0 11.0	296 57.7	55	+26 13.4	72	60 N	4 16	5 06	5 48	18 32 40	15 07 84	19 06 48	14 33 76			
1	196 55.0	11.9	311 22.2	55	20.6	71	58	22	08	48	32 50	14 08 73	19 52 52	13 48 71			
2	211 55.2	12.9	325 46.7	55	27.7	68	56	27	11	48	20 09 53	31 69	20 24 54	13 16 69			
3	226 55.4	13.9	340 11.2	54	34.5	67	54	31	13	48	22 45 58	10 58 61	22 21 58	11 22 62			
4	241 55.6	14.9	354 35.6	54	41.2	65	52	35	15	48	23 08 58	10 37 59	23 55 59	9 52 56			
5	256 55.9	-0 15.8	9 00.1	55	+26 47.7	64	50	4 38	5 16	5 48	** ** *	24 55	** ** *	9 09 53			
6	271 56.1	-0 16.8	23 24.5	54	+26 54.1	61	45	4 45	5 19	5 49	** ** *	8 50 52	** ** *	8 28 50			
7	286 56.3	17.8	37 48.8	53	+27 00.2	60	40	50	22	49	0 12 72	8 28 50	39 76	7 59 48			
8	301 56.5	18.7	52 13.2	54	06.2	58	35	54	24	49	0 53 78	46 45	0 53 78	46 45			
9	316 56.7	19.7	66 37.6	54	12.0	56	30	4 57	25	49	1 08 81	30 43	1 08 81	30 43			
10	331 57.0	20.7	81 01.9	53	17.6	54	20	5 02	27	49	27 84	7 11 39	27 84	7 11 39			
11	346 57.2	-0 21.7	95 26.2	53	+27 23.0	53	10 N	5 04	5 28	5 49	1 49 91	6 48 34	1 49 91	6 48 34			
12	1 57.4	-0 22.6	109 50.5	53	+27 28.3	50	0	5 04	5 28	5 49	2 19 103	6 18 21	2 19 103	6 18 21			
13	16 57.6	23.6	124 14.8	53	33.3	49	0 S	03	28	49	2 19 103	6 18 21	30 59	10 15 58			
14	31 57.8	24.6	138 39.1	53	38.2	47	20	5 01	26	48	30 59	10 15 58	23 55 59	9 52 56			
15	46 58.0	25.6	153 03.4	53	42.9	46	30	4 56	24	48	** ** *	24 55	** ** *	9 09 53			
16	61 58.3	26.5	167 27.7	53	47.5	44	35	53	22	47	** ** *	9 09 53	** ** *	9 09 53			
17	76 58.5	-0 27.5	181 52.0	53	+27 51.8	43	40	4 48	5 20	5 47	** ** *	8 50 52	** ** *	8 50 52			
18	91 58.7	-0 28.5	196 16.3	53	+27 56.0	42	45	4 43	5 17	5 46	0 12 72	8 28 50	0 12 72	8 28 50			
19	106 58.9	29.4	210 40.6	53	+28 00.0	40	50	35	14	46	39 76	7 59 48	39 76	7 59 48			
20	121 59.1	30.4	225 04.8	52	03.8	38	52	32	12	45	46 45	0 53 78	46 45	0 53 78			
21	136 59.4	31.4	239 29.2	54	07.4	36	54	28	10	45	1 08 81	30 43	1 08 81	30 43			
22	151 59.6	32.4	253 53.5	53	10.9	35	56	23	08	45	27 84	7 11 39	27 84	7 11 39			
23	166 59.8	33.3	268 17.8	53	14.1	32	58	18	05	44	1 49 91	6 48 34	1 49 91	6 48 34			
24	182 00.0	-0 34.3	282 42.1	53	+28 17.2	31	60 S	4 12	5 02	5 44	2 19 103	6 18 21	2 19 103	6 18 21			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +0.6		Mag.: -2.4		Mag.: +0.6	
	23 <sup>h</sup> 46.8 <sup>m</sup>		PMG: 13 <sup>h</sup> 42 <sup>m</sup>		PMG: 6 <sup>h</sup> 36 <sup>m</sup>		PMG: 5 <sup>h</sup> 10 <sup>m</sup>		PMG: 22 <sup>h</sup> 55 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	2 20.1	154 30.2	-11 18.2	260 50.6	+23 21.9	282 11.1	+22 25.0	15 22.2	-7 58.0	
1	17 22.5	169 29.8	19.4	275 51.6	21.9	297 13.5	25.1	30 24.8	58.1	
2	32 25.0	184 29.4	20.5	290 52.5	21.8	312 15.8	25.1	45 27.4	58.2	
3	47 27.5	199 29.0	21.7	305 53.5	21.8	327 18.1	25.1	60 30.0	58.2	
4	62 29.9	214 28.6	22.9	320 54.4	21.7	342 20.4	25.1	75 32.7	58.3	
5	77 32.4	229 28.2	-11 24.1	335 55.4	+23 21.7	357 22.8	+22 25.1	90 35.3	-7 58.4	
6	92 34.8	244 27.8	-11 25.3	350 56.4	+23 21.6	12 25.1	+22 25.1	105 37.9	-7 58.4	
7	107 37.3	259 27.4	26.4	5 57.3	21.5	27 27.4	25.1	120 40.6	58.5	
8	122 39.8	274 27.0	27.6	20 58.3	21.5	42 29.7	25.1	135 43.2	58.6	
9	137 42.2	289 26.6	28.8	35 59.2	21.4	57 32.0	25.1	150 45.8	58.7	
10	152 44.7	304 26.2	30.0	51 00.2	21.4	72 34.4	25.1	165 48.5	58.7	
11	167 47.2	319 25.8	-11 31.2	66 01.2	+23 21.3	87 36.7	+22 25.1	180 51.1	-7 58.8	
12	182 49.6	334 25.3	-11 32.3	81 02.1	+23 21.3	102 39.0	+22 25.1	195 53.7	-7 58.9	
13	197 52.1	349 24.9	33.5	96 03.1	21.2	117 41.3	25.1	210 56.4	58.9	
14	212 54.6	4 24.5	34.7	111 04.1	21.1	132 43.7	25.2	225 59.0	59.0	
15	227 57.0	19 24.1	35.9	126 05.0	21.1	147 46.0	25.2	241 01.6	59.1	
16	242 59.5	34 23.7	37.1	141 06.0	21.0	162 48.3	25.2	256 04.3	59.1	
17	258 02.0	49 23.3	-11 38.2	156 07.0	+23 21.0	177 50.6	+22 25.2	271 06.9	-7 59.2	
18	273 04.4	64 22.9	-11 39.4	171 07.9	+23 20.9	192 53.0	+22 25.2	286 09.5	-7 59.3	
19	288 06.9	79 22.5	40.6	186 08.9	20.9	207 55.3	25.2	301 12.2	59.3	
20	303 09.3	94 22.1	41.8	201 09.9	20.8	222 57.6	25.2	316 14.8	59.4	
21	318 11.8	109 21.7	42.9	216 10.8	20.7	238 00.0	25.2	331 17.4	59.5	
22	333 14.3	124 21.3	44.1	231 11.8	20.7	253 02.3	25.2	346 20.0	59.6	
23	348 16.7	139 20.9	45.3	246 12.8	20.6	268 04.6	25.2	1 22.7	59.6	
24	3 19.2	154 20.5	-11 46.5	261 13.7	+23 20.6	283 06.9	+22 25.2	16 25.3	-7 59.7	

Dif	—	-4	-12	+10	-1	+23	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15.9' PMG: 11 <sup>h</sup> 51.8 <sup>m</sup>		SD: 15.8' Edad: 20.9 <sup>d</sup> PMG: 5 <sup>h</sup> 22 <sup>m</sup> R°: 58 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.7' 12 <sup>h</sup> : 57.4' 20 <sup>h</sup> : 57.2'	Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h	m	h	m	h	m	h	m
0	182 00.0	-0 34.3	282 42.1	54	+28 17.2	29	60 N	17 52	18 34	19 23	19 12	82	16 31	37			
1	197 00.2	35.3	297 06.5	54	20.1	27	58	53	32	18	19 54	74	15 49	45			
2	212 00.4	36.3	311 30.8	53	22.8	26	56	53	30	13	20 22	71	15 21	47			
3	227 00.7	37.2	325 55.2	54	25.4	27	54	53	28	09	20 44	69	14 59	49			
4	242 00.9	38.2	340 19.6	54	27.7	23	52	53	26	06	21 02	68	40 51				
5	257 01.1	-0 39.2	354 44.0	54	+28 29.9	22	50	17 53	18 25	19 03	21 18	66	14 25	52			
6	272 01.3	-0 40.2	9 08.5	55	+28 31.9	20	45	17 53	18 22	18 56	21 49	64	13 54	53			
7	287 01.5	41.1	23 33.0	55	33.8	19	40	53	20	52	22 13	63	30 54				
8	302 01.8	42.1	37 57.5	55	35.4	16	35	53	19	48	33 61	13 10	55				
9	317 02.0	43.1	52 22.0	55	36.9	15	30	54	17	45	22 50	61	12 53	55			
10	332 02.2	44.1	66 46.5	55	38.2	13	20	54	16	42	23 19	59	12 24	56			
11	347 02.4	-0 45.0	81 11.1	56	+28 39.3	11	10 N	17 55	18 15	18 40	23 43	58	11 59	57			
12	2 02.6	-0 46.0	95 35.8	57	+28 40.2	9	0	17 55	18 16	18 40	** ** *	** ** *	11 36	58			
13	17 02.8	47.0	110 00.4	56	41.0	8	10 S	56	17	41	** ** *	** ** *	11 13	58			
14	32 03.1	47.9	124 25.2	58	41.6	6	20	57	19	44	** ** *	** ** *	10 48	59			
15	47 03.3	48.9	138 49.9	57	42.0	4	30	58	21	49	0 23	60	19 60				
16	62 03.5	49.9	153 14.7	58	42.2	2	35	58	24	53	0 40	60	10 02	60			
17	77 03.7	-0 50.9	167 39.5	58	+28 42.3	1	40	17 59	18 26	18 58	1 00	60	9 42	60			
18	92 03.9	-0 51.8	182 04.4	59	+28 42.2	1	45	18 00	18 29	19 04	1 24	60	9 18	60			
19	107 04.1	52.8	196 29.4	60	41.9	3	50	01	33	12	1 55	60	8 47	60			
20	122 04.4	53.8	210 54.4	60	41.4	5	52	02	35	16	2 11	60	31 61				
21	137 04.6	54.8	225 19.4	60	40.8	6	54	02	38	20	29 60	8 13	61				
22	152 04.8	55.7	239 44.5	61	40.0	8	56	03	40	25	2 51	60	7 50	62			
23	167 05.0	56.7	254 09.6	61	39.1	9	58	04	43	30	3 20	59	7 22	62			
24	182 05.2	-0 57.7	268 34.8	62	+28 37.9	12	60 S	18 04	18 46	19 37	4 02	59	6 39	63			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 23 <sup>h</sup> 42.8 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 43 <sup>m</sup>		Mag.: +0.6 PMG: 6 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.4 PMG: 5 <sup>h</sup> 07 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 50 <sup>m</sup>								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
0	3 19.2	154 20.5	-11 46.5	261 13.7	+23 20.6	283 06.9	+22 25.2	16 25.3	-7 59.7								
1	18 21.7	169 20.0	47.6	276 14.7	20.5	298 09.3	25.2	31 27.9	59.8								
2	33 24.1	184 19.6	48.8	291 15.7	20.4	313 11.6	25.2	46 30.6	59.8								
3	48 26.6	199 19.2	50.0	306 16.6	20.4	328 13.9	25.2	61 33.2	-7 59.9								
4	63 29.1	214 18.8	51.1	321 17.6	20.3	343 16.3	25.3	76 35.8	-8 00.0								
5	78 31.5	229 18.4	-11 52.3	336 18.6	+23 20.3	358 18.6	+22 25.3	91 38.5	-8 00.0								
6	93 34.0	244 18.0	-11 53.5	351 19.5	+23 20.2	13 20.9	+22 25.3	106 41.1	-8 00.1								
7	108 36.5	259 17.6	54.7	6 20.5	20.1	28 23.2	25.3	121 43.7	00.2								
8	123 38.9	274 17.2	55.8	21 21.5	20.1	43 25.6	25.3	136 46.4	00.2								
9	138 41.4	289 16.8	57.0	36 22.5	20.0	58 27.9	25.3	151 49.0	00.3								
10	153 43.8	304 16.3	58.2	51 23.4	20.0	73 30.2	25.3	166 51.6	00.4								
11	168 46.3	319 15.9	-11 59.3	66 24.4	+23 19.9	88 32.6	+22 25.3	181 54.2	-8 00.4								
12	183 48.8	334 15.5	-12 00.5	81 25.4	+23 19.8	103 34.9	+22 25.3	196 56.9	-8 00.5								
13	198 51.2	349 15.1	01.7	96 26.3	19.8	118 37.2	25.3	211 59.5	00.6								
14	213 53.7	4 14.7	02.8	111 27.3	19.7	133 39.6	25.3	227 02.1	00.6								
15	228 56.2	19 14.3	04.0	126 28.3	19.7	148 41.9	25.3	242 04.8	00.7								
16	243 58.6	34 13.9	05.2	141 29.3	19.6	163 44.2	25.3	257 07.4	00.8								
17	259 01.1	49 13.4	-12 06.3	156 30.2	+23 19.5	178 46.6	+22 25.3	272 10.0	-8 00.9								
18	274 03.6	64 13.0	-12 07.5	171 31.2	+23 19.5	193 48.9	+22 25.4	287 12.7	-8 00.9								
19	289 06.0	79 12.6	08.7	186 32.2	19.4	208 51.2	25.4	302 15.3	01.0								
20	304 08.5	94 12.2	09.8	201 33.2	19.3	223 53.6	25.4	317 17.9	01.1								
21	319 11.0	109 11.8	11.0	216 34.1	19.3	238 55.9	25.4	332 20.5	01.1								
22	334 13.4	124 11.4	12.2	231 35.1	19.2	253 58.3	25.4	347 23.2	01.2								
23	349 15.9	139 10.9	13.3	246 36.1	19.2	269 00.6	25.4	2 25.8	01.3								
24	4 18.3	154 10.5	-12 14.5	261 37.1	+23 19.1	284 02.9	+22 25.4	17 28.4	-8 01.3								
Dif	—	-4	-12	+10	-1	+23	0	+26	-1								

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15.9'		SD: 15.5'		Edad: 21.9 <sup>d</sup>			R <sup>o</sup> : 56 <sup>m</sup>			PHE { 4 <sup>h</sup> : 56.9'		12 <sup>h</sup> : 56.6'		20 <sup>h</sup> : 56.4'	
	PMG: 11 <sup>h</sup> 51.5 <sup>m</sup>		PMG: 6 <sup>h</sup> 20 <sup>m</sup>		R <sup>o</sup> : 56 <sup>m</sup>								Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	182 05.2	-0 57.7	268 34.8	63	+28 37.9	13	<b>60 N</b>	4 21	5 11	5 52	20 34 100	17 08 12				
1	197 05.4	58.7	283 00.1	63	36.6	14	<b>58</b>	26	13	52	21 08 89	16 34 22				
2	212 05.7	-0 59.6	297 25.4	63	35.2	17	<b>56</b>	31	15	52	33 83	16 08 28				
3	227 05.9	-1 00.6	311 50.8	64	33.5	17	<b>54</b>	35	16	52	21 53 79	15 48 32				
4	242 06.1	01.6	326 16.3	65	31.7	18	<b>52</b>	38	18	52	22 10 75	31 35				
5	257 06.3	-1 02.5	340 41.8	65	+28 29.8	19	<b>50</b>	4 41	5 19	5 51	22 24 73	15 17 37				
6	272 06.5	-1 03.5	355 07.4	66	+28 27.6	22	<b>45</b>	4 48	5 22	5 51	22 53 69	14 47 41				
7	287 06.7	04.5	9 33.0	66	25.3	23	<b>40</b>	52	24	51	23 16 65	24 44				
8	302 06.9	05.5	23 58.7	67	22.9	24	<b>35</b>	56	25	50	34 64	14 05 46				
9	317 07.2	06.4	38 24.5	68	20.3	26	<b>30</b>	4 58	26	50	23 51 61	13 48 48				
10	332 07.4	07.4	52 50.4	69	17.5	28	<b>20</b>	5 02	28	50	*** **	13 20 51				
11	347 07.6	-1 08.4	67 16.3	69	+28 14.5	30	<b>10 N</b>	5 04	5 28	5 49	*** **	12 56 53				
12	2 07.8	-1 09.4	81 42.3	70	+28 11.5	30	<b>0</b>	5 04	5 28	5 48	0 06 57	12 34 54				
13	17 08.0	10.3	96 08.4	71	08.2	33	<b>10 S</b>	5 02	26	47	29 55	12 11 57				
14	32 08.2	11.3	110 34.6	72	04.8	34	<b>20</b>	4 59	24	46	0 54 54	11 47 59				
15	47 08.5	12.3	125 00.9	73	+28 01.2	36	<b>30</b>	54	21	45	1 23 51	19 61				
16	62 08.7	13.3	139 27.2	73	+27 57.5	37	<b>35</b>	50	19	45	1 40 50	11 02 63				
17	77 08.9	-1 14.2	153 53.6	74	+27 53.7	38	<b>40</b>	4 45	5 17	5 44	2 00 49	10 42 65				
18	92 09.1	-1 15.2	168 20.1	75	+27 49.6	41	<b>45</b>	4 39	5 13	5 43	2 24 47	10 18 67				
19	107 09.3	16.2	182 46.7	76	45.5	41	<b>50</b>	31	09	41	2 55 44	9 47 71				
20	122 09.5	17.2	197 13.3	76	41.1	44	<b>52</b>	27	07	41	3 11 42	32 73				
21	137 09.7	18.1	211 40.1	78	36.7	44	<b>54</b>	23	05	40	29 39	9 14 75				
22	152 10.0	19.1	226 06.9	78	32.1	46	<b>56</b>	18	5 02	39	3 51 36	8 52 79				
23	167 10.2	20.1	240 33.8	79	27.3	48	<b>58</b>	12	4 59	39	4 19 31	8 24 85				
24	182 10.4	-1 21.0	255 00.9	81	+27 22.4	49	<b>60 S</b>	4 05	4 56	5 38	5 01 19	7 42 97				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG		Mag.: -3.9		Mag.: +0.6		Mag.: -2.4		Mag.: +0.6							
	23 <sup>h</sup> 38.9 <sup>m</sup>		PMG: 13 <sup>h</sup> 44 <sup>m</sup>		PMG: 6 <sup>h</sup> 33 <sup>m</sup>		PMG: 5 <sup>h</sup> 03 <sup>m</sup>		PMG: 22 <sup>h</sup> 46 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "							
0	4 18.3	154 10.5	-12 14.5	261 37.1	+23 19.1	284 02.9	+22 25.4	17 28.4	-8 01.3							
1	19 20.8	169 10.1	15.6	276 38.0	19.0	299 05.3	25.4	32 31.1	01.4							
2	34 23.3	184 09.7	16.8	291 39.0	19.0	314 07.6	25.4	47 33.7	01.5							
3	49 25.7	199 09.3	18.0	306 40.0	18.9	329 09.9	25.4	62 36.3	01.5							
4	64 28.2	214 08.8	19.1	321 41.0	18.8	344 12.3	25.4	77 39.0	01.6							
5	79 30.7	229 08.4	-12 20.3	336 42.0	+23 18.8	359 14.6	+22 25.4	92 41.6	-8 01.7							
6	94 33.1	244 08.0	-12 21.4	351 42.9	+23 18.7	14 17.0	+22 25.4	107 44.2	-8 01.7							
7	109 35.6	259 07.6	22.6	6 43.9	18.6	29 19.3	25.4	122 46.8	01.8							
8	124 38.1	274 07.2	23.8	21 44.9	18.6	44 21.6	25.4	137 49.5	01.9							
9	139 40.5	289 06.7	24.9	36 45.9	18.5	59 24.0	25.5	152 52.1	01.9							
10	154 43.0	304 06.3	26.1	51 46.9	18.4	74 26.3	25.5	167 54.7	02.0							
11	169 45.4	319 05.9	-12 27.2	66 47.8	+23 18.4	89 28.7	+22 25.5	182 57.4	-8 02.1							
12	184 47.9	334 05.5	-12 28.4	81 48.8	+23 18.3	104 31.0	+22 25.5	198 00.0	-8 02.1							
13	199 50.4	349 05.1	29.5	96 49.8	18.3	119 33.3	25.5	213 02.6	02.2							
14	214 52.8	4 04.6	30.7	111 50.8	18.2	134 35.7	25.5	228 05.2	02.3							
15	229 55.3	19 04.2	31.9	126 51.8	18.1	149 38.0	25.5	243 07.9	02.3							
16	244 57.8	34 03.8	33.0	141 52.8	18.1	164 40.4	25.5	258 10.5	02.4							
17	260 00.2	49 03.4	-12 34.2	156 53.7	+23 18.0	179 42.7	+22 25.5	273 13.1	-8 02.5							
18	275 02.7	64 02.9	-12 35.3	171 54.7	+23 17.9	194 45.1	+22 25.5	288 15.8	-8 02.5							
19	290 05.2	79 02.5	36.5	186 55.7	17.9	209 47.4	25.5	303 18.4	02.6							
20	305 07.6	94 02.1	37.6	201 56.7	17.8	224 49.7	25.5	318 21.0	02.7							
21	320 10.1	109 01.6	38.8	216 57.7	17.7	239 52.1	25.5	333 23.6	02.7							
22	335 12.6	124 01.2	39.9	231 58.7	17.7	254 54.4	25.5	348 26.3	02.8							
23	350 15.0	139 00.8	41.1	246 59.7	17.6	269 56.8	25.5	3 28.9	02.9							
24	5 17.5	154 00.4	-12 42.2	262 00.7	+23 17.5	284 59.1	+22 25.6	18 31.5	-8 02.9							
Dif	—	-4	-12	+10	-1	+23	0	+26	-1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 51.1 <sup>m</sup>		SD: 15.3' Edad: 22.9 <sup>d</sup> PMG: 7 <sup>h</sup> 16 <sup>m</sup>		R <sup>o</sup> : 51 <sup>m</sup>				PHE { 4 <sup>h</sup> : 56.1' 12 <sup>h</sup> : 55.9' 20 <sup>h</sup> : 55.7'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	182 10.4	-1 21.0	255 00.9	81	+27 22.4	51	60 N 17 46	18 28	19 17	22 14	98	17 20	3			
1	197 10.6	22.0	269 28.0	82	17.3	51	58 47	26	12	37	91	16 56	11			
2	212 10.8	23.0	283 55.2	82	12.2	51	56 47	24	08	22 56	85	36	16			
3	227 11.0	24.0	298 22.4	82	06.8	54	54 48	23	04	23 12	81	20	20			
4	242 11.2	24.9	312 49.8	84	+27 01.3	55	52 48	22	19 01	25	78	16 06	23			
5	257 11.5	-1 25.9	327 17.3	85	+26 55.7	56	50 17 48	18 21	18 58	23 37	75	15 54	26			
6	272 11.7	-1 26.9	341 44.8	85	+26 50.0	57	45 17 49	18 18	18 53	** ** *	** ** *	15 28	31			
7	287 11.9	27.9	356 12.5	87	44.1	59	40 50	17	48	** ** *	** ** *	15 08	34			
8	302 12.1	28.8	10 40.2	87	38.1	60	35 51	16	45	** ** *	** ** *	14 51	37			
9	317 12.3	29.8	25 08.1	89	31.9	62	30 51	15	43	** ** *	** ** *	36	40			
10	332 12.5	30.8	39 36.0	89	25.6	63	20 52	14	40	0 18	58	14 11	44			
11	347 12.7	-1 31.8	54 04.1	91	+26 19.2	64	10 N 17 53	18 14	18 39	0 41	55	13 49	47			
12	2 12.9	-1 32.7	68 32.2	91	+26 12.6	66	0 17 54	18 15	18 39	1 03	52	13 28	51			
13	17 13.2	33.7	83 00.4	92	+26 06.0	66	10 S 56	17	41	24	50	13 08	53			
14	32 13.4	34.7	97 28.8	94	+25 59.2	68	20 57	19	45	1 48	47	12 46	57			
15	47 13.6	35.6	111 57.2	94	52.2	70	30 17 59	23	51	2 14	44	20	61			
16	62 13.8	36.6	126 25.7	95	45.2	70	35 18 00	25	18 55	30	42	12 05	63			
17	77 14.0	-1 37.6	140 54.3	96	+25 38.0	72	40 18 01	18 28	19 00	2 49	38	11 47	66			
18	92 14.2	-1 38.6	155 23.1	98	+25 30.7	73	45 18 02	18 32	19 06	3 11	35	11 25	70			
19	107 14.4	39.5	169 51.9	98	23.2	75	50 04	37	15	39	30	10 58	75			
20	122 14.6	40.5	184 20.8	99	15.7	75	52 05	39	19	3 53	28	45	77			
21	137 14.9	41.5	198 49.8	100	08.0	77	54 06	41	24	4 08	25	29	81			
22	152 15.1	42.5	213 18.9	101	+25 00.2	78	56 07	44	29	27	21	10 11	86			
23	167 15.3	43.4	227 48.2	103	+24 52.3	79	58 08	47	35	4 50	14	9 49	91			
24	182 15.5	-1 44.4	242 17.5	103	+24 44.3	80	60 S 18 09	18 51	19 42	5 20	5	9 19	101			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 <sup>h</sup> 35.0 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 44 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.4 PMG: 4 <sup>h</sup> 59 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	5 17.5	154 00.4	-12 42.2	262 00.7	+23 17.5	284 59.1	+22 25.6	18 31.5	-8 02.9	
1	20 19.9	168 59.9	43.4	277 01.6	17.5	300 01.5	25.6	33 34.2	03.0	
2	35 22.4	183 59.5	44.5	292 02.6	17.4	315 03.8	25.6	48 36.8	03.1	
3	50 24.9	198 59.1	45.7	307 03.6	17.3	330 06.2	25.6	63 39.4	03.1	
4	65 27.3	213 58.7	46.8	322 04.6	17.2	345 08.5	25.6	78 42.0	03.2	
5	80 29.8	228 58.2	-12 48.0	337 05.6	+23 17.2	0 10.9	+22 25.6	93 44.7	-8 03.3	
6	95 32.3	243 57.8	-12 49.1	352 06.6	+23 17.1	15 13.2	+22 25.6	108 47.3	-8 03.3	
7	110 34.7	258 57.4	50.3	7 07.6	17.0	30 15.6	25.6	123 49.9	03.4	
8	125 37.2	273 56.9	51.4	22 08.6	17.0	45 17.9	25.6	138 52.6	03.5	
9	140 39.7	288 56.5	52.6	37 09.6	16.9	60 20.3	25.6	153 55.2	03.5	
10	155 42.1	303 56.1	53.7	52 10.5	16.8	75 22.6	25.6	168 57.8	03.6	
11	170 44.6	318 55.6	-12 54.9	67 11.5	+23 16.8	90 25.0	+22 25.6	184 00.4	-8 03.7	
12	185 47.1	333 55.2	-12 56.0	82 12.5	+23 16.7	105 27.3	+22 25.6	199 03.1	-8 03.7	
13	200 49.5	348 54.8	57.1	97 13.5	16.6	120 29.7	25.6	214 05.7	03.8	
14	215 52.0	3 54.3	58.3	112 14.5	16.6	135 32.0	25.6	229 08.3	03.9	
15	230 54.4	18 53.9	-12 59.4	127 15.5	16.5	150 34.4	25.6	244 10.9	03.9	
16	245 56.9	33 53.5	-13 00.6	142 16.5	16.4	165 36.7	25.6	259 13.6	04.0	
17	260 59.4	48 53.0	-13 01.7	157 17.5	+23 16.3	180 39.1	+22 25.7	274 16.2	-8 04.1	
18	276 01.8	63 52.6	-13 02.9	172 18.5	+23 16.3	195 41.4	+22 25.7	289 18.8	-8 04.1	
19	291 04.3	78 52.2	04.0	187 19.5	16.2	210 43.8	25.7	304 21.5	04.2	
20	306 06.8	93 51.7	05.1	202 20.5	16.1	225 46.1	25.7	319 24.1	04.3	
21	321 09.2	108 51.3	06.3	217 21.5	16.1	240 48.5	25.7	334 26.7	04.3	
22	336 11.7	123 50.9	07.4	232 22.5	16.0	255 50.8	25.7	349 29.3	04.4	
23	351 14.2	138 50.4	08.6	247 23.5	15.9	270 53.2	25.7	4 32.0	04.5	
24	6 16.6	153 50.0	-13 09.7	262 24.5	+23 15.8	285 55.5	+22 25.7	19 34.6	-8 04.5	

Dif	—	-4	-11	+10	-1	+24	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0'		SD: 15.1'		Edad: 23.9 <sup>d</sup>			R°: 48 <sup>m</sup>			PHE {		Hora R°		Hora R°	
	PMG: 11 <sup>h</sup> 50.8 <sup>m</sup>		PMG: 8 <sup>h</sup> 07 <sup>m</sup>		R°: 48 <sup>m</sup>			4 <sup>h</sup> : 55.5'			12 <sup>h</sup> : 55.3'		20 <sup>h</sup> : 55.1'			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	m	h m m	m		
0	182 15.5	-1 44.4	242 17.5	104	+24 44.3	81	60 N	4 26	5 15	5 57	23 52	92	17 23	1		
1	197 15.7	45.4	256 46.9	104	36.2	81	58	31	17	56	** ** *	** ** *	17 07	5		
2	212 15.9	46.4	271 16.4	105	27.9	83	56	35	19	56	** ** *	** ** *	16 52	10		
3	227 16.1	47.3	285 46.0	106	19.5	84	54	39	20	55	** ** *	** ** *	40	14		
4	242 16.3	48.3	300 15.7	107	11.1	84	52	42	21	55	** ** *	** ** *	29	17		
5	257 16.6	-1 49.3	314 45.6	109	+24 02.5	86	50	4 44	5 22	5 54	** ** *	** ** *	16 20	19		
6	272 16.8	-1 50.2	329 15.5	109	+23 53.8	87	45	4 50	5 24	5 54	0 02	70	15 59	24		
7	287 17.0	51.2	343 45.5	110	45.0	88	40	54	26	53	21 66		42 28			
8	302 17.2	52.2	358 15.6	111	36.1	89	35	4 57	27	52	38 62		28 32			
9	317 17.4	53.2	12 45.8	112	27.1	90	30	5 00	27	51	0 52	60	15 16	34		
10	332 17.6	54.1	27 16.1	113	18.0	91	20	02	28	50	1 16	55	14 55	39		
11	347 17.8	-1 55.1	41 46.5	114	+23 08.8	92	10 N	5 03	5 28	5 49	1 36	52	14 36	43		
12	2 18.0	-1 56.1	56 17.0	115	+22 59.5	93	0	5 03	5 27	5 48	1 55	48	14 19	46		
13	17 18.2	57.1	70 47.6	116	50.1	94	10 S	5 01	25	46	2 14	45	14 01	51		
14	32 18.4	58.0	85 18.3	117	40.5	96	20	4 57	23	45	35 41		13 43	54		
15	47 18.7	-1 59.0	99 49.1	118	30.9	96	30	51	19	43	2 58	37	21 59			
16	62 18.9	-2 00.0	114 20.0	119	21.2	97	35	47	16	42	3 12	34	13 08	62		
17	77 19.1	-2 01.0	128 51.0	120	+22 11.4	98	40	4 42	5 13	5 40	3 27	31	12 53	65		
18	92 19.3	-2 01.9	143 22.1	121	+22 01.6	98	45	4 35	5 09	5 39	3 46	27	12 35	70		
19	107 19.5	02.9	157 53.3	122	+21 51.6	100	50	26	05	37	4 09	22	13 75			
20	122 19.7	03.9	172 24.5	122	41.5	101	52	22	02	36	21 19		12 02	78		
21	137 19.9	04.8	186 55.9	124	31.3	102	54	17	5 00	35	33 16		11 50	81		
22	152 20.1	05.8	201 27.4	125	21.1	102	56	12	4 57	34	4 48	12	37 84			
23	167 20.3	06.8	215 58.9	125	10.7	104	58	4 06	53	33	5 04	8	20 90			
24	182 20.5	-2 07.8	230 30.6	127	+21 00.3	104	60 S	3 59	4 50	5 32	5 25	1	11 00	97		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG		Mag.: -3.9		Mag.: +0.5		Mag.: -2.5		Mag.: +0.6							
	23 <sup>h</sup> 31.0 <sup>m</sup>		PMG: 13 <sup>h</sup> 45 <sup>m</sup>		PMG: 6 <sup>h</sup> 30 <sup>m</sup>		PMG: 4 <sup>h</sup> 56 <sup>m</sup>		PMG: 22 <sup>h</sup> 38 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "							
0	6 16.6	153 50.0	-13 09.7	262 24.5	+23 15.8	285 55.5	+22 25.7	19 34.6	-8 04.5							
1	21 19.1	168 49.5	10.8	277 25.5	15.8	300 57.9	25.7	34 37.2	04.6							
2	36 21.6	183 49.1	12.0	292 26.5	15.7	316 00.2	25.7	49 39.8	04.7							
3	51 24.0	198 48.7	13.1	307 27.5	15.6	331 02.6	25.7	64 42.5	04.7							
4	66 26.5	213 48.2	14.3	322 28.5	15.6	346 05.0	25.7	79 45.1	04.8							
5	81 28.9	228 47.8	-13 15.4	337 29.5	+23 15.5	1 07.3	+22 25.7	94 47.7	-8 04.9							
6	96 31.4	243 47.4	-13 16.5	352 30.5	+23 15.4	16 09.7	+22 25.7	109 50.3	-8 04.9							
7	111 33.9	258 46.9	17.7	7 31.5	15.3	31 12.0	25.7	124 53.0	05.0							
8	126 36.3	273 46.5	18.8	22 32.5	15.3	46 14.4	25.7	139 55.6	05.1							
9	141 38.8	288 46.0	19.9	37 33.5	15.2	61 16.7	25.7	154 58.2	05.1							
10	156 41.3	303 45.6	21.1	52 34.5	15.1	76 19.1	25.8	170 00.8	05.2							
11	171 43.7	318 45.1	-13 22.2	67 35.5	+23 15.1	91 21.5	+22 25.8	185 03.5	-8 05.3							
12	186 46.2	333 44.7	-13 23.3	82 36.5	+23 15.0	106 23.8	+22 25.8	200 06.1	-8 05.3							
13	201 48.7	348 44.3	24.5	97 37.5	14.9	121 26.2	25.8	215 08.7	05.4							
14	216 51.1	3 43.8	25.6	112 38.5	14.8	136 28.5	25.8	230 11.4	05.5							
15	231 53.6	18 43.4	26.7	127 39.5	14.8	151 30.9	25.8	245 14.0	05.5							
16	246 56.0	33 42.9	27.9	142 40.5	14.7	166 33.3	25.8	260 16.6	05.6							
17	261 58.5	48 42.5	-13 29.0	157 41.5	+23 14.6	181 35.6	+22 25.8	275 19.2	-8 05.7							
18	277 01.0	63 42.0	-13 30.1	172 42.5	+23 14.5	196 38.0	+22 25.8	290 21.9	-8 05.7							
19	292 03.4	78 41.6	31.2	187 43.5	14.5	211 40.3	25.8	305 24.5	05.8							
20	307 05.9	93 41.2	32.4	202 44.5	14.4	226 42.7	25.8	320 27.1	05.9							
21	322 08.4	108 40.7	33.5	217 45.5	14.3	241 45.1	25.8	335 29.7	05.9							
22	337 10.8	123 40.3	34.6	232 46.5	14.2	256 47.4	25.8	350 32.4	06.0							
23	352 13.3	138 39.8	35.8	247 47.5	14.2	271 49.8	25.8	5 35.0	06.1							
24	7 15.8	153 39.4	-13 36.9	262 48.5	+23 14.1	286 52.1	+22 25.8	20 37.6	-8 06.1							
Dif	—	-4	-11	+10	-1	+24	0	+26	-1							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 50.5 <sup>m</sup>		SD: 15.0' Edad: 24.9 <sup>d</sup> PMG: 8 <sup>h</sup> 55 <sup>m</sup> R°: 43 <sup>m</sup>						PHE { 4 <sup>h</sup> : 55.0' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 54.7'		Civil Nautico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Nautico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	h m	h m	h m		
0	182 20.5	-2 07.8	230 30.6	127 +21 00.3	105 105	105	60 N	17 40	18 22	19 10	** ** *	** ** *	17 24	-1		
1	197 20.8	08.7	245 02.3	127 +20 49.8	106 106	106	58	41	20	06	0 08	87	12	4		
2	212 21.0	09.7	259 34.1	128 39.2	107 107	107	56	42	19	19 02	21 83	17 02	7			
3	227 21.2	10.7	274 06.0	129 28.5	107 107	107	54	43	18	18 59	33 79	16 54	9			
4	242 21.4	11.6	288 38.1	131 17.8	107 107	107	52	43	17	56	43 76	46	12			
5	257 21.6	-2 12.6	303 10.2	131 +20 06.9	109 109	109	50	17 44	18 16	18 54	0 52	74	16 39	14		
6	272 21.8	-2 13.6	317 42.3	133 +19 56.0	109 109	109	45	17 45	18 15	18 49	1 12	68	16 23	20		
7	287 22.0	14.6	332 14.6	133 45.0	110 110	110	40	47	14	45	27 64	10	24			
8	302 22.2	15.5	346 47.0	134 33.9	111 111	111	35	48	13	42	40 61	16 00	26			
9	317 22.4	16.5	1 19.4	134 22.7	112 112	112	30	49	12	40	1 52	57	15 50	30		
10	332 22.6	17.5	15 52.0	136 11.5	112 112	112	20	50	12	38	2 11	53	34	34		
11	347 22.8	-2 18.5	30 24.6	136 +19 00.2	113 113	113	10 N	17 52	18 13	18 37	2 28	48	15 19	39		
12	2 23.1	-2 19.4	44 57.3	137 +18 48.8	114 114	114	0	17 54	18 14	18 38	2 43	45	15 05	43		
13	17 23.3	20.4	59 30.0	138 37.4	114 114	114	10 S	55	16	41	2 59	41	14 52	47		
14	32 23.5	21.4	74 03.0	139 25.9	115 115	115	20	17 57	20	45	3 16	36	37	51		
15	47 23.7	22.3	88 35.9	139 14.3	116 116	116	30	18 00	24	52	35 31	20	56			
16	62 23.9	23.3	103 09.0	141 +18 02.6	117 117	117	35	01	27	18 56	46 28	14	10	59		
17	77 24.1	-2 24.3	117 42.1	141 +17 50.9	117 117	117	40	18 03	18 30	19 02	3 58	26	13 58	63		
18	92 24.3	-2 25.3	132 15.3	142 +17 39.1	118 118	118	45	18 05	18 34	19 09	4 13	22	13 45	67		
19	107 24.5	26.2	146 48.6	143 27.2	119 119	119	50	07	40	18	31 17	28	72			
20	122 24.7	27.2	161 21.9	143 15.3	119 119	119	52	08	42	23	40 14	20	75			
21	137 24.9	28.2	175 55.3	144 +17 03.3	120 120	120	54	09	45	28	4 49	11	11	78		
22	152 25.1	29.1	190 28.9	146 +16 51.3	120 120	120	56	11	48	34	5 00	8	13 01	82		
23	167 25.3	30.1	205 02.4	145 39.2	121 121	121	58	12	52	40	12 4	12	50	85		
24	182 25.5	-2 31.1	219 36.1	147 +16 27.0	122 122	122	60 S	18 14	18 56	19 48	5 26	-1	12 37	90		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 <sup>h</sup> 27.1 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 34 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	7 15.8	153 39.4	-13 36.9	262 48.5	+23 14.1	286 52.1	+22 25.8	20 37.6	-8 06.1	
1	22 18.2	168 38.9	38.0	277 49.5	14.0	301 54.5	25.8	35 40.2	06.2	
2	37 20.7	183 38.5	39.1	292 50.5	13.9	316 56.9	25.8	50 42.9	06.3	
3	52 23.2	198 38.0	40.3	307 51.6	13.9	331 59.2	25.8	65 45.5	06.3	
4	67 25.6	213 37.6	41.4	322 52.6	13.8	347 01.6	25.8	80 48.1	06.4	
5	82 28.1	228 37.1	-13 42.5	337 53.6	+23 13.7	2 04.0	+22 25.9	95 50.7	-8 06.4	
6	97 30.5	243 36.7	-13 43.6	352 54.6	+23 13.6	17 06.3	+22 25.9	110 53.4	-8 06.5	
7	112 33.0	258 36.2	44.7	7 55.6	13.6	32 08.7	25.9	125 56.0	06.6	
8	127 35.5	273 35.8	45.9	22 56.6	13.5	47 11.1	25.9	140 58.6	06.6	
9	142 37.9	288 35.3	47.0	37 57.6	13.4	62 13.4	25.9	156 01.2	06.7	
10	157 40.4	303 34.9	48.1	52 58.6	13.3	77 15.8	25.9	171 03.8	06.8	
11	172 42.9	318 34.4	-13 49.2	67 59.6	+23 13.2	92 18.2	+22 25.9	186 06.5	-8 06.8	
12	187 45.3	333 34.0	-13 50.3	83 00.7	+23 13.2	107 20.5	+22 25.9	201 09.1	-8 06.9	
13	202 47.8	348 33.5	51.5	98 01.7	13.1	122 22.9	25.9	216 11.7	07.0	
14	217 50.3	3 33.1	52.6	113 02.7	13.0	137 25.3	25.9	231 14.3	07.0	
15	232 52.7	18 32.6	53.7	128 03.7	12.9	152 27.6	25.9	246 17.0	07.1	
16	247 55.2	33 32.2	54.8	143 04.7	12.9	167 30.0	25.9	261 19.6	07.2	
17	262 57.7	48 31.7	-13 55.9	158 05.7	+23 12.8	182 32.4	+22 25.9	276 22.2	-8 07.2	
18	278 00.1	63 31.2	-13 57.1	173 06.7	+23 12.7	197 34.7	+22 25.9	291 24.8	-8 07.3	
19	293 02.6	78 30.8	58.2	188 07.8	12.6	212 37.1	25.9	306 27.5	07.4	
20	308 05.0	93 30.3	-13 59.3	203 08.8	12.5	227 39.5	25.9	321 30.1	07.4	
21	323 07.5	108 29.9	-14 00.4	218 09.8	12.5	242 41.9	25.9	336 32.7	07.5	
22	338 10.0	123 29.4	01.5	233 10.8	12.4	257 44.2	25.9	351 35.3	07.5	
23	353 12.4	138 29.0	02.6	248 11.8	12.3	272 46.6	25.9	6 38.0	07.6	
24	8 14.9	153 28.5	-14 03.7	263 12.8	+23 12.2	287 49.0	+22 25.9	21 40.6	-8 07.7	

Dif	—	-5	-11	+10	-1	+24	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 50.1 <sup>m</sup>		SD: 14.9' Edad: 25.9 <sup>d</sup> PMG: 9 <sup>h</sup> 38 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.3'			R°: 41 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	Hora	R°	Hora
0	182 25.5	-2 31.1	219 36.1		+16 27.0		60 N	4 31	5 20	6 02	1 24	88	17 23	-1		
1	197 25.7	32.1	234 09.8	147	14.7	123	58	36	22	01	35	83	16	2		
2	212 26.0	33.0	248 43.6	148	+16 02.5	122	56	39	23	6 00	44	79	09	5		
3	227 26.2	34.0	263 17.5	149	+15 50.1	124	54	42	24	5 59	52	76	17	03		
4	242 26.4	35.0	277 51.5	150	37.7	124	52	45	25	58	1 59	74	16	58		
5	257 26.6	-2 36.0	292 25.5	150	+15 25.2	125	50	4 48	5 25	5 57	2 06	71	16	53		
6	272 26.8	-2 36.9	306 59.6	151	+15 12.7	125	45	4 53	5 27	5 56	2 20	66	16	43		
7	287 27.0	37.9	321 33.7	151	+15 00.2	125	40	56	28	55	31	62	34	21		
8	302 27.2	38.9	336 08.0	153	+14 47.5	127	35	4 59	28	53	41	58	26	24		
9	317 27.4	39.8	350 42.3	153	34.9	126	30	5 01	29	52	2 49	55	20	27		
10	332 27.6	40.8	5 16.6	153	22.1	128	20	03	28	50	3 04	50	16	08		
11	347 27.8	-2 41.8	19 51.0	154	+14 09.4	127	10 N	5 03	5 28	5 49	3 16	46	15	58		
12	2 28.0	-2 42.8	34 25.5	155	+13 56.5	129	0	5 02	5 26	5 47	3 28	42	15	48		
13	17 28.2	43.7	49 00.1	156	43.7	128	10 S	5 00	24	45	40	37	39	44		
14	32 28.4	44.7	63 34.7	156	30.7	130	20	4 55	21	43	3 52	33	28	49		
15	47 28.6	45.7	78 09.4	157	17.8	129	30	48	16	40	4 06	28	16	54		
16	62 28.8	46.6	92 44.1	157	+13 04.8	130	35	44	13	39	14	26	09	58		
17	77 29.0	-2 47.6	107 18.9	158	+12 51.7	131	40	4 38	5 10	5 37	4 24	22	15	01		
18	92 29.2	-2 48.6	121 53.7	158	+12 38.6	131	45	4 31	5 06	5 35	4 35	18	14	52		
19	107 29.4	49.6	136 28.6	159	25.5	131	50	21	5 00	33	48	13	40	70		
20	122 29.7	50.5	151 03.6	160	+12 12.3	132	52	17	4 57	31	4 54	11	35	72		
21	137 29.9	51.5	165 38.6	160	+11 59.1	132	54	12	55	30	5 00	9	29	75		
22	152 30.1	52.5	180 13.7	161	45.8	133	56	4 06	51	29	08	5	23	78		
23	167 30.3	53.4	194 48.8	161	32.5	133	58	3 59	48	27	16	2	15	82		
24	182 30.5	-2 54.4	209 24.0	162	+11 19.2	133	60 S	3 52	4 43	5 25	5 25	-1	14	07		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 <sup>h</sup> 23.2 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 47 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 48 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 29 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	8 14.9	153 28.5	-14 03.7	263 12.8	+23 12.2	287 49.0	+22 25.9	21 40.6	-8 07.7	
1	23 17.4	168 28.1	04.9	278 13.9	12.1	302 51.3	25.9	36 43.2	07.7	
2	38 19.8	183 27.6	06.0	293 14.9	12.1	317 53.7	26.0	51 45.8	07.8	
3	53 22.3	198 27.1	07.1	308 15.9	12.0	332 56.1	26.0	66 48.4	07.9	
4	68 24.8	213 26.7	08.2	323 16.9	11.9	347 58.5	26.0	81 51.1	07.9	
5	83 27.2	228 26.2	-14 09.3	338 17.9	+23 11.8	3 00.8	+22 26.0	96 53.7	-8 08.0	
6	98 29.7	243 25.8	-14 10.4	353 19.0	+23 11.7	18 03.2	+22 26.0	111 56.3	-8 08.1	
7	113 32.1	258 25.3	11.5	8 20.0	11.7	33 05.6	26.0	126 58.9	08.1	
8	128 34.6	273 24.8	12.6	23 21.0	11.6	48 08.0	26.0	142 01.6	08.2	
9	143 37.1	288 24.4	13.7	38 22.0	11.5	63 10.3	26.0	157 04.2	08.3	
10	158 39.5	303 23.9	14.8	53 23.0	11.4	78 12.7	26.0	172 06.8	08.3	
11	173 42.0	318 23.4	-14 15.9	68 24.1	+23 11.3	93 15.1	+22 26.0	187 09.4	-8 08.4	
12	188 44.5	333 23.0	-14 17.1	83 25.1	+23 11.3	108 17.5	+22 26.0	202 12.1	-8 08.4	
13	203 46.9	348 22.5	18.2	98 26.1	11.2	123 19.8	26.0	217 14.7	08.5	
14	218 49.4	3 22.1	19.3	113 27.1	11.1	138 22.2	26.0	232 17.3	08.6	
15	233 51.9	18 21.6	20.4	128 28.2	11.0	153 24.6	26.0	247 19.9	08.6	
16	248 54.3	33 21.1	21.5	143 29.2	10.9	168 27.0	26.0	262 22.5	08.7	
17	263 56.8	48 20.7	-14 22.6	158 30.2	+23 10.9	183 29.3	+22 26.0	277 25.2	-8 08.8	
18	278 59.3	63 20.2	-14 23.7	173 31.2	+23 10.8	198 31.7	+22 26.0	292 27.8	-8 08.8	
19	294 01.7	78 19.7	24.8	188 32.3	10.7	213 34.1	26.0	307 30.4	08.9	
20	309 04.2	93 19.3	25.9	203 33.3	10.6	228 36.5	26.0	322 33.0	09.0	
21	324 06.6	108 18.8	27.0	218 34.3	10.5	243 38.9	26.0	337 35.6	09.0	
22	339 09.1	123 18.3	28.1	233 35.4	10.4	258 41.2	26.0	352 38.3	09.1	
23	354 11.6	138 17.9	29.2	248 36.4	10.4	273 43.6	26.0	7 40.9	09.1	
24	9 14.0	153 17.4	-14 30.3	263 37.4	+23 10.3	288 46.0	+22 26.0	22 43.5	-8 09.2	

Dif	—	-5	-11	+10	-1	+24	0	+26	-1
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UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 49.8 <sup>m</sup>		SD: 14.8' Edad: 26.9 <sup>d</sup> PMG: 10 <sup>h</sup> 19 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.1'				R°: 40 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	182 30.5	-2 54.4	209 24.0	162	+ 11 19.2	134	60 N	17 34	18 16	19 04	2 52 83	17 22 -2				
1	197 30.7	55.4	223 59.2	163	+ 11 05.8	134	58	36	15	19 00	2 58 80	18 1				
2	212 30.9	56.3	238 34.5	163	+ 10 52.4	135	56	37	14	18 57	3 03 77	14 4				
3	227 31.1	57.3	253 09.8	164	38.9	135	54	38	13	54	08 74	11 7				
4	242 31.3	58.3	267 45.2	164	25.4	135	52	39	12	52	13 71	08 9				
5	257 31.5	-2 59.3	282 20.6	165	+ 10 11.9	135	50	17 40	18 12	18 49	3 17 69	17 05 11				
6	272 31.7	-3 00.2	296 56.1	165	+ 9 58.4	136	45	17 42	18 11	18 45	3 26 64	17 00 15				
7	287 31.9	01.2	311 31.6	166	44.8	136	40	43	10	42	33 60	16 55 19				
8	302 32.1	02.2	326 07.2	166	31.2	136	35	45	10	39	39 57	50 23				
9	317 32.3	03.1	340 42.8	166	17.5	137	30	46	10	38	44 54	47 25				
10	332 32.5	04.1	355 18.4	167	+ 9 03.8	137	20	49	11	36	3 54 48	40 31				
11	347 32.7	-3 05.1	9 54.1	167	+ 8 50.1	137	10 N	17 51	18 12	18 36	4 02 44	16 34 35				
12	2 32.9	-3 06.0	24 29.8	167	+ 8 36.4	138	0	17 53	18 14	18 38	4 10 39	16 29 39				
13	17 33.1	07.0	39 05.6	168	22.6	138	10 S	55	16	41	17 36	23 44				
14	32 33.3	08.0	53 41.4	168	+ 8 08.9	137	20	17 58	20	46	25 31	17 48				
15	47 33.5	09.0	68 17.3	169	+ 7 55.0	139	30	18 01	25	53	34 26	10 54				
16	62 33.7	09.9	82 53.1	168	41.2	138	35	03	28	18 58	40 23	07 56				
17	77 33.9	-3 10.9	97 29.0	169	+ 7 27.3	139	40	18 05	18 32	19 04	4 46 19	16 02 59				
18	92 34.1	-3 11.9	112 05.0	170	+ 7 13.5	138	45	18 07	18 37	19 12	4 53 15	15 57 63				
19	107 34.3	12.8	126 41.0	170	+ 6 59.6	139	50	10	43	22	5 01 11	50 69				
20	122 34.5	13.8	141 17.0	170	45.6	140	52	12	46	27	05 9	47 71				
21	137 34.7	14.8	155 53.0	170	31.7	139	54	13	49	32	09 7	44 73				
22	152 34.9	15.7	170 29.1	171	17.7	140	56	15	52	38	13 5	41 75				
23	167 35.1	16.7	185 05.2	171	+ 6 03.7	140	58	17	18 57	45	18 2	37 78				
24	182 35.3	-3 17.7	199 41.3	171	+ 5 49.7	140	60 S	18 19	19 01	19 53	5 24 -2	15 32 82				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 23 <sup>h</sup> 19.2 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 47 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 25 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 44 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 25 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	9 14.0	153 17.4	- 14 30.3	263 37.4	+ 23 10.3	288 46.0	+ 22 26.0	22 43.5	- 8 09.2	
1	24 16.5	168 16.9	31.4	278 38.4	10.2	303 48.4	26.0	37 46.1	09.3	
2	39 19.0	183 16.5	32.5	293 39.5	10.1	318 50.8	26.1	52 48.8	09.3	
3	54 21.4	198 16.0	33.6	308 40.5	10.0	333 53.1	26.1	67 51.4	09.4	
4	69 23.9	213 15.5	34.7	323 41.5	09.9	348 55.5	26.1	82 54.0	09.5	
5	84 26.4	228 15.1	- 14 35.8	338 42.6	+ 23 09.9	3 57.9	+ 22 26.1	97 56.6	- 8 09.5	
6	99 28.8	243 14.6	- 14 36.9	353 43.6	+ 23 09.8	19 00.3	+ 22 26.1	112 59.2	- 8 09.6	
7	114 31.3	258 14.1	38.0	8 44.6	09.7	34 02.7	26.1	128 01.9	09.7	
8	129 33.7	273 13.6	39.1	23 45.7	09.6	49 05.1	26.1	143 04.5	09.7	
9	144 36.2	288 13.2	40.1	38 46.7	09.5	64 07.4	26.1	158 07.1	09.8	
10	159 38.7	303 12.7	41.2	53 47.7	09.4	79 09.8	26.1	173 09.7	09.8	
11	174 41.1	318 12.2	- 14 42.3	68 48.8	+ 23 09.4	94 12.2	+ 22 26.1	188 12.3	- 8 09.9	
12	189 43.6	333 11.8	- 14 43.4	83 49.8	+ 23 09.3	109 14.6	+ 22 26.1	203 15.0	- 8 10.0	
13	204 46.1	348 11.3	44.5	98 50.8	09.2	124 17.0	26.1	218 17.6	10.0	
14	219 48.5	3 10.8	45.6	113 51.9	09.1	139 19.4	26.1	233 20.2	10.1	
15	234 51.0	18 10.3	46.7	128 52.9	09.0	154 21.8	26.1	248 22.8	10.2	
16	249 53.5	33 09.9	47.8	143 53.9	08.9	169 24.1	26.1	263 25.4	10.2	
17	264 55.9	48 09.4	- 14 48.9	158 55.0	+ 23 08.8	184 26.5	+ 22 26.1	278 28.1	- 8 10.3	
18	279 58.4	63 08.9	- 14 50.0	173 56.0	+ 23 08.8	199 28.9	+ 22 26.1	293 30.7	- 8 10.3	
19	295 00.9	78 08.4	51.1	188 57.0	08.7	214 31.3	26.1	308 33.3	10.4	
20	310 03.3	93 07.9	52.1	203 58.1	08.6	229 33.7	26.1	323 35.9	10.5	
21	325 05.8	108 07.5	53.2	218 59.1	08.5	244 36.1	26.1	338 38.5	10.5	
22	340 08.2	123 07.0	54.3	234 00.2	08.4	259 38.5	26.1	353 41.2	10.6	
23	355 10.7	138 06.5	55.4	249 01.2	08.3	274 40.9	26.1	8 43.8	10.7	
24	10 13.2	153 06.0	- 14 56.5	264 02.2	+ 23 08.2	289 43.2	+ 22 26.1	23 46.4	- 8 10.7	

Dif	—	-5	-11	+10	-1	+24	0	+26	-1
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UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 49.5 <sup>m</sup>		SD: 14.7' Edad: 27.9 <sup>d</sup> PMG: 10 <sup>h</sup> 59 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'			R°: 38 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil				Hora R°	Hora R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	182 35.3	-3 17.7	199 41.3	+5 49.7	140	60 N	4 36	5 25	6 06	4 15 82	17 20 -2					
1	197 35.5	18.7	214 17.5	35.7	140	58	40	26	05	18 78	19 1					
2	212 35.7	19.6	228 53.7	21.7	140	56	43	27	04	20 75	18 4					
3	227 35.9	20.6	243 29.9	+5 07.6	141	54	46	27	03	22 73	18 6					
4	242 36.1	21.6	258 06.1	+4 53.5	141	52	49	28	02	24 70	17 9					
5	257 36.3	-3 22.5	272 42.4	+4 39.4	141	50	4 51	5 28	6 01	4 26 68	17 16 11					
6	272 36.5	-3 23.5	287 18.6	+4 25.3	141	45	4 55	5 29	5 58	4 30 63	17 15 15					
7	287 36.7	24.5	301 54.9	+4 11.2	141	40	4 58	30	57	33 59	14 19					
8	302 36.9	25.4	316 31.2	+3 57.1	141	35	5 00	30	55	36 55	13 22					
9	317 37.1	26.4	331 07.6	43.0	141	30	02	30	54	38 53	12 25					
10	332 37.3	27.4	345 43.9	28.8	142	20	03	29	51	42 48	11 30					
11	347 37.5	-3 28.3	0 20.3	+3 14.7	141	10 N	5 03	5 28	5 49	4 46 43	17 09 35					
12	2 37.7	-3 29.3	14 56.7	+3 00.5	142	0	5 01	5 26	5 46	4 49 39	17 08 39					
13	17 37.9	30.3	29 33.1	+2 46.3	142	10 S	4 58	23	44	53 34	07 42					
14	32 38.1	31.3	44 09.5	32.1	142	20	53	19	41	4 56 30	05 48					
15	47 38.3	32.2	58 45.9	18.0	141	30	46	14	38	5 00 25	04 52					
16	62 38.5	33.2	73 22.4	+2 03.8	142	35	41	11	36	5 03 22	03 55					
17	77 38.7	-3 34.2	87 58.8	+1 49.6	142	40	4 35	5 07	5 34	5 05 19	17 01 60					
18	92 38.9	-3 35.1	102 35.3	+1 35.3	143	45	4 27	5 02	5 31	5 08 16	17 00 63					
19	107 39.1	36.1	117 11.8	21.1	142	50	17	4 56	28	12 11	16 59 68					
20	122 39.3	37.1	131 48.2	+1 06.9	142	52	12	53	27	14 8	58 70					
21	137 39.5	38.0	146 24.7	+0 52.7	142	54	06	49	25	16 6	57 73					
22	152 39.7	39.0	161 01.2	38.5	142	56	4 00	46	23	18 4	56 75					
23	167 39.9	40.0	175 37.7	24.3	142	58	3 53	42	22	20 1	55 78					
24	182 40.1	-3 40.9	190 14.2	+0 10.1	142	60 S	3 45	4 37	5 19	5 22 -1	16 54 82					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 23 <sup>h</sup> 15.3 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 48 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 23 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 40 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 21 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	10 13.2	153 06.0	-14 56.5	264 02.2	+23 08.2	289 43.2	+22 26.1	23 46.4	-8 10.7							
1	25 15.6	168 05.6	57.6	279 03.3	08.2	304 45.6	26.1	38 49.0	10.8							
2	40 18.1	183 05.1	58.7	294 04.3	08.1	319 48.0	26.1	53 51.6	10.8							
3	55 20.6	198 04.6	-14 59.7	309 05.4	08.0	334 50.4	26.1	68 54.3	10.9							
4	70 23.0	213 04.1	-15 00.8	324 06.4	07.9	349 52.8	26.1	83 56.9	11.0							
5	85 25.5	228 03.6	-15 01.9	339 07.4	+23 07.8	4 55.2	+22 26.2	98 59.5	-8 11.0							
6	100 28.0	243 03.2	-15 03.0	354 08.5	+23 07.7	19 57.6	+22 26.2	114 02.1	-8 11.1							
7	115 30.4	258 02.7	04.1	9 09.5	07.6	35 00.0	26.2	129 04.7	11.2							
8	130 32.9	273 02.2	05.1	24 10.6	07.5	50 02.4	26.2	144 07.4	11.2							
9	145 35.3	288 01.7	06.2	39 11.6	07.5	65 04.8	26.2	159 10.0	11.3							
10	160 37.8	303 01.2	07.3	54 12.7	07.4	80 07.2	26.2	174 12.6	11.3							
11	175 40.3	318 00.7	-15 08.4	69 13.7	+23 07.3	95 09.6	+22 26.2	189 15.2	-8 11.4							
12	190 42.7	333 00.3	-15 09.5	84 14.7	+23 07.2	110 11.9	+22 26.2	204 17.8	-8 11.5							
13	205 45.2	347 59.8	10.5	99 15.8	07.1	125 14.3	26.2	219 20.4	11.5							
14	220 47.7	2 59.3	11.6	114 16.8	07.0	140 16.7	26.2	234 23.1	11.6							
15	235 50.1	17 58.8	12.7	129 17.9	06.9	155 19.1	26.2	249 25.7	11.6							
16	250 52.6	32 58.3	13.8	144 18.9	06.8	170 21.5	26.2	264 28.3	11.7							
17	265 55.1	47 57.8	-15 14.8	159 20.0	+23 06.8	185 23.9	+22 26.2	279 30.9	-8 11.8							
18	280 57.5	62 57.3	-15 15.9	174 21.0	+23 06.7	200 26.3	+22 26.2	294 33.5	-8 11.8							
19	296 00.0	77 56.9	17.0	189 22.1	06.6	215 28.7	26.2	309 36.2	11.9							
20	311 02.5	92 56.4	18.1	204 23.1	06.5	230 31.1	26.2	324 38.8	12.0							
21	326 04.9	107 55.9	19.1	219 24.2	06.4	245 33.5	26.2	339 41.4	12.0							
22	341 07.4	122 55.4	20.2	234 25.2	06.3	260 35.9	26.2	354 44.0	12.1							
23	356 09.8	137 54.9	21.3	249 26.3	06.2	275 38.3	26.2	9 46.6	12.1							
24	11 12.3	152 54.4	-15 22.3	264 27.3	+23 06.1	290 40.7	+22 26.2	24 49.2	-8 12.2							
Dif	—	-5	-11	+10	-1	+24	0	+26	-1							

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 49.2 <sup>m</sup>		SD: 14.7' Edad: 28.9 <sup>d</sup> PMG: 11 <sup>h</sup> 37 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 53.9' 20 <sup>h</sup> : 53.9'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	182 40.1 - 3 40.9	190 14.2 + 0 10.1	175 143	60 N	17 28	18 10	18 58	5 37 81	17 18 -1							
1	197 40.3 41.9	204 50.7 - 0 04.2	175 142	58	30	09	55	36 78 20	2 2							
2	212 40.5 42.9	219 27.2 175 18.4	142	56	32	08	52	35 76 22	5 5							
3	227 40.7 43.8	234 03.7 175 32.6	142	54	33	08	49	35 72 24	7 7							
4	242 40.9 44.8	248 40.2 175 - 0 46.8	142	52	34	08	47	34 70 26	9 9							
5	257 41.1 - 3 45.8	263 16.7 175 - 1 01.0	142	50	17 35	18 07	18 45	5 34 68	17 27 11							
6	272 41.3 - 3 46.7	277 53.2 175 - 1 15.2	142	45	17 38	18 07	18 41	5 33 63	17 30 16							
7	287 41.5 47.7	292 29.7 175 29.4	142	40	40	07	38	32 59 33	19 19							
8	302 41.7 48.7	307 06.2 175 43.6	142	35	42	07	37	31 56 35	23 23							
9	317 41.9 49.6	321 42.7 175 - 1 57.8	142	30	44	08	35	31 52 37	26 26							
10	332 42.1 50.6	336 19.2 175 - 2 12.0	142	20	47	09	34	30 47 41	30 30							
11	347 42.3 - 3 51.6	350 55.6 174 - 2 26.1	141	10 N	17 50	18 11	18 35	5 29 43	17 44 35							
12	2 42.5 - 3 52.5	5 32.1 175 - 2 40.3	142	0	17 52	18 13	18 37	5 28 39	17 47 39							
13	17 42.7 53.5	20 08.6 175 - 2 54.4	141	10 S	55	16	41	27 35 49	44 44							
14	32 42.9 54.5	34 45.0 174 - 3 08.6	142	20	17 58	21	46	26 30 53	48 48							
15	47 43.1 55.4	49 21.4 174 22.7	141	30	18 02	26	18 54	25 26 56	53 53							
16	62 43.3 56.4	63 57.9 175 36.8	141	35	04	30	19 00	25 22 17	58 58							
17	77 43.4 - 3 57.4	78 34.3 174 - 3 50.9	141	40	18 07	18 34	19 06	5 24 19	18 01 59							
18	92 43.6 - 3 58.3	93 10.7 174 - 4 05.0	141	45	18 10	18 39	19 15	5 24 15	18 03 64							
19	107 43.8 - 3 59.3	107 47.1 174 19.1	141	50	13	46	25	23 11 07	68 68							
20	122 44.0 - 4 00.3	122 23.4 173 33.2	141	52	15	49	30	22 9 08	71 71							
21	137 44.2 01.2	136 59.8 174 - 4 47.2	140	54	17	53	36	22 6 10	73 73							
22	152 44.4 02.2	151 36.1 173 - 5 01.2	140	56	19	18 57	43	22 4 11	76 76							
23	167 44.6 03.2	166 12.4 173 15.2	140	58	21	19 01	50	21 1 13	80 80							
24	182 44.8 - 4 04.1	180 48.7 173 - 5 29.2	140	60 S	18 24	19 06	19 59	5 21 -2	18 16 82							

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 23 <sup>h</sup> 11.4 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 49 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 37 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 17 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	11 12.3	152 54.4 - 15 22.3	264 27.3 + 23 06.1	290 40.7 + 22 26.2	24 49.2 - 8 12.2					
1	26 14.8	167 53.9 23.4	279 28.4 06.0	305 43.1 26.2	39 51.9 12.3					
2	41 17.2	182 53.4 24.5	294 29.4 06.0	320 45.5 26.2	54 54.5 12.3					
3	56 19.7	197 52.9 25.5	309 30.5 05.9	335 47.9 26.2	69 57.1 12.4					
4	71 22.2	212 52.5 26.6	324 31.5 05.8	350 50.3 26.2	84 59.7 12.4					
5	86 24.6	227 52.0 - 15 27.7	339 32.6 + 23 05.7	5 52.7 + 22 26.2	100 02.3 - 8 12.5					
6	101 27.1	242 51.5 - 15 28.8	354 33.6 + 23 05.6	20 55.1 + 22 26.2	115 04.9 - 8 12.6					
7	116 29.6	257 51.0 29.8	9 34.7 05.5	35 57.5 26.2	130 07.6 12.6					
8	131 32.0	272 50.5 30.9	24 35.8 05.4	50 59.9 26.2	145 10.2 12.7					
9	146 34.5	287 50.0 31.9	39 36.8 05.3	66 02.3 26.2	160 12.8 12.8					
10	161 37.0	302 49.5 33.0	54 37.9 05.2	81 04.7 26.2	175 15.4 12.8					
11	176 39.4	317 49.0 - 15 34.1	69 38.9 + 23 05.1	96 07.1 + 22 26.2	190 18.0 - 8 12.9					
12	191 41.9	332 48.5 - 15 35.1	84 40.0 + 23 05.0	111 09.5 + 22 26.2	205 20.6 - 8 12.9					
13	206 44.3	347 48.0 36.2	99 41.0 05.0	126 11.9 26.3	220 23.3 13.0					
14	221 46.8	2 47.5 37.3	114 42.1 04.9	141 14.3 26.3	235 25.9 13.1					
15	236 49.3	17 47.0 38.3	129 43.1 04.8	156 16.7 26.3	250 28.5 13.1					
16	251 51.7	32 46.5 39.4	144 44.2 04.7	171 19.1 26.3	265 31.1 13.2					
17	266 54.2	47 46.0 - 15 40.4	159 45.3 + 23 04.6	186 21.5 + 22 26.3	280 33.7 - 8 13.2					
18	281 56.7	62 45.5 - 15 41.5	174 46.3 + 23 04.5	201 23.9 + 22 26.3	295 36.3 - 8 13.3					
19	296 59.1	77 45.0 42.6	189 47.4 04.4	216 26.3 26.3	310 39.0 13.4					
20	312 01.6	92 44.5 43.6	204 48.4 04.3	231 28.7 26.3	325 41.6 13.4					
21	327 04.1	107 44.0 44.7	219 49.5 04.2	246 31.2 26.3	340 44.2 13.5					
22	342 06.5	122 43.5 45.7	234 50.6 04.1	261 33.6 26.3	355 46.8 13.5					
23	357 09.0	137 43.0 46.8	249 51.6 04.0	276 36.0 26.3	10 49.4 13.6					
24	12 11.4	152 42.5 - 15 47.8	264 52.7 + 23 03.9	291 38.4 + 22 26.3	25 52.0 - 8 13.7					

Dif	—	-5	-11	+11	-1	+24	0	+26	-1
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UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna									
	SD: 16.0' PMG: 11 <sup>h</sup> 48.9 <sup>m</sup>		SD: 14.7' Edad: 0.2 <sup>d</sup>		PHE { 4 <sup>h</sup> : 53.9' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'			R°: 41 <sup>m</sup>			Hora R°		Hora R°									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R°	h	m	R°						
0	182	44.8	-4	04.1	180	48.7	-5	29.2	140	60 N	4	41	5	30	6	11	6	58	84	17	17	-2
1	197	45.0		05.1	195	25.0		43.2	140	58	45	30	09	54	81	22	2	54	81	22	2	
2	212	45.2		06.1	210	01.2	-5	57.2	140	56	47	31	08	51	77	27	5	51	77	27	5	
3	227	45.4		07.0	224	37.4	-6	11.1	139	54	50	31	06	47	74	31	8	47	74	31	8	
4	242	45.6		08.0	239	13.6	-6	38.9	139	52	52	31	05	44	72	35	10	44	72	35	10	
5	257	45.8	-4	09.0	253	49.8	-6	38.9	139	50	4	54	5	31	6	04	6	42	69	17	38	13
6	272	46.0	-4	09.9	268	26.0	-6	52.8	139	45	4	58	5	32	6	01	6	36	64	17	46	17
7	287	46.2		10.9	283	02.1	-7	06.6	138	40	5	00	32	5	59	31	60	31	60	52	21	
8	302	46.4		11.9	297	38.2		20.5	139	35	02	31	57	27	57	17	58	24	17	58	24	
9	317	46.6		12.8	312	14.3		34.2	137	30	03	31	55	23	54	18	03	27	54	18	03	27
10	332	46.7		13.8	326	50.3	-7	48.0	138	20	04	29	51	17	49	11	33	17	49	11	33	
11	347	46.9	-4	14.8	341	26.3	-8	01.8	138	10 N	5	03	5	27	5	48	6	12	44	18	19	36
12	2	47.1	-4	15.7	356	02.3	-8	15.5	137	0	5	01	5	25	5	46	6	07	40	18	26	41
13	17	47.3		16.7	10	38.2		29.2	137	10 S	4	57	22	43	6	02	36	6	02	36	33	45
14	32	47.5		17.7	25	14.1		42.8	136	20	51	17	39	5	56	32	41	49	56	32	41	49
15	47	47.7		18.6	39	50.0	-8	56.5	137	30	43	11	35	51	26	49	55	51	26	49	55	
16	62	47.9		19.6	54	25.9	-9	10.1	136	35	38	08	33	47	24	18	54	58	47	24	18	54
17	77	48.1	-4	20.5	69	01.7	-9	23.6	135	40	4	31	5	03	5	31	5	43	21	19	00	61
18	92	48.3	-4	21.5	83	37.4	-9	37.2	136	45	4	23	4	58	5	28	5	39	16	19	07	65
19	107	48.5		22.5	98	13.2	-9	50.7	135	50	12	51	24	34	11	15	70	34	11	15	70	
20	122	48.7		23.4	112	48.8	-10	04.1	134	52	07	48	22	31	10	19	72	31	10	19	72	
21	137	48.9		24.4	127	24.5		17.6	135	54	4	01	44	20	8	23	75	20	8	23	75	
22	152	49.0		25.4	142	00.1		31.0	134	56	3	54	40	18	26	4	27	79	26	4	27	79
23	167	49.2		26.3	156	35.7		44.3	133	58	47	36	16	22	2	33	81	47	36	16	22	2
24	182	49.4	-4	27.3	171	11.2	-10	57.7	134	60 S	3	38	4	31	5	13	5	19	-2	19	38	86
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO													
	PMG: 23 <sup>h</sup> 07.4 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 33 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 13 <sup>m</sup>													
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec												
0	12	11.4	152	42.5	-15	47.8	264	52.7	+23	03.9	291	38.4	+22	26.3	25	52.0	-8	13.7				
1	27	13.9	167	42.0		48.9	279	53.8		03.8	306	40.8		26.3	40	54.6		13.7				
2	42	16.4	182	41.5		49.9	294	54.8		03.8	321	43.2		26.3	55	57.3		13.8				
3	57	18.8	197	41.0		51.0	309	55.9		03.7	336	45.6		26.3	70	59.9		13.8				
4	72	21.3	212	40.5		52.1	324	56.9		03.6	351	48.0		26.3	86	02.5		13.9				
5	87	23.8	227	40.0	-15	53.1	339	58.0	+23	03.5	6	50.4	+22	26.3	101	05.1	-8	14.0				
6	102	26.2	242	39.5	-15	54.2	354	59.1	+23	03.4	21	52.8	+22	26.3	116	07.7	-8	14.0				
7	117	28.7	257	39.0		55.2	10	00.1		03.3	36	55.2		26.3	131	10.3		14.1				
8	132	31.2	272	38.5		56.3	25	01.2		03.2	51	57.6		26.3	146	12.9		14.1				
9	147	33.6	287	38.0		57.3	40	02.3		03.1	67	00.1		26.3	161	15.6		14.2				
10	162	36.1	302	37.5		58.4	55	03.3		03.0	82	02.5		26.3	176	18.2		14.3				
11	177	38.6	317	37.0	-15	59.4	70	04.4	+23	02.9	97	04.9	+22	26.3	191	20.8	-8	14.3				
12	192	41.0	332	36.5	-16	00.4	85	05.5	+23	02.8	112	07.3	+22	26.3	206	23.4	-8	14.4				
13	207	43.5	347	36.0		01.5	100	06.5		02.7	127	09.7		26.3	221	26.0		14.4				
14	222	45.9	2	35.5		02.5	115	07.6		02.6	142	12.1		26.3	236	28.6		14.5				
15	237	48.4	17	35.0		03.6	130	08.7		02.5	157	14.5		26.3	251	31.2		14.6				
16	252	50.9	32	34.5		04.6	145	09.7		02.4	172	16.9		26.3	266	33.9		14.6				
17	267	53.3	47	33.9	-16	05.7	160	10.8	+23	02.3	187	19.4	+22	26.3	281	36.5	-8	14.7				
18	282	55.8	62	33.4	-16	06.7	175	11.9	+23	02.2	202	21.8	+22	26.3	296	39.1	-8	14.7				
19	297	58.3	77	32.9		07.8	190	13.0		02.2	217	24.2		26.3	311	41.7		14.8				
20	313	00.7	92	32.4		08.8	205	14.0		02.1	232	26.6		26.3	326	44.3		14.9				
21	328	03.2	107	31.9		09.8	220	15.1		02.0	247	29.0		26.3	341	46.9		14.9				
22	343	05.7	122	31.4		10.9	235	16.2		01.9	262	31.4		26.3	356	49.5		15.0				
23	358	08.1	137	30.9		11.9	250	17.2		01.8	277	33.8		26.3	11	52.2		15.0				
24	13	10.6	152	30.4	-16	13.0	265	18.3	+23	01.7	292	36.3	+22	26.3	26	54.8	-8	15.1				
Dif	—		-5		-10		+11		-1		+24		0		+26		-1					



UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 11 <sup>h</sup> 48.6 <sup>m</sup>		SD: 14.7' Edad: 1.2 <sup>d</sup> PMG: 12 <sup>h</sup> 57 <sup>m</sup> R°: 42 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m		
0	182 49.4	-4 27.3	171 11.2	165	-10 57.7	133	60 N	17 22	18 04	18 52	8 22 89	17 15 -1			
1	197 49.6	28.3	185 46.7	164	-11 11.0	132	58	24	03 49	15 83	15 83	24 4			
2	212 49.8	29.2	200 22.1	164	24.2	132	56	26	03 46	08 79	08 79	32 7			
3	227 50.0	30.2	214 57.5	163	37.4	132	54	28	03 44	8 01 77	8 01 77	39 10			
4	242 50.2	31.1	229 32.8	163	-11 50.6	131	52	30	03 42	7 56 74	7 56 74	45 13			
5	257 50.4	-4 32.1	244 08.1	163	-12 03.7	131	50	17 31	18 03 18 41	7 51 71	7 51 71	17 51 15			
6	272 50.6	-4 33.1	258 43.4	162	-12 16.8	131	45	17 34	18 03 18 37	7 40 66	7 40 66	18 03 21			
7	287 50.8	34.0	273 18.6	161	29.9	130	40	37	04 35	31 62	31 62	13 25			
8	302 51.0	35.0	287 53.7	161	42.9	129	35	39	05 34	24 58	24 58	22 28			
9	317 51.1	36.0	302 28.8	161	-12 55.8	129	30	41	05 33	17 56	17 56	30 31			
10	332 51.3	36.9	317 03.9	160	-13 08.7	129	20	45	07 33	7 06 50	7 06 50	44 35			
11	347 51.5	-4 37.9	331 38.9	159	-13 21.6	128	10 N	17 49	18 10 18 34	6 56 46	6 56 46	18 55 40			
12	2 51.7	-4 38.9	346 13.8	159	-13 34.4	128	0	17 52	18 13 18 37	6 47 42	6 47 42	19 07 43			
13	17 51.9	39.8	0 48.7	158	47.2	127	10 S	55	16 41	38 38	38 38	18 47			
14	32 52.1	40.8	15 23.5	158	-13 59.9	127	20	17 59	21 47	28 34	28 34	30 51			
15	47 52.3	41.7	29 58.3	158	-14 12.6	126	30	18 03	27 18 56	17 29	17 29	44 56			
16	62 52.5	42.7	44 33.0	157	25.2	125	35	06	31 19 01	11 26	11 26	19 52 59			
17	77 52.7	-4 43.7	59 07.7	157	-14 37.7	125	40	18 09	18 36 19 09	6 04 22	6 04 22	20 01 63			
18	92 52.8	-4 44.6	73 42.3	155	-14 50.3	124	45	18 12	18 42 19 17	5 55 19	5 55 19	20 12 67			
19	107 53.0	45.6	88 16.8	155	-15 02.7	124	50	16	49 29	45 14	45 14	25 72			
20	122 53.2	46.5	102 51.3	154	15.1	124	52	18	53 34	41 12	41 12	31 75			
21	137 53.4	47.5	117 25.7	154	27.5	123	54	20	18 57 41	36 9	36 9	38 77			
22	152 53.6	48.5	132 00.1	153	39.8	122	56	23	19 01 48	30 7	30 7	46 81			
23	167 53.8	49.4	146 34.4	152	-15 52.0	122	58	25	06 19 56	24 3	24 3	20 54 85			
24	182 54.0	-4 50.4	161 08.6	152	-16 04.2	122	60 S	18 28	19 11 20 05	5 17 -1	5 17 -1	21 04 90			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 <sup>h</sup> 03.5 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.5 PMG: 6 <sup>h</sup> 18 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 08 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	13 10.6	152 30.4	-16 13.0	265 18.3	+23 01.7	292 36.3	+22 26.3	26 54.8	-8 15.1	
1	28 13.0	167 29.9	14.0	280 19.4	01.6	307 38.7	26.3	41 57.4	15.2	
2	43 15.5	182 29.3	15.0	295 20.5	01.5	322 41.1	26.3	57 00.0	15.2	
3	58 18.0	197 28.8	16.1	310 21.5	01.4	337 43.5	26.3	72 02.6	15.3	
4	73 20.4	212 28.3	17.1	325 22.6	01.3	352 45.9	26.3	87 05.2	15.3	
5	88 22.9	227 27.8	-16 18.1	340 23.7	+23 01.2	7 48.3	+22 26.3	102 07.8	-8 15.4	
6	103 25.4	242 27.3	-16 19.2	355 24.8	+23 01.1	22 50.8	+22 26.3	117 10.4	-8 15.4	
7	118 27.8	257 26.8	20.2	10 25.9	01.0	37 53.2	26.3	132 13.1	15.5	
8	133 30.3	272 26.3	21.2	25 26.9	00.9	52 55.6	26.3	147 15.7	15.6	
9	148 32.8	287 25.7	22.3	40 28.0	00.8	67 58.0	26.3	162 18.3	15.6	
10	163 35.2	302 25.2	23.3	55 29.1	00.7	83 00.4	26.3	177 20.9	15.7	
11	178 37.7	317 24.7	-16 24.3	70 30.2	+23 00.6	98 02.9	+22 26.3	192 23.5	-8 15.7	
12	193 40.2	332 24.2	-16 25.4	85 31.2	+23 00.5	113 05.3	+22 26.4	207 26.1	-8 15.8	
13	208 42.6	347 23.7	26.4	100 32.3	00.4	128 07.7	26.4	222 28.7	15.9	
14	223 45.1	2 23.1	27.4	115 33.4	00.3	143 10.1	26.4	237 31.3	15.9	
15	238 47.5	17 22.6	28.5	130 34.5	00.2	158 12.5	26.4	252 34.0	16.0	
16	253 50.0	32 22.1	29.5	145 35.6	00.1	173 15.0	26.4	267 36.6	16.0	
17	268 52.5	47 21.6	-16 30.5	160 36.6	+23 00.0	188 17.4	+22 26.4	282 39.2	-8 16.1	
18	283 54.9	62 21.1	-16 31.5	175 37.7	+22 59.9	203 19.8	+22 26.4	297 41.8	-8 16.1	
19	298 57.4	77 20.5	32.6	190 38.8	59.8	218 22.2	26.4	312 44.4	16.2	
20	313 59.9	92 20.0	33.6	205 39.9	59.7	233 24.7	26.4	327 47.0	16.3	
21	329 02.3	107 19.5	34.6	220 41.0	59.6	248 27.1	26.4	342 49.6	16.3	
22	344 04.8	122 19.0	35.6	235 42.1	59.5	263 29.5	26.4	357 52.2	16.4	
23	359 07.3	137 18.5	36.7	250 43.1	59.4	278 31.9	26.4	12 54.8	16.4	
24	14 09.7	152 17.9	-16 37.7	265 44.2	+22 59.3	293 34.4	+22 26.4	27 57.5	-8 16.5	
Dif	—	-5	-10	+11	-1	+24	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0'		SD: 14.8'		Edad: 2.2 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.4'			PMG: 13 <sup>h</sup> 39 <sup>m</sup>		R°: 46 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R°	Hora	R°	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	182 54.0	-4 50.4	161 08.6	152	-16 04.2	121	<b>60 N</b>	4 46	5 34	6 16	9 51 93	17 14 1				
1	197 54.2	51.4	175 42.8	152	16.3	121	<b>58</b>	49	35	14	38 87	28 6				
2	212 54.3	52.3	190 16.9	151	28.4	121	<b>56</b>	51	35	12	27 83	39 11				
3	227 54.5	53.3	204 50.9	150	40.4	120	<b>54</b>	54	35	10	18 79	49 15				
4	242 54.7	54.2	219 24.9	150	-16 52.3	119	<b>52</b>	55	35	08	10 75	17 58 18				
5	257 54.9	-4 55.2	233 58.8	149	-17 04.2	119	<b>50</b>	4 57	5 34	6 07	9 02 73	18 06 21				
6	272 55.1	-4 56.2	248 32.6	148	-17 16.0	118	<b>45</b>	5 00	5 34	6 03	8 46 68	18 24 25				
7	287 55.3	57.1	263 06.4	148	27.7	117	<b>40</b>	02	34	6 01	33 64	38 29				
8	302 55.5	58.1	277 40.1	147	39.4	117	<b>35</b>	03	33	5 58	22 60	18 50 32				
9	317 55.6	-4 59.0	292 13.7	146	-17 51.0	116	<b>30</b>	04	32	56	8 13 57	19 01 35				
10	332 55.8	-5 00.0	306 47.3	146	-18 02.6	116	<b>20</b>	04	30	52	7 56 53	19 39				
11	347 56.0	-5 01.0	321 20.8	145	-18 14.1	115	<b>10 N</b>	5 03	5 27	5 48	7 42 49	19 35 43				
12	2 56.2	-5 01.9	335 54.2	144	-18 25.5	114	<b>0</b>	5 00	5 24	5 45	7 29 45	19 50 47				
13	17 56.4	02.9	350 27.5	143	36.8	113	<b>10 S</b>	4 56	20	41	16 41	20 05 50				
14	32 56.6	03.8	5 00.8	143	48.1	113	<b>20</b>	50	15	38	7 02 37	21 54				
15	47 56.7	04.8	19 34.0	142	-18 59.3	112	<b>30</b>	41	09	33	6 46 33	40 58				
16	62 56.9	05.8	34 07.1	141	-19 10.4	111	<b>35</b>	35	05	30	37 30	20 51 61				
17	77 57.1	-5 06.7	48 40.1	140	-19 21.4	110	<b>40</b>	4 28	5 00	5 27	6 26 27	21 04 64				
18	92 57.3	-5 07.7	63 13.1	140	-19 32.4	110	<b>45</b>	4 19	4 54	5 24	6 14 23	21 19 67				
19	107 57.5	08.6	77 46.0	139	43.3	109	<b>50</b>	07	47	20	5 59 18	37 73				
20	122 57.7	09.6	92 18.8	138	-19 54.1	108	<b>52</b>	4 02	43	18	53 15	46 76				
21	137 57.9	10.6	106 51.5	137	-20 04.9	108	<b>54</b>	3 55	39	15	45 13	21 55 80				
22	152 58.0	11.5	121 24.2	137	15.5	106	<b>56</b>	48	35	13	37 9	22 07 83				
23	167 58.2	12.5	135 56.8	136	26.1	106	<b>58</b>	40	30	10	27 5	19 88				
24	182 58.4	-5 13.4	150 29.3	135	-20 36.6	105	<b>60 S</b>	3 31	4 24	5 07	5 16 1	22 34 95				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -3.9		Mag.: +0.5		Mag.: -2.5		Mag.: +0.6	
	22 <sup>h</sup> 59.6 <sup>m</sup>		PMG: 13 <sup>h</sup> 51 <sup>m</sup>		PMG: 6 <sup>h</sup> 17 <sup>m</sup>		PMG: 4 <sup>h</sup> 25 <sup>m</sup>		PMG: 22 <sup>h</sup> 04 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	14 09.7	152 17.9	-16 37.7	265 44.2	+22 59.3	293 34.4	+22 26.4	27 57.5	-8 16.5	
1	29 12.2	167 17.4	38.7	280 45.3	59.2	308 36.8	26.4	43 00.1	16.6	
2	44 14.6	182 16.9	39.7	295 46.4	59.1	323 39.2	26.4	58 02.7	16.6	
3	59 17.1	197 16.4	40.8	310 47.5	59.0	338 41.6	26.4	73 05.3	16.7	
4	74 19.6	212 15.8	41.8	325 48.6	58.9	353 44.1	26.4	88 07.9	16.7	
5	89 22.0	227 15.3	-16 42.8	340 49.7	+22 58.8	8 46.5	+22 26.4	103 10.5	-8 16.8	
6	104 24.5	242 14.8	-16 43.8	355 50.8	+22 58.7	23 48.9	+22 26.4	118 13.1	-8 16.8	
7	119 27.0	257 14.3	44.8	10 51.8	58.6	38 51.3	26.4	133 15.7	16.9	
8	134 29.4	272 13.7	45.9	25 52.9	58.5	53 53.8	26.4	148 18.3	17.0	
9	149 31.9	287 13.2	46.9	40 54.0	58.4	68 56.2	26.4	163 20.9	17.0	
10	164 34.4	302 12.7	47.9	55 55.1	58.3	83 58.6	26.4	178 23.6	17.1	
11	179 36.8	317 12.1	-16 48.9	70 56.2	+22 58.2	99 01.1	+22 26.4	193 26.2	-8 17.1	
12	194 39.3	332 11.6	-16 49.9	85 57.3	+22 58.1	114 03.5	+22 26.4	208 28.8	-8 17.2	
13	209 41.8	347 11.1	50.9	100 58.4	58.0	129 05.9	26.4	223 31.4	17.2	
14	224 44.2	2 10.6	51.9	115 59.5	57.9	144 08.4	26.4	238 34.0	17.3	
15	239 46.7	17 10.0	53.0	131 00.6	57.8	159 10.8	26.4	253 36.6	17.4	
16	254 49.1	32 09.5	54.0	146 01.7	57.7	174 13.2	26.4	268 39.2	17.4	
17	269 51.6	47 09.0	-16 55.0	161 02.8	+22 57.6	189 15.6	+22 26.4	283 41.8	-8 17.5	
18	284 54.1	62 08.4	-16 56.0	176 03.9	+22 57.5	204 18.1	+22 26.4	298 44.4	-8 17.5	
19	299 56.5	77 07.9	57.0	191 05.0	57.4	219 20.5	26.4	313 47.0	17.6	
20	314 59.0	92 07.4	58.0	206 06.0	57.3	234 22.9	26.4	328 49.6	17.6	
21	330 01.5	107 06.8	-16 59.0	221 07.1	57.2	249 25.4	26.4	343 52.3	17.7	
22	345 03.9	122 06.3	-17 00.0	236 08.2	57.1	264 27.8	26.4	358 54.9	17.8	
23	0 06.4	137 05.8	01.0	251 09.3	57.0	279 30.2	26.4	13 57.5	17.8	
24	15 08.9	152 05.2	-17 02.0	266 10.4	+22 56.9	294 32.7	+22 26.4	29 00.1	-8 17.9	

Dif	—	-5	-10	+11	-1	+24	0	+26	-1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 11 <sup>h</sup> 48.0 <sup>m</sup>		SD: 14.8' Edad: 3.2 <sup>d</sup> PMG: 14 <sup>h</sup> 25 <sup>m</sup> R <sup>o</sup> : 49 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.7'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m		
0	182 58.4	-5 13.4	150 29.3		-20 36.6	104	17 16	17 58	18 46	11 24	98	17 15	4		
1	197 58.6	14.4	165 01.7	134	47.0	104	19	58	43	11 05	90	34	13		
2	212 58.8	15.4	179 34.0	133	-20 57.4	104	21	58	41	10 50	83	17 50	18		
3	227 59.0	16.3	194 06.3	133	-21 07.6	102	23	58	39	37	79	18 04	22		
4	242 59.1	17.3	208 38.4	131	17.8	102	25	59	38	25	76	16	25		
5	257 59.3	-5 18.2	223 10.5	131	-21 27.9	101	17 27	17 59	18 36	10 15	73	18 27	28		
6	272 59.5	-5 19.2	237 42.6	131	-21 37.8	99	17 31	18 00	18 34	9 54	68	18 49	33		
7	287 59.7	20.1	252 14.5	129	47.7	99	34	01	32	37	64	19 07	36		
8	302 59.9	21.1	266 46.3	128	-21 57.6	99	37	02	31	22	62	22	39		
9	318 00.0	22.1	281 18.1	128	-22 07.3	97	39	03	31	9 10	59	36	41		
10	333 00.2	23.0	295 49.8	127	16.9	96	43	05	31	8 49	55	19 58	45		
11	348 00.4	-5 24.0	310 21.4	126	-22 26.4	95	17 47	18 08	18 33	8 31	51	20 18	48		
12	3 00.6	-5 24.9	324 52.9	125	-22 35.9	95	17 51	18 12	18 36	8 14	48	20 37	50		
13	18 00.8	25.9	339 24.3	124	45.2	93	17 55	16	41	7 57	45	20 55	53		
14	33 00.9	26.8	353 55.6	123	-22 54.5	93	18 00	22	48	39	42	21 15	56		
15	48 01.1	27.8	8 26.9	123	-23 03.6	91	30	05	29	19	37	38	59		
16	63 01.3	28.8	22 58.0	121	12.7	91	35	07	33	7 07	35	21 52	61		
17	78 01.5	-5 29.7	37 29.1	121	-23 21.6	89	18 11	18 38	19 11	6 53	33	22 08	63		
18	93 01.7	-5 30.7	52 00.1	120	-23 30.5	89	18 15	18 45	19 20	6 37	29	22 26	68		
19	108 01.9	31.6	66 31.0	119	39.3	88	20	53	32	17	24	22 50	72		
20	123 02.0	32.6	81 01.9	119	47.9	86	22	18 56	38	6 08	21	23 02	74		
21	138 02.2	33.5	95 32.6	117	-23 56.5	86	24	19 01	45	5 58	18	15	77		
22	153 02.4	34.5	110 03.3	117	-24 04.9	84	27	05	19 52	46	14	30	81		
23	168 02.6	35.5	124 33.8	115	13.2	83	30	11	20 01	32	10	23 47	88		
24	183 02.7	-5 36.4	139 04.3	115	-24 21.5	83	18 33	19 17	20 11	5 17	2	** *	** *		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 55.6 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 15 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.6 PMG: 22 <sup>h</sup> 00 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	15 08.9		152 05.2	-17 02.0	266 10.4	+22 56.9	294 32.7	+22 26.4	29 00.1	-8 17.9
1	30 11.3		167 04.7	03.0	281 11.5	56.8	309 35.1	26.4	44 02.7	17.9
2	45 13.8		182 04.2	04.0	296 12.6	56.7	324 37.5	26.4	59 05.3	18.0
3	60 16.3		197 03.6	05.0	311 13.7	56.6	339 40.0	26.4	74 07.9	18.0
4	75 18.7		212 03.1	06.0	326 14.8	56.5	354 42.4	26.4	89 10.5	18.1
5	90 21.2		227 02.5	-17 07.0	341 15.9	+22 56.4	9 44.9	+22 26.4	104 13.1	-8 18.2
6	105 23.6		242 02.0	-17 08.1	356 17.0	+22 56.3	24 47.3	+22 26.4	119 15.7	-8 18.2
7	120 26.1		257 01.5	09.1	11 18.1	56.2	39 49.7	26.4	134 18.3	18.3
8	135 28.6		272 00.9	10.1	26 19.2	56.1	54 52.2	26.4	149 20.9	18.3
9	150 31.0		287 00.4	11.1	41 20.3	56.0	69 54.6	26.4	164 23.6	18.4
10	165 33.5		301 59.8	12.1	56 21.4	55.9	84 57.0	26.4	179 26.2	18.4
11	180 36.0		316 59.3	-17 13.0	71 22.5	+22 55.8	99 59.5	+22 26.4	194 28.8	-8 18.5
12	195 38.4		331 58.8	-17 14.0	86 23.6	+22 55.7	115 01.9	+22 26.4	209 31.4	-8 18.5
13	210 40.9		346 58.2	15.0	101 24.7	55.6	130 04.4	26.4	224 34.0	18.6
14	225 43.4		1 57.7	16.0	116 25.8	55.5	145 06.8	26.4	239 36.6	18.7
15	240 45.8		16 57.1	17.0	131 27.0	55.4	160 09.2	26.4	254 39.2	18.7
16	255 48.3		31 56.6	18.0	146 28.1	55.3	175 11.7	26.4	269 41.8	18.8
17	270 50.7		46 56.1	-17 19.0	161 29.2	+22 55.2	190 14.1	+22 26.4	284 44.4	-8 18.8
18	285 53.2		61 55.5	-17 20.0	176 30.3	+22 55.1	205 16.6	+22 26.4	299 47.0	-8 18.9
19	300 55.7		76 55.0	21.0	191 31.4	55.0	220 19.0	26.4	314 49.6	18.9
20	315 58.1		91 54.4	22.0	206 32.5	54.9	235 21.4	26.4	329 52.2	19.0
21	331 00.6		106 53.9	23.0	221 33.6	54.8	250 23.9	26.4	344 54.8	19.1
22	346 03.1		121 53.3	24.0	236 34.7	54.7	265 26.3	26.4	359 57.4	19.1
23	1 05.5		136 52.8	25.0	251 35.8	54.6	280 28.8	26.4	15 00.0	19.2
24	16 08.0		151 52.2	-17 26.0	266 36.9	+22 54.5	295 31.2	+22 26.4	30 02.7	-8 19.2

Dif	—	-5	-10	+11	-1	+24	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 47.7 <sup>m</sup>		SD: 14.9' Edad: 4.2 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.1'					R <sup>o</sup> : 53 <sup>m</sup>					Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	183 02.7	-5 36.4	139 04.3		-24 21.5	81	4 51	5 39	6 21	13 02 95	17 19 14					
1	198 02.9	37.4	153 34.7	114	29.6	80	58	53	39	18	12 35 84	17 47 25				
2	213 03.1	38.3	168 05.0	113	37.6	79	56	55	39	16	12 13 79	18 08 31				
3	228 03.3	39.3	182 35.2	112	45.5	78	54	57	38	14	11 56 74	26 35				
4	243 03.5	40.2	197 05.4	112	-24 53.3	78	52	4 59	38	12	41 72	41 37				
5	258 03.6	-5 41.2	211 35.4	110	-25 01.0	77	50	5 00	5 38	6 10	11 28 70	18 55 39				
6	273 03.8	-5 42.1	226 05.4	110	-25 08.6	76	45	5 03	5 37	6 06	11 02 66	19 22 42				
7	288 04.0	43.1	240 35.2	108	16.0	74	40	04	35	03	10 41 63	19 43 45				
8	303 04.2	44.1	255 05.0	108	23.4	74	35	05	34	6 00	24 61	20 01 47				
9	318 04.4	45.0	269 34.7	107	30.6	72	30	05	33	5 57	10 09 59	17 48				
10	333 04.5	46.0	284 04.4	107	37.7	71	20	05	30	53	9 44 56	20 43 50				
11	348 04.7	-5 46.9	298 33.9	105	-25 44.7	70	10 N	5 03	5 27	5 48	9 22 54	21 06 52				
12	3 04.9	-5 47.9	313 03.4	105	-25 51.6	69	0	5 00	5 24	5 44	9 02 52	21 27 53				
13	18 05.1	48.8	327 32.7	103	-25 58.3	67	10 S	4 55	19	40	8 42 50	21 48 55				
14	33 05.2	49.8	342 02.0	103	-26 04.9	66	20	48	14	36	8 21 47	22 11 57				
15	48 05.4	50.7	356 31.2	102	11.4	65	30	38	07	31	7 56 45	37 59				
16	63 05.6	51.7	11 00.3	101	17.8	64	35	32	5 02	28	42 43	22 53 60				
17	78 05.8	-5 52.6	25 29.4	101	-26 24.1	63	40	4 24	4 57	5 24	7 26 40	23 11 62				
18	93 05.9	-5 53.6	39 58.3	99	-26 30.2	61	45	4 15	4 50	5 20	7 06 37	23 34 63				
19	108 06.1	54.6	54 27.2	99	36.2	60	50	4 02	42	15	6 41 33	** ** *				
20	123 06.3	55.5	68 56.0	98	42.1	59	52	3 57	38	13	29 31	** ** *				
21	138 06.5	56.5	83 24.7	97	47.8	57	54	50	34	10	16 28	** ** *				
22	153 06.6	57.4	97 53.3	96	53.5	57	56	42	29	08	6 00 24	** ** *				
23	168 06.8	58.4	112 21.9	96	-26 58.9	54	58	33	24	05	5 42 18	** ** *				
24	183 07.0	-5 59.3	126 50.3	94	-27 04.3	54	60 S	3 23	4 18	5 01	5 19 9	0 09 97				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 51.7 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 53 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 13 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 17 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 56 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	16 08.0		151 52.2	-17 26.0	266 36.9	+22 54.5	295 31.2	+22 26.4	30 02.7	-8 19.2
1	31 10.5		166 51.7	26.9	281 38.0	54.4	310 33.7	26.4	45 05.3	19.3
2	46 12.9		181 51.1	27.9	296 39.1	54.3	325 36.1	26.4	60 07.9	19.3
3	61 15.4		196 50.6	28.9	311 40.2	54.2	340 38.5	26.4	75 10.5	19.4
4	76 17.9		211 50.0	29.9	326 41.4	54.1	355 41.0	26.4	90 13.1	19.4
5	91 20.3		226 49.5	-17 30.9	341 42.5	+22 54.0	10 43.4	+22 26.4	105 15.7	-8 19.5
6	106 22.8		241 48.9	-17 31.9	356 43.6	+22 53.8	25 45.9	+22 26.4	120 18.3	-8 19.6
7	121 25.2		256 48.4	32.9	11 44.7	53.7	40 48.3	26.4	135 20.9	19.6
8	136 27.7		271 47.8	33.8	26 45.8	53.6	55 50.8	26.4	150 23.5	19.7
9	151 30.2		286 47.3	34.8	41 46.9	53.5	70 53.2	26.4	165 26.1	19.7
10	166 32.6		301 46.7	35.8	56 48.0	53.4	85 55.7	26.4	180 28.7	19.8
11	181 35.1		316 46.2	-17 36.8	71 49.2	+22 53.3	100 58.1	+22 26.4	195 31.3	-8 19.8
12	196 37.6		331 45.6	-17 37.8	86 50.3	+22 53.2	116 00.6	+22 26.4	210 33.9	-8 19.9
13	211 40.0		346 45.1	38.7	101 51.4	53.1	131 03.0	26.4	225 36.5	19.9
14	226 42.5		1 44.5	39.7	116 52.5	53.0	146 05.5	26.4	240 39.1	20.0
15	241 45.0		16 44.0	40.7	131 53.6	52.9	161 07.9	26.4	255 41.7	20.0
16	256 47.4		31 43.4	41.7	146 54.7	52.8	176 10.4	26.4	270 44.3	20.1
17	271 49.9		46 42.9	-17 42.6	161 55.9	+22 52.7	191 12.8	+22 26.4	285 46.9	-8 20.2
18	286 52.4		61 42.3	-17 43.6	176 57.0	+22 52.6	206 15.3	+22 26.4	300 49.5	-8 20.2
19	301 54.8		76 41.7	44.6	191 58.1	52.5	221 17.7	26.4	315 52.1	20.3
20	316 57.3		91 41.2	45.6	206 59.2	52.4	236 20.2	26.4	330 54.8	20.3
21	331 59.7		106 40.6	46.5	222 00.3	52.3	251 22.6	26.4	345 57.4	20.4
22	347 02.2		121 40.1	47.5	237 01.5	52.2	266 25.1	26.4	1 00.0	20.4
23	2 04.7		136 39.5	48.5	252 02.6	52.1	281 27.5	26.4	16 02.6	20.5
24	17 07.1		151 39.0	-17 49.5	267 03.7	+22 52.0	296 30.0	+22 26.4	31 05.2	-8 20.5
Dif	—		-6	-10	+11	-1	+24	0	+26	-1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 47.4 <sup>m</sup>		SD: 15.0' Edad: 5.2 <sup>d</sup> PMG: 16 <sup>h</sup> 07 <sup>m</sup>		R <sup>o</sup> : 56 <sup>m</sup>				PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.7'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	183 07.0	-5 59.3	126 50.3	94	-27 04.3	52	60 N	17 10	17 52	18 40	14 37 71	17 33 45				
1	198 07.2	-6 00.3	141 18.7	93	09.5	58	58	13	52	38	13 59 66	18 12 50				
2	213 07.3	01.2	155 47.0	93	14.6	51	56	16	53	36	32 64	18 39 52				
3	228 07.5	02.2	170 15.3	93	19.6	50	54	18	54	34	13 10 63	19 01 52				
4	243 07.7	03.1	184 43.4	91	24.4	48	52	21	54	33	12 53 62	18 54				
5	258 07.9	-6 04.1	199 11.5	91	-27 29.1	47	50	17 23	17 55	18 32	12 38 61	19 34 53				
6	273 08.0	-6 05.0	213 39.5	90	-27 33.6	45	45	17 27	17 56	18 30	12 08 59	20 04 55				
7	288 08.2	06.0	228 07.5	90	38.0	44	40	31	58	29	11 44 59	28 55				
8	303 08.4	06.9	242 35.3	88	42.3	43	35	34	17 59	28	25 58	20 48 55				
9	318 08.6	07.9	257 03.1	88	46.4	41	30	37	18 01	28	11 08 58	21 05 55				
10	333 08.7	08.8	271 30.9	88	50.4	40	20	42	04	29	10 40 57	33 56				
11	348 08.9	-6 09.8	285 58.5	86	-27 54.2	38	10 N	17 46	18 07	18 32	10 16 56	21 58 55				
12	3 09.1	-6 10.7	300 26.1	86	-27 57.9	37	0	17 51	18 11	18 36	9 54 55	22 20 56				
13	18 09.2	11.7	314 53.6	85	-28 01.5	36	10 S	17 55	16	41	32 54	22 43 56				
14	33 09.4	12.6	329 21.1	85	04.9	34	20	18 00	22	48	9 08 53	23 08 55				
15	48 09.6	13.6	343 48.4	83	08.2	33	30	06	30	18 58	8 41 52	36 56				
16	63 09.8	14.5	358 15.8	84	11.3	31	35	09	35	19 05	25 51	23 53 56				
17	78 09.9	-6 15.5	12 43.0	82	-28 14.3	30	40	18 13	18 40	19 13	8 06 50	** ** *				
18	93 10.1	-6 16.4	27 10.2	82	-28 17.1	28	45	18 17	18 47	19 23	7 43 49	** ** *				
19	108 10.3	17.4	41 37.3	81	19.7	26	50	23	18 56	36	14 47	0 02 66				
20	123 10.4	18.3	56 04.4	81	22.3	26	52	25	19 00	42	7 00 45	16 67				
21	138 10.6	19.3	70 31.4	80	24.6	23	54	28	05	49	6 44 43	32 69				
22	153 10.8	20.2	84 58.4	80	26.9	23	56	31	10	19 57	24 41	0 51 72				
23	168 11.0	21.2	99 25.3	79	28.9	20	58	34	15	20 07	6 00 37	1 15 76				
24	183 11.1	-6 22.1	113 52.1	78	-28 30.9	20	60 S	18 38	19 22	20 18	5 28 28	1 46 86				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 47.8 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 13 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 52 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	17 07.1	151 39.0	-17 49.5	267 03.7	+22 52.0	296 30.0	+22 26.4	31 05.2	-8 20.5	
1	32 09.6	166 38.4	50.4	282 04.8	51.8	311 32.4	26.4	46 07.8	20.6	
2	47 12.1	181 37.8	51.4	297 05.9	51.7	326 34.9	26.4	61 10.4	20.6	
3	62 14.5	196 37.3	52.4	312 07.1	51.6	341 37.3	26.4	76 13.0	20.7	
4	77 17.0	211 36.7	53.3	327 08.2	51.5	356 39.8	26.4	91 15.6	20.8	
5	92 19.5	226 36.2	-17 54.3	342 09.3	+22 51.4	11 42.2	+22 26.4	106 18.2	-8 20.8	
6	107 21.9	241 35.6	-17 55.3	357 10.4	+22 51.3	26 44.7	+22 26.4	121 20.8	-8 20.9	
7	122 24.4	256 35.0	56.2	12 11.6	51.2	41 47.1	26.4	136 23.4	20.9	
8	137 26.9	271 34.5	57.2	27 12.7	51.1	56 49.6	26.4	151 26.0	21.0	
9	152 29.3	286 33.9	58.2	42 13.8	51.0	71 52.0	26.4	166 28.6	21.0	
10	167 31.8	301 33.3	-17 59.1	57 14.9	50.9	86 54.5	26.4	181 31.2	21.1	
11	182 34.2	316 32.8	-18 00.1	72 16.1	+22 50.8	101 57.0	+22 26.4	196 33.8	-8 21.1	
12	197 36.7	331 32.2	-18 01.0	87 17.2	+22 50.7	116 59.4	+22 26.4	211 36.4	-8 21.2	
13	212 39.2	346 31.6	02.0	102 18.3	50.6	132 01.9	26.4	226 39.0	21.2	
14	227 41.6	1 31.1	03.0	117 19.5	50.5	147 04.3	26.4	241 41.6	21.3	
15	242 44.1	16 30.5	03.9	132 20.6	50.3	162 06.8	26.4	256 44.2	21.3	
16	257 46.6	31 30.0	04.9	147 21.7	50.2	177 09.2	26.4	271 46.8	21.4	
17	272 49.0	46 29.4	-18 05.8	162 22.8	+22 50.1	192 11.7	+22 26.4	286 49.4	-8 21.5	
18	287 51.5	61 28.8	-18 06.8	177 24.0	+22 50.0	207 14.2	+22 26.4	301 52.0	-8 21.5	
19	302 54.0	76 28.2	07.7	192 25.1	49.9	222 16.6	26.4	316 54.6	21.6	
20	317 56.4	91 27.7	08.7	207 26.2	49.8	237 19.1	26.4	331 57.2	21.6	
21	332 58.9	106 27.1	09.7	222 27.4	49.7	252 21.5	26.4	346 59.8	21.7	
22	348 01.3	121 26.5	10.6	237 28.5	49.6	267 24.0	26.4	2 02.4	21.7	
23	3 03.8	136 26.0	11.6	252 29.6	49.5	282 26.5	26.4	17 05.0	21.8	
24	18 06.3	151 25.4	-18 12.5	267 30.8	+22 49.4	297 28.9	+22 26.4	32 07.6	-8 21.8	
Dif	—	-6	-10	+11	-1	+25	0	+26	-1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.0' PMG: 11 <sup>h</sup> 47.1 <sup>m</sup>		SD: 15.2' Edad: 6.2 <sup>d</sup> PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 56.2' 20 <sup>h</sup> : 56.4' PMG: 17 <sup>h</sup> 03 <sup>m</sup> R°: 56 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	
0	183 11.1	-6 22.1	113 52.1	78	-28 30.9	17	60 N	4 56	5 44	6 26	15 48 29	18 18 89		
1	198 11.3	23.1	128 18.9	78	32.6	16	58	58	43	23	15 05 39	19 02 79		
2	213 11.5	24.0	142 45.7	78	34.2	15	56	4 59	43	20	14 36 43	31 74		
3	228 11.6	25.0	157 12.3	77	35.7	14	54	5 01	42	17	14 13 46	19 53 72		
4	243 11.8	25.9	171 39.0	76	37.0	13	52	02	41	15	13 55 47	20 12 70		
5	258 12.0	-6 26.9	186 05.6	76	-28 38.1	11	50	5 03	5 41	6 13	13 39 49	20 27 69		
6	273 12.1	-6 27.8	200 32.1	75	-28 39.1	10	45	5 05	5 39	6 08	13 07 51	20 59 66		
7	288 12.3	28.8	214 58.6	75	40.0	9	40	06	37	05	12 43 52	21 23 64		
8	303 12.5	29.7	229 25.1	75	40.6	8	35	07	36	6 01	23 53	21 43 63		
9	318 12.7	30.7	243 51.5	74	41.1	5	30	07	34	5 58	12 06 54	22 00 62		
10	333 12.8	31.6	258 17.9	74	41.5	4	20	05	31	5 53	11 37 55	29 59		
11	348 13.0	-6 32.6	272 44.2	73	-28 41.7	2	10 N	5 03	5 27	5 48	11 12 56	22 53 58		
12	3 13.2	-6 33.5	287 10.5	73	-28 41.7	0	0	4 59	5 23	5 44	10 49 57	23 16 57		
13	18 13.3	34.5	301 36.7	72	41.6	1	10 S	53	18	39	26 57	23 39 55		
14	33 13.5	35.4	316 03.0	73	41.3	3	20	46	12	34	10 01 58	** ** *		
15	48 13.7	36.4	330 29.2	72	40.9	4	30	36	5 04	28	9 33 59	** ** *		
16	63 13.8	37.3	344 55.3	71	40.3	6	35	29	4 59	25	9 16 59	** ** *		
17	78 14.0	-6 38.3	359 21.5	72	-28 39.5	8	40	4 21	4 54	5 21	8 56 60	0 13 55		
18	93 14.2	-6 39.2	13 47.6	71	-28 38.6	9	45	4 11	4 47	5 16	8 32 60	0 37 55		
19	108 14.3	40.1	28 13.6	70	37.5	11	50	3 58	38	11	8 01 61	1 08 55		
20	123 14.5	41.1	42 39.7	71	36.2	13	52	51	34	08	7 45 62	23 55		
21	138 14.7	42.0	57 05.7	70	34.8	14	54	44	29	06	27 63	1 41 54		
22	153 14.8	43.0	71 31.7	70	33.2	16	56	36	24	5 03	7 05 64	2 03 53		
23	168 15.0	43.9	85 57.7	70	31.4	18	58	27	18	4 59	6 37 65	2 31 52		
24	183 15.2	-6 44.9	100 23.6	69	-28 29.5	19	60 S	3 16	4 11	4 55	5 56 69	3 12 49		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 22 <sup>h</sup> 43.8 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 55 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 09 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 48 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "				
0	18 06.3	151 25.4	-18 12.5	267 30.8	+22 49.4	297 28.9	+22 26.4	32 07.6	-8 21.8					
1	33 08.7	166 24.8	13.5	282 31.9	49.3	312 31.4	26.4	47 10.2	21.9					
2	48 11.2	181 24.3	14.4	297 33.0	49.2	327 33.8	26.4	62 12.8	21.9					
3	63 13.7	196 23.7	15.4	312 34.2	49.0	342 36.3	26.4	77 15.4	22.0					
4	78 16.1	211 23.1	16.3	327 35.3	48.9	357 38.8	26.4	92 18.0	22.0					
5	93 18.6	226 22.5	-18 17.3	342 36.4	+22 48.8	12 41.2	+22 26.4	107 20.6	-8 22.1					
6	108 21.1	241 22.0	-18 18.2	357 37.6	+22 48.7	27 43.7	+22 26.4	122 23.2	-8 22.1					
7	123 23.5	256 21.4	19.2	12 38.7	48.6	42 46.2	26.4	137 25.8	22.2					
8	138 26.0	271 20.8	20.1	27 39.9	48.5	57 48.6	26.4	152 28.4	22.2					
9	153 28.5	286 20.2	21.0	42 41.0	48.4	72 51.1	26.4	167 31.0	22.3					
10	168 30.9	301 19.7	22.0	57 42.1	48.3	87 53.6	26.4	182 33.6	22.4					
11	183 33.4	316 19.1	-18 22.9	72 43.3	+22 48.2	102 56.0	+22 26.4	197 36.2	-8 22.4					
12	198 35.8	331 18.5	-18 23.9	87 44.4	+22 48.1	117 58.5	+22 26.4	212 38.8	-8 22.5					
13	213 38.3	346 17.9	24.8	102 45.6	48.0	133 01.0	26.4	227 41.4	22.5					
14	228 40.8	1 17.4	25.8	117 46.7	47.8	148 03.4	26.4	242 44.0	22.6					
15	243 43.2	16 16.8	26.7	132 47.8	47.7	163 05.9	26.4	257 46.6	22.6					
16	258 45.7	31 16.2	27.6	147 49.0	47.6	178 08.4	26.4	272 49.2	22.7					
17	273 48.2	46 15.6	-18 28.6	162 50.1	+22 47.5	193 10.8	+22 26.4	287 51.8	-8 22.7					
18	288 50.6	61 15.0	-18 29.5	177 51.3	+22 47.4	208 13.3	+22 26.4	302 54.4	-8 22.8					
19	303 53.1	76 14.5	30.4	192 52.4	47.3	223 15.8	26.4	317 57.0	22.8					
20	318 55.6	91 13.9	31.4	207 53.6	47.2	238 18.2	26.4	332 59.6	22.9					
21	333 58.0	106 13.3	32.3	222 54.7	47.1	253 20.7	26.4	348 02.2	22.9					
22	349 00.5	121 12.7	33.3	237 55.9	47.0	268 23.2	26.4	3 04.8	23.0					
23	4 03.0	136 12.1	34.2	252 57.0	46.9	283 25.6	26.4	18 07.4	23.0					
24	19 05.4	151 11.6	-18 35.1	267 58.1	+22 46.7	298 28.1	+22 26.4	33 10.0	-8 23.1					
Dif	—	-6	-9	+11	-1	+25	0	+26	-1					

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0'		SD: 15.4'		Edad: 7.2 <sup>d</sup>				PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 57.2'		R <sup>o</sup> : 57 <sup>m</sup>					
	PMG: 11 <sup>h</sup> 46.9 <sup>m</sup>		PMG: 17 <sup>h</sup> 59 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	183 15.2	-6 44.9	100 23.6	70	-28 29.5	21	<b>60 N</b>	17 04	17 46	18 34	16 17 9	19 47 109				
1	198 15.3	45.8	114 49.6	69	27.4	22	<b>58</b>	08	47	32	15 44 19	20 21 97				
2	213 15.5	46.8	129 15.5	69	25.2	24	<b>56</b>	11	48	31	15 19 26	20 45 91				
3	228 15.7	47.7	143 41.4	69	22.8	26	<b>54</b>	14	49	30	14 59 30	21 05 86				
4	243 15.8	48.7	158 07.3	69	20.2	26	<b>52</b>	16	50	29	42 34	22 82				
5	258 16.0	-6 49.6	172 33.2	69	-28 17.5	27	<b>50</b>	17 18	17 51	18 28	14 28 36	21 36 80				
6	273 16.1	-6 50.5	186 59.1	69	-28 14.6	29	<b>45</b>	17 23	17 53	18 27	13 58 41	22 05 74				
7	288 16.3	51.5	201 25.0	69	11.5	31	<b>40</b>	27	55	26	35 44	27 71				
8	303 16.5	52.4	215 50.8	68	08.2	33	<b>35</b>	31	56	26	16 46	22 46 68				
9	318 16.6	53.4	230 16.7	69	04.8	34	<b>30</b>	34	17 58	26	13 00 48	23 02 66				
10	333 16.8	54.3	244 42.6	69	-28 01.3	35	<b>20</b>	40	18 02	28	12 32 51	28 63				
11	348 17.0	-6 55.3	259 08.4	68	-27 57.5	38	<b>10 N</b>	17 45	18 06	18 31	12 08 54	23 51 59				
12	3 17.1	-6 56.2	273 34.3	69	-27 53.6	39	<b>0</b>	17 50	18 11	18 35	11 46 56	** ** *				
13	18 17.3	57.2	288 00.1	68	49.6	40	<b>10 S</b>	17 55	16	41	11 23 59	** ** *				
14	33 17.5	58.1	302 26.0	69	45.3	43	<b>20</b>	18 01	23	18 49	10 59 62	0 03 54				
15	48 17.6	-6 59.0	316 51.9	69	40.9	44	<b>30</b>	07	31	19 00	32 64	32 51				
16	63 17.8	-7 00.0	331 17.7	68	36.4	45	<b>35</b>	11	36	07	10 15 66	0 49 50				
17	78 17.9	-7 00.9	345 43.6	69	-27 31.6	48	<b>40</b>	18 15	18 43	19 15	9 56 68	1 08 48				
18	93 18.1	-7 01.9	0 09.5	69	-27 26.7	49	<b>45</b>	18 20	18 50	19 26	9 32 71	1 32 46				
19	108 18.3	02.8	14 35.4	69	21.7	50	<b>50</b>	26	18 59	40	9 02 75	2 03 42				
20	123 18.4	03.8	29 01.3	69	16.4	53	<b>52</b>	29	19 04	46	8 47 77	18 40				
21	138 18.6	04.7	43 27.2	69	11.0	54	<b>54</b>	32	09	19 54	30 80	35 38				
22	153 18.8	05.6	57 53.2	70	-27 05.5	55	<b>56</b>	35	14	20 03	8 09 84	2 56 34				
23	168 18.9	06.6	72 19.1	69	-26 59.8	57	<b>58</b>	39	20	12	7 42 90	3 23 29				
24	183 19.1	-7 07.5	86 45.1	70	-26 53.9	59	<b>60 S</b>	18 43	19 27	20 24	7 05 101	4 01 17				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 39.9 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 56 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.5 PMG: 4 <sup>h</sup> 05 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 44 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "	° / ' / "	' / "
0	19 05.4	151 11.6	-18 35.1	267 58.1	+22 46.7	298 28.1	+22 26.4	33 10.0	-8 23.1	
1	34 07.9	166 11.0	36.1	282 59.3	46.6	313 30.6	26.4	48 12.6	23.1	
2	49 10.3	181 10.4	37.0	298 00.4	46.5	328 33.1	26.4	63 15.2	23.2	
3	64 12.8	196 09.8	37.9	313 01.6	46.4	343 35.5	26.4	78 17.8	23.2	
4	79 15.3	211 09.2	38.8	328 02.7	46.3	358 38.0	26.4	93 20.4	23.3	
5	94 17.7	226 08.6	-18 39.8	343 03.9	+22 46.2	13 40.5	+22 26.4	108 23.0	-8 23.3	
6	109 20.2	241 08.0	-18 40.7	358 05.0	+22 46.1	28 42.9	+22 26.4	123 25.6	-8 23.4	
7	124 22.7	256 07.5	41.6	13 06.2	46.0	43 45.4	26.4	138 28.2	23.4	
8	139 25.1	271 06.9	42.6	28 07.3	45.9	58 47.9	26.4	153 30.8	23.5	
9	154 27.6	286 06.3	43.5	43 08.5	45.8	73 50.4	26.4	168 33.4	23.5	
10	169 30.1	301 05.7	44.4	58 09.6	45.6	88 52.8	26.4	183 36.0	23.6	
11	184 32.5	316 05.1	-18 45.3	73 10.8	+22 45.5	103 55.3	+22 26.4	198 38.6	-8 23.6	
12	199 35.0	331 04.5	-18 46.3	88 11.9	+22 45.4	118 57.8	+22 26.4	213 41.2	-8 23.7	
13	214 37.5	346 03.9	47.2	103 13.1	45.3	134 00.3	26.4	228 43.8	23.7	
14	229 39.9	1 03.3	48.1	118 14.3	45.2	149 02.7	26.4	243 46.4	23.8	
15	244 42.4	16 02.8	49.0	133 15.4	45.1	164 05.2	26.4	258 49.0	23.9	
16	259 44.8	31 02.2	49.9	148 16.6	45.0	179 07.7	26.4	273 51.6	23.9	
17	274 47.3	46 01.6	-18 50.9	163 17.7	+22 44.9	194 10.2	+22 26.4	288 54.2	-8 24.0	
18	289 49.8	61 01.0	-18 51.8	178 18.9	+22 44.8	209 12.6	+22 26.4	303 56.8	-8 24.0	
19	304 52.2	76 00.4	52.7	193 20.0	44.6	224 15.1	26.4	318 59.4	24.1	
20	319 54.7	90 59.8	53.6	208 21.2	44.5	239 17.6	26.4	334 01.9	24.1	
21	334 57.2	105 59.2	54.5	223 22.4	44.4	254 20.1	26.4	349 04.5	24.2	
22	349 59.6	120 58.6	55.4	238 23.5	44.3	269 22.6	26.4	4 07.1	24.2	
23	5 02.1	135 58.0	56.4	253 24.7	44.2	284 25.0	26.4	19 09.7	24.3	
24	20 04.6	150 57.4	-18 57.3	268 25.8	+22 44.1	299 27.5	+22 26.4	34 12.3	-8 24.3	

Dif	—	-6	-9	+12	-1	+25	0	+26	-1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 46.6 <sup>m</sup>		SD: 15.6' Edad: 8.2 <sup>d</sup>		PHE { 4 <sup>h</sup> : 57.5' 12 <sup>h</sup> : 57.8' 20 <sup>h</sup> : 58.1'			R°: 54 <sup>m</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m	m	h m	m			
0	183 19.1	-7 07.5	86 45.1	70	-26 53.9	61	5 00	5 49	6 31	16 26	3	21 36	111			
1	198 19.2	08.5	101 11.1	70	47.8	61	58	02	48	27	16 03	11	21 58	103		
2	213 19.4	09.4	115 37.1	70	41.6	62	56	03	46	24	15 45	16	22 16	97		
3	228 19.6	10.3	130 03.1	70	35.2	64	54	05	46	21	29 20		31 93			
4	243 19.7	11.3	144 29.2	71	28.7	65	52	06	45	18	16 23		44 89			
5	258 19.9	-7 12.2	158 55.3	71	-26 22.0	67	50	5 06	5 44	6 16	15 04	26	22 56	86		
6	273 20.0	-7 13.2	173 21.4	71	-26 15.1	69	45	5 08	5 42	6 11	14 39	32	23 19	80		
7	288 20.2	14.1	187 47.5	71	08.1	70	40	08	39	07	19 37		38 75			
8	303 20.4	15.0	202 13.6	71	-26 00.9	72	35	08	37	03	14 02	41	23 54	71		
9	318 20.5	16.0	216 39.8	72	-25 53.6	73	30	08	36	6 00	13 48	43	** ** *	** ** *		
10	333 20.7	16.9	231 06.0	72	46.1	75	20	06	32	5 54	23 48		** ** *	** ** *		
11	348 20.8	-7 17.9	245 32.2	72	-25 38.4	77	10 N	5 03	5 27	5 48	13 02	52	** ** *	** ** *		
12	3 21.0	-7 18.8	259 58.5	73	-25 30.6	78	0	4 58	5 22	5 43	12 42	55	0 13	56		
13	18 21.1	19.7	274 24.8	73	22.6	80	10 S	52	17	38	22 59		34 53			
14	33 21.3	20.7	288 51.1	73	14.5	81	20	44	10	33	12 01	62	0 57	49		
15	48 21.5	21.6	303 17.5	74	-25 06.2	83	30	33	5 02	26	11 36	67	1 23	46		
16	63 21.6	22.6	317 43.9	74	-24 57.7	85	35	26	4 57	22	21 70		39 43			
17	78 21.8	-7 23.5	332 10.3	74	-24 49.1	86	40	4 17	4 50	5 18	11 04	73	1 56	41		
18	93 21.9	-7 24.4	346 36.8	75	-24 40.3	88	45	4 07	4 43	5 13	10 43	78	2 18	36		
19	108 22.1	25.4	1 03.3	75	31.4	89	50	3 53	33	07	17 84		45 31			
20	123 22.2	26.3	15 29.9	76	22.3	91	52	46	29	04	10 04	87	2 58	28		
21	138 22.4	27.3	29 56.5	76	13.1	92	54	39	24	5 01	9 50	90	3 13	25		
22	153 22.6	28.2	44 23.1	76	-24 03.7	94	56	30	18	4 57	33 94		30 21			
23	168 22.7	29.1	58 49.8	77	-23 54.2	95	58	20	12	54	9 12	101	3 52	14		
24	183 22.9	-7 30.1	73 16.5	77	-23 44.5	97	60 S	3 08	4 05	4 49	8 46	110	4 18	6		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 36.0 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 57 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 06 <sup>m</sup>		Mag.: -2.6 PMG: 4 <sup>h</sup> 02 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 39 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	20 04.6	150 57.4	-18 57.3	268 25.8	+22 44.1	299 27.5	+22 26.4	34 12.3	-8 24.3	
1	35 07.0	165 56.8	58.2	283 27.0	44.0	314 30.0	26.4	49 14.9	24.4	
2	50 09.5	180 56.2	-18 59.1	298 28.2	43.9	329 32.5	26.4	64 17.5	24.4	
3	65 11.9	195 55.6	-19 00.0	313 29.3	43.7	344 34.9	26.4	79 20.1	24.5	
4	80 14.4	210 55.0	00.9	328 30.5	43.6	359 37.4	26.3	94 22.7	24.5	
5	95 16.9	225 54.4	-19 01.8	343 31.6	+22 43.5	14 39.9	+22 26.3	109 25.3	-8 24.6	
6	110 19.3	240 53.8	-19 02.7	358 32.8	+22 43.4	29 42.4	+22 26.3	124 27.9	-8 24.6	
7	125 21.8	255 53.2	03.6	13 34.0	43.3	44 44.9	26.3	139 30.5	24.7	
8	140 24.3	270 52.6	04.5	28 35.1	43.2	59 47.4	26.3	154 33.1	24.7	
9	155 26.7	285 52.0	05.4	43 36.3	43.1	74 49.8	26.3	169 35.7	24.8	
10	170 29.2	300 51.4	06.4	58 37.5	43.0	89 52.3	26.3	184 38.3	24.8	
11	185 31.7	315 50.8	-19 07.3	73 38.6	+22 42.8	104 54.8	+22 26.3	199 40.9	-8 24.9	
12	200 34.1	330 50.2	-19 08.2	88 39.8	+22 42.7	119 57.3	+22 26.3	214 43.5	-8 24.9	
13	215 36.6	345 49.6	09.1	103 41.0	42.6	134 59.8	26.3	229 46.1	25.0	
14	230 39.1	0 49.0	10.0	118 42.1	42.5	150 02.3	26.3	244 48.7	25.0	
15	245 41.5	15 48.4	10.9	133 43.3	42.4	165 04.7	26.3	259 51.2	25.1	
16	260 44.0	30 47.8	11.8	148 44.5	42.3	180 07.2	26.3	274 53.8	25.1	
17	275 46.4	45 47.2	-19 12.7	163 45.6	+22 42.2	195 09.7	+22 26.3	289 56.4	-8 25.2	
18	290 48.9	60 46.6	-19 13.6	178 46.8	+22 42.0	210 12.2	+22 26.3	304 59.0	-8 25.2	
19	305 51.4	75 46.0	14.5	193 48.0	41.9	225 14.7	26.3	320 01.6	25.3	
20	320 53.8	90 45.4	15.4	208 49.1	41.8	240 17.2	26.3	335 04.2	25.3	
21	335 56.3	105 44.8	16.3	223 50.3	41.7	255 19.7	26.3	350 06.8	25.4	
22	350 58.8	120 44.2	17.1	238 51.5	41.6	270 22.2	26.3	5 09.4	25.4	
23	6 01.2	135 43.6	18.0	253 52.6	41.5	285 24.6	26.3	20 12.0	25.5	
24	21 03.7	150 43.0	-19 18.9	268 53.8	+22 41.4	300 27.1	+22 26.3	35 14.6	-8 25.5	
Dif	—	-6	-9	+12	-1	+25	0	+26	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.0' PMG: 11 <sup>h</sup> 46.4 <sup>m</sup>		SD: 15.9' Edad: 9.2 <sup>d</sup> PMG: 19 <sup>h</sup> 50 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.4' 12 <sup>h</sup> : 58.7' 20 <sup>h</sup> : 59.0'				R°: 53 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	183 22.9	-7 30.1	73 16.5	77	-23 44.5	98	60 N	16 59	17 40	18 28	16 29	0	23 27 110			
1	198 23.0	31.0	87 43.2	77	34.7	98	58	17 02	42	27	14	5	41 104			
2	213 23.2	31.9	102 10.0	78	24.7	100	56	06	43	26	16 01	10	23 53 99			
3	228 23.3	32.9	116 36.8	78	14.6	101	54	09	44	25	15 49	15	** ** *			
4	243 23.5	33.8	131 03.7	79	-23 04.3	103	52	12	45	24	39	18	** ** *			
5	258 23.6	-7 34.7	145 30.6	79	-22 53.9	104	50	17 14	17 47	18 24	15 30	21	** ** *			
6	273 23.8	-7 35.7	159 57.6	80	-22 43.3	106	45	17 20	17 49	18 23	15 11	27	** ** *			
7	288 24.0	36.6	174 24.6	80	32.6	107	40	24	52	23	14 56	31	** ** *			
8	303 24.1	37.6	188 51.6	80	21.7	109	35	28	54	23	43	35	** ** *			
9	318 24.3	38.5	203 18.7	81	-22 10.7	110	30	32	17 56	24	31	38	0 08 68			
10	333 24.4	39.4	217 45.9	82	-21 59.6	111	20	38	18 01	26	14 11	44	31 62			
11	348 24.6	-7 40.4	232 13.0	81	-21 48.3	113	10 N	17 44	18 05	18 30	13 54	49	0 50 59			
12	3 24.7	-7 41.3	246 40.3	83	-21 36.9	114	0	17 50	18 11	18 35	13 37	54	1 09 54			
13	18 24.9	42.2	261 07.5	82	25.3	116	10 S	17 55	16	41	21	58	27 50			
14	33 25.0	43.2	275 34.9	84	13.6	117	20	18 01	24	18 50	13 03	63	1 46 46			
15	48 25.2	44.1	290 02.2	83	-21 01.8	118	30	08	33	19 01	12 43	68	2 09 40			
16	63 25.3	45.0	304 29.6	84	-20 49.8	120	35	12	38	09	31	72	22 37			
17	78 25.5	-7 46.0	318 57.1	85	-20 37.7	121	40	18 17	18 45	19 18	12 17	76	2 37 33			
18	93 25.6	-7 46.9	333 24.6	85	-20 25.5	122	45	18 23	18 53	19 29	12 01	81	2 54 29			
19	108 25.8	47.8	347 52.2	86	13.1	124	50	29	19 03	44	11 41	87	3 16 23			
20	123 25.9	48.8	2 19.8	86	-20 00.6	125	52	32	07	51	31	90	26 20			
21	138 26.1	49.7	16 47.4	86	-19 47.9	127	54	36	13	19 59	20	94	38 17			
22	153 26.2	50.6	31 15.1	87	35.2	127	56	39	19	20 08	11 07	99	3 51 13			
23	168 26.4	51.6	45 42.8	87	22.3	129	58	43	25	18	10 53	103	4 06 8			
24	183 26.5	-7 52.5	60 10.6	88	-19 09.3	130	60 S	18 48	19 33	20 31	10 36	110	4 24 2			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 22 <sup>h</sup> 32.1 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 58 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 58 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 35 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	21 03.7	150 43.0	-19 18.9	268 53.8	+22 41.4	300 27.1	+22 26.3	35 14.6	-8 25.5	
1	36 06.2	165 42.4	19.8	283 55.0	41.3	315 29.6	26.3	50 17.2	25.5	
2	51 08.6	180 41.8	20.7	298 56.2	41.1	330 32.1	26.3	65 19.8	25.6	
3	66 11.1	195 41.2	21.6	313 57.3	41.0	345 34.6	26.3	80 22.4	25.6	
4	81 13.6	210 40.6	22.5	328 58.5	40.9	0 37.1	26.3	95 25.0	25.7	
5	96 16.0	225 40.0	-19 23.4	343 59.7	+22 40.8	15 39.6	+22 26.3	110 27.6	-8 25.7	
6	111 18.5	240 39.3	-19 24.3	359 00.9	+22 40.7	30 42.1	+22 26.3	125 30.1	-8 25.8	
7	126 20.9	255 38.7	25.2	14 02.0	40.6	45 44.6	26.3	140 32.7	25.8	
8	141 23.4	270 38.1	26.1	29 03.2	40.5	60 47.0	26.3	155 35.3	25.9	
9	156 25.9	285 37.5	26.9	44 04.4	40.3	75 49.5	26.3	170 37.9	25.9	
10	171 28.3	300 36.9	27.8	59 05.6	40.2	90 52.0	26.3	185 40.5	26.0	
11	186 30.8	315 36.3	-19 28.7	74 06.8	+22 40.1	105 54.5	+22 26.3	200 43.1	-8 26.0	
12	201 33.3	330 35.7	-19 29.6	89 07.9	+22 40.0	120 57.0	+22 26.3	215 45.7	-8 26.1	
13	216 35.7	345 35.1	30.5	104 09.1	39.9	135 59.5	26.3	230 48.3	26.1	
14	231 38.2	0 34.5	31.4	119 10.3	39.8	151 02.0	26.3	245 50.9	26.2	
15	246 40.7	15 33.8	32.2	134 11.5	39.7	166 04.5	26.3	260 53.5	26.2	
16	261 43.1	30 33.2	33.1	149 12.7	39.5	181 07.0	26.3	275 56.1	26.3	
17	276 45.6	45 32.6	-19 34.0	164 13.8	+22 39.4	196 09.5	+22 26.3	290 58.6	-8 26.3	
18	291 48.1	60 32.0	-19 34.9	179 15.0	+22 39.3	211 12.0	+22 26.3	306 01.2	-8 26.4	
19	306 50.5	75 31.4	35.7	194 16.2	39.2	226 14.5	26.3	321 03.8	26.4	
20	321 53.0	90 30.8	36.6	209 17.4	39.1	241 17.0	26.3	336 06.4	26.5	
21	336 55.4	105 30.1	37.5	224 18.6	39.0	256 19.5	26.3	351 09.0	26.5	
22	351 57.9	120 29.5	38.4	239 19.8	38.8	271 22.0	26.3	6 11.6	26.6	
23	7 00.4	135 28.9	39.2	254 20.9	38.7	286 24.5	26.3	21 14.2	26.6	
24	22 02.8	150 28.3	-19 40.1	269 22.1	+22 38.6	301 27.0	+22 26.3	36 16.8	-8 26.7	

Dif	—	-6	-9	+12	-1	+25	0	+26	0
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UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16.0'		SD: 16.1'		Edad: 10.2 <sup>d</sup>				PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.9'			R°: 51 <sup>m</sup>		Hora R°		Hora R°					
	PMG: 11 <sup>h</sup> 46.1 <sup>m</sup>		PMG: 20 <sup>h</sup> 43 <sup>m</sup>		hG ☉	Dec	hG ☾		Dif	Dec		Dif	Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m			
0	183	26.5	-7	52.5	60	10.6			-19	09.3	132	<b>60 N</b>	5 05	5 53	6 35	16 29	-1	**	**	***	
1	198	26.7		53.4	74	38.4	88		-18	56.1	132	<b>58</b>	06	52	31	19	4	**	**	***	
2	213	26.8		54.4	89	06.3	89			42.8	133	<b>56</b>	07	50	28	11	8	**	**	***	
3	228	27.0		55.3	103	34.2	89			29.5	136	<b>54</b>	08	49	25	16 04	11		0 04	94	
4	243	27.1		56.2	118	02.2	90			15.9	136	<b>52</b>	09	48	22	15 57	14		13	91	
5	258	27.3	-7	57.2	132	30.2	90			-18	02.3	136	<b>50</b>	5 09	5 47	6 19	15 51	17	0	22	87
6	273	27.4	-7	58.1	146	58.2	90			-17	48.5	138	<b>45</b>	5 10	5 44	6 14	15 38	22	0	39	81
7	288	27.6	-7	59.0	161	26.3	91			34.7	138	<b>40</b>	10	41	09	27	27	0	53	77	
8	303	27.7	-8	00.0	175	54.5	92			20.7	140	<b>35</b>	10	39	05	18	31	1	05	72	
9	318	27.9		00.9	190	22.7	92			-17	06.6	141	<b>30</b>	09	37	6 01	15 09	35		16	68
10	333	28.0		01.8	204	50.9	92			-16	52.4	142	<b>20</b>	06	32	5 54	14 55	41		33	63
11	348	28.2	-8	02.8	219	19.1	92			-16	38.0	144	<b>10 N</b>	5 03	5 27	5 48	14 43	46	1	49	57
12	3	28.3	-8	03.7	233	47.5	94			-16	23.6	144	<b>0</b>	4 58	5 22	5 43	14 31	51	2	03	52
13	18	28.5		04.6	248	15.8	93			-16	09.0	146	<b>10 S</b>	51	16	37	19	57		17	48
14	33	28.6		05.5	262	44.2	94			-15	54.4	146	<b>20</b>	43	5 09	31	14 06	62		32	43
15	48	28.8		06.5	277	12.6	94			39.6	148	<b>30</b>	31	4 59	24	13 51	69		49	37	
16	63	28.9		07.4	291	41.1	95			24.7	149	<b>35</b>	23	54	20	43	72		2	59	33
17	78	29.1	-8	08.3	306	09.6	95			-15	09.7	150	<b>40</b>	4 14	4 47	5 15	13 33	77	3	10	29
18	93	29.2	-8	09.3	320	38.1	95			-14	54.6	151	<b>45</b>	4 03	4 39	5 09	13 22	81	3	23	25
19	108	29.4		10.2	335	06.7	96			39.4	152	<b>50</b>	3 48	29	5 03	08	88		39	18	
20	123	29.5		11.1	349	35.3	96			24.2	152	<b>52</b>	41	24	4 59	13 01	91		46	16	
21	138	29.7		12.0	4	04.0	97			-14	08.8	154	<b>54</b>	33	19	56	12 54	94	3	55	12
22	153	29.8		13.0	18	32.7	97			-13	53.3	155	<b>56</b>	24	13	52	46	98	4	04	9
23	168	29.9		13.9	33	01.4	97			37.7	156	<b>58</b>	13	4 06	48	36	103		14	5	
24	183	30.1	-8	14.8	47	30.2	98			-13	22.0	157	<b>60 S</b>	3 01	3 59	4 43	12 26	107	4	26	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 <sup>h</sup> 28.1 <sup>m</sup>		Mag.: -3.9 PMG: 13 <sup>h</sup> 59 <sup>m</sup>		Mag.: +0.4 PMG: 6 <sup>h</sup> 02 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 54 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 31 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	22	02.8	150	28.3	-19	40.1	269	22.1	+22	38.6	301	27.0	+22	26.3	36	16.8	-8	26.7
1	37	05.3	165	27.7		41.0	284	23.3		38.5	316	29.5		26.3	51	19.4		26.7
2	52	07.8	180	27.1		41.9	299	24.5		38.4	331	32.0		26.3	66	22.0		26.8
3	67	10.2	195	26.4		42.7	314	25.7		38.3	346	34.5		26.3	81	24.5		26.8
4	82	12.7	210	25.8		43.6	329	26.9		38.2	1	37.0		26.2	96	27.1		26.9
5	97	15.2	225	25.2	-19	44.5	344	28.1	+22	38.0	16	39.5	+22	26.2	111	29.7	-8	26.9
6	112	17.6	240	24.6	-19	45.3	359	29.3	+22	37.9	31	42.0	+22	26.2	126	32.3	-8	26.9
7	127	20.1	255	23.9		46.2	14	30.4		37.8	46	44.5		26.2	141	34.9		27.0
8	142	22.5	270	23.3		47.1	29	31.6		37.7	61	47.0		26.2	156	37.5		27.0
9	157	25.0	285	22.7		47.9	44	32.8		37.6	76	49.5		26.2	171	40.1		27.1
10	172	27.5	300	22.1		48.8	59	34.0		37.5	91	52.0		26.2	186	42.7		27.1
11	187	29.9	315	21.5	-19	49.7	74	35.2	+22	37.3	106	54.5	+22	26.2	201	45.3	-8	27.2
12	202	32.4	330	20.8	-19	50.5	89	36.4	+22	37.2	121	57.0	+22	26.2	216	47.8	-8	27.2
13	217	34.9	345	20.2		51.4	104	37.6		37.1	136	59.5		26.2	231	50.4		27.3
14	232	37.3	0	19.6		52.2	119	38.8		37.0	152	02.0		26.2	246	53.0		27.3
15	247	39.8	15	18.9		53.1	134	40.0		36.9	167	04.5		26.2	261	55.6		27.4
16	262	42.3	30	18.3		54.0	149	41.2		36.8	182	07.0		26.2	276	58.2		27.4
17	277	44.7	45	17.7	-19	54.8	164	42.4	+22	36.6	197	09.5	+22	26.2	292	00.8	-8	27.5
18	292	47.2	60	17.1	-19	55.7	179	43.6	+22	36.5	212	12.0	+22	26.2	307	03.4	-8	27.5
19	307	49.7	75	16.4		56.5	194	44.8		36.4	227	14.5		26.2	322	06.0		27.6
20	322	52.1	90	15.8		57.4	209	46.0		36.3	242	17.0		26.2	337	08.5		27.6
21	337	54.6	105	15.2		58.2	224	47.2		36.2	257	19.5		26.2	352	11.1		27.7
22	352	57.0	120	14.6		59.1	239	48.4		36.1	272	22.0		26.2	7	13.7		27.7
23	7	59.5	135	13.9	-19	59.9	254	49.6		35.9	287	24.5		26.2	22	16.3		27.7
24	23	02.0	150	13.3	-20	00.8	269	50.8	+22	35.8	302	27.0	+22	26.2	37	18.9	-8	27.8

Dif	—	-6	-9	+12	-1	+25	0	+26	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 11 <sup>h</sup> 45.9 <sup>m</sup>		SD: 16.4' Edad: 11.2 <sup>d</sup> PMG: 21 <sup>h</sup> 34 <sup>m</sup> R°: 51 <sup>m</sup>						PHE { 4 <sup>h</sup> : 60.1' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.6'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m		
0	183 30.1	-8 14.8	47 30.2	98	-13 22.0	157	<b>60 N</b>	16 53	17 35	18 23	16 28	-1	1 17 107		
1	198 30.2	15.8	61 59.0	98	-13 06.3	157	<b>58</b>	16 57	37	22	23	3	25 102		
2	213 30.4	16.7	76 27.8	98	-12 50.4	159	<b>56</b>	17 01	38	21	19	6	32 98		
3	228 30.5	17.6	90 56.7	99	34.5	159	<b>54</b>	04	40	21	15	9	38 95		
4	243 30.7	18.5	105 25.6	99	18.4	161	<b>52</b>	07	41	20	11	12	44 91		
5	258 30.8	-8 19.5	119 54.5	99	-12 02.3	161	<b>50</b>	17 10	17 43	18 20	16 08	15	1 49 89		
6	273 31.0	-8 20.4	134 23.4	99	-11 46.1	162	<b>45</b>	17 16	17 46	18 20	16 00	21	2 00 82		
7	288 31.1	21.3	148 52.4	100	29.8	163	<b>40</b>	21	49	20	15 54	26	10 76		
8	303 31.2	22.3	163 21.4	100	-11 13.4	164	<b>35</b>	26	51	21	49 30	17	73		
9	318 31.4	23.2	177 50.4	100	-10 57.0	164	<b>30</b>	30	54	22	44 34	24	69		
10	333 31.5	24.1	192 19.5	101	40.4	166	<b>20</b>	37	17 59	25	36 40	36	62		
11	348 31.7	-8 25.0	206 48.6	101	-10 23.8	166	<b>10 N</b>	17 43	18 04	18 29	15 29	46	2 46 56		
12	3 31.8	-8 26.0	221 17.7	101	-10 07.2	166	<b>0</b>	17 49	18 10	18 34	15 22	51	2 55 51		
13	18 32.0	26.9	235 46.8	101	-9 50.4	168	<b>10 S</b>	17 55	17	41	16 56	56	3 05 46		
14	33 32.1	27.8	250 15.9	101	33.6	168	<b>20</b>	18 02	24	18 50	08 62	15	40		
15	48 32.2	28.7	264 45.1	102	-9 16.7	169	<b>30</b>	10	34	19 03	15 00	69	26 34		
16	63 32.4	29.7	279 14.3	102	-8 59.7	170	<b>35</b>	14	40	11	14 55	73	32 30		
17	78 32.5	-8 30.6	293 43.5	102	-8 42.7	170	<b>40</b>	18 19	18 47	19 20	14 50	77	3 39 26		
18	93 32.7	-8 31.5	308 12.7	102	-8 25.6	171	<b>45</b>	18 25	18 56	19 32	14 43	83	3 48 21		
19	108 32.8	32.4	322 41.9	102	-8 08.4	172	<b>50</b>	32	19 06	47	36 88	3	57 16		
20	123 32.9	33.4	337 11.2	103	-7 51.2	172	<b>52</b>	36	11	19 55	32 91	4	02 13		
21	138 33.1	34.3	351 40.5	103	33.9	173	<b>54</b>	39	17	20 03	28 95	07	10		
22	153 33.2	35.2	6 09.7	102	-7 16.5	174	<b>56</b>	43	23	13	24 98	13	6		
23	168 33.4	36.1	20 39.0	103	-6 59.1	174	<b>58</b>	48	30	24	19 102	19	3		
24	183 33.5	-8 37.0	35 08.3	103	-6 41.7	174	<b>60 S</b>	18 53	19 38	20 38	14 13	107	4 26 -1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 24.2 <sup>m</sup>		Mag.: -3.9 PMG: 14 <sup>h</sup> 00 <sup>m</sup>		Mag.: +0.3 PMG: 6 <sup>h</sup> 00 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 27 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	23 02.0	150 13.3	-20 00.8	269 50.8	+22 35.8	302 27.0	+22 26.2	37 18.9	-8 27.8	
1	38 04.4	165 12.7	01.6	284 52.0	35.7	317 29.5	26.2	52 21.5	27.8	
2	53 06.9	180 12.0	02.5	299 53.2	35.6	332 32.0	26.2	67 24.1	27.9	
3	68 09.4	195 11.4	03.3	314 54.4	35.5	347 34.5	26.2	82 26.7	27.9	
4	83 11.8	210 10.8	04.2	329 55.6	35.4	2 37.0	26.2	97 29.2	28.0	
5	98 14.3	225 10.1	-20 05.0	344 56.8	+22 35.2	17 39.6	+22 26.2	112 31.8	-8 28.0	
6	113 16.8	240 09.5	-20 05.9	359 58.0	+22 35.1	32 42.1	+22 26.2	127 34.4	-8 28.1	
7	128 19.2	255 08.9	06.7	14 59.2	35.0	47 44.6	26.2	142 37.0	28.1	
8	143 21.7	270 08.2	07.6	30 00.4	34.9	62 47.1	26.2	157 39.6	28.2	
9	158 24.2	285 07.6	08.4	45 01.6	34.8	77 49.6	26.2	172 42.2	28.2	
10	173 26.6	300 07.0	09.3	60 02.8	34.7	92 52.1	26.2	187 44.8	28.3	
11	188 29.1	315 06.3	-20 10.1	75 04.0	+22 34.5	107 54.6	+22 26.2	202 47.3	-8 28.3	
12	203 31.5	330 05.7	-20 10.9	90 05.2	+22 34.4	122 57.1	+22 26.2	217 49.9	-8 28.3	
13	218 34.0	345 05.1	11.8	105 06.4	34.3	137 59.6	26.2	232 52.5	28.4	
14	233 36.5	0 04.4	12.6	120 07.6	34.2	153 02.1	26.1	247 55.1	28.4	
15	248 38.9	15 03.8	13.5	135 08.8	34.1	168 04.7	26.1	262 57.7	28.5	
16	263 41.4	30 03.1	14.3	150 10.0	34.0	183 07.2	26.1	278 00.3	28.5	
17	278 43.9	45 02.5	-20 15.1	165 11.2	+22 33.8	198 09.7	+22 26.1	293 02.9	-8 28.6	
18	293 46.3	60 01.9	-20 16.0	180 12.4	+22 33.7	213 12.2	+22 26.1	308 05.4	-8 28.6	
19	308 48.8	75 01.2	16.8	195 13.6	33.6	228 14.7	26.1	323 08.0	28.7	
20	323 51.3	90 00.6	17.6	210 14.9	33.5	243 17.2	26.1	338 10.6	28.7	
21	338 53.7	104 59.9	18.5	225 16.1	33.4	258 19.7	26.1	353 13.2	28.8	
22	353 56.2	119 59.3	19.3	240 17.3	33.3	273 22.3	26.1	8 15.8	28.8	
23	8 58.6	134 58.7	20.1	255 18.5	33.1	288 24.8	26.1	23 18.4	28.8	
24	24 01.1	149 58.0	-20 21.0	270 19.7	+22 33.0	303 27.3	+22 26.1	38 20.9	-8 28.9	
Dif	—	-6	-8	+12	-1	+25	0	+26	0	

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna									
	SD: 16.0'		SD: 16.5'		Edad: 12.2 <sup>d</sup>	PHE { 4 <sup>h</sup> : 60.8' 12 <sup>h</sup> : 61.0' 20 <sup>h</sup> : 61.2'			Náutico	Civil		Hora	R°	Hora	R°								
	PMG: 11 <sup>h</sup> 45.7 <sup>m</sup>		PMG: 22 <sup>h</sup> 25 <sup>m</sup>			R°: 52 <sup>m</sup>																	
h	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h	m	h	m	h	m	m	h	m	m							
0	183	33.5	-8	37.0	35	08.3	-6	41.7	175	<b>60 N</b>	5	10	5	58	6	40	16	27	-1	3	04	107	
1	198	33.6		38.0	49	37.6		24.2		<b>58</b>		11		56		36		26		3		07	103
2	213	33.8		38.9	64	07.0		104		<b>56</b>		11		54		32		25		6		10	99
3	228	33.9		39.8	78	36.3		103		<b>54</b>		12		53		29		24		10		13	95
4	243	34.1		40.7	93	05.6		103		<b>52</b>		12		51		25		23		13		15	92
5	258	34.2	-8	41.7	107	34.9		103		<b>50</b>		5	12	5	50	6	22	16	23	15	3	18	88
6	273	34.3	-8	42.6	122	04.3		104		<b>45</b>		5	12	5	47	6	16	16	21	21	3	22	83
7	288	34.5		43.5	136	33.6		103		<b>40</b>		12		44		11		20		25		26	78
8	303	34.6		44.4	151	03.0		104		<b>35</b>		11		41		06		19		30		30	73
9	318	34.8		45.3	165	32.3		103		<b>30</b>		10		38		6	02	18	33	33		33	69
10	333	34.9		46.3	180	01.7		104		<b>20</b>		07		33		5	55	16	40			38	62
11	348	35.0	-8	47.2	194	31.0		103		<b>10 N</b>		5	03	5	27	5	48	16	15	45	3	42	57
12	3	35.2	-8	48.1	209	00.3		103		<b>0</b>		4	57	5	21	5	42	16	13	52	3	46	51
13	18	35.3		49.0	223	29.7		104		<b>10 S</b>		50		15		36		12		57		51	45
14	33	35.4		49.9	237	59.0		103		<b>20</b>		41		5	07	29		10	63		3	55	39
15	48	35.6		50.9	252	28.3		103		<b>30</b>		28		4	57	22		09	69		4	00	33
16	63	35.7		51.8	266	57.6		103		<b>35</b>		20		51		17		08	73			02	30
17	78	35.8	-8	52.7	281	26.9		103		<b>40</b>		4	11	4	44	5	12	16	07	78	4	05	26
18	93	36.0	-8	53.6	295	56.2		103		<b>45</b>		3	59	4	35	5	06	16	06	83	4	09	20
19	108	36.1		54.5	310	25.5		103		<b>50</b>		43		25		4	58		04	90		13	15
20	123	36.2		55.5	324	54.7		102		<b>52</b>		36		20		55		03	93			15	12
21	138	36.4		56.4	339	24.0		103		<b>54</b>		27		14		51		03	95			17	9
22	153	36.5		57.3	353	53.2		102		<b>56</b>		18		08		47		02	99			19	7
23	168	36.6		58.2	8	22.4		102		<b>58</b>		3	06	4	00	43		01	103			22	3
24	183	36.8	-8	59.1	22	51.6		102		<b>60 S</b>		2	53	3	52	4	37	16	00	108	4	25	-1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 <sup>h</sup> 20.3 <sup>m</sup>		Mag.: -3.9 PMG: 14 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.3 PMG: 5 <sup>h</sup> 58 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 23 <sup>m</sup>									
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'								
0	24	01.1	149	58.0	-20	21.0	270	19.7	+22	33.0	303	27.3	+22	26.1	38	20.9	-8	28.9
1	39	03.6	164	57.4		21.8	285	20.9		32.9	318	29.8		26.1	53	23.5		28.9
2	54	06.0	179	56.7		22.6	300	22.1		32.8	333	32.3		26.1	68	26.1		29.0
3	69	08.5	194	56.1		23.4	315	23.3		32.7	348	34.8		26.1	83	28.7		29.0
4	84	11.0	209	55.4		24.3	330	24.6		32.5	3	37.4		26.1	98	31.3		29.1
5	99	13.4	224	54.8	-20	25.1	345	25.8	+22	32.4	18	39.9	+22	26.1	113	33.9	-8	29.1
6	114	15.9	239	54.1	-20	25.9	0	27.0	+22	32.3	33	42.4	+22	26.1	128	36.4	-8	29.2
7	129	18.4	254	53.5		26.7	15	28.2		32.2	48	44.9		26.1	143	39.0		29.2
8	144	20.8	269	52.9		27.6	30	29.4		32.1	63	47.4		26.1	158	41.6		29.2
9	159	23.3	284	52.2		28.4	45	30.6		32.0	78	49.9		26.1	173	44.2		29.3
10	174	25.8	299	51.6		29.2	60	31.9		31.8	93	52.5		26.1	188	46.8		29.3
11	189	28.2	314	50.9	-20	30.0	75	33.1	+22	31.7	108	55.0	+22	26.1	203	49.4	-8	29.4
12	204	30.7	329	50.3	-20	30.9	90	34.3	+22	31.6	123	57.5	+22	26.1	218	51.9	-8	29.4
13	219	33.1	344	49.6		31.7	105	35.5		31.5	139	00.0		26.1	233	54.5		29.5
14	234	35.6	359	49.0		32.5	120	36.7		31.4	154	02.5		26.1	248	57.1		29.5
15	249	38.1	14	48.3		33.3	135	38.0		31.2	169	05.1		26.1	263	59.7		29.6
16	264	40.5	29	47.7		34.1	150	39.2		31.1	184	07.6		26.1	279	02.3		29.6
17	279	43.0	44	47.0	-20	34.9	165	40.4	+22	31.0	199	10.1	+22	26.1	294	04.9	-8	29.6
18	294	45.5	59	46.4	-20	35.7	180	41.6	+22	30.9	214	12.6	+22	26.0	309	07.4	-8	29.7
19	309	47.9	74	45.7		36.6	195	42.9		30.8	229	15.2		26.0	324	10.0		29.7
20	324	50.4	89	45.1		37.4	210	44.1		30.6	244	17.7		26.0	339	12.6		29.8
21	339	52.9	104	44.4		38.2	225	45.3		30.5	259	20.2		26.0	354	15.2		29.8
22	354	55.3	119	43.8		39.0	240	46.5		30.4	274	22.7		26.0	9	17.8		29.9
23	9	57.8	134	43.1		39.8	255	47.8		30.3	289	25.2		26.0	24	20.3		29.9
24	25	00.2	149	42.5	-20	40.6	270	49.0	+22	30.2	304	27.8	+22	26.0	39	22.9	-8	30.0

Dif	—	-6	-8	+12	-1	+25	0	+26	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.0' PMG: 11 <sup>h</sup> 45.4 <sup>m</sup>		SD: 16.7' Edad: 13.2 <sup>d</sup> PMG: 23 <sup>h</sup> 17 <sup>m</sup> R°: 54 <sup>m</sup>						PHE { 4 <sup>h</sup> : 61.3' 12 <sup>h</sup> : 61.3' 20 <sup>h</sup> : 61.4'	Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				h m	h m	h m	h m	h m	h m
0	183 36.8	-8 59.1	22 51.6	102	+0 28.8	182	60 N	16 47	17 29	18 17	16 26	-1	4 51	109	
1	198 36.9	-9 00.1	37 20.8	101	+0 47.0	182	58	52	31	17	29	3	50	104	
2	213 37.1	01.0	51 49.9	101	+1 05.2	182	56	56	33	16	31	8	49	100	
3	228 37.2	01.9	66 19.1	102	23.4	182	54	16 59	35	16	34	10	48	96	
4	243 37.3	02.8	80 48.2	101	41.7	183	52	17 03	37	16	36	13	47	93	
5	258 37.4	-9 03.7	95 17.3	101	+1 59.9	182	50	17 06	17 39	18 16	16 38	16	4 46	91	
6	273 37.6	-9 04.6	109 46.3	100	+2 18.1	182	45	17 13	17 42	18 16	16 42	22	4 45	84	
7	288 37.7	05.6	124 15.3	100	36.3	182	40	18	46	17	45	28	44	78	
8	303 37.8	06.5	138 44.3	100	+2 54.5	182	35	23	49	18	49	31	43	74	
9	318 38.0	07.4	153 13.3	100	+3 12.7	182	30	28	52	20	51	36	42	70	
10	333 38.1	08.3	167 42.3	100	30.8	181	20	35	17 58	23	16 56	42	40	64	
11	348 38.2	-9 09.2	182 11.2	99	+3 49.0	182	10 N	17 42	18 03	18 28	17 00	48	4 39	57	
12	3 38.4	-9 10.1	196 40.0	98	+4 07.1	181	0	17 49	18 10	18 34	17 05	53	4 37	52	
13	18 38.5	11.0	211 08.9	99	25.3	182	10 S	17 55	17	42	09	58	36	46	
14	33 38.6	12.0	225 37.7	98	+4 43.4	181	20	18 03	25	18 51	13	65	34	41	
15	48 38.8	12.9	240 06.4	97	+5 01.4	180	30	11	35	19 04	18	72	33	34	
16	63 38.9	13.8	254 35.2	98	19.5	181	35	16	42	13	21	76	32	30	
17	78 39.0	-9 14.7	269 03.8	96	+5 37.5	180	40	18 21	18 49	19 23	17 25	80	4 31	26	
18	93 39.1	-9 15.6	283 32.5	97	+5 55.5	180	45	18 28	18 58	19 35	17 29	85	4 29	22	
19	108 39.3	16.5	298 01.1	96	+6 13.5	180	50	36	19 10	51	34	91	28	15	
20	123 39.4	17.4	312 29.6	95	31.4	179	52	39	15	19 59	36	95	27	13	
21	138 39.5	18.4	326 58.2	96	+6 49.3	179	54	43	21	20 08	38	99	26	10	
22	153 39.7	19.3	341 26.6	94	+7 07.2	179	56	48	28	18	41	102	26	6	
23	168 39.8	20.2	355 55.1	95	25.0	178	58	53	35	30	44	107	25	3	
24	183 39.9	-9 21.1	10 23.4	93	+7 42.8	178	60 S	18 58	19 44	20 45	17 48	111	4 24	-1	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG 22 <sup>h</sup> 16.3 <sup>m</sup>		Mag.: -3.9 PMG: 14 <sup>h</sup> 02 <sup>m</sup>		Mag.: +0.3 PMG: 5 <sup>h</sup> 56 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 42 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 19 <sup>m</sup>						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
0	25 00.2	149 42.5	-20 40.6	270 49.0	+22 30.2	304 27.8	+22 26.0	39 22.9	-8 30.0						
1	40 02.7	164 41.8	41.4	285 50.2	30.1	319 30.3	26.0	54 25.5	30.0						
2	55 05.2	179 41.1	42.2	300 51.4	29.9	334 32.8	26.0	69 28.1	30.0						
3	70 07.6	194 40.5	43.0	315 52.7	29.8	349 35.3	26.0	84 30.7	30.1						
4	85 10.1	209 39.8	43.8	330 53.9	29.7	4 37.9	26.0	99 33.2	30.1						
5	100 12.6	224 39.2	-20 44.6	345 55.1	+22 29.6	19 40.4	+22 26.0	114 35.8	-8 30.2						
6	115 15.0	239 38.5	-20 45.4	0 56.4	+22 29.5	34 42.9	+22 26.0	129 38.4	-8 30.2						
7	130 17.5	254 37.9	46.2	15 57.6	29.3	49 45.5	26.0	144 41.0	30.3						
8	145 20.0	269 37.2	47.0	30 58.8	29.2	64 48.0	26.0	159 43.6	30.3						
9	160 22.4	284 36.5	47.8	46 00.0	29.1	79 50.5	26.0	174 46.1	30.3						
10	175 24.9	299 35.9	48.6	61 01.3	29.0	94 53.0	26.0	189 48.7	30.4						
11	190 27.4	314 35.2	-20 49.4	76 02.5	+22 28.9	109 55.6	+22 26.0	204 51.3	-8 30.4						
12	205 29.8	329 34.6	-20 50.2	91 03.7	+22 28.7	124 58.1	+22 26.0	219 53.9	-8 30.5						
13	220 32.3	344 33.9	51.0	106 05.0	28.6	140 00.6	26.0	234 56.5	30.5						
14	235 34.7	359 33.2	51.8	121 06.2	28.5	155 03.2	26.0	249 59.0	30.6						
15	250 37.2	14 32.6	52.6	136 07.4	28.4	170 05.7	26.0	265 01.6	30.6						
16	265 39.7	29 31.9	53.4	151 08.7	28.3	185 08.2	26.0	280 04.2	30.6						
17	280 42.1	44 31.3	-20 54.2	166 09.9	+22 28.1	200 10.7	+22 26.0	295 06.8	-8 30.7						
18	295 44.6	59 30.6	-20 55.0	181 11.2	+22 28.0	215 13.3	+22 25.9	310 09.4	-8 30.7						
19	310 47.1	74 29.9	55.8	196 12.4	27.9	230 15.8	25.9	325 11.9	30.8						
20	325 49.5	89 29.3	56.6	211 13.6	27.8	245 18.3	25.9	340 14.5	30.8						
21	340 52.0	104 28.6	57.4	226 14.9	27.7	260 20.9	25.9	355 17.1	30.9						
22	355 54.5	119 27.9	58.1	241 16.1	27.5	275 23.4	25.9	10 19.7	30.9						
23	10 56.9	134 27.3	58.9	256 17.4	27.4	290 25.9	25.9	25 22.3	30.9						
24	25 59.4	149 26.6	-20 59.7	271 18.6	+22 27.3	305 28.5	+22 25.9	40 24.8	-8 31.0						
Dif	—	-7	-8	+12	-1	+25	0	+26	0						

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.0'		SD: 16.7'		Edad: 14.2 <sup>d</sup>			PHE { 4 <sup>h</sup> : 61.4' 12 <sup>h</sup> : 61.4' 20 <sup>h</sup> : 61.3'			R <sup>o</sup> : ****m		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 45.2 <sup>m</sup>		PMG: **h **m		R <sup>o</sup> : ****m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	183 39.9	-9 21.1	10 23.4	94	+ 7 42.8	177	60 N	5 15	6 03	6 45	16 25	1	6 40	113		
1	198 40.0	22.0	24 51.8	92	+ 8 00.5	177	58	15	6 00	41	32	6	34	108		
2	213 40.2	22.9	39 20.0	93	18.2	177	56	15	5 58	36	39	9	29	103		
3	228 40.3	23.8	53 48.3	91	35.8	176	54	15	5 56	32	44	14	24	100		
4	243 40.4	24.7	68 16.4	91	+ 8 53.4	175	52	15	5 55	29	49	17	20	96		
5	258 40.6	-9 25.7	82 44.5	87	+ 9 10.9	175	50	5 15	5 53	6 26	16 54	20	6 17	92		
6	273 40.7	-9 26.6	97 12.6	90	+ 9 28.4	174	45	5 15	5 49	6 19	17 04	26	6 09	86		
7	288 40.8	27.5	111 40.6	90	+ 9 45.8	174	40	14	46	13	13	31	6 02	81		
8	303 40.9	28.4	126 08.6	89	+ 10 03.2	174	35	13	42	08	20	36	5 57	76		
9	318 41.1	29.3	140 36.5	89	20.5	173	30	11	39	6 03	27	39	5 52	72		
10	333 41.2	30.2	155 04.3	88	37.7	172	20	08	33	5 56	38	45	44	65		
11	348 41.3	-9 31.1	169 32.1	88	+ 10 54.9	172	10 N	5 03	5 27	5 49	17 48	51	5 36	60		
12	3 41.4	-9 32.0	183 59.8	87	+ 11 12.0	171	0	4 57	5 21	5 42	17 58	55	5 29	55		
13	18 41.6	32.9	198 27.5	87	29.0	170	10 S	49	14	35	18 07	61	22	49		
14	33 41.7	33.8	212 55.1	86	+ 11 46.0	170	20	39	5 05	28	18	66	15	44		
15	48 41.8	34.7	227 22.6	85	+ 12 02.8	168	30	26	4 55	19	30	72	07	37		
16	63 41.9	35.7	241 50.1	85	19.6	168	35	18	48	14	37	76	5 02	33		
17	78 42.0	-9 36.6	256 17.5	84	+ 12 36.4	168	40	4 07	4 41	5 09	18 45	81	4 57	29		
18	93 42.2	-9 37.5	270 44.8	83	+ 12 53.0	166	45	3 55	4 32	5 02	18 54	86	4 51	24		
19	108 42.3	38.4	285 12.1	83	+ 13 09.6	166	50	39	20	4 54	19 05	94	43	18		
20	123 42.4	39.3	299 39.3	82	26.0	164	52	31	15	51	11	96	40	15		
21	138 42.5	40.2	314 06.4	81	42.4	164	54	22	09	47	17	100	36	12		
22	153 42.7	41.1	328 33.5	81	+ 13 58.7	163	56	3 11	4 02	42	23	105	32	8		
23	168 42.8	42.0	343 00.5	80	+ 14 14.9	162	58	2 59	3 54	37	31	110	28	4		
24	183 42.9	-9 42.9	357 27.4	79	+ 14 31.0	161	60 S	2 45	3 46	4 31	19 39	117	4 23	-1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 12.4 <sup>m</sup>		Mag.: -3.9		Mag.: +0.3		Mag.: -2.6		Mag.: +0.7	
	PMG: 14 <sup>h</sup> 03 <sup>m</sup>		PMG: 5 <sup>h</sup> 54 <sup>m</sup>		PMG: 3 <sup>h</sup> 37 <sup>m</sup>		PMG: 21 <sup>h</sup> 15 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	25 59.4	149 26.6	- 20 59.7	271 18.6	+ 22 27.3	305 28.5	+ 22 25.9	40 24.8	- 8 31.0	
1	41 01.8	164 25.9	- 21 00.5	286 19.8	27.2	320 31.0	25.9	55 27.4	31.0	
2	56 04.3	179 25.3	01.3	301 21.1	27.1	335 33.5	25.9	70 30.0	31.1	
3	71 06.8	194 24.6	02.1	316 22.3	26.9	350 36.1	25.9	85 32.6	31.1	
4	86 09.2	209 23.9	02.8	331 23.6	26.8	5 38.6	25.9	100 35.1	31.1	
5	101 11.7	224 23.3	- 21 03.6	346 24.8	+ 22 26.7	20 41.1	+ 22 25.9	115 37.7	- 8 31.2	
6	116 14.2	239 22.6	- 21 04.4	1 26.0	+ 22 26.6	35 43.7	+ 22 25.9	130 40.3	- 8 31.2	
7	131 16.6	254 21.9	05.2	16 27.3	26.5	50 46.2	25.9	145 42.9	31.3	
8	146 19.1	269 21.3	06.0	31 28.5	26.3	65 48.8	25.9	160 45.4	31.3	
9	161 21.6	284 20.6	06.7	46 29.8	26.2	80 51.3	25.9	175 48.0	31.4	
10	176 24.0	299 19.9	07.5	61 31.0	26.1	95 53.8	25.9	190 50.6	31.4	
11	191 26.5	314 19.2	- 21 08.3	76 32.3	+ 22 26.0	110 56.4	+ 22 25.9	205 53.2	- 8 31.4	
12	206 29.0	329 18.6	- 21 09.1	91 33.5	+ 22 25.9	125 58.9	+ 22 25.9	220 55.8	- 8 31.5	
13	221 31.4	344 17.9	09.8	106 34.8	25.7	141 01.4	25.9	235 58.3	31.5	
14	236 33.9	359 17.2	10.6	121 36.0	25.6	156 04.0	25.9	251 00.9	31.6	
15	251 36.3	14 16.6	11.4	136 37.3	25.5	171 06.5	25.9	266 03.5	31.6	
16	266 38.8	29 15.9	12.1	151 38.5	25.4	186 09.1	25.8	281 06.1	31.6	
17	281 41.3	44 15.2	- 21 12.9	166 39.8	+ 22 25.3	201 11.6	+ 22 25.8	296 08.6	- 8 31.7	
18	296 43.7	59 14.5	- 21 13.7	181 41.0	+ 22 25.1	216 14.1	+ 22 25.8	311 11.2	- 8 31.7	
19	311 46.2	74 13.9	14.4	196 42.3	25.0	231 16.7	25.8	326 13.8	31.8	
20	326 48.7	89 13.2	15.2	211 43.5	24.9	246 19.2	25.8	341 16.4	31.8	
21	341 51.1	104 12.5	16.0	226 44.8	24.8	261 21.8	25.8	356 18.9	31.9	
22	356 53.6	119 11.8	16.7	241 46.0	24.7	276 24.3	25.8	11 21.5	31.9	
23	11 56.1	134 11.2	17.5	256 47.3	24.5	291 26.8	25.8	26 24.1	31.9	
24	26 58.5	149 10.5	- 21 18.3	271 48.5	+ 22 24.4	306 29.4	+ 22 25.8	41 26.7	- 8 32.0	
Dif	—	-7	-8	+12	-1	+25	0	+26	0	





UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 11 <sup>h</sup> 44.9 <sup>m</sup>		SD: 16.6' Edad: 16.2 <sup>d</sup> PMG: 1 <sup>h</sup> 07 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.2'			R°: 60 <sup>m</sup>			Hora		R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m		
0	183 45.7	-10 04.6	343 52.1	61	+20 23.7	131	5 19	6 07	6 50	16 28 9	10 31 119			
1	198 45.8	05.5	358 17.2	61	36.8	129	58	19 05	45	16 47 19	10 13 108			
2	213 46.0	06.4	12 42.3	59	+20 49.7	128	56	19 02	40	17 04 25	9 57 102			
3	228 46.1	07.3	27 07.2	59	+21 02.5	126	54	19 00	36	17 30	44 96			
4	243 46.2	08.2	41 32.1	59	15.1	125	52	19 5 58	32	30 33	33 92			
5	258 46.3	-10 09.1	55 57.0	59	+21 27.6	123	50	5 18 5 56	6 29	17 40 37	9 22 90			
6	273 46.4	-10 10.0	70 21.7	57	+21 39.9	122	45	5 17 5 52	6 21	18 03 42	9 01 83			
7	288 46.5	10.9	84 46.4	57	+21 52.1	120	40	16 48	15	21 46	8 44 79			
8	303 46.6	11.8	99 11.0	56	+22 04.1	119	35	14 44	10	37 48	30 75			
9	318 46.8	12.7	113 35.5	55	16.0	117	30	13 41	6 05	18 50 51	8 17 73			
10	333 46.9	13.6	128 00.0	55	27.7	115	20	08 34	5 56	19 13 55	7 56 68			
11	348 47.0	-10 14.5	142 24.4	54	+22 39.2	114	10 N	5 03 5 27	5 49	19 33 59	7 38 64			
12	3 47.1	-10 15.4	156 48.8	54	+22 50.6	112	0	4 56 5 21	5 42	19 52 61	7 21 60			
13	18 47.2	16.3	171 13.1	53	+23 01.8	111	10 S	48 13	34	20 11 64	7 04 57			
14	33 47.3	17.2	185 37.3	52	12.9	108	20	38 5 04	26	32 67	6 46 53			
15	48 47.4	18.1	200 01.4	51	23.7	108	30	24 4 53	17	20 56 71	25 48			
16	63 47.5	19.0	214 25.5	51	34.5	108	35	15 46	12	21 10 73	13 45			
17	78 47.6	-10 19.9	228 49.5	50	+23 45.0	105	40	4 04 4 38	5 06	21 26 76	6 00 41			
18	93 47.7	-10 20.8	243 13.5	50	+23 55.4	104	45	3 51 4 28	4 59	21 46 80	5 43 37			
19	108 47.9	21.7	257 37.4	49	+24 05.6	102	50	34 16	50	22 11 84	24 30			
20	123 48.0	22.6	272 01.3	49	15.6	100	52	25 10	46	23 87	14 28			
21	138 48.1	23.5	286 25.1	48	25.4	98	54	16 4 04	42	37 91	5 04 23			
22	153 48.2	24.4	300 48.8	47	35.1	97	56	3 05 3 57	37	22 53 95	4 52 19			
23	168 48.3	25.2	315 12.5	47	44.6	95	58	2 52 48	32	23 12 103	38 13			
24	183 48.4	-10 26.1	329 36.2	47	+24 53.9	93	60 S	2 37 3 39	4 26	23 36 116	4 23 3			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 04.5 <sup>m</sup>		Mag.: -3.9 PMG: 14 <sup>h</sup> 05 <sup>m</sup>		Mag.: +0.3 PMG: 5 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 29 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 06 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	27 57.7	148 54.1	-21 36.3	272 18.8	+22 21.5	307 30.5	+22 25.7	42 28.4	-8 32.9	
1	43 00.1	163 53.4	37.0	287 20.1	21.4	322 33.1	25.7	57 31.0	33.0	
2	58 02.6	178 52.7	37.7	302 21.4	21.3	337 35.6	25.7	72 33.6	33.0	
3	73 05.1	193 52.0	38.5	317 22.6	21.2	352 38.2	25.7	87 36.1	33.0	
4	88 07.5	208 51.3	39.2	332 23.9	21.0	7 40.7	25.7	102 38.7	33.1	
5	103 10.0	223 50.6	-21 39.9	347 25.2	+22 20.9	22 43.3	+22 25.7	117 41.3	-8 33.1	
6	118 12.4	238 49.9	-21 40.7	2 26.5	+22 20.8	37 45.8	+22 25.6	132 43.8	-8 33.2	
7	133 14.9	253 49.2	41.4	17 27.7	20.7	52 48.4	25.6	147 46.4	33.2	
8	148 17.4	268 48.6	42.1	32 29.0	20.6	67 50.9	25.6	162 49.0	33.2	
9	163 19.8	283 47.9	42.9	47 30.3	20.4	82 53.5	25.6	177 51.5	33.3	
10	178 22.3	298 47.2	43.6	62 31.6	20.3	97 56.1	25.6	192 54.1	33.3	
11	193 24.8	313 46.5	-21 44.3	77 32.8	+22 20.2	112 58.6	+22 25.6	207 56.7	-8 33.4	
12	208 27.2	328 45.8	-21 45.1	92 34.1	+22 20.1	128 01.2	+22 25.6	222 59.3	-8 33.4	
13	223 29.7	343 45.1	45.8	107 35.4	20.0	143 03.7	25.6	238 01.8	33.4	
14	238 32.2	358 44.4	46.5	122 36.7	19.8	158 06.3	25.6	253 04.4	33.5	
15	253 34.6	13 43.7	47.2	137 37.9	19.7	173 08.8	25.6	268 07.0	33.5	
16	268 37.1	28 43.0	47.9	152 39.2	19.6	188 11.4	25.6	283 09.5	33.6	
17	283 39.6	43 42.3	-21 48.7	167 40.5	+22 19.5	203 13.9	+22 25.6	298 12.1	-8 33.6	
18	298 42.0	58 41.6	-21 49.4	182 41.8	+22 19.4	218 16.5	+22 25.6	313 14.7	-8 33.6	
19	313 44.5	73 40.9	50.1	197 43.1	19.2	233 19.1	25.6	328 17.2	33.7	
20	328 46.9	88 40.2	50.8	212 44.3	19.1	248 21.6	25.6	343 19.8	33.7	
21	343 49.4	103 39.5	51.5	227 45.6	19.0	263 24.2	25.6	358 22.4	33.7	
22	358 51.9	118 38.8	52.3	242 46.9	18.9	278 26.7	25.6	13 24.9	33.8	
23	13 54.3	133 38.1	53.0	257 48.2	18.7	293 29.3	25.5	28 27.5	33.8	
24	28 56.8	148 37.4	-21 53.7	272 49.5	+22 18.6	308 31.9	+22 25.5	43 30.1	-8 33.9	
Dif	—	-7	-7	+13	-1	+26	0	+26	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 44.7 <sup>m</sup>		SD: 16.4' Edad: 17.2 <sup>d</sup> PMG: 2 <sup>h</sup> 07 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.9' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.3'				R°: 61 <sup>m</sup>		Civil	Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	183 48.4	-10 26.1	329 36.2	46	+24 53.9	92	60 N	16 36	17 18	18 07	16 37	27	12 30	102		
1	198 48.5	27.0	343 59.8	45	+25 03.1	90	58	41	21 07	17 06	38	12 01	91			
2	213 48.6	27.9	358 23.3	45	12.1	87	56	46	24 07	29 42	11 39	85				
3	228 48.7	28.8	12 46.8	45	20.8	86	54	50	27 08	17 47	46	20	83			
4	243 48.8	29.7	27 10.3	45	29.4	85	52	54	29 08	18 03	48	11 05	80			
5	258 48.9	-10 30.6	41 33.7	44	+25 37.9	82	50	16 58	17 31	18 08	18 17	50	10 52	78		
6	273 49.0	-10 31.5	55 57.1	44	+25 46.1	80	45	17 06	17 36	18 10	18 45	52	10 24	75		
7	288 49.1	32.4	70 20.4	43	+25 54.1	79	40	13 40	12 19	07 55	10 03	72				
8	303 49.3	33.3	84 43.7	43	+26 02.0	77	35	18 44	14 25	56	9 45	70				
9	318 49.4	34.2	99 07.0	43	09.7	75	30	24 48	16 19	41 57	30	68				
10	333 49.5	35.1	113 30.2	42	17.2	73	20	32 17	55 21	20 08	59	9 04	66			
11	348 49.6	-10 36.0	127 53.4	42	+26 24.5	71	10 N	17 40	18 02	18 26	20 32	60	8 42	64		
12	3 49.7	-10 36.9	142 16.6	42	+26 31.6	69	0	17 48	18 09	18 34	20 53	62	8 21	62		
13	18 49.8	37.7	156 39.7	41	38.5	67	10 S	17 56	17 42	21 15	63	8 01	59			
14	33 49.9	38.6	171 02.8	41	45.2	66	20	18 04	27 18	53 64	7 39	57				
15	48 50.0	39.5	185 25.9	41	51.8	64	30	14 38	19 07	22 07	65	7 13	54			
16	63 50.1	40.4	199 49.0	41	+26 58.1	63	35	19 45	17 23	66	6 58	53				
17	78 50.2	-10 41.3	214 12.0	40	+27 04.3	62	40	18 26	18 54	19 28	22 42	67	6 41	50		
18	93 50.3	-10 42.2	228 35.0	40	+27 10.3	60	45	18 33	19 04	19 42	23 06	67	6 20	47		
19	108 50.4	43.1	242 58.1	41	16.0	57	50	42 17	19 59	35 70	5 54	43				
20	123 50.5	44.0	257 21.1	40	21.6	56	52	46 23	20 08	23 50	71	42	40			
21	138 50.6	44.9	271 44.1	40	27.0	54	54	51 29	18 ***	***	***	27	37			
22	153 50.7	45.8	286 07.0	39	32.2	52	56	18 56	37 30	***	***	5 11	32			
23	168 50.8	46.6	300 30.0	40	37.2	50	58	19 02	46 20	43 ***	***	4 51	26			
24	183 50.9	-10 47.5	314 53.0	40	+27 42.1	49	60 S	19 08	19 56	21 00	***	***	4 26	13		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 <sup>h</sup> 00.6 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 06 <sup>m</sup>		Mag.: +0.3 PMG: 5 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 25 <sup>m</sup>		Mag.: +0.7 PMG: 21 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	28 56.8	148 37.4	-21 53.7	272 49.5	+22 18.6	308 31.9	+22 25.5	43 30.1	-8 33.9	
1	43 59.3	163 36.7	54.4	287 50.8	18.5	323 34.4	25.5	58 32.7	33.9	
2	59 01.7	178 36.0	55.1	302 52.0	18.4	338 37.0	25.5	73 35.2	33.9	
3	74 04.2	193 35.3	55.8	317 53.3	18.3	353 39.5	25.5	88 37.8	34.0	
4	89 06.7	208 34.6	56.5	332 54.6	18.1	8 42.1	25.5	103 40.4	34.0	
5	104 09.1	223 33.9	-21 57.3	347 55.9	+22 18.0	23 44.7	+22 25.5	118 42.9	-8 34.0	
6	119 11.6	238 33.2	-21 58.0	2 57.2	+22 17.9	38 47.2	+22 25.5	133 45.5	-8 34.1	
7	134 14.1	253 32.5	58.7	17 58.5	17.8	53 49.8	25.5	148 48.1	34.1	
8	149 16.5	268 31.8	-21 59.4	32 59.8	17.7	68 52.4	25.5	163 50.6	34.2	
9	164 19.0	283 31.1	-22 00.1	48 01.1	17.5	83 54.9	25.5	178 53.2	34.2	
10	179 21.4	298 30.4	00.8	63 02.3	17.4	98 57.5	25.5	193 55.8	34.2	
11	194 23.9	313 29.7	-22 01.5	78 03.6	+22 17.3	114 00.1	+22 25.5	208 58.3	-8 34.3	
12	209 26.4	328 29.0	-22 02.2	93 04.9	+22 17.2	129 02.6	+22 25.5	224 00.9	-8 34.3	
13	224 28.8	343 28.3	02.9	108 06.2	17.0	144 05.2	25.5	239 03.5	34.3	
14	239 31.3	358 27.6	03.6	123 07.5	16.9	159 07.7	25.5	254 06.0	34.4	
15	254 33.8	13 26.8	04.3	138 08.8	16.8	174 10.3	25.4	269 08.6	34.4	
16	269 36.2	28 26.1	05.0	153 10.1	16.7	189 12.9	25.4	284 11.2	34.4	
17	284 38.7	43 25.4	-22 05.7	168 11.4	+22 16.6	204 15.4	+22 25.4	299 13.7	-8 34.5	
18	299 41.2	58 24.7	-22 06.4	183 12.7	+22 16.4	219 18.0	+22 25.4	314 16.3	-8 34.5	
19	314 43.6	73 24.0	07.1	198 14.0	16.3	234 20.6	25.4	329 18.9	34.6	
20	329 46.1	88 23.3	07.8	213 15.3	16.2	249 23.1	25.4	344 21.4	34.6	
21	344 48.5	103 22.6	08.5	228 16.6	16.1	264 25.7	25.4	359 24.0	34.6	
22	359 51.0	118 21.9	09.2	243 17.9	16.0	279 28.3	25.4	14 26.6	34.7	
23	14 53.5	133 21.2	09.9	258 19.2	15.8	294 30.9	25.4	29 29.1	34.7	
24	29 55.9	148 20.5	-22 10.5	273 20.5	+22 15.7	309 33.4	+22 25.4	44 31.7	-8 34.7	

Dif	—	-7	-7	+13	-1	+26	0	+26	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16.1' PMG: 11 <sup>h</sup> 44.5 <sup>m</sup>		SD: 16.1' Edad: 18.2 <sup>d</sup> PMG: 3 <sup>h</sup> 08 <sup>m</sup> R <sup>o</sup> : 61 <sup>m</sup>					PHE { 4 <sup>h</sup> : 59.0' 12 <sup>h</sup> : 58.6' 20 <sup>h</sup> : 58.3'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m		
0	183 50.9	-10 47.5	314 53.0	40	+27 42.1	46	5 24	6 12	6 55	17 04	69	14 12	57		
1	198 51.0	48.4	329 16.0	40	46.7	46	58	23 09	50	17 44	66	13 32	59		
2	213 51.1	49.3	343 39.0	40	51.1	44	56	23 06	45	18 11	66	13 04	60		
3	228 51.2	50.2	358 01.9	39	55.3	42	54	23 04	40	33 65	12 43	60	61		
4	243 51.3	51.1	12 24.9	40	+27 59.4	41	52	22 6 01	36	18 51 64	25 61	60	61		
5	258 51.4	-10 52.0	26 47.9	40	+28 03.2	38	50	5 21 5 59	6 32	19 07 63	12 10 60	60	61		
6	273 51.5	-10 52.9	41 10.9	40	+28 06.9	37	45	5 20 5 54	6 24	19 37 63	11 39 61	61	61		
7	288 51.6	53.7	55 33.9	40	10.3	34	40	18 50	17	20 02 62	11 15 61	61	61		
8	303 51.7	54.6	69 57.0	41	13.6	33	35	16 46	11	21 62	10 55 61	61	61		
9	318 51.8	55.5	84 20.0	40	16.7	31	30	14 42	6 06	20 38 62	38 62	61	61		
10	333 51.9	56.4	98 43.1	41	19.5	28	20	09 35	5 57	21 07 61	10 10 61	61	61		
11	348 52.0	-10 57.3	113 06.2	41	+28 22.2	27	10 N	5 03 5 28	5 49	21 32 60	9 46 61	61	61		
12	3 52.1	-10 58.2	127 29.3	41	+28 24.7	25	0	4 56 5 20	5 41	21 55 59	9 23 61	61	61		
13	18 52.2	59.0	141 52.5	42	27.0	23	10 S	47 12	33	22 18 59	9 00 61	61	61		
14	33 52.3	-10 59.9	156 15.6	41	29.1	21	20	36 5 02	25	22 43 57	8 36 60	60	60		
15	48 52.4	-11 00.8	170 38.8	42	31.1	20	30	21 4 51	15	23 12 56	8 07 60	60	60		
16	63 52.5	01.7	185 02.1	43	32.8	17	35	12 43	09	29 56	7 51 59	59	59		
17	78 52.6	-11 02.6	199 25.4	43	+28 34.3	15	40	4 01 4 35	5 03	23 49 55	7 31 59	59	59		
18	93 52.7	-11 03.5	213 48.7	43	+28 35.7	14	45	3 47 4 25	4 55	** ** *	7 07 59	59	59		
19	108 52.8	04.3	228 12.0	43	36.8	11	50	29 12	46	** ** *	6 37 57	57	57		
20	123 52.9	05.2	242 35.4	44	37.8	10	52	20 4 06	42	** ** *	22 57	57	57		
21	138 53.0	06.1	256 58.9	45	38.6	8	54	3 10 3 59	37	0 08 71	6 04 56	56	56		
22	153 53.1	07.0	271 22.4	45	39.2	6	56	2 59 51	32	28 74	5 43 55	55	55		
23	168 53.1	07.9	285 45.9	45	39.6	4	58	45 43	26	0 55 76	5 17 51	51	51		
24	183 53.2	-11 08.8	300 09.5	46	+28 39.8	2	60 S	2 29 3 33	4 20	1 32 83	4 39 45	45	45		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 56.7 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 07 <sup>m</sup>		Mag.: +0.3 PMG: 5 <sup>h</sup> 46 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.7 PMG: 20 <sup>h</sup> 58 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	29 55.9	148 20.5	-22 10.5	273 20.5	+22 15.7	309 33.4	+22 25.4	44 31.7	-8 34.7	34.7
1	44 58.4	163 19.8	11.2	288 21.8	15.6	324 36.0	25.4	59 34.2	34.8	34.8
2	60 00.9	178 19.0	11.9	303 23.1	15.5	339 38.6	25.4	74 36.8	34.8	34.8
3	75 03.3	193 18.3	12.6	318 24.4	15.3	354 41.1	25.4	89 39.4	34.8	34.8
4	90 05.8	208 17.6	13.3	333 25.7	15.2	9 43.7	25.4	104 41.9	34.9	34.9
5	105 08.3	223 16.9	-22 14.0	348 27.0	+22 15.1	24 46.3	+22 25.4	119 44.5	-8 34.9	34.9
6	120 10.7	238 16.2	-22 14.7	3 28.3	+22 15.0	39 48.8	+22 25.3	134 47.1	-8 35.0	35.0
7	135 13.2	253 15.5	15.3	18 29.6	14.9	54 51.4	25.3	149 49.6	35.0	35.0
8	150 15.7	268 14.8	16.0	33 30.9	14.7	69 54.0	25.3	164 52.2	35.0	35.0
9	165 18.1	283 14.0	16.7	48 32.2	14.6	84 56.6	25.3	179 54.8	35.1	35.1
10	180 20.6	298 13.3	17.4	63 33.5	14.5	99 59.1	25.3	194 57.3	35.1	35.1
11	195 23.0	313 12.6	-22 18.1	78 34.8	+22 14.4	115 01.7	+22 25.3	209 59.9	-8 35.1	35.1
12	210 25.5	328 11.9	-22 18.7	93 36.1	+22 14.3	130 04.3	+22 25.3	225 02.5	-8 35.2	35.2
13	225 28.0	343 11.2	19.4	108 37.4	14.1	145 06.9	25.3	240 05.0	35.2	35.2
14	240 30.4	358 10.5	20.1	123 38.7	14.0	160 09.4	25.3	255 07.6	35.2	35.2
15	255 32.9	13 09.7	20.8	138 40.0	13.9	175 12.0	25.3	270 10.1	35.3	35.3
16	270 35.4	28 09.0	21.4	153 41.3	13.8	190 14.6	25.3	285 12.7	35.3	35.3
17	285 37.8	43 08.3	-22 22.1	168 42.6	+22 13.7	205 17.2	+22 25.3	300 15.3	-8 35.3	35.3
18	300 40.3	58 07.6	-22 22.8	183 44.0	+22 13.5	220 19.7	+22 25.3	315 17.8	-8 35.4	35.4
19	315 42.8	73 06.9	23.5	198 45.3	13.4	235 22.3	25.3	330 20.4	35.4	35.4
20	330 45.2	88 06.1	24.1	213 46.6	13.3	250 24.9	25.3	345 23.0	35.5	35.5
21	345 47.7	103 05.4	24.8	228 47.9	13.2	265 27.5	25.2	0 25.5	35.5	35.5
22	0 50.2	118 04.7	25.5	243 49.2	13.0	280 30.0	25.2	15 28.1	35.5	35.5
23	15 52.6	133 04.0	26.1	258 50.5	12.9	295 32.6	25.2	30 30.6	35.6	35.6
24	30 55.1	148 03.3	-22 26.8	273 51.8	+22 12.8	310 35.2	+22 25.2	45 33.2	-8 35.6	35.6
Dif	—	-7	-7	+13	-1	+26	0	+26	0	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna											
	SD: 16.1' PMG: 11 <sup>h</sup> 44.4 <sup>m</sup>		SD: 15.8' Edad: 19.2 <sup>d</sup> PMG: 4 <sup>h</sup> 09 <sup>m</sup> R <sup>o</sup> : 59 <sup>m</sup>						PHE { 4 <sup>h</sup> : 58.0' 12 <sup>h</sup> : 57.7' 20 <sup>h</sup> : 57.4'		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		h	m	h	m	h	m	h	m									
0	183	53.2	-11	08.8	300	09.5	+28	39.8	1	60 N	16	30	17	13	18	01	18	13	98	15	09	19		
1	198	53.3		09.6	314	33.2	47	39.9	2	58	36	16	16	02	18	50	88	14	31	30	14	31	30	
2	213	53.4		10.5	328	56.9	47	39.7	3	56	41	19	03	19	17	82	14	04	36	14	04	36		
3	228	53.5		11.4	343	20.7	48	39.4	4	54	46	22	03	38	78	13	43	39	13	43	39			
4	243	53.6		12.3	357	44.5	48	38.9	5	52	50	25	04	19	55	76	26	41	26	41				
5	258	53.7	-11	13.2	12	08.4	49	+28	38.2	7	50	16	54	17	27	18	05	20	10	74	13	10	44	
6	273	53.8	-11	14.0	26	32.4	50	+28	37.3	9	45	17	03	17	33	18	07	20	40	70	12	40	47	
7	288	53.9		14.9	40	56.4	50	36.3	10	40	10	37	09	21	04	67	12	16	49	12	16	49		
8	303	54.0		15.8	55	20.5	51	35.1	12	35	16	42	11	23	65	11	56	51	11	56	51			
9	318	54.1		16.7	69	44.7	52	33.7	14	30	22	46	14	21	40	63	40	52	40	52				
10	333	54.2		17.6	84	08.9	52	32.1	16	20	31	17	54	19	22	08	60	11	11	54	11	11	54	
11	348	54.3	-11	18.4	98	33.3	54	+28	30.3	18	10 N	17	40	18	01	18	26	22	32	57	10	47	56	
12	3	54.3	-11	19.3	112	57.7	54	+28	28.4	19	0	17	48	18	09	18	33	22	54	55	10	24	57	
13	18	54.4		20.2	127	22.1	54	26.3	21	0 S	17	56	17	42	23	17	53	10	01	59	10	01	59	
14	33	54.5		21.1	141	46.7	56	24.0	23	20	18	05	27	18	54	23	40	51	9	36	61	9	36	61
15	48	54.6		21.9	156	11.3	56	21.5	25	30	15	40	19	09	**	**	**	**	9	07	63	9	07	63
16	63	54.7		22.8	170	36.1	58	18.9	26	35	21	47	19	**	**	**	**	8	50	64	8	50	64	
17	78	54.8	-11	23.7	185	00.9	58	+28	16.1	28	40	18	28	18	56	19	30	**	**	**	8	30	65	
18	93	54.9	-11	24.6	199	25.8	59	+28	13.2	29	45	18	36	19	07	19	45	0	13	54	8	06	67	
19	108	55.0		25.4	213	50.8	60	10.0	32	50	46	20	20	04	0	45	51	7	34	70	7	34	70	
20	123	55.1		26.3	228	15.8	60	06.8	32	52	50	27	13	1	01	50	19	71	19	71				
21	138	55.1		27.2	242	41.0	62	+28	03.3	35	54	18	55	34	23	19	49	7	00	73	7	00	73	
22	153	55.2		28.1	257	06.3	63	+27	59.7	36	56	19	00	42	36	1	42	46	6	38	75	6	38	75
23	168	55.3		28.9	271	31.6	63	55.9	38	58	07	19	51	20	50	2	11	42	6	08	81	6	08	81
24	183	55.4	-11	29.8	285	57.1	65	+27	52.0	39	60 S	19	14	20	02	21	08	2	55	32	5	24	91	
UT	ARIES	VENUS			MARTE			JÚPITER			SATURNO													
	PMG	Mag.: -4.0			Mag.: +0.2			Mag.: -2.6			Mag.: +0.7													
	21 <sup>h</sup> 52.7 <sup>m</sup>	PMG: 14 <sup>h</sup> 08 <sup>m</sup>			PMG: 5 <sup>h</sup> 44 <sup>m</sup>			PMG: 3 <sup>h</sup> 17 <sup>m</sup>			PMG: 20 <sup>h</sup> 54 <sup>m</sup>													
	hG ☊	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec													
h	0	30	55.1	148	03.3	-22	26.8	273	51.8	+22	12.8	310	35.2	+22	25.2	45	33.2	-8	35.6					
1	45	57.5	163	02.5	27.5	288	53.2	12.7	325	37.8	25.2	60	35.8			60	35.8		35.6					
2	61	00.0	178	01.8	28.1	303	54.5	12.6	340	40.4	25.2	75	38.3			75	38.3		35.7					
3	76	02.5	193	01.1	28.8	318	55.8	12.4	355	42.9	25.2	90	40.9			90	40.9		35.7					
4	91	04.9	208	00.4	29.5	333	57.1	12.3	10	45.5	25.2	105	43.4			105	43.4		35.7					
5	106	07.4	222	59.6	-22	30.1	348	58.4	+22	12.2	25	48.1	+22	25.2	120	46.0	-8	35.8						
6	121	09.9	237	58.9	-22	30.8	3	59.7	+22	12.1	40	50.7	+22	25.2	135	48.6	-8	35.8						
7	136	12.3	252	58.2	31.4	19	01.1	12.0	55	53.3	25.2	150	51.1			150	51.1		35.8					
8	151	14.8	267	57.5	32.1	34	02.4	11.8	70	55.8	25.2	165	53.7			165	53.7		35.9					
9	166	17.3	282	56.7	32.7	49	03.7	11.7	85	58.4	25.2	180	56.2			180	56.2		35.9					
10	181	19.7	297	56.0	33.4	64	05.0	11.6	101	01.0	25.2	195	58.8			195	58.8		35.9					
11	196	22.2	312	55.3	-22	34.1	79	06.3	+22	11.5	116	03.6	+22	25.1	211	01.4	-8	36.0						
12	211	24.7	327	54.6	-22	34.7	94	07.7	+22	11.4	131	06.2	+22	25.1	226	03.9	-8	36.0						
13	226	27.1	342	53.8	35.4	109	09.0	11.2	146	08.7	25.1	241	06.5			241	06.5		36.0					
14	241	29.6	357	53.1	36.0	124	10.3	11.1	161	11.3	25.1	256	09.0			256	09.0		36.1					
15	256	32.0	12	52.4	36.7	139	11.6	11.0	176	13.9	25.1	271	11.6			271	11.6		36.1					
16	271	34.5	27	51.6	37.3	154	13.0	10.9	191	16.5	25.1	286	14.2			286	14.2		36.1					
17	286	37.0	42	50.9	-22	38.0	169	14.3	+22	10.7	206	19.1	+22	25.1	301	16.7	-8	36.2						
18	301	39.4	57	50.2	-22	38.6	184	15.6	+22	10.6	221	21.7	+22	25.1	316	19.3	-8	36.2						
19	316	41.9	72	49.5	39.2	199	16.9	10.5	236	24.3	25.1	331	21.8			331	21.8		36.2					
20	331	44.4	87	48.7	39.9	214	18.3	10.4	251	26.8	25.1	346	24.4			346	24.4		36.3					
21	346	46.8	102	48.0	40.5	229	19.6	10.3	266	29.4	25.1	1	27.0			1	27.0		36.3					
22	1	49.3	117	47.3	41.2	244	20.9	10.1	281	32.0	25.1	16	29.5			16	29.5		36.3					
23	16	51.8	132	46.5	41.8	259	22.2	10.0	296	34.6	25.1	31	32.1			31	32.1		36.4					
24	31	54.2	147	45.8	-22	42.5	274	23.6	+22	09.9	311	37.2	+22	25.1	46	34.6	-8	36.4						
Dif		-		-7		-7		+13		-1		+26		0		+26		0		0				

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 44.2 <sup>m</sup>		SD: 15.6' Edad: 20.2 <sup>d</sup> PMG: 5 <sup>h</sup> 08 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.1' 12 <sup>h</sup> : 56.8' 20 <sup>h</sup> : 56.5'			R°: 54 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	183 55.4	-11 29.8	285 57.1	65	+27 52.0	41	60 N	5 28	6 17	7 00	19 51	101	15 28	6		
1	198 55.5	30.7	300 22.6	66	47.9	41	58	28	13	6 54	20 18	92	15 01	14		
2	213 55.6	31.6	314 48.3	67	43.6	43	56	27	10	49	39 86	14 40	20	20		
3	228 55.7	32.4	329 14.0	67	39.2	44	54	26	07	44	20 56	82	22	24		
4	243 55.8	33.3	343 39.9	69	34.7	45	52	25	05	39	21 11	79	14 07	27		
5	258 55.8	-11 34.2	358 05.8	69	+27 29.9	48	50	5 25	6 02	6 35	21 24	76	13 54	30		
6	273 55.9	-11 35.1	12 31.8	70	+27 25.1	48	45	5 22	5 57	6 27	21 50	71	13 27	34		
7	288 56.0	35.9	26 58.0	72	20.0	51	40	20	52	19	22 11	67	13 05	38		
8	303 56.1	36.8	41 24.3	73	14.9	51	35	18	47	13	28 64	12 47	41	41		
9	318 56.2	37.7	55 50.6	73	09.6	53	30	15	43	6 08	22 43	61	32	43		
10	333 56.3	38.6	70 17.1	75	+27 04.1	55	20	09	35	5 58	23 08	57	12 05	48		
11	348 56.3	-11 39.4	84 43.7	76	+26 58.5	56	10 N	5 03	5 28	5 49	23 29	54	11 43	50		
12	3 56.4	-11 40.3	99 10.4	77	+26 52.7	58	0	4 55	5 20	5 41	23 49	51	11 21	53		
13	18 56.5	41.2	113 37.1	77	46.8	59	10 S	46	11	33	** ** *	** ** *	11 00	56		
14	33 56.6	42.0	128 04.0	79	40.8	60	20	34	5 01	24	** ** *	** ** *	10 37	59		
15	48 56.7	42.9	142 31.1	81	34.6	62	30	19	4 48	13	0 08	48	10 10	62		
16	63 56.8	43.8	156 58.2	81	28.3	63	35	4 09	41	07	25 45	43	9 54	65		
17	78 56.8	-11 44.6	171 25.4	82	+26 21.9	64	40	3 58	4 32	5 00	0 44	45	9 35	68		
18	93 56.9	-11 45.5	185 52.8	84	+26 15.3	66	45	3 43	4 21	4 52	1 07	40	9 13	71		
19	108 57.0	46.4	200 20.2	84	08.6	67	50	24	08	42	36 36	8 44	76	76		
20	123 57.1	47.2	214 47.8	86	+26 01.7	69	52	15	4 01	38	1 51	33	30	78		
21	138 57.2	48.1	229 15.4	86	+25 54.8	69	54	3 04	3 54	33	2 08	30	8 13	82		
22	153 57.2	49.0	243 43.2	88	47.6	72	56	2 52	46	27	28 26	7 53	86	86		
23	168 57.3	49.9	258 11.1	89	40.4	72	58	38	37	21	2 53	19	7 29	92		
24	183 57.4	-11 50.7	272 39.2	91	+25 33.0	74	60 S	2 20	3 26	4 14	3 27	9	6 55	104		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 48.8 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 42 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 13 <sup>m</sup>		Mag.: +0.7 PMG: 20 <sup>h</sup> 50 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	31 54.2	147 45.8	-22 42.5	274 23.6	+22 09.9	311 37.2	+22 25.1	46 34.6	-8 36.4	36.4
1	46 56.7	162 45.1	43.1	289 24.9	09.8	326 39.8	25.0	61 37.2	36.4	36.4
2	61 59.2	177 44.3	43.7	304 26.2	09.7	341 42.4	25.0	76 39.8	36.5	36.5
3	77 01.6	192 43.6	44.4	319 27.6	09.5	356 44.9	25.0	91 42.3	36.5	36.5
4	92 04.1	207 42.9	45.0	334 28.9	09.4	11 47.5	25.0	106 44.9	36.5	36.5
5	107 06.5	222 42.1	-22 45.6	349 30.2	+22 09.3	26 50.1	+22 25.0	121 47.4	-8 36.6	36.6
6	122 09.0	237 41.4	-22 46.3	4 31.6	+22 09.2	41 52.7	+22 25.0	136 50.0	-8 36.6	36.6
7	137 11.5	252 40.7	46.9	19 32.9	09.1	56 55.3	25.0	151 52.5	36.6	36.6
8	152 13.9	267 39.9	47.5	34 34.2	08.9	71 57.9	25.0	166 55.1	36.7	36.7
9	167 16.4	282 39.2	48.2	49 35.6	08.8	87 00.5	25.0	181 57.7	36.7	36.7
10	182 18.9	297 38.4	48.8	64 36.9	08.7	102 03.1	25.0	197 00.2	36.7	36.7
11	197 21.3	312 37.7	-22 49.4	79 38.2	+22 08.6	117 05.7	+22 25.0	212 02.8	-8 36.8	36.8
12	212 23.8	327 37.0	-22 50.1	94 39.6	+22 08.5	132 08.3	+22 25.0	227 05.3	-8 36.8	36.8
13	227 26.3	342 36.2	50.7	109 40.9	08.3	147 10.8	25.0	242 07.9	36.8	36.8
14	242 28.7	357 35.5	51.3	124 42.3	08.2	162 13.4	24.9	257 10.4	36.9	36.9
15	257 31.2	12 34.8	51.9	139 43.6	08.1	177 16.0	24.9	272 13.0	36.9	36.9
16	272 33.6	27 34.0	52.6	154 44.9	08.0	192 18.6	24.9	287 15.5	36.9	36.9
17	287 36.1	42 33.3	-22 53.2	169 46.3	+22 07.8	207 21.2	+22 24.9	302 18.1	-8 37.0	37.0
18	302 38.6	57 32.5	-22 53.8	184 47.6	+22 07.7	222 23.8	+22 24.9	317 20.7	-8 37.0	37.0
19	317 41.0	72 31.8	54.4	199 49.0	07.6	237 26.4	24.9	332 23.2	37.0	37.0
20	332 43.5	87 31.1	55.0	214 50.3	07.5	252 29.0	24.9	347 25.8	37.1	37.1
21	347 46.0	102 30.3	55.7	229 51.7	07.4	267 31.6	24.9	2 28.3	37.1	37.1
22	2 48.4	117 29.6	56.3	244 53.0	07.2	282 34.2	24.9	17 30.9	37.1	37.1
23	17 50.9	132 28.8	56.9	259 54.3	07.1	297 36.8	24.9	32 33.4	37.1	37.1
24	32 53.4	147 28.1	-22 57.5	274 55.7	+22 07.0	312 39.4	+22 24.9	47 36.0	-8 37.2	37.2
Dif	—	-7	-6	+13	-1	+26	0	+26	0	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 44.1 <sup>m</sup>		SD: 15.4' Edad: 21.2 <sup>d</sup> PMG: 6 <sup>h</sup> 02 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.2' 12 <sup>h</sup> : 55.9' 20 <sup>h</sup> : 55.7'				R <sup>o</sup> : 50 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	183 57.4	-11 50.7	272 39.2	91	+25 33.0	74	60 N	16 24	17 08	17 56	21 32	95	15 34	2		
1	198 57.5	51.6	287 07.3	91	25.6	75	58	31	12	57	21 50	89	15	8		
2	213 57.5	52.5	301 35.5	92	18.0	76	56	36	15	58	22 05	85	15 00	12		
3	228 57.6	53.3	316 03.9	94	10.2	78	54	42	18	17 59	18 81	81	14 46	16		
4	243 57.7	54.2	330 32.4	95	+25 02.4	78	52	46	21	18 00	30 77	77	34	19		
5	258 57.8	-11 55.0	345 00.9	95	+24 54.4	80	50	16 50	17 24	18 01	22 40	75	14 24	21		
6	273 57.9	-11 55.9	359 29.6	97	+24 46.3	81	45	17 00	17 30	18 04	23 01	69	14 01	27		
7	288 57.9	56.8	13 58.4	98	38.1	82	40	07	35	06	18 65	65	13 43	31		
8	303 58.0	57.6	28 27.4	100	29.8	83	35	14	40	09	32 62	62	28 34			
9	318 58.1	58.5	42 56.4	100	21.3	85	30	20	44	12	23 44	59	15 15	37		
10	333 58.2	-11 59.4	57 25.5	101	12.8	85	20	30	17 52	18	** ** *	** ** *	12 53	40		
11	348 58.2	-12 00.2	71 54.8	103	+24 04.1	87	10 N	17 39	18 00	18 25	** ** *	** ** *	12 33	45		
12	3 58.3	-12 01.1	86 24.2	104	+23 55.4	87	0	17 47	18 09	18 33	** ** *	** ** *	12 14	49		
13	18 58.4	02.0	100 53.7	105	46.5	89	10 S	17 56	18	43	0 10	47	11 56	52		
14	33 58.5	02.8	115 23.3	106	37.5	90	20	18 06	28	18 55	31 44	47	36	56		
15	48 58.5	03.7	129 53.0	107	28.4	91	30	17	41	19 11	0 56	39	11 12	61		
16	63 58.6	04.5	144 22.8	108	19.3	91	35	23	49	21	1 10	37	10 59	63		
17	78 58.7	-12 05.4	158 52.7	109	+23 10.0	93	40	18 30	18 59	19 33	1 27	34	10 43	66		
18	93 58.8	-12 06.3	173 22.8	111	+23 00.6	94	45	18 39	19 10	19 48	1 47	30	10 24	70		
19	108 58.8	07.1	187 52.9	111	+22 51.1	95	50	49	24	20 08	2 12	25	10 00	76		
20	123 58.9	08.0	202 23.2	113	41.5	96	52	54	31	18	24 22	22	9 48	79		
21	138 59.0	08.9	216 53.5	113	31.8	97	54	18 59	38	29	38 19	39	35	82		
22	153 59.1	09.7	231 24.0	115	22.0	98	56	19 05	47	42	2 54	14	19	87		
23	168 59.1	10.6	245 54.6	116	12.1	99	58	11	19 56	20 57	3 12	10	9 01	92		
24	183 59.2	-12 11.4	260 25.3	117	+22 02.2	99	60 S	19 19	20 08	21 16	3 36	2	8 39	99		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 44.9 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 11 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 40 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 09 <sup>m</sup>		Mag.: +0.7 PMG: 20 <sup>h</sup> 46 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	32 53.4	147 28.1	-22 57.5	274 55.7	+22 07.0	312 39.4	+22 24.9	47 36.0	-8 37.2	
1	47 55.8	162 27.3	58.1	289 57.0	06.9	327 42.0	24.9	62 38.5	37.2	
2	62 58.3	177 26.6	58.7	304 58.4	06.8	342 44.6	24.8	77 41.1	37.2	
3	78 00.8	192 25.9	-22 59.3	319 59.7	06.6	357 47.2	24.8	92 43.7	37.3	
4	93 03.2	207 25.1	-23 00.0	335 01.1	06.5	12 49.8	24.8	107 46.2	37.3	
5	108 05.7	222 24.4	-23 00.6	350 02.4	+22 06.4	27 52.4	+22 24.8	122 48.8	-8 37.3	
6	123 08.1	237 23.6	-23 01.2	5 03.8	+22 06.3	42 55.0	+22 24.8	137 51.3	-8 37.4	
7	138 10.6	252 22.9	01.8	20 05.1	06.2	57 57.6	24.8	152 53.9	37.4	
8	153 13.1	267 22.1	02.4	35 06.5	06.0	73 00.2	24.8	167 56.4	37.4	
9	168 15.5	282 21.4	03.0	50 07.8	05.9	88 02.8	24.8	182 59.0	37.5	
10	183 18.0	297 20.6	03.6	65 09.2	05.8	103 05.4	24.8	198 01.5	37.5	
11	198 20.5	312 19.9	-23 04.2	80 10.5	+22 05.7	118 08.0	+22 24.8	213 04.1	-8 37.5	
12	213 22.9	327 19.1	-23 04.8	95 11.9	+22 05.6	133 10.6	+22 24.8	228 06.6	-8 37.6	
13	228 25.4	342 18.4	05.4	110 13.2	05.4	148 13.2	24.8	243 09.2	37.6	
14	243 27.9	357 17.6	06.0	125 14.6	05.3	163 15.8	24.8	258 11.7	37.6	
15	258 30.3	12 16.9	06.6	140 16.0	05.2	178 18.4	24.7	273 14.3	37.6	
16	273 32.8	27 16.1	07.2	155 17.3	05.1	193 21.0	24.7	288 16.8	37.7	
17	288 35.3	42 15.4	-23 07.8	170 18.7	+22 05.0	208 23.6	+22 24.7	303 19.4	-8 37.7	
18	303 37.7	57 14.6	-23 08.4	185 20.0	+22 04.8	223 26.2	+22 24.7	318 22.0	-8 37.7	
19	318 40.2	72 13.9	09.0	200 21.4	04.7	238 28.8	24.7	333 24.5	37.8	
20	333 42.6	87 13.1	09.6	215 22.7	04.6	253 31.4	24.7	348 27.1	37.8	
21	348 45.1	102 12.4	10.2	230 24.1	04.5	268 34.0	24.7	3 29.6	37.8	
22	3 47.6	117 11.6	10.7	245 25.5	04.4	283 36.6	24.7	18 32.2	37.9	
23	18 50.0	132 10.9	11.3	260 26.8	04.2	298 39.2	24.7	33 34.7	37.9	
24	33 52.5	147 10.1	-23 11.9	275 28.2	+22 04.1	313 41.8	+22 24.7	48 37.3	-8 37.9	

Dif	—	-7	-6	+14	-1	+26	0	+26	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16.1' PMG: 11 <sup>h</sup> 44.0 <sup>m</sup>		SD: 15.1' Edad: 22.2 <sup>d</sup> PMG: 6 <sup>h</sup> 52 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.5' 12 <sup>h</sup> : 55.3' 20 <sup>h</sup> : 55.1'			R <sup>o</sup> : 45 <sup>m</sup>			Hora R <sup>o</sup>		Hora R <sup>o</sup>					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>				
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m					
0	183	59.2	-12	11.4	260	25.3	+22	02.2	101	60 N	5 33	6 22	7 05	23 07	89	15 36	0	
1	198	59.3		12.3	274	56.1	118	+21	52.1	101	58	32	18	6 59	19	85	23 4	
2	213	59.3		13.2	289	27.0	119		42.0	101	56	31	14	53	30	80	12 7	
3	228	59.4		14.0	303	58.0	120		31.7	103	54	30	11	48	39	77	15 02	11
4	243	59.5		14.9	318	29.1	121		21.4	103	52	29	08	43	47	75	14 53	14
5	258	59.5	-12	15.7	333	00.3	122	+21	11.0	104	50	5 28	6 05	6 39	23 55	72	14 45	16
6	273	59.6	-12	16.6	347	31.6	123	+21	00.5	105	45	5 25	5 59	6 29	** ** *	** ** *	14 28	21
7	288	59.7		17.4	2 03.1	125	125	+20	49.9	106	40	22	54	22	** ** *	** ** *	14 25	
8	303	59.8		18.3	16 34.6	125	125		39.2	107	35	19	49	15	** ** *	** ** *	14 02	28
9	318	59.8		19.2	31 06.2	126	126		28.5	107	30	16	44	6 09	** ** *	** ** *	13 52	31
10	333	59.9		20.0	45 37.9	127	127		17.6	109	20	10	36	5 59	0 05	54	33	37
11	349	00.0	-12	20.9	60 09.8	129	129	+20	06.7	109	10 N	5 03	5 28	5 49	0 23	50	13 18	40
12	4 00.0	-12	21.7	74 41.7	129	129	129	+19	55.7	110	0	4 55	5 19	5 41	0 40	46	13 03	44
13	19 00.1		22.6	89 13.7	130	130	130		44.7	110	10 S	45	10	32	0 57	42	12 48	48
14	34 00.2		23.4	103 45.8	131	131	131		33.5	112	20	33	5 00	22	1 15	38	32	52
15	49 00.2		24.3	118 18.0	132	132	132		22.3	112	30	17	4 46	11	35	34	13	57
16	64 00.3		25.1	132 50.4	134	134	134	+19	11.0	113	35	4 07	38	5 05	1 47	31	12 02	60
17	79 00.4	-12	26.0	147 22.8	134	134	134	+18	59.7	113	40	3 55	4 29	4 57	2 01	27	11 49	64
18	94 00.4	-12	26.8	161 55.3	135	135	135	+18	48.2	115	45	3 39	4 18	4 49	2 17	23	11 34	69
19	109 00.5		27.7	176 27.8	135	135	135		36.7	115	50	20	4 03	38	37	18	16	73
20	124 00.6		28.6	191 00.5	137	137	137		25.2	115	52	3 10	3 57	34	46	16	11 07	76
21	139 00.6		29.4	205 33.3	138	138	138		13.5	117	54	2 59	49	28	2 57	12	10 57	80
22	154 00.7		30.3	220 06.2	139	139	139	+18	01.8	117	56	46	41	22	3 08	10	46	83
23	169 00.8		31.1	234 39.1	139	139	139	+17	50.1	117	58	30	31	16	22	5	33	87
24	184 00.8	-12	32.0	249 12.1	140	140	140	+17	38.2	119	60 S	2 11	3 20	4 08	3 38	0	10 18	93

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 <sup>h</sup> 40.9 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 12 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 38 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 05 <sup>m</sup>		Mag.: +0.7 PMG: 20 <sup>h</sup> 42 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "								
0	33	52.5	147	10.1	-23	11.9	275	28.2	+22	04.1	313	41.8	+22	24.7	48	37.3	-8	37.9
1	48	55.0	162	09.4		12.5	290	29.6		04.0	328	44.4		24.7	63	39.8		38.0
2	63	57.4	177	08.6		13.1	305	30.9		03.9	343	47.0		24.6	78	42.4		38.0
3	78	59.9	192	07.9		13.7	320	32.3		03.8	358	49.6		24.6	93	44.9		38.0
4	94	02.4	207	07.1		14.3	335	33.6		03.7	13	52.2		24.6	108	47.5		38.0
5	109	04.8	222	06.4	-23	14.9	350	35.0	+22	03.5	28	54.8	+22	24.6	123	50.0	-8	38.1
6	124	07.3	237	05.6	-23	15.4	5 36.4	+22	03.4	43	57.4	+22	24.6	138	52.6	-8	38.1	
7	139	09.8	252	04.8		16.0	20 37.7		03.3	59	00.0		24.6	153	55.1		38.1	
8	154	12.2	267	04.1		16.6	35 39.1		03.2	74	02.6		24.6	168	57.7		38.2	
9	169	14.7	282	03.3		17.2	50 40.5		03.1	89	05.2		24.6	184	00.2		38.2	
10	184	17.1	297	02.6		17.8	65 41.9		02.9	104	07.9		24.6	199	02.8		38.2	
11	199	19.6	312	01.8	-23	18.3	80 43.2	+22	02.8	119	10.5	+22	24.6	214	05.3	-8	38.2	
12	214	22.1	327	01.1	-23	18.9	95 44.6	+22	02.7	134	13.1	+22	24.6	229	07.9	-8	38.3	
13	229	24.5	342	00.3		19.5	110 46.0		02.6	149	15.7		24.6	244	10.4		38.3	
14	244	27.0	356	59.5		20.0	125 47.3		02.5	164	18.3		24.5	259	13.0		38.3	
15	259	29.5	11 58.8		20.6	140 48.7		02.3	179	20.9		24.5	274	15.5		38.4		
16	274	31.9	26 58.0		21.2	155 50.1		02.2	194	23.5		24.5	289	18.1		38.4		
17	289	34.4	41 57.3	-23	21.8	170 51.5	+22	02.1	209	26.1	+22	24.5	304	20.6	-8	38.4		
18	304	36.9	56 56.5	-23	22.3	185 52.8	+22	02.0	224	28.7	+22	24.5	319	23.2	-8	38.5		
19	319	39.3	71 55.7		22.9	200 54.2		01.9	239	31.3		24.5	334	25.7		38.5		
20	334	41.8	86 55.0		23.5	215 55.6		01.7	254	34.0		24.5	349	28.3		38.5		
21	349	44.2	101 54.2		24.0	230 57.0		01.6	269	36.6		24.5	4 30.8			38.5		
22	4 46.7		116 53.5		24.6	245 58.3		01.5	284	39.2		24.5	19 33.3			38.6		
23	19 49.2		131 52.7		25.2	260 59.7		01.4	299	41.8		24.5	34 35.9			38.6		
24	34 51.6		146 51.9	-23	25.7	276 01.1	+22	01.3	314	44.4	+22	24.5	49 38.4	-8	38.6			

Dif	—	-8	-6	+14	-1	+26	0	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.9 <sup>m</sup>		SD: 15.0' Edad: 23.2 <sup>d</sup> PMG: 7 <sup>h</sup> 37 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.6'				R <sup>o</sup> : 42 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	184 00.8	-12 32.0	249 12.1	+17 38.2	119	60 N	16 19	17 03	17 52	** ** *	** ** *	15 36	-2			
1	199 00.9	32.8	263 45.3	26.3	142	58	26	07	53	** ** *	** ** *	27	2			
2	214 00.9	33.7	278 18.5	14.4	119	56	32	11	54	** ** *	** ** *	19	6			
3	229 01.0	34.5	292 51.8	+17 02.3	121	54	37	14	55	** ** *	** ** *	13	8			
4	244 01.1	35.4	307 25.1	+16 50.3	120	52	42	17	57	** ** *	** ** *	07	10			
5	259 01.1	-12 36.2	321 58.6	+16 38.1	122	50	16 47	17 20	17 58	** ** *	** ** *	15 01	13			
6	274 01.2	-12 37.1	336 32.1	+16 25.9	122	45	16 56	17 27	18 01	0 10	67	14 49	18			
7	289 01.3	37.9	351 05.8	13.7	122	40	17 05	32	04	23 62	39 22	39 22				
8	304 01.3	38.8	5 39.5	+16 01.3	124	35	12	37	07	34 59	30 25	30 25				
9	319 01.4	39.6	20 13.2	+15 49.0	123	30	18	42	10	43 56	23 28	23 28				
10	334 01.4	40.5	34 47.1	36.5	125	20	29	17 51	17	0 59	51	14 10	32			
11	349 01.5	-12 41.3	49 21.0	+15 24.1	124	10 N	17 38	18 00	18 25	1 13	47	13 58	37			
12	4 01.6	-12 42.2	63 55.0	+15 11.5	126	0	17 47	18 08	18 33	1 26	43	13 47	41			
13	19 01.6	43.0	78 29.1	+14 59.0	125	10 S	17 57	18	43	39 39	36 45	36 45				
14	34 01.7	43.9	93 03.3	46.3	127	20	18 06	29	18 56	1 53	34	24 50				
15	49 01.7	44.7	107 37.5	33.6	127	30	18	43	19 13	2 09	29	10 55				
16	64 01.8	45.5	122 11.8	20.9	127	35	25	18 51	23	18 26	13 02	58				
17	79 01.8	-12 46.4	136 46.2	+14 08.1	128	40	18 32	19 01	19 36	2 28	23	12 53	62			
18	94 01.9	-12 47.2	151 20.6	+13 55.3	128	45	18 41	19 13	19 52	2 40	19	12 43	65			
19	109 02.0	48.1	165 55.1	42.4	129	50	52	28	20 12	2 55	14	29 71				
20	124 02.0	48.9	180 29.7	29.5	129	52	18 57	35	22	3 02	11	23 74				
21	139 02.1	49.8	195 04.3	16.6	129	54	19 03	43	34	09 9	17 75	17 75				
22	154 02.1	50.6	209 39.0	+13 03.6	130	56	09	19 52	20 48	18 6	09 79	09 79				
23	169 02.2	51.5	224 13.8	+12 50.5	131	58	16	20 02	21 04	27 3	12 00	83				
24	184 02.2	-12 52.3	238 48.6	+12 37.4	131	60 S	19 24	20 14	21 25	3 38	-1	11 51	86			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 37.0 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 13 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.6 PMG: 3 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	34 51.6	146 51.9	-23 25.7	276 01.1	+22 01.3	314 44.4	+22 24.5	49 38.4	-8 38.6	
1	49 54.1	161 51.2	26.3	291 02.5	01.2	329 47.0	24.4	64 41.0	38.7	
2	64 56.6	176 50.4	26.8	306 03.9	01.0	344 49.6	24.4	79 43.5	38.7	
3	79 59.0	191 49.6	27.4	321 05.2	00.9	359 52.3	24.4	94 46.1	38.7	
4	95 01.5	206 48.9	28.0	336 06.6	00.8	14 54.9	24.4	109 48.6	38.7	
5	110 04.0	221 48.1	-23 28.5	351 08.0	+22 00.7	29 57.5	+22 24.4	124 51.2	-8 38.8	
6	125 06.4	236 47.3	-23 29.1	6 09.4	+22 00.6	45 00.1	+22 24.4	139 53.7	-8 38.8	
7	140 08.9	251 46.6	29.6	21 10.8	00.4	60 02.7	24.4	154 56.3	38.8	
8	155 11.4	266 45.8	30.2	36 12.1	00.3	75 05.3	24.4	169 58.8	38.8	
9	170 13.8	281 45.1	30.7	51 13.5	00.2	90 07.9	24.4	185 01.4	38.9	
10	185 16.3	296 44.3	31.3	66 14.9	00.1	105 10.6	24.4	200 03.9	38.9	
11	200 18.7	311 43.5	-23 31.8	81 16.3	+22 00.0	120 13.2	+22 24.4	215 06.5	-8 38.9	
12	215 21.2	326 42.7	-23 32.4	96 17.7	+21 59.9	135 15.8	+22 24.3	230 09.0	-8 39.0	
13	230 23.7	341 42.0	32.9	111 19.1	59.7	150 18.4	24.3	245 11.6	39.0	
14	245 26.1	356 41.2	33.5	126 20.5	59.6	165 21.0	24.3	260 14.1	39.0	
15	260 28.6	11 40.4	34.0	141 21.9	59.5	180 23.7	24.3	275 16.6	39.0	
16	275 31.1	26 39.7	34.6	156 23.2	59.4	195 26.3	24.3	290 19.2	39.1	
17	290 33.5	41 38.9	-23 35.1	171 24.6	+21 59.3	210 28.9	+22 24.3	305 21.7	-8 39.1	
18	305 36.0	56 38.1	-23 35.6	186 26.0	+21 59.1	225 31.5	+22 24.3	320 24.3	-8 39.1	
19	320 38.5	71 37.4	36.2	201 27.4	59.0	240 34.1	24.3	335 26.8	39.2	
20	335 40.9	86 36.6	36.7	216 28.8	58.9	255 36.8	24.3	350 29.4	39.2	
21	350 43.4	101 35.8	37.3	231 30.2	58.8	270 39.4	24.3	5 31.9	39.2	
22	5 45.9	116 35.1	37.8	246 31.6	58.7	285 42.0	24.3	20 34.5	39.2	
23	20 48.3	131 34.3	38.3	261 33.0	58.6	300 44.6	24.2	35 37.0	39.3	
24	35 50.8	146 33.5	-23 38.9	276 34.4	+21 58.4	315 47.2	+22 24.2	50 39.5	-8 39.3	
Dif	—	-8	-5	+14	-1	+26	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.8 <sup>m</sup>		SD: 14.9' Edad: 24.2 <sup>d</sup> PMG: 8 <sup>h</sup> 19 <sup>m</sup>		R°: 39 <sup>m</sup>			PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.3'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora R°	R°	Hora R°	R°		
0	184 02.2	-12 52.3	238 48.6		+12 37.4	131	60 N	5 37	6 26	7 10	0 36 85	15 34 -1				
1	199 02.3	53.1	253 23.5	159	24.3	132	58	36	22	7 03	44 80	29 2				
2	214 02.4	54.0	267 58.5	160	+12 11.1	132	56	35	18	6 57	50 78	25 4				
3	229 02.4	54.8	282 33.5	160	+11 57.9	132	54	33	15	52	0 56 75	21 7				
4	244 02.5	55.7	297 08.5	160	44.7	132	52	32	11	47	1 02 71	17 9				
5	259 02.5	-12 56.5	311 43.6	161	+11 31.4	133	50	5 31	6 08	6 42	1 07 69	15 14 11				
6	274 02.6	-12 57.4	326 18.8	162	+11 18.1	133	45	5 27	6 02	6 32	1 17 64	15 07 15				
7	289 02.6	58.2	340 54.1	163	+11 04.7	134	40	24	5 56	24	25 61	15 01 19				
8	304 02.7	59.0	355 29.3	162	+10 51.3	134	35	21	51	17	33 57	14 55 23				
9	319 02.7	-12 59.9	10 04.7	164	37.9	134	30	18	46	6 10	39 54	51 25				
10	334 02.8	-13 00.7	24 40.1	164	24.5	134	20	11	37	5 59	1 50 49	42 31				
11	349 02.8	-13 01.6	39 15.5	164	+10 11.0	135	10 N	5 03	5 28	5 50	2 00 44	14 35 35				
12	4 02.9	-13 02.4	53 51.0	165	+9 57.5	135	0	4 55	5 19	5 40	2 09 40	14 28 40				
13	19 02.9	03.2	68 26.5	165	43.9	136	10 S	44	5 09	31	18 36	21 44				
14	34 03.0	04.1	83 02.1	166	30.3	136	20	31	4 58	21	27 32	14 48				
15	49 03.0	04.9	97 37.7	166	16.7	136	30	15	44	09	38 26	05 54				
16	64 03.1	05.8	112 13.4	167	+9 03.1	136	35	4 04	36	5 03	44 24	14 00 57				
17	79 03.1	-13 06.6	126 49.1	167	+8 49.4	137	40	3 51	4 26	4 55	2 51 20	13 55 60				
18	94 03.2	-13 07.4	141 24.9	168	+8 35.7	137	45	3 36	4 14	4 46	2 59 17	13 48 64				
19	109 03.2	08.3	156 00.6	167	22.0	137	50	15	3 59	35	3 09 12	40 69				
20	124 03.3	09.1	170 36.5	169	+8 08.3	137	52	3 05	52	30	13 10	37 70				
21	139 03.3	09.9	185 12.4	169	+7 54.5	138	54	2 53	44	24	18 8	32 74				
22	154 03.4	10.8	199 48.3	169	40.7	138	56	39	35	18	24 5	28 76				
23	169 03.4	11.6	214 24.2	169	26.9	138	58	23	25	11	30 2	23 79				
24	184 03.5	-13 12.4	229 00.2	170	+7 13.1	138	60 S	2 02	3 13	4 03	3 37 -2	13 17 83				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 21 <sup>h</sup> 33.1 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 15 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 33 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 56 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 34 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	35 50.8	146 33.5	-23 38.9	276 34.4	+21 58.4	315 47.2	+22 24.2	50 39.5	-8 39.3							
1	50 53.2	161 32.7	39.4	291 35.8	58.3	330 49.9	24.2	65 42.1	39.3							
2	65 55.7	176 32.0	39.9	306 37.2	58.2	345 52.5	24.2	80 44.6	39.3							
3	80 58.2	191 31.2	40.5	321 38.6	58.1	0 55.1	24.2	95 47.2	39.4							
4	96 00.6	206 30.4	41.0	336 40.0	58.0	15 57.7	24.2	110 49.7	39.4							
5	111 03.1	221 29.6	-23 41.5	351 41.4	+21 57.9	31 00.4	+22 24.2	125 52.3	-8 39.4							
6	126 05.6	236 28.9	-23 42.1	6 42.8	+21 57.7	46 03.0	+22 24.2	140 54.8	-8 39.4							
7	141 08.0	251 28.1	42.6	21 44.2	57.6	61 05.6	24.2	155 57.3	39.5							
8	156 10.5	266 27.3	43.1	36 45.6	57.5	76 08.2	24.2	170 59.9	39.5							
9	171 13.0	281 26.5	43.6	51 47.0	57.4	91 10.9	24.1	186 02.4	39.5							
10	186 15.4	296 25.8	44.2	66 48.4	57.3	106 13.5	24.1	201 05.0	39.6							
11	201 17.9	311 25.0	-23 44.7	81 49.8	+21 57.2	121 16.1	+22 24.1	216 07.5	-8 39.6							
12	216 20.3	326 24.2	-23 45.2	96 51.2	+21 57.0	136 18.7	+22 24.1	231 10.1	-8 39.6							
13	231 22.8	341 23.4	45.7	111 52.6	56.9	151 21.4	24.1	246 12.6	39.6							
14	246 25.3	356 22.7	46.2	126 54.0	56.8	166 24.0	24.1	261 15.1	39.7							
15	261 27.7	11 21.9	46.8	141 55.4	56.7	181 26.6	24.1	276 17.7	39.7							
16	276 30.2	26 21.1	47.3	156 56.8	56.6	196 29.2	24.1	291 20.2	39.7							
17	291 32.7	41 20.3	-23 47.8	171 58.2	+21 56.5	211 31.9	+22 24.1	306 22.8	-8 39.7							
18	306 35.1	56 19.6	-23 48.3	186 59.6	+21 56.3	226 34.5	+22 24.1	321 25.3	-8 39.8							
19	321 37.6	71 18.8	48.8	202 01.1	56.2	241 37.1	24.0	336 27.9	39.8							
20	336 40.1	86 18.0	49.3	217 02.5	56.1	256 39.8	24.0	351 30.4	39.8							
21	351 42.5	101 17.2	49.8	232 03.9	56.0	271 42.4	24.0	6 32.9	39.8							
22	6 45.0	116 16.4	50.4	247 05.3	55.9	286 45.0	24.0	21 35.5	39.9							
23	21 47.5	131 15.7	50.9	262 06.7	55.8	301 47.6	24.0	36 38.0	39.9							
24	36 49.9	146 14.9	-23 51.4	277 08.1	+21 55.6	316 50.3	+22 24.0	51 40.6	-8 39.9							
Dif	—	-8	-5	+14	-1	+26	0	+25	0							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.7 <sup>m</sup>		SD: 14.8' Edad: 25.2 <sup>d</sup> PMG: 8 <sup>h</sup> 58 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	184 03.5	-13 12.4	229 00.2	+7 13.1	139	60 N	16 13	16 58	17 47	2 01 81	15 33 -2					
1	199 03.5	13.3	243 36.2 <sup>170</sup>	+6 59.2	139	58	21	17 02	48	04 79	31 1					
2	214 03.6	14.1	258 12.3 <sup>171</sup>	45.3	139	56	27	06	50	08 75	29 4					
3	229 03.6	14.9	272 48.3 <sup>170</sup>	31.4	139	54	33	10	52	11 72	28 6					
4	244 03.7	15.8	287 24.5 <sup>172</sup>	17.5	139	52	38	14	53	13 71	26 9					
5	259 03.7	-13 16.6	302 00.6 <sup>171</sup>	+6 03.6	139	50	16 43	17 17	17 55	2 16 68	15 25 11					
6	274 03.8	-13 17.4	316 36.8 <sup>172</sup>	+5 49.6	140	45	16 53	17 24	17 58	2 21 63	15 22 16					
7	289 03.8	18.3	331 13.0 <sup>172</sup>	35.7	139	40	17 02	30	18 02	26 59	20 19					
8	304 03.9	19.1	345 49.2 <sup>172</sup>	21.7	140	35	09	35	05	30 55	18 22					
9	319 03.9	19.9	0 25.4 <sup>172</sup>	+5 07.7	140	30	16	41	09	33 53	16 25					
10	334 04.0	20.8	15 01.7 <sup>173</sup>	+4 53.7	140	20	27	50	16	39 47	13 30					
11	349 04.0	-13 21.6	29 38.0 <sup>173</sup>	+4 39.6	141	10 N	17 38	17 59	18 24	2 44 43	15 10 35					
12	4 04.0	-13 22.4	44 14.3 <sup>173</sup>	+4 25.6	140	0	17 47	18 08	18 33	2 49 39	15 08 38					
13	19 04.1	23.3	58 50.7 <sup>174</sup>	+4 11.5	141	10 S	17 57	19	44	54 34	05 43					
14	34 04.1	24.1	73 27.0 <sup>173</sup>	+3 57.5	140	20	18 07	30	18 57	2 59 30	15 02 47					
15	49 04.2	24.9	88 03.4 <sup>174</sup>	43.4	141	30	19	45	19 14	3 04 26	14 59 52					
16	64 04.2	25.8	102 39.8 <sup>174</sup>	29.3	141	35	27	18 53	25	08 22	57 55					
17	79 04.3	-13 26.6	117 16.2 <sup>174</sup>	+3 15.2	141	40	18 35	19 04	19 39	3 11 19	14 55 58					
18	94 04.3	-13 27.4	131 52.7 <sup>175</sup>	+3 01.1	141	45	18 44	19 16	19 55	3 16 15	14 52 63					
19	109 04.3	28.2	146 29.1 <sup>174</sup>	+2 47.0	141	50	18 56	31	20 17	21 11	49 68					
20	124 04.4	29.1	161 05.6 <sup>175</sup>	32.9	141	52	19 01	39	27	23 9	47 70					
21	139 04.4	29.9	175 42.0 <sup>174</sup>	18.7	142	54	07	47	40	26 6	46 72					
22	154 04.5	30.7	190 18.5 <sup>175</sup>	+2 04.6	141	56	14	19 57	20 54	29 4	44 75					
23	169 04.5	31.6	204 55.0 <sup>175</sup>	+1 50.4	142	58	21	20 07	21 12	32 1	42 78					
24	184 04.5	-13 32.4	219 31.5 <sup>175</sup>	+1 36.3	141	60 S	19 29	20 20	21 34	3 35 -2	14 40 81					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 29.1 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 16 <sup>m</sup>		Mag.: +0.2 PMG: 5 <sup>h</sup> 31 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 30 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	36 49.9	146 14.9	-23 51.4	277 08.1	+21 55.6	316 50.3	+22 24.0	51 40.6	-8 39.9	
1	51 52.4	161 14.1	51.9	292 09.5	55.5	331 52.9	24.0	66 43.1	39.9	
2	66 54.8	176 13.3	52.4	307 10.9	55.4	346 55.5	24.0	81 45.6	40.0	
3	81 57.3	191 12.5	52.9	322 12.4	55.3	1 58.2	24.0	96 48.2	40.0	
4	96 59.8	206 11.8	53.4	337 13.8	55.2	17 00.8	24.0	111 50.7	40.0	
5	112 02.2	221 11.0	-23 53.9	352 15.2	+21 55.1	32 03.4	+22 23.9	126 53.3	-8 40.0	
6	127 04.7	236 10.2	-23 54.4	7 16.6	+21 54.9	47 06.1	+22 23.9	141 55.8	-8 40.1	
7	142 07.2	251 09.4	54.9	22 18.0	54.8	62 08.7	23.9	156 58.3	40.1	
8	157 09.6	266 08.6	55.4	37 19.4	54.7	77 11.3	23.9	172 00.9	40.1	
9	172 12.1	281 07.8	55.9	52 20.9	54.6	92 14.0	23.9	187 03.4	40.1	
10	187 14.6	296 07.1	56.4	67 22.3	54.5	107 16.6	23.9	202 06.0	40.2	
11	202 17.0	311 06.3	-23 56.9	82 23.7	+21 54.4	122 19.2	+22 23.9	217 08.5	-8 40.2	
12	217 19.5	326 05.5	-23 57.4	97 25.1	+21 54.3	137 21.9	+22 23.9	232 11.0	-8 40.2	
13	232 21.9	341 04.7	57.9	112 26.5	54.1	152 24.5	23.9	247 13.6	40.2	
14	247 24.4	356 03.9	58.4	127 28.0	54.0	167 27.1	23.9	262 16.1	40.3	
15	262 26.9	11 03.1	58.8	142 29.4	53.9	182 29.8	23.8	277 18.6	40.3	
16	277 29.3	26 02.3	59.3	157 30.8	53.8	197 32.4	23.8	292 21.2	40.3	
17	292 31.8	41 01.6	-23 59.8	172 32.2	+21 53.7	212 35.0	+22 23.8	307 23.7	-8 40.3	
18	307 34.3	56 00.8	-24 00.3	187 33.7	+21 53.6	227 37.7	+22 23.8	322 26.3	-8 40.4	
19	322 36.7	71 00.0	00.8	202 35.1	53.4	242 40.3	23.8	337 28.8	40.4	
20	337 39.2	85 59.2	01.3	217 36.5	53.3	257 43.0	23.8	352 31.3	40.4	
21	352 41.7	100 58.4	01.8	232 38.0	53.2	272 45.6	23.8	7 33.9	40.4	
22	7 44.1	115 57.6	02.3	247 39.4	53.1	287 48.2	23.8	22 36.4	40.5	
23	22 46.6	130 56.8	02.7	262 40.8	53.0	302 50.9	23.8	37 38.9	40.5	
24	37 49.1	145 56.0	-24 03.2	277 42.2	+21 52.9	317 53.5	+22 23.7	52 41.5	-8 40.5	

Dif	—	-8	-5	+14	-1	+26	0	+25	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.1' PMG: 11 <sup>h</sup> 43.7 <sup>m</sup>		SD: 14.7' Edad: 26.2 <sup>d</sup> PMG: 9 <sup>h</sup> 37 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'			R°: 39 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	184 04.5	-13 32.4	219 31.5	175	+1 36.3	142	60 N	5 42	6 31	7 16	3 22	82	15 31	-1
1	199 04.6	33.2	234 08.0	175	22.1	141	58	40	26	08	23	78	32	2
2	214 04.6	34.0	248 44.5	175	+1 08.0	141	56	38	22	7 01	23	75	33	5
3	229 04.7	34.9	263 21.0	175	+0 53.8	142	54	37	18	6 56	23	73	34	7
4	244 04.7	35.7	277 57.6	176	39.7	141	52	35	15	50	24	70	35	9
5	259 04.7	-13 36.5	292 34.1	175	+0 25.5	142	50	5 34	6 12	6 45	3 24	68	15 36	11
6	274 04.8	-13 37.3	307 10.6	175	+0 11.3	142	45	5 30	6 04	6 35	3 24	63	15 38	15
7	289 04.8	38.2	321 47.2	176	-0 02.8	141	40	26	5 58	26	25	59	39	19
8	304 04.8	39.0	336 23.7	175	17.0	142	35	23	52	19	25	56	40	23
9	319 04.9	39.8	351 00.2	175	31.2	142	30	19	47	12	26	52	41	26
10	334 04.9	40.6	5 36.8	176	45.3	141	20	12	38	6 00	26	48	43	30
11	349 05.0	-13 41.4	20 13.3	175	-0 59.5	142	10 N	5 03	5 28	5 50	3 27	43	15 45	34
12	4 05.0	-13 42.3	34 49.8	175	-1 13.6	141	0	4 54	5 19	5 40	3 28	38	15 46	39
13	19 05.0	43.1	49 26.3	175	27.8	142	10 S	43	5 09	30	28	35	48	43
14	34 05.1	43.9	64 02.8	175	41.9	141	20	30	4 57	20	29	30	49	48
15	49 05.1	44.7	78 39.4	176	-1 56.1	142	30	13	42	08	30	25	51	53
16	64 05.1	45.5	93 15.9	175	-2 10.2	141	35	4 02	34	5 00	30	22	52	56
17	79 05.2	-13 46.4	107 52.3	174	-2 24.3	141	40	3 48	4 23	4 52	3 30	19	15 53	60
18	94 05.2	-13 47.2	122 28.8	175	-2 38.4	141	45	3 32	4 11	4 43	3 31	15	15 55	63
19	109 05.2	48.0	137 05.3	175	-2 52.5	141	50	10	3 55	31	32	10	57	68
20	124 05.3	48.8	151 41.7	174	-3 06.6	141	52	3 00	48	26	32	9	57	71
21	139 05.3	49.6	166 18.2	175	20.7	141	54	2 47	40	20	32	7	58	73
22	154 05.3	50.5	180 54.6	174	34.8	141	56	33	30	13	33	4	15 59	76
23	169 05.4	51.3	195 31.0	174	-3 48.9	141	58	2 15	19	4 06	33	1	16 00	79
24	184 05.4	-13 52.1	210 07.4	174	-4 02.9	140	60 S	1 53	3 06	3 57	3 33	-1	16 01	82

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 25.2 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 17 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 29 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 48 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 26 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	37 49.1	145 56.0	-24 03.2	277 42.2	+21 52.9	317 53.5	+22 23.7	52 41.5	-8 40.5	
1	52 51.5	160 55.2	03.7	292 43.7	52.8	332 56.1	23.7	67 44.0	40.5	
2	67 54.0	175 54.5	04.2	307 45.1	52.6	347 58.8	23.7	82 46.6	40.5	
3	82 56.4	190 53.7	04.6	322 46.5	52.5	3 01.4	23.7	97 49.1	40.6	
4	97 58.9	205 52.9	05.1	337 48.0	52.4	18 04.1	23.7	112 51.6	40.6	
5	113 01.4	220 52.1	-24 05.6	352 49.4	+21 52.3	33 06.7	+22 23.7	127 54.2	-8 40.6	
6	128 03.8	235 51.3	-24 06.1	7 50.8	+21 52.2	48 09.4	+22 23.7	142 56.7	-8 40.6	
7	143 06.3	250 50.5	06.5	22 52.3	52.1	63 12.0	23.7	157 59.2	40.7	
8	158 08.8	265 49.7	07.0	37 53.7	52.0	78 14.6	23.7	173 01.8	40.7	
9	173 11.2	280 48.9	07.5	52 55.2	51.8	93 17.3	23.6	188 04.3	40.7	
10	188 13.7	295 48.1	08.0	67 56.6	51.7	108 19.9	23.6	203 06.8	40.7	
11	203 16.2	310 47.3	-24 08.4	82 58.0	+21 51.6	123 22.6	+22 23.6	218 09.4	-8 40.8	
12	218 18.6	325 46.5	-24 08.9	97 59.5	+21 51.5	138 25.2	+22 23.6	233 11.9	-8 40.8	
13	233 21.1	340 45.8	09.3	113 00.9	51.4	153 27.8	23.6	248 14.4	40.8	
14	248 23.5	355 45.0	09.8	128 02.4	51.3	168 30.5	23.6	263 17.0	40.8	
15	263 26.0	10 44.2	10.3	143 03.8	51.2	183 33.1	23.6	278 19.5	40.8	
16	278 28.5	25 43.4	10.7	158 05.2	51.1	198 35.8	23.6	293 22.0	40.9	
17	293 30.9	40 42.6	-24 11.2	173 06.7	+21 50.9	213 38.4	+22 23.6	308 24.6	-8 40.9	
18	308 33.4	55 41.8	-24 11.7	188 08.1	+21 50.8	228 41.1	+22 23.5	323 27.1	-8 40.9	
19	323 35.9	70 41.0	12.1	203 09.6	50.7	243 43.7	23.5	338 29.6	40.9	
20	338 38.3	85 40.2	12.6	218 11.0	50.6	258 46.4	23.5	353 32.2	41.0	
21	353 40.8	100 39.4	13.0	233 12.5	50.5	273 49.0	23.5	8 34.7	41.0	
22	8 43.3	115 38.6	13.5	248 13.9	50.4	288 51.7	23.5	23 37.2	41.0	
23	23 45.7	130 37.8	13.9	263 15.4	50.3	303 54.3	23.5	38 39.8	41.0	
24	38 48.2	145 37.0	-24 14.4	278 16.8	+21 50.1	318 56.9	+22 23.5	53 42.3	-8 41.0	

Dif	—	-8	-5	+14	-1	+26	0	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.6 <sup>m</sup>		SD: 14.7' Edad: 27.2 <sup>d</sup> PMG: 10 <sup>h</sup> 16 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.0' 12 <sup>h</sup> : 54.0' 20 <sup>h</sup> : 54.0'				R°: 40 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / '	° / '	° / '		° / '		h m	h m	h m	h m m	h m m	h m m	h m m			
<b>0</b>	184 05.4	-13 52.1	210 07.4		-4 02.9	141	<b>60 N</b> 16 08	16 53	17 42	4 44 83	15 30 -2					
<b>1</b>	199 05.4	52.9	224 43.8	174	17.0	140	<b>58</b> 16 16 58	44	41 79	34 2						
<b>2</b>	214 05.5	53.7	239 20.2	174	31.0	140	<b>56</b> 23 17 02	46	38 76	38 5						
<b>3</b>	229 05.5	54.5	253 56.5	173	45.0	140	<b>54</b> 29 06 48	48	36 73	41 8						
<b>4</b>	244 05.5	55.4	268 32.8	173	-4 59.0	140	<b>52</b> 35 10 50	50	34 71	44 10						
<b>5</b>	259 05.5	-13 56.2	283 09.1	173	-5 13.0	140	<b>50</b> 16 40 17 13	17 51	4 32 68	15 47 12						
<b>6</b>	274 05.6	-13 57.0	297 45.4	173	-5 27.0	140	<b>45</b> 16 50 17 21	17 55	4 27 64	15 53 17						
<b>7</b>	289 05.6	57.8	312 21.7	173	40.9	139	<b>40</b> 17 00 28	17 59	24 60	15 58 21						
<b>8</b>	304 05.6	58.6	326 57.9	172	-5 54.8	139	<b>35</b> 07 33	18 03	21 56	16 03 24						
<b>9</b>	319 05.7	-13 59.4	341 34.1	172	-6 08.7	139	<b>30</b> 14 39 07	18 54	07 26							
<b>10</b>	334 05.7	-14 00.3	356 10.3	172	22.6	139	<b>20</b> 26 49 15	14 48	13 32							
<b>11</b>	349 05.7	-14 01.1	10 46.4	171	-6 36.5	139	<b>10 N</b> 17 37 17 59	18 24	4 10 44	16 19 37						
<b>12</b>	4 05.7	-14 01.9	25 22.5	171	-6 50.4	139	<b>0</b> 17 47 18 08	18 33	4 06 40	16 25 41						
<b>13</b>	19 05.8	02.7	39 58.6	171	-7 04.2	138	<b>10 S</b> 17 57 19 44	44	4 03 35	31 44						
<b>14</b>	34 05.8	03.5	54 34.7	171	18.0	138	<b>20</b> 18 08 31	18 58	3 59 31	37 49						
<b>15</b>	49 05.8	04.3	69 10.7	170	31.8	138	<b>30</b> 21 46	19 16	55 26	44 54						
<b>16</b>	64 05.9	05.1	83 46.7	170	45.5	137	<b>35</b> 28 18 55	28	52 23	48 57						
<b>17</b>	79 05.9	-14 05.9	98 22.7	170	-7 59.3	138	<b>40</b> 18 37 19 06	19 41	3 49 20	16 53 60						
<b>18</b>	94 05.9	-14 06.7	112 58.6	169	-8 13.0	137	<b>45</b> 18 47 19 19	19 58	3 46 16	16 58 65						
<b>19</b>	109 05.9	07.6	127 34.5	169	26.6	136	<b>50</b> 18 59 35	20 21	42 12	17 05 69						
<b>20</b>	124 06.0	08.4	142 10.4	169	40.3	137	<b>52</b> 19 05 43	32	41 9	08 71						
<b>21</b>	139 06.0	09.2	156 46.2	168	-8 53.9	136	<b>54</b> 11 19 52	20 45	39 7	11 74						
<b>22</b>	154 06.0	10.0	171 22.0	168	-9 07.5	136	<b>56</b> 18 20 02	21 01	37 4	15 77						
<b>23</b>	169 06.0	10.8	185 57.7	167	21.1	136	<b>58</b> 26 13	19	34 2	19 80						
<b>24</b>	184 06.0	-14 11.6	200 33.4	167	-9 34.6	135	<b>60 S</b> 19 35 20 26	21 44	3 32 -2	17 23 85						
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 21 <sup>h</sup> 21.3 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 18 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 26 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 44 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 22 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / '	° / '	° / '		° / '		° / '		° / '							
<b>0</b>	38 48.2	145 37.0	-24 14.4	278 16.8	+21 50.1	318 56.9	+22 23.5	53 42.3	-8 41.0							
<b>1</b>	53 50.7	160 36.2	14.8	293 18.3	50.0	333 59.6	23.5	68 44.8	41.1							
<b>2</b>	68 53.1	175 35.4	15.3	308 19.7	49.9	349 02.2	23.5	83 47.4	41.1							
<b>3</b>	83 55.6	190 34.6	15.7	323 21.2	49.8	4 04.9	23.4	98 49.9	41.1							
<b>4</b>	98 58.0	205 33.8	16.2	338 22.6	49.7	19 07.5	23.4	113 52.4	41.1							
<b>5</b>	114 00.5	220 33.0	-24 16.6	353 24.1	+21 49.6	34 10.2	+22 23.4	128 55.0	-8 41.2							
<b>6</b>	129 03.0	235 32.2	-24 17.1	8 25.5	+21 49.5	49 12.8	+22 23.4	143 57.5	-8 41.2							
<b>7</b>	144 05.4	250 31.4	17.5	23 27.0	49.4	64 15.5	23.4	159 00.0	41.2							
<b>8</b>	159 07.9	265 30.6	18.0	38 28.4	49.2	79 18.1	23.4	174 02.6	41.2							
<b>9</b>	174 10.4	280 29.8	18.4	53 29.9	49.1	94 20.8	23.4	189 05.1	41.2							
<b>10</b>	189 12.8	295 29.0	18.8	68 31.3	49.0	109 23.4	23.4	204 07.6	41.3							
<b>11</b>	204 15.3	310 28.2	-24 19.3	83 32.8	+21 48.9	124 26.1	+22 23.4	219 10.2	-8 41.3							
<b>12</b>	219 17.8	325 27.4	-24 19.7	98 34.3	+21 48.8	139 28.7	+22 23.3	234 12.7	-8 41.3							
<b>13</b>	234 20.2	340 26.6	20.2	113 35.7	48.7	154 31.4	23.3	249 15.2	41.3							
<b>14</b>	249 22.7	355 25.8	20.6	128 37.2	48.6	169 34.0	23.3	264 17.8	41.3							
<b>15</b>	264 25.2	10 25.0	21.0	143 38.6	48.5	184 36.7	23.3	279 20.3	41.4							
<b>16</b>	279 27.6	25 24.2	21.5	158 40.1	48.4	199 39.4	23.3	294 22.8	41.4							
<b>17</b>	294 30.1	40 23.4	-24 21.9	173 41.6	+21 48.2	214 42.0	+22 23.3	309 25.3	-8 41.4							
<b>18</b>	309 32.5	55 22.6	-24 22.3	188 43.0	+21 48.1	229 44.7	+22 23.3	324 27.9	-8 41.4							
<b>19</b>	324 35.0	70 21.8	22.8	203 44.5	48.0	244 47.3	23.3	339 30.4	41.5							
<b>20</b>	339 37.5	85 21.0	23.2	218 45.9	47.9	259 50.0	23.3	354 32.9	41.5							
<b>21</b>	354 39.9	100 20.2	23.6	233 47.4	47.8	274 52.6	23.2	9 35.5	41.5							
<b>22</b>	9 42.4	115 19.4	24.0	248 48.9	47.7	289 55.3	23.2	24 38.0	41.5							
<b>23</b>	24 44.9	130 18.6	24.5	263 50.3	47.6	304 57.9	23.2	39 40.5	41.5							
<b>24</b>	39 47.3	145 17.8	-24 24.9	278 51.8	+21 47.5	320 00.6	+22 23.2	54 43.1	-8 41.6							
Dif	—	-8	-4	+15	-1	+27	0	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.6 <sup>m</sup>		SD: 14.7' Edad: 28.2 <sup>d</sup> PMG: 10 <sup>h</sup> 56 <sup>m</sup> R°: 42 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.2'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	184 06.0	-14 11.6	200 33.4		-9 34.6	135	60 N	5 46	6 36	7 21	6 07 87	15 28 -1				
1	199 06.1	12.4	215 09.1	167	-9 48.1	135	58	44	31	13	6 00 83	36 3				
2	214 06.1	13.2	229 44.7	166	-10 01.6	135	56	42	26	7 06	5 54 79	43 6				
3	229 06.1	14.0	244 20.3	166	15.0	134	54	40	22	6 59	49 76	49 9				
4	244 06.1	14.8	258 55.8	165	28.4	134	52	38	18	54	45 73	54 12				
5	259 06.2	-14 15.6	273 31.3	165	-10 41.8	134	50	5 37	6 15	6 49	5 40 71	15 59 15				
6	274 06.2	-14 16.4	288 06.7	164	-10 55.1	133	45	5 32	6 07	6 38	5 31 66	16 10 19				
7	289 06.2	17.2	302 42.1	164	-11 08.4	133	40	28	6 00	28	24 61	19 23				
8	304 06.2	18.0	317 17.5	164	21.7	133	35	24	5 54	20	17 58	27 26				
9	319 06.2	18.9	331 52.8	163	34.9	132	30	20	49	13	12 55	33 30				
10	334 06.3	19.7	346 28.0	162	-11 48.1	132	20	12	38	6 01	5 02 50	45 35				
11	349 06.3	-14 20.5	1 03.2	162	-12 01.2	131	10 N	5 04	5 29	5 50	4 54 45	16 56 38				
12	4 06.3	-14 21.3	15 38.4	162	-12 14.3	131	0	4 54	5 19	5 40	4 46 41	17 06 42				
13	19 06.3	22.1	30 13.5	161	27.3	130	10 S	43	5 08	30	38 37	15 47				
14	34 06.3	22.9	44 48.5	160	40.4	131	20	29	4 56	19	30 33	26 51				
15	49 06.4	23.7	59 23.5	160	-12 53.3	129	30	4 11	41	5 06	21 28	38 56				
16	64 06.4	24.5	73 58.4	159	-13 06.3	130	35	3 59	31	4 58	15 25	45 59				
17	79 06.4	-14 25.3	88 33.3	159	-13 19.1	128	40	3 45	4 21	4 50	4 09 22	17 53 63				
18	94 06.4	-14 26.1	103 08.1	158	-13 32.0	129	45	3 28	4 08	4 40	4 02 18	18 03 66				
19	109 06.4	26.9	117 42.9	158	44.8	128	50	3 06	3 51	27	3 54 13	14 72				
20	124 06.4	27.7	132 17.6	157	-13 57.5	127	52	2 54	44	22	50 11	19 75				
21	139 06.5	28.5	146 52.2	156	-14 10.2	127	54	41	35	15	46 9	25 77				
22	154 06.5	29.3	161 26.8	156	22.8	126	56	26	25	08	41 6	32 80				
23	169 06.5	30.1	176 01.3	155	35.4	126	58	2 07	13	4 01	36 3	39 85				
24	184 06.5	-14 30.9	190 35.8	155	-14 47.9	125	60 S	1 43	3 00	3 52	3 30 -1	18 48 89				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 21 <sup>h</sup> 17.3 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 20 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 18 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec					
0	39 47.3	145 17.8	-24 24.9	278 51.8	+21 47.5	320 00.6	+22 23.2	54 43.1	-8 41.6							
1	54 49.8	160 17.0	25.3	293 53.3	47.4	335 03.2	23.2	69 45.6	41.6							
2	69 52.3	175 16.2	25.7	308 54.7	47.2	350 05.9	23.2	84 48.1	41.6							
3	84 54.7	190 15.4	26.2	323 56.2	47.1	5 08.6	23.2	99 50.6	41.6							
4	99 57.2	205 14.6	26.6	338 57.7	47.0	20 11.2	23.2	114 53.2	41.6							
5	114 59.6	220 13.8	-24 27.0	353 59.2	+21 46.9	35 13.9	+22 23.1	129 55.7	-8 41.7							
6	130 02.1	235 13.0	-24 27.4	9 00.6	+21 46.8	50 16.5	+22 23.1	144 58.2	-8 41.7							
7	145 04.6	250 12.2	27.8	24 02.1	46.7	65 19.2	23.1	160 00.8	41.7							
8	160 07.0	265 11.3	28.2	39 03.6	46.6	80 21.8	23.1	175 03.3	41.7							
9	175 09.5	280 10.5	28.6	54 05.0	46.5	95 24.5	23.1	190 05.8	41.7							
10	190 12.0	295 09.7	29.1	69 06.5	46.4	110 27.2	23.1	205 08.3	41.8							
11	205 14.4	310 08.9	-24 29.5	84 08.0	+21 46.3	125 29.8	+22 23.1	220 10.9	-8 41.8							
12	220 16.9	325 08.1	-24 29.9	99 09.5	+21 46.1	140 32.5	+22 23.1	235 13.4	-8 41.8							
13	235 19.4	340 07.3	30.3	114 11.0	46.0	155 35.1	23.1	250 15.9	41.8							
14	250 21.8	355 06.5	30.7	129 12.4	45.9	170 37.8	23.0	265 18.4	41.8							
15	265 24.3	10 05.7	31.1	144 13.9	45.8	185 40.5	23.0	280 21.0	41.9							
16	280 26.8	25 04.9	31.5	159 15.4	45.7	200 43.1	23.0	295 23.5	41.9							
17	295 29.2	40 04.1	-24 31.9	174 16.9	+21 45.6	215 45.8	+22 23.0	310 26.0	-8 41.9							
18	310 31.7	55 03.3	-24 32.3	189 18.4	+21 45.5	230 48.4	+22 23.0	325 28.6	-8 41.9							
19	325 34.1	70 02.5	32.7	204 19.8	45.4	245 51.1	23.0	340 31.1	41.9							
20	340 36.6	85 01.7	33.1	219 21.3	45.3	260 53.8	23.0	355 33.6	41.9							
21	355 39.1	100 00.8	33.5	234 22.8	45.2	275 56.4	23.0	10 36.1	42.0							
22	10 41.5	115 00.0	33.9	249 24.3	45.1	290 59.1	22.9	25 38.7	42.0							
23	25 44.0	129 59.2	34.3	264 25.8	44.9	306 01.8	22.9	40 41.2	42.0							
24	40 46.5	144 58.4	-24 34.7	279 27.3	+21 44.8	321 04.4	+22 22.9	55 43.7	-8 42.0							
Dif	—	-8	-4	+15	-1	+27	0	+25	0							



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.1' PMG: 11 <sup>h</sup> 43.6 <sup>m</sup>		SD: 14.8' Edad: 29.2 <sup>d</sup> PMG: 11 <sup>h</sup> 38 <sup>m</sup> R°: 45 <sup>m</sup>						PHE	Civil	Náutico	Hora R°	R°	Hora R°	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m		
0	184 06.5	-14 30.9	190 35.8	-14 47.9	125	60 N	16 03	16 48	17 38	7 34 92	15 27 1	15 27 1	15 27 1		
1	199 06.5	31.7	205 10.2 <sup>154</sup>	-15 00.4	124	58	11	53	40	23 86	39 6	39 6	39 6		
2	214 06.5	32.5	219 44.5 <sup>153</sup>	12.8	124	56	18	58	42	13 82	49 10	49 10	49 10		
3	229 06.5	33.3	234 18.8 <sup>153</sup>	25.2	123	54	25	17 02	44	7 05 79	15 58 14	15 58 14	15 58 14		
4	244 06.6	34.1	248 53.0 <sup>152</sup>	37.5	123	52	31	06	46	6 58 75	16 06 17	16 06 17	16 06 17		
5	259 06.6	-14 34.9	263 27.1 <sup>151</sup>	-15 49.8	123	50	16 36	17 10	17 48	6 51 73	16 14 19	16 14 19	16 14 19		
6	274 06.6	-14 35.7	278 01.2 <sup>151</sup>	-16 02.0	122	45	16 48	17 18	17 53	6 37 67	16 29 24	16 29 24	16 29 24		
7	289 06.6	36.5	292 35.2 <sup>150</sup>	14.1	121	40	16 57	25	17 57	25 64	42 28	42 28	42 28		
8	304 06.6	37.2	307 09.2 <sup>150</sup>	26.2	121	35	17 05	32	18 01	15 60	16 53 31	16 53 31	16 53 31		
9	319 06.6	38.0	321 43.0 <sup>148</sup>	38.3	121	30	17 05	37	18 01	6 07 57	17 03 34	17 03 34	17 03 34		
10	334 06.6	38.8	336 16.8 <sup>148</sup>	-16 50.2	119	20	25	48	14	5 52 52	20 38	20 38	20 38		
11	349 06.6	-14 39.6	350 50.5 <sup>147</sup>	-17 02.1	119	10 N	17 36	17 58	18 23	5 39 48	17 34 43	17 34 43	17 34 43		
12	4 06.7	-14 40.4	5 24.2 <sup>147</sup>	-17 14.0	119	0	17 47	18 08	18 33	5 27 45	17 48 46	17 48 46	17 48 46		
13	19 06.7	41.2	19 57.8 <sup>146</sup>	25.7	117	10 S	17 58	19	45	15 41	18 02 50	18 02 50	18 02 50		
14	34 06.7	42.0	34 31.3 <sup>145</sup>	37.4	117	20	18 09	32	18 59	5 03 36	17 53	17 53	17 53		
15	49 06.7	42.8	49 04.8 <sup>145</sup>	-17 49.1	117	30	23	48	19 18	4 49 31	34 58	34 58	34 58		
16	64 06.7	43.6	63 38.1 <sup>143</sup>	-18 00.6	115	35	30	18 57	30	40 29	44 61	44 61	44 61		
17	79 06.7	-14 44.4	78 11.4 <sup>143</sup>	-18 12.2	116	40	18 39	19 09	19 44	4 31 26	18 56 64	18 56 64	18 56 64		
18	94 06.7	-14 45.2	92 44.6 <sup>142</sup>	-18 23.6	114	45	18 50	19 22	20 02	4 20 22	19 09 68	19 09 68	19 09 68		
19	109 06.7	46.0	107 17.8 <sup>142</sup>	34.9	113	50	19 02	39	25	07 17	26 73	26 73	26 73		
20	124 06.7	46.8	121 50.8 <sup>140</sup>	46.2	113	52	08	47	37	4 01 14	34 76	34 76	34 76		
21	139 06.7	47.5	136 23.8 <sup>140</sup>	-18 57.5	113	54	15	19 56	20 51	3 55 11	42 80	42 80	42 80		
22	154 06.7	48.3	150 56.8 <sup>140</sup>	-19 08.6	111	56	22	20 07	21 07	47 8	19 52 83	19 52 83	19 52 83		
23	169 06.8	49.1	165 29.6 <sup>138</sup>	19.7	111	58	31	19	27	39 4	20 04 87	20 04 87	20 04 87		
24	184 06.8	-14 49.9	180 02.4 <sup>138</sup>	-19 30.7	110	60 S	19 40	20 33	21 54	3 29 1	20 17 94	20 17 94	20 17 94		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 13.4 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 22 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 35 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 14 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	40 46.5	144 58.4	-24 34.7	279 27.3	+21 44.8	321 04.4	+22 22.9	55 43.7	-8 42.0	42.0
1	55 48.9	159 57.6	35.1	294 28.7	44.7	336 07.1	22.9	70 46.2	42.0	42.0
2	70 51.4	174 56.8	35.5	309 30.2	44.6	351 09.8	22.9	85 48.8	42.1	42.1
3	85 53.9	189 56.0	35.9	324 31.7	44.5	6 12.4	22.9	100 51.3	42.1	42.1
4	100 56.3	204 55.2	36.3	339 33.2	44.4	21 15.1	22.9	115 53.8	42.1	42.1
5	115 58.8	219 54.4	-24 36.7	354 34.7	+21 44.3	36 17.7	+22 22.9	130 56.3	-8 42.1	42.1
6	131 01.2	234 53.5	-24 37.0	9 36.2	+21 44.2	51 20.4	+22 22.8	145 58.9	-8 42.1	42.1
7	146 03.7	249 52.7	37.4	24 37.7	44.1	66 23.1	22.8	161 01.4	42.2	42.2
8	161 06.2	264 51.9	37.8	39 39.2	44.0	81 25.7	22.8	176 03.9	42.2	42.2
9	176 08.6	279 51.1	38.2	54 40.7	43.9	96 28.4	22.8	191 06.4	42.2	42.2
10	191 11.1	294 50.3	38.6	69 42.2	43.8	111 31.1	22.8	206 09.0	42.2	42.2
11	206 13.6	309 49.5	-24 39.0	84 43.7	+21 43.7	126 33.7	+22 22.8	221 11.5	-8 42.2	42.2
12	221 16.0	324 48.7	-24 39.4	99 45.1	+21 43.5	141 36.4	+22 22.8	236 14.0	-8 42.2	42.2
13	236 18.5	339 47.8	39.7	114 46.6	43.4	156 39.1	22.8	251 16.5	42.3	42.3
14	251 21.0	354 47.0	40.1	129 48.1	43.3	171 41.8	22.7	266 19.0	42.3	42.3
15	266 23.4	9 46.2	40.5	144 49.6	43.2	186 44.4	22.7	281 21.6	42.3	42.3
16	281 25.9	24 45.4	40.9	159 51.1	43.1	201 47.1	22.7	296 24.1	42.3	42.3
17	296 28.4	39 44.6	-24 41.2	174 52.6	+21 43.0	216 49.8	+22 22.7	311 26.6	-8 42.3	42.3
18	311 30.8	54 43.8	-24 41.6	189 54.1	+21 42.9	231 52.4	+22 22.7	326 29.1	-8 42.3	42.3
19	326 33.3	69 43.0	42.0	204 55.6	42.8	246 55.1	22.7	341 31.7	42.4	42.4
20	341 35.7	84 42.1	42.4	219 57.1	42.7	261 57.8	22.7	356 34.2	42.4	42.4
21	356 38.2	99 41.3	42.7	234 58.6	42.6	277 00.4	22.7	11 36.7	42.4	42.4
22	11 40.7	114 40.5	43.1	250 00.1	42.5	292 03.1	22.6	26 39.2	42.4	42.4
23	26 43.1	129 39.7	43.5	265 01.6	42.4	307 05.8	22.6	41 41.7	42.4	42.4
24	41 45.6	144 38.9	-24 43.8	280 03.2	+21 42.3	322 08.5	+22 22.6	56 44.3	-8 42.4	42.4
Dif	—	-8	-4	+15	-1	+27	0	+25	0	0

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.5 <sup>m</sup>		SD: 14.8' Edad: 0.5 <sup>d</sup> PMG: 12 <sup>h</sup> 23 <sup>m</sup> R°: 48 <sup>m</sup>					PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.7'					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	184 06.8	-14 49.9	180 02.4		-19 30.7	109	60 N	5 51	6 40	7 26	9 06	96	15 28	3		
1	199 06.8	50.7	194 35.0	136	41.6	109	58	48	35	17	8 49	90	45	10		
2	214 06.8	51.5	209 07.6	136	-19 52.4	108	56	46	30	10	35 84	15 59	16			
3	229 06.8	52.3	223 40.2	136	-20 03.2	107	54	44	26	7 03	24 79	16 12	20			
4	244 06.8	53.1	238 12.6	134	13.9	107	52	42	22	6 57	13 77	23	23			
5	259 06.8	-14 53.9	252 45.0	134	-20 24.5	106	50	5 40	6 18	6 52	8 04	74	16 33	25		
6	274 06.8	-14 54.6	267 17.2	132	-20 35.0	105	45	5 35	6 10	6 40	7 44	69	16 53	31		
7	289 06.8	55.4	281 49.4	132	45.4	104	40	30	6 02	31	29 64	17 10	34			
8	304 06.8	56.2	296 21.5	131	-20 55.7	103	35	26	5 56	22	15 62	24	37			
9	319 06.8	57.0	310 53.6	131	-21 06.0	103	30	22	50	15	7 04	59	37	39		
10	334 06.8	57.8	325 25.5	129	16.2	102	20	13	39	6 02	6 44	55	17 58	43		
11	349 06.8	-14 58.6	339 57.4	129	-21 26.3	101	10 N	5 04	5 29	5 51	6 27	51	18 17	46		
12	4 06.8	-14 59.3	354 29.2	128	-21 36.3	100	0	4 54	5 19	5 40	6 12	47	18 34	49		
13	19 06.8	-15 00.1	9 00.9	127	46.2	99	10 S	42	5 07	29	5 56	44	18 52	52		
14	34 06.8	00.9	23 32.5	126	-21 56.0	98	20	28	4 55	18	39 41	19 10	56			
15	49 06.8	01.7	38 04.0	125	-22 05.7	97	30	4 09	39	5 04	20 37	32	59			
16	64 06.8	02.5	52 35.5	125	15.3	96	35	3 57	29	4 56	5 09	34	19 45	62		
17	79 06.8	-15 03.3	67 06.9	124	-22 24.9	96	40	3 43	4 18	4 47	4 57	31	20 00	64		
18	94 06.8	-15 04.0	81 38.1	122	-22 34.3	94	45	3 25	4 05	4 37	4 42	27	20 17	68		
19	109 06.8	04.8	96 09.3	122	43.7	94	50	3 01	3 48	24	24 22	39	73			
20	124 06.8	05.6	110 40.4	121	-22 52.9	92	52	2 49	39	18	15 20	20 50	75			
21	139 06.8	06.4	125 11.5	121	-23 02.1	92	54	36	30	11	4 06	16	21 02	78		
22	154 06.8	07.2	139 42.4	119	11.1	90	56	2 19	20	4 04	3 55	13	15	83		
23	169 06.8	07.9	154 13.3	119	20.1	90	58	1 59	3 08	3 56	43 9	31	89			
24	184 06.8	-15 08.7	168 44.0	117	-23 28.9	88	60 S	1 32	2 53	3 46	3 30	2	21 51	97		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 21 <sup>h</sup> 09.5 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 19 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 31 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 10 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	41 45.6	144 38.9	-24 43.8	280 03.2	+21 42.3	322 08.5	+22 22.6	56 44.3	-8 42.4							
1	56 48.1	159 38.1	44.2	295 04.7	42.2	337 11.1	22.6	71 46.8	42.5							
2	71 50.5	174 37.2	44.6	310 06.2	42.1	352 13.8	22.6	86 49.3	42.5							
3	86 53.0	189 36.4	44.9	325 07.7	42.0	7 16.5	22.6	101 51.8	42.5							
4	101 55.5	204 35.6	45.3	340 09.2	41.8	22 19.1	22.6	116 54.4	42.5							
5	116 57.9	219 34.8	-24 45.6	355 10.7	+21 41.7	37 21.8	+22 22.6	131 56.9	-8 42.5							
6	132 00.4	234 34.0	-24 46.0	10 12.2	+21 41.6	52 24.5	+22 22.5	146 59.4	-8 42.5							
7	147 02.9	249 33.1	46.4	25 13.7	41.5	67 27.2	22.5	162 01.9	42.6							
8	162 05.3	264 32.3	46.7	40 15.2	41.4	82 29.8	22.5	177 04.4	42.6							
9	177 07.8	279 31.5	47.1	55 16.7	41.3	97 32.5	22.5	192 07.0	42.6							
10	192 10.2	294 30.7	47.4	70 18.2	41.2	112 35.2	22.5	207 09.5	42.6							
11	207 12.7	309 29.9	-24 47.8	85 19.8	+21 41.1	127 37.9	+22 22.5	222 12.0	-8 42.6							
12	222 15.2	324 29.1	-24 48.1	100 21.3	+21 41.0	142 40.5	+22 22.5	237 14.5	-8 42.6							
13	237 17.6	339 28.2	48.5	115 22.8	40.9	157 43.2	22.4	252 17.0	42.7							
14	252 20.1	354 27.4	48.8	130 24.3	40.8	172 45.9	22.4	267 19.6	42.7							
15	267 22.6	9 26.6	49.2	145 25.8	40.7	187 48.6	22.4	282 22.1	42.7							
16	282 25.0	24 25.8	49.5	160 27.3	40.6	202 51.2	22.4	297 24.6	42.7							
17	297 27.5	39 25.0	-24 49.9	175 28.9	+21 40.5	217 53.9	+22 22.4	312 27.1	-8 42.7							
18	312 30.0	54 24.1	-24 50.2	190 30.4	+21 40.4	232 56.6	+22 22.4	327 29.6	-8 42.7							
19	327 32.4	69 23.3	50.6	205 31.9	40.3	247 59.3	22.4	342 32.1	42.8							
20	342 34.9	84 22.5	50.9	220 33.4	40.2	263 02.0	22.4	357 34.7	42.8							
21	357 37.4	99 21.7	51.2	235 34.9	40.1	278 04.6	22.3	12 37.2	42.8							
22	12 39.8	114 20.8	51.6	250 36.5	40.0	293 07.3	22.3	27 39.7	42.8							
23	27 42.3	129 20.0	51.9	265 38.0	39.9	308 10.0	22.3	42 42.2	42.8							
24	42 44.7	144 19.2	-24 52.3	280 39.5	+21 39.8	323 12.7	+22 22.3	57 44.7	-8 42.8							
Dif	—	-8	-4	+15	-1	+27	0	+25	0							

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.5 <sup>m</sup>		SD: 14.9' Edad: 1.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 54.9' 20 <sup>h</sup> : 55.0' PMG: 13 <sup>h</sup> 11 <sup>m</sup> R°: 52 <sup>m</sup>						Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	184 06.8	-15 08.7	168 44.0		-23 28.9	87	60 N	15 58	16 44	17 33	10 42 98	15 31 11				
1	199 06.8	09.5	183 14.7 <sup>117</sup>		37.6	87	58	16 06	49 36	10 19 86	15 55 21					
2	214 06.8	10.3	197 45.3 <sup>116</sup>		46.3	87	56	14	54 39	9 59 81	16 15 27					
3	229 06.8	11.0	212 15.8 <sup>115</sup>		-23 54.8	85	54	21	16 59 41	43 77	32 30					
4	244 06.8	11.8	226 46.3 <sup>115</sup>		-24 03.2	84	52	27	17 03 43	30 73	46 33					
5	259 06.8	-15 12.6	241 16.6 <sup>113</sup>		-24 11.6	84	50	16 33	17 07 45	9 18 71	16 58 36					
6	274 06.8	-15 13.4	255 46.9 <sup>113</sup>		-24 19.8	82	45	16 45	17 16 50	8 53 67	17 24 39					
7	289 06.8	14.2	270 17.1 <sup>112</sup>		27.9	81	40	16 55	23 17 55	33 64	17 44 42					
8	304 06.8	14.9	284 47.2 <sup>111</sup>		35.8	79	35	17 03	30 18 00	17 61	18 01 45					
9	319 06.8	15.7	299 17.2 <sup>110</sup>		43.7	79	30	17 03	11 36 04	8 03 59	16 46					
10	334 06.8	16.5	313 47.1 <sup>109</sup>		51.5	78	20	17 03	24 47 13	7 39 56	18 41 49					
11	349 06.8	-15 17.2	328 16.9 <sup>108</sup>		-24 59.1	76	10 N	17 36	17 58 18 23	7 18 54	19 03 51					
12	4 06.8	-15 18.0	342 46.7 <sup>108</sup>		-25 06.7	76	0	17 47	18 08 18 33	6 59 51	19 23 53					
13	19 06.8	18.8	357 16.4 <sup>107</sup>		14.1	74	10 S	17 58	20 18 46	4 40 49	19 44 55					
14	34 06.7	19.6	11 46.0 <sup>106</sup>		21.4	73	20	18 10	33 19 01	6 20 46	20 06 57					
15	49 06.7	20.3	26 15.5 <sup>105</sup>		28.6	72	30	24	50 20	5 57 42	31 60					
16	64 06.7	21.1	40 44.9 <sup>104</sup>		35.6	70	35	32	18 59 32	43 41	20 47 60					
17	79 06.7	-15 21.9	55 14.2 <sup>103</sup>		-25 42.6	70	40	18 42	19 11 19 47	5 28 38	21 04 63					
18	94 06.7	-15 22.7	69 43.5 <sup>103</sup>		-25 49.4	68	45	18 53	19 25 20 05	5 09 35	21 25 65					
19	109 06.7	23.4	84 12.7 <sup>102</sup>		-25 56.1	67	50	19 06	43 30	4 46 30	21 52 68					
20	124 06.7	24.2	98 41.8 <sup>101</sup>		-26 02.6	65	52	12	19 51 42	35 28	22 05 70					
21	139 06.7	25.0	113 10.8 <sup>100</sup>		09.1	65	54	19	20 01 20 57	22 25	20 73					
22	154 06.7	25.7	127 39.8 <sup>100</sup>		15.4	63	56	27	12 21 14	4 08 21	22 38 76					
23	169 06.7	26.5	142 08.6 <sup>98</sup>		21.6	62	58	35	24 21 36	3 52 15	23 00 81					
24	184 06.7	-15 27.3	156 37.4 <sup>98</sup>		-26 27.7	61	60 S	19 45	20 39 22 05	3 32 7	23 28 90					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 21 <sup>h</sup> 05.6 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 24 <sup>m</sup>		Mag.: +0.1 PMG: 5 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 27 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 06 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	42 44.7	144 19.2	-24 52.3	280 39.5	+21 39.8	323 12.7	+22 22.3	57 44.7	-8 42.8							
1	57 47.2	159 18.4	52.6	295 41.0	39.7	338 15.4	22.3	72 47.3	42.8							
2	72 49.7	174 17.6	52.9	310 42.6	39.6	353 18.0	22.3	87 49.8	42.9							
3	87 52.1	189 16.7	53.3	325 44.1	39.4	8 20.7	22.3	102 52.3	42.9							
4	102 54.6	204 15.9	53.6	340 45.6	39.3	23 23.4	22.2	117 54.8	42.9							
5	117 57.1	219 15.1	-24 53.9	355 47.1	+21 39.2	38 26.1	+22 22.2	132 57.3	-8 42.9							
6	132 59.5	234 14.3	-24 54.3	10 48.7	+21 39.1	53 28.8	+22 22.2	147 59.8	-8 42.9							
7	148 02.0	249 13.4	54.6	25 50.2	39.0	68 31.4	22.2	163 02.4	42.9							
8	163 04.5	264 12.6	54.9	40 51.7	38.9	83 34.1	22.2	178 04.9	43.0							
9	178 06.9	279 11.8	55.2	55 53.3	38.8	98 36.8	22.2	193 07.4	43.0							
10	193 09.4	294 11.0	55.6	70 54.8	38.7	113 39.5	22.2	208 09.9	43.0							
11	208 11.8	309 10.1	-24 55.9	85 56.3	+21 38.6	128 42.2	+22 22.2	223 12.4	-8 43.0							
12	223 14.3	324 09.3	-24 56.2	100 57.9	+21 38.5	143 44.9	+22 22.1	238 14.9	-8 43.0							
13	238 16.8	339 08.5	56.5	115 59.4	38.4	158 47.5	22.1	253 17.5	43.0							
14	253 19.2	354 07.7	56.9	131 00.9	38.3	173 50.2	22.1	268 20.0	43.0							
15	268 21.7	9 06.8	57.2	146 02.5	38.2	188 52.9	22.1	283 22.5	43.1							
16	283 24.2	24 06.0	57.5	161 04.0	38.1	203 55.6	22.1	298 25.0	43.1							
17	298 26.6	39 05.2	-24 57.8	176 05.5	+21 38.0	218 58.3	+22 22.1	313 27.5	-8 43.1							
18	313 29.1	54 04.4	-24 58.1	191 07.1	+21 37.9	234 01.0	+22 22.1	328 30.0	-8 43.1							
19	328 31.6	69 03.5	58.4	206 08.6	37.8	249 03.6	22.0	343 32.5	43.1							
20	343 34.0	84 02.7	58.7	221 10.2	37.7	264 06.3	22.0	358 35.1	43.1							
21	358 36.5	99 01.9	59.1	236 11.7	37.6	279 09.0	22.0	13 37.6	43.1							
22	13 39.0	114 01.1	59.4	251 13.2	37.5	294 11.7	22.0	28 40.1	43.2							
23	28 41.4	129 00.2	-24 59.7	266 14.8	37.4	309 14.4	22.0	43 42.6	43.2							
24	43 43.9	143 59.4	-25 00.0	281 16.3	+21 37.3	324 17.1	+22 22.0	58 45.1	-8 43.2							
Dif	—	-8	-3	+15	-1	+27	0	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1'		SD: 15.0'		Edad: 2.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 55.1' 12 <sup>h</sup> : 55.3' 20 <sup>h</sup> : 55.4'			PMG: 14 <sup>h</sup> 03 <sup>m</sup>		R°: 55 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	184 06.7	-15 27.3	156 37.4		-26 27.7	59	60 N	5 55	6 45	7 31	12 20	80	15 42	33		
1	199 06.7	28.0	171 06.1	97	33.6	59	58	52	39	22	11 45	73	16 16	42		
2	214 06.6	28.8	185 34.8	97	39.4	58	56	50	34	14	20 69		16 42	44		
3	229 06.6	29.6	200 03.4	96	45.1	57	54	47	29	07	11 00	67	17 02	47		
4	244 06.6	30.3	214 31.8	94	50.6	55	52	45	25	7 01	10 43	66	19 48			
5	259 06.6	-15 31.1	229 00.3	95	-26 56.0	54	50	5 43	6 21	6 55	10 29	64	17 34	48		
6	274 06.6	-15 31.9	243 28.6	93	-27 01.3	53	45	5 37	6 12	6 43	10 00	62	18 03	51		
7	289 06.6	32.6	257 56.9	93	06.5	52	40	32	6 05	33	9 37	61	26 52			
8	304 06.6	33.4	272 25.1	92	11.5	50	35	28	5 58	24	18 60		18 46	52		
9	319 06.6	34.2	286 53.2	91	16.3	48	30	23	52	16	9 02	59	19 02	53		
10	334 06.5	34.9	301 21.3	91	21.1	48	20	14	40	6 03	8 35	57	30 54			
11	349 06.5	-15 35.7	315 49.3	90	-27 25.7	46	10 N	5 04	5 30	5 51	8 12	55	19 54	54		
12	4 06.5	-15 36.4	330 17.2	89	-27 30.1	44	0	4 54	5 19	5 40	7 50	55	20 16	55		
13	19 06.5	37.2	344 45.0	88	34.4	43	10 S	41	5 07	29	29 53		20 39	55		
14	34 06.5	38.0	359 12.8	88	38.6	42	20	26	4 54	17	7 06	51	21 03	56		
15	49 06.5	38.7	13 40.6	88	42.6	40	30	4 07	37	5 03	6 39	50	31 56			
16	64 06.4	39.5	28 08.2	86	46.5	39	35	3 55	27	4 54	24 48		21 47	57		
17	79 06.4	-15 40.3	42 35.9	87	-27 50.3	38	40	3 40	4 16	4 45	6 06	46	22 07	57		
18	94 06.4	-15 41.0	57 03.4	85	-27 53.9	36	45	3 21	4 01	4 34	5 44	45	22 30	58		
19	109 06.4	41.8	71 30.9	85	-27 57.3	34	50	2 57	3 44	21	16 42		23 00	58		
20	124 06.4	42.5	85 58.3	84	-28 00.6	33	52	44	35	14	5 03	40	15 59			
21	139 06.4	43.3	100 25.7	84	03.8	32	54	30	26	07	4 47	38	33 59			
22	154 06.3	44.0	114 53.0	83	06.8	30	56	2 12	15	4 00	29 35		23 54	59		
23	169 06.3	44.8	129 20.3	83	09.7	29	58	1 51	3 02	3 51	4 07	30	** ** *	** ** *		
24	184 06.3	-15 45.6	143 47.5	82	-28 12.4	27	60 S	1 21	2 47	3 41	3 39	20	** ** *	** ** *		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 <sup>h</sup> 01.6 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 25 <sup>m</sup>		Mag.: +0.0 PMG: 5 <sup>h</sup> 14 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 22 <sup>m</sup>		Mag.: +0.8 PMG: 20 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	43 43.9	143 59.4	-25 00.0		281 16.3	+21 37.3	324 17.1	+22 22.0	58 45.1	-8 43.2
1	58 46.3	158 58.6	00.3		296 17.9	37.2	339 19.8	22.0	73 47.6	43.2
2	73 48.8	173 57.7	00.6		311 19.4	37.1	354 22.5	21.9	88 50.1	43.2
3	88 51.3	188 56.9	00.9		326 21.0	37.0	9 25.1	21.9	103 52.7	43.2
4	103 53.7	203 56.1	01.2		341 22.5	36.9	24 27.8	21.9	118 55.2	43.2
5	118 56.2	218 55.3	-25 01.5		356 24.1	+21 36.8	39 30.5	+22 21.9	133 57.7	-8 43.2
6	133 58.7	233 54.4	-25 01.8		11 25.6	+21 36.7	54 33.2	+22 21.9	149 00.2	-8 43.3
7	149 01.1	248 53.6	02.1		26 27.2	36.6	69 35.9	21.9	164 02.7	43.3
8	164 03.6	263 52.8	02.4		41 28.7	36.5	84 38.6	21.9	179 05.2	43.3
9	179 06.1	278 51.9	02.7		56 30.3	36.4	99 41.3	21.8	194 07.7	43.3
10	194 08.5	293 51.1	03.0		71 31.8	36.3	114 44.0	21.8	209 10.2	43.3
11	209 11.0	308 50.3	-25 03.3		86 33.4	+21 36.2	129 46.7	+22 21.8	224 12.8	-8 43.3
12	224 13.5	323 49.5	-25 03.6		101 34.9	+21 36.1	144 49.4	+22 21.8	239 15.3	-8 43.3
13	239 15.9	338 48.6	03.9		116 36.5	36.0	159 52.0	21.8	254 17.8	43.3
14	254 18.4	353 47.8	04.2		131 38.0	35.9	174 54.7	21.8	269 20.3	43.4
15	269 20.8	8 47.0	04.5		146 39.6	35.8	189 57.4	21.8	284 22.8	43.4
16	284 23.3	23 46.1	04.7		161 41.2	35.7	205 00.1	21.7	299 25.3	43.4
17	299 25.8	38 45.3	-25 05.0		176 42.7	+21 35.6	220 02.8	+22 21.7	314 27.8	-8 43.4
18	314 28.2	53 44.5	-25 05.3		191 44.3	+21 35.5	235 05.5	+22 21.7	329 30.3	-8 43.4
19	329 30.7	68 43.6	05.6		206 45.8	35.4	250 08.2	21.7	344 32.8	43.4
20	344 33.2	83 42.8	05.9		221 47.4	35.3	265 10.9	21.7	359 35.4	43.4
21	359 35.6	98 42.0	06.2		236 48.9	35.2	280 13.6	21.7	14 37.9	43.4
22	14 38.1	113 41.2	06.4		251 50.5	35.1	295 16.3	21.7	29 40.4	43.5
23	29 40.6	128 40.3	06.7		266 52.1	35.0	310 19.0	21.6	44 42.9	43.5
24	44 43.0	143 39.5	-25 07.0		281 53.6	+21 34.9	325 21.7	+22 21.6	59 45.4	-8 43.5
Dif	—	-8	-3		+16	-1	+27	0	+25	0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.6 <sup>m</sup>		SD: 15.1' Edad: 3.5 <sup>d</sup> PMG: 14 <sup>h</sup> 58 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.6' 12 <sup>h</sup> : 55.8' 20 <sup>h</sup> : 55.9'				R°: 56 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	184 06.3	-15 45.6	143 47.5	82	-28 12.4	26	60 N	15 53	16 39	17 29	13 40 41	16 15 76				
1	199 06.3	46.3	158 14.7	80	15.0	24	58	16 02	45	32	12 58 46	16 58 69				
2	214 06.3	47.1	172 41.8	81	17.4	23	56	10	50	35	29 49	17 26 67				
3	229 06.2	47.8	187 08.8	80	19.7	21	54	17	16 55	38	12 07 50	17 49 65				
4	244 06.2	48.6	201 35.8	80	21.8	20	52	24	17 00	40	11 49 51	18 07 64				
5	259 06.2	-15 49.3	216 02.8	80	-28 23.8	18	50	16 30	17 04	17 42	11 33 52	18 22 64				
6	274 06.2	-15 50.1	230 29.7	79	-28 25.6	16	45	16 42	17 13	17 48	11 02 53	18 54 62				
7	289 06.2	50.9	244 56.6	79	27.2	16	40	16 53	21	53	10 38 53	19 18 61				
8	304 06.1	51.6	259 23.5	79	28.8	13	35	17 02	28	17 58	18 54	38 60				
9	319 06.1	52.4	273 50.3	78	30.1	12	30	10	34	18 03	10 01 54	19 55 59				
10	334 06.1	53.1	288 17.0	77	31.3	11	20	23	46	13	9 32 55	20 24 58				
11	349 06.1	-15 53.9	302 43.8	78	-28 32.4	8	10 N	17 36	17 57	18 23	9 07 56	20 48 57				
12	4 06.1	-15 54.6	317 10.5	77	-28 33.2	8	0	17 47	18 09	18 34	8 45 55	21 11 56				
13	19 06.0	55.4	331 37.1	76	34.0	6	10 S	17 59	21	18 46	8 22 56	34 55				
14	34 06.0	56.1	346 03.7	76	34.6	4	20	18 11	34	19 02	7 57 56	21 59 53				
15	49 06.0	56.9	0 30.3	76	35.0	2	30	26	18 51	22	29 56	22 27 52				
16	64 06.0	57.6	14 56.9	76	35.2	1	35	34	19 02	34	7 12 56	22 44 51				
17	79 05.9	-15 58.4	29 23.4	75	-28 35.3	0	40	18 44	19 14	19 50	6 52 57	23 04 50				
18	94 05.9	-15 59.1	43 50.0	76	-28 35.3	2	45	18 55	19 28	20 09	6 29 56	23 28 48				
19	109 05.9	-15 59.9	58 16.5	75	35.1	4	50	19 09	47	35	5 58 57	23 58 46				
20	124 05.9	-16 00.6	72 42.9	74	34.7	5	52	16	19 55	20 47	43 56	** ** *				
21	139 05.8	01.4	87 09.4	75	34.2	7	54	23	20 05	21 03	25 57	** ** *				
22	154 05.8	02.1	101 35.8	74	33.5	9	56	31	17	21	5 04 56	** ** *				
23	169 05.8	02.9	116 02.2	74	32.6	10	58	40	30	21 45	4 37 56	0 21 59				
24	184 05.7	-16 03.6	130 28.6	74	-28 31.6	10	60 S	19 51	20 46	22 18	3 59 55	0 58 62				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 57.7 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.0 PMG: 5 <sup>h</sup> 12 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 18 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 58 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	44 43.0	143 39.5	-25 07.0	281 53.6	+21 34.9	325 21.7	+22 21.6	59 45.4	-8 43.5	
1	59 45.5	158 38.7	07.3	296 55.2	34.8	340 24.4	21.6	74 47.9	43.5	
2	74 48.0	173 37.8	07.6	311 56.8	34.8	355 27.1	21.6	89 50.4	43.5	
3	89 50.4	188 37.0	07.8	326 58.3	34.7	10 29.8	21.6	104 52.9	43.5	
4	104 52.9	203 36.2	08.1	341 59.9	34.6	25 32.5	21.6	119 55.4	43.5	
5	119 55.3	218 35.3	-25 08.4	357 01.5	+21 34.5	40 35.2	+22 21.6	134 57.9	-8 43.5	
6	134 57.8	233 34.5	-25 08.6	12 03.0	+21 34.4	55 37.9	+22 21.5	150 00.4	-8 43.6	
7	150 00.3	248 33.7	08.9	27 04.6	34.3	70 40.6	21.5	165 03.0	43.6	
8	165 02.7	263 32.8	09.2	42 06.2	34.2	85 43.2	21.5	180 05.5	43.6	
9	180 05.2	278 32.0	09.5	57 07.8	34.1	100 45.9	21.5	195 08.0	43.6	
10	195 07.7	293 31.2	09.7	72 09.3	34.0	115 48.6	21.5	210 10.5	43.6	
11	210 10.1	308 30.3	-25 10.0	87 10.9	+21 33.9	130 51.3	+22 21.5	225 13.0	-8 43.6	
12	225 12.6	323 29.5	-25 10.2	102 12.5	+21 33.8	145 54.0	+22 21.5	240 15.5	-8 43.6	
13	240 15.1	338 28.7	10.5	117 14.0	33.7	160 56.7	21.4	255 18.0	43.6	
14	255 17.5	353 27.8	10.8	132 15.6	33.6	175 59.4	21.4	270 20.5	43.6	
15	270 20.0	8 27.0	11.0	147 17.2	33.5	191 02.1	21.4	285 23.0	43.7	
16	285 22.4	23 26.2	11.3	162 18.8	33.4	206 04.8	21.4	300 25.5	43.7	
17	300 24.9	38 25.3	-25 11.5	177 20.4	+21 33.3	221 07.5	+22 21.4	315 28.0	-8 43.7	
18	315 27.4	53 24.5	-25 11.8	192 21.9	+21 33.2	236 10.2	+22 21.4	330 30.5	-8 43.7	
19	330 29.8	68 23.7	12.1	207 23.5	33.1	251 12.9	21.4	345 33.0	43.7	
20	345 32.3	83 22.8	12.3	222 25.1	33.0	266 15.6	21.3	0 35.6	43.7	
21	0 34.8	98 22.0	12.6	237 26.7	32.9	281 18.3	21.3	15 38.1	43.7	
22	15 37.2	113 21.2	12.8	252 28.3	32.8	296 21.0	21.3	30 40.6	43.7	
23	30 39.7	128 20.3	13.1	267 29.8	32.7	311 23.7	21.3	45 43.1	43.7	
24	45 42.2	143 19.5	-25 13.3	282 31.4	+21 32.7	326 26.5	+22 21.3	60 45.6	-8 43.7	
Dif	—	-8	-3	+16	-1	+27	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.6 <sup>m</sup>		SD: 15.3' Edad: 4.5 <sup>d</sup> PMG: 15 <sup>h</sup> 54 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.1' 12 <sup>h</sup> : 56.3' 20 <sup>h</sup> : 56.5'			R°: 55 <sup>m</sup>					Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	184 05.7	-16 03.6	130 28.6	74	-28 31.6	11	60 N	5 59	6 50	7 36	14 21 14	17 31 102				
1	199 05.7	04.3	144 55.0	74	30.5	11	58	56	43	27	13 44 25	18 07 91				
2	214 05.7	05.1	159 21.4	74	29.1	14	56	53	38	19	13 18 31	33 85				
3	229 05.7	05.8	173 47.7	73	27.6	15	54	50	33	11	12 57 35	18 54 80				
4	244 05.6	06.6	188 14.1	74	26.0	16	52	48	28	7 05	40 37	19 11 78				
5	259 05.6	-16 07.3	202 40.4	73	-28 24.2	18	50	5 45	6 24	6 59	12 25 39	19 26 75				
6	274 05.6	-16 08.1	217 06.8	74	-28 22.2	20	45	5 40	6 15	6 46	11 55 43	19 56 70				
7	289 05.5	08.8	231 33.1	73	20.1	21	40	34	07	35	31 46	20 19 67				
8	304 05.5	09.6	245 59.4	73	17.8	23	35	29	6 00	26	11 12 48	38 65				
9	319 05.5	10.3	260 25.8	74	15.4	24	30	25	5 53	18	10 55 50	20 54 64				
10	334 05.5	11.0	274 52.1	73	12.7	27	20	15	41	6 04	27 52	21 22 60				
11	349 05.4	-16 11.8	289 18.4	73	-28 10.0	27	10 N	5 05	5 30	5 52	10 03 54	21 45 58				
12	4 05.4	-16 12.5	303 44.8	74	-28 07.0	30	0	4 54	5 19	5 40	9 40 56	22 07 55				
13	19 05.4	13.3	318 11.1	73	03.9	31	10 S	41	5 06	28	9 18 57	29 52				
14	34 05.3	14.0	332 37.4	73	-28 00.7	32	20	25	4 53	16	8 53 60	22 52 50				
15	49 05.3	14.7	347 03.8	74	-27 57.3	34	30	4 05	36	5 01	25 62	23 19 47				
16	64 05.3	15.5	1 30.2	74	53.7	36	35	3 52	25	4 53	8 08 63	35 44				
17	79 05.2	-16 16.2	15 56.5	73	-27 50.0	37	40	3 37	4 13	4 43	7 49 65	23 54 41				
18	94 05.2	-16 17.0	30 22.9	74	-27 46.1	39	45	3 18	3 59	4 31	7 25 67	** ** *				
19	109 05.2	17.7	44 49.3	74	42.0	41	50	2 52	40	17	6 55 69	** ** *				
20	124 05.1	18.4	59 15.8	75	37.8	42	52	39	31	11	39 72	0 14 44				
21	139 05.1	19.2	73 42.2	74	33.5	43	54	24	21	4 03	22 73	32 42				
22	154 05.1	19.9	88 08.6	74	28.9	46	56	2 05	3 10	3 55	6 00 77	0 53 39				
23	169 05.0	20.6	102 35.1	75	24.2	47	58	1 42	2 56	46	5 33 82	1 20 35				
24	184 05.0	-16 21.4	117 01.6	75	-27 19.4	48	60 S	1 09	2 40	3 36	4 54 91	2 00 25				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 53.8 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 28 <sup>m</sup>		Mag.: +0.0 PMG: 5 <sup>h</sup> 09 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 14 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 54 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	45 42.2	143 19.5	-25 13.3	282 31.4	+21 32.7	326 26.5	+22 21.3	60 45.6	-8 43.7	
1	60 44.6	158 18.7	13.6	297 33.0	32.6	341 29.2	21.3	75 48.1	43.8	
2	75 47.1	173 17.8	13.8	312 34.6	32.5	356 31.9	21.3	90 50.6	43.8	
3	90 49.6	188 17.0	14.0	327 36.2	32.4	11 34.6	21.2	105 53.1	43.8	
4	105 52.0	203 16.2	14.3	342 37.8	32.3	26 37.3	21.2	120 55.6	43.8	
5	120 54.5	218 15.3	-25 14.5	357 39.4	+21 32.2	41 40.0	+22 21.2	135 58.1	-8 43.8	
6	135 56.9	233 14.5	-25 14.8	12 40.9	+21 32.1	56 42.7	+22 21.2	151 00.6	-8 43.8	
7	150 59.4	248 13.7	15.0	27 42.5	32.0	71 45.4	21.2	166 03.1	43.8	
8	166 01.9	263 12.8	15.3	42 44.1	31.9	86 48.1	21.2	181 05.6	43.8	
9	181 04.3	278 12.0	15.5	57 45.7	31.8	101 50.8	21.1	196 08.1	43.8	
10	196 06.8	293 11.1	15.7	72 47.3	31.7	116 53.5	21.1	211 10.6	43.8	
11	211 09.3	308 10.3	-25 16.0	87 48.9	+21 31.6	131 56.2	+22 21.1	226 13.1	-8 43.9	
12	226 11.7	323 09.5	-25 16.2	102 50.5	+21 31.5	146 58.9	+22 21.1	241 15.6	-8 43.9	
13	241 14.2	338 08.6	16.4	117 52.1	31.4	162 01.6	21.1	256 18.1	43.9	
14	256 16.7	353 07.8	16.7	132 53.7	31.4	177 04.3	21.1	271 20.6	43.9	
15	271 19.1	8 07.0	16.9	147 55.3	31.3	192 07.0	21.1	286 23.1	43.9	
16	286 21.6	23 06.1	17.1	162 56.9	31.2	207 09.7	21.0	301 25.6	43.9	
17	301 24.1	38 05.3	-25 17.3	177 58.5	+21 31.1	222 12.4	+22 21.0	316 28.1	-8 43.9	
18	316 26.5	53 04.5	-25 17.6	193 00.1	+21 31.0	237 15.2	+22 21.0	331 30.7	-8 43.9	
19	331 29.0	68 03.6	17.8	208 01.7	30.9	252 17.9	21.0	346 33.2	43.9	
20	346 31.4	83 02.8	18.0	223 03.3	30.8	267 20.6	21.0	1 35.7	43.9	
21	1 33.9	98 01.9	18.2	238 04.9	30.7	282 23.3	21.0	16 38.2	43.9	
22	16 36.4	113 01.1	18.5	253 06.5	30.6	297 26.0	20.9	31 40.7	44.0	
23	31 38.8	128 00.3	18.7	268 08.1	30.5	312 28.7	20.9	46 43.2	44.0	
24	46 41.3	142 59.4	-25 18.9	283 09.7	+21 30.4	327 31.4	+22 20.9	61 45.7	-8 44.0	
Dif	—	-8	-2	+16	-1	+27	0	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.7 <sup>m</sup>		SD: 15.4' Edad: 5.5 <sup>d</sup> PMG: 16 <sup>h</sup> 49 <sup>m</sup>		PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 57.2'				R°: 54 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	184 05.0	-16 21.4	117 01.6	75	-27 19.4	50	60 N	15 48	16 35	17 25	14 35 4	19 13 107				
1	199 04.9	22.1	131 28.1	74	14.4	51	58	15 58	41	28	14 09 13	38 99				
2	214 04.9	22.8	145 54.7	76	09.2	52	56	16 06	47	32	13 49 18	19 58 93				
3	229 04.9	23.6	160 21.3	76	-27 03.9	53	54	14	52	34	32 22	20 14 89				
4	244 04.8	24.3	174 47.9	76	-26 58.4	55	52	20	16 57	37	17 26	29 84				
5	259 04.8	-16 25.0	189 14.5	76	-26 52.8	56	50	16 26	17 01	17 40	13 04 29	20 41 82				
6	274 04.8	-16 25.8	203 41.1	76	-26 47.0	58	45	16 40	17 11	17 46	12 38 34	21 06 76				
7	289 04.7	26.5	218 07.8	77	41.1	59	40	16 51	19	51	17 38	26 72				
8	304 04.7	27.2	232 34.5	77	35.0	61	35	17 00	26	17 57	12 00 41	43 68				
9	319 04.6	28.0	247 01.3	78	28.7	63	30	17 00	08	33	18 02	11 45 43				
10	334 04.6	28.7	261 28.0	77	22.3	64	20	17 00	23	45	12	11 19 48				
11	349 04.6	-16 29.4	275 54.9	79	-26 15.8	65	10 N	17 35	17 57	18 22	10 57 51	22 43 57				
12	4 04.5	-16 30.1	290 21.7	78	-26 09.1	67	0	17 47	18 09	18 34	10 36 54	23 02 53				
13	19 04.5	30.9	304 48.6	79	-26 02.2	69	10 S	17 59	21	18 47	10 15 58	21 50				
14	34 04.4	31.6	319 15.5	79	-25 55.2	70	20	18 12	36	19 03	9 53 61	23 42 46				
15	49 04.4	32.3	333 42.5	80	48.0	72	30	27	18 53	24	27 65	** ** *				
16	64 04.4	33.1	348 09.5	80	40.7	73	35	36	19 04	37	9 11 68	** ** *				
17	79 04.3	-16 33.8	2 36.5	80	-25 33.3	74	40	18 46	19 16	19 53	8 54 70	** ** *				
18	94 04.3	-16 34.5	17 03.6	81	-25 25.7	76	45	18 58	19 31	20 13	8 32 74	0 16 38				
19	109 04.2	35.2	31 30.7	81	17.9	78	50	19 13	19 50	39	8 04 79	44 34				
20	124 04.2	36.0	45 57.9	82	10.0	79	52	20	20 00	20 53	7 51 82	0 58 31				
21	139 04.1	36.7	60 25.1	82	-25 01.9	81	54	27	10	21 09	35 86	1 14 28				
22	154 04.1	37.4	74 52.4	83	-24 53.7	82	56	36	22	28	7 17 90	32 24				
23	169 04.1	38.1	89 19.7	83	45.4	83	58	45	36	21 54	6 55 95	1 55 18				
24	184 04.0	-16 38.9	103 47.0	83	-24 36.9	85	60 S	19 56	20 53	22 32	6 25 105	2 25 9				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 49.8 <sup>m</sup>		Mag.: -4.0 PMG: 14 <sup>h</sup> 29 <sup>m</sup>		Mag.: -0.0 PMG: 5 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 10 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 50 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	46 41.3	142 59.4	-25 18.9	283 09.7	+21 30.4	327 31.4	+22 20.9	61 45.7	-8 44.0	
1	61 43.8	157 58.6	19.1	298 11.3	30.4	342 34.1	20.9	76 48.2	44.0	
2	76 46.2	172 57.8	19.3	313 12.9	30.3	357 36.8	20.9	91 50.7	44.0	
3	91 48.7	187 56.9	19.5	328 14.5	30.2	12 39.5	20.9	106 53.2	44.0	
4	106 51.2	202 56.1	19.8	343 16.1	30.1	27 42.2	20.9	121 55.7	44.0	
5	121 53.6	217 55.2	-25 20.0	358 17.7	+21 30.0	42 45.0	+22 20.8	136 58.2	-8 44.0	
6	136 56.1	232 54.4	-25 20.2	13 19.4	+21 29.9	57 47.7	+22 20.8	152 00.7	-8 44.0	
7	151 58.6	247 53.6	20.4	28 21.0	29.8	72 50.4	20.8	167 03.2	44.0	
8	167 01.0	262 52.7	20.6	43 22.6	29.7	87 53.1	20.8	182 05.7	44.0	
9	182 03.5	277 51.9	20.8	58 24.2	29.6	102 55.8	20.8	197 08.2	44.0	
10	197 05.9	292 51.0	21.0	73 25.8	29.6	117 58.5	20.8	212 10.7	44.0	
11	212 08.4	307 50.2	-25 21.2	88 27.4	+21 29.5	133 01.2	+22 20.7	227 13.2	-8 44.1	
12	227 10.9	322 49.4	-25 21.4	103 29.0	+21 29.4	148 03.9	+22 20.7	242 15.7	-8 44.1	
13	242 13.3	337 48.5	21.6	118 30.7	29.3	163 06.7	20.7	257 18.2	44.1	
14	257 15.8	352 47.7	21.8	133 32.3	29.2	178 09.4	20.7	272 20.7	44.1	
15	272 18.3	7 46.9	22.0	148 33.9	29.1	193 12.1	20.7	287 23.2	44.1	
16	287 20.7	22 46.0	22.2	163 35.5	29.0	208 14.8	20.7	302 25.7	44.1	
17	302 23.2	37 45.2	-25 22.4	178 37.1	+21 28.9	223 17.5	+22 20.7	317 28.2	-8 44.1	
18	317 25.7	52 44.3	-25 22.6	193 38.7	+21 28.8	238 20.2	+22 20.6	332 30.7	-8 44.1	
19	332 28.1	67 43.5	22.8	208 40.4	28.8	253 22.9	20.6	347 33.2	44.1	
20	347 30.6	82 42.7	23.0	223 42.0	28.7	268 25.7	20.6	2 35.7	44.1	
21	2 33.1	97 41.8	23.2	238 43.6	28.6	283 28.4	20.6	17 38.2	44.1	
22	17 35.5	112 41.0	23.4	253 45.2	28.5	298 31.1	20.6	32 40.7	44.1	
23	32 38.0	127 40.1	23.6	268 46.9	28.4	313 33.8	20.6	47 43.2	44.1	
24	47 40.4	142 39.3	-25 23.8	283 48.5	+21 28.3	328 36.5	+22 20.5	62 45.7	-8 44.2	
Dif	—	-8	-2	+16	-1	+27	0	+25	0	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.1'		SD: 15.6'		Edad: 6.5 <sup>d</sup>			R <sup>o</sup> : 51 <sup>m</sup>			PHE { 4 <sup>h</sup> : 57.4'		12 <sup>h</sup> : 57.6'		20 <sup>h</sup> : 57.9'	
	PMG: 11 <sup>h</sup> 43.8 <sup>m</sup>		PMG: 17 <sup>h</sup> 43 <sup>m</sup>		R <sup>o</sup> : 51 <sup>m</sup>								Hora		R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
0	184 04.0	-16 38.9	103 47.0		-24 36.9	86	60 N	6 04	6 54	7 41	14 39	1	21 00	106		
1	199 04.0	39.6	118 14.4	84	28.3	88	58	6 00	48	31	22	6	17	99		
2	214 03.9	40.3	132 41.9	85	19.5	89	56	5 57	42	23	14 07	12	31	94		
3	229 03.9	41.0	147 09.4	85	10.6	90	54	54	36	15	13 54	16	43	90		
4	244 03.8	41.7	161 36.9	85	-24 01.5	91	52	51	32	08	43	19	21	53		
5	259 03.8	-16 42.5	176 04.5	86	-23 52.3	92	50	5 48	6 27	7 02	13 33	22	22	03		
6	274 03.7	-16 43.2	190 32.1	86	-23 42.9	94	45	5 42	6 17	6 49	13 12	28	22	22		
7	289 03.7	43.9	204 59.8	87	33.5	94	40	37	09	37	12 55	32	38	73		
8	304 03.6	44.6	219 27.5	87	23.8	97	35	31	6 01	28	41	35	22	51		
9	319 03.6	45.3	233 55.3	88	14.1	97	30	26	5 55	20	28	39	23	03		
10	334 03.5	46.1	248 23.1	88	-23 04.2	99	20	16	42	6 05	12 07	43	23	60		
11	349 03.5	-16 46.8	262 51.0	89	-22 54.2	100	10 N	5 05	5 30	5 52	11 48	48	23	40		
12	4 03.4	-16 47.5	277 19.0	90	-22 44.0	102	0	4 54	5 19	5 40	11 30	52	23	55		
13	19 03.4	48.2	291 46.9	89	33.7	103	10 S	40	5 06	28	11 13	56	** ** *	** ** *		
14	34 03.3	48.9	306 15.0	91	23.3	104	20	24	4 52	15	10 54	60	** ** *	** ** *		
15	49 03.3	49.6	320 43.1	91	12.7	106	30	4 03	34	5 00	32	65	0	06		
16	64 03.2	50.4	335 11.2	91	-22 02.0	107	35	3 50	23	4 51	19	68	19	39		
17	79 03.2	-16 51.1	349 39.4	92	-21 51.2	108	40	3 34	4 11	4 41	10 04	72	0	35		
18	94 03.1	-16 51.8	4 07.6	92	-21 40.2	110	45	3 14	3 56	4 29	9 46	77	0	54		
19	109 03.1	52.5	18 35.9	93	29.1	111	50	2 48	36	14	23	84	1	18		
20	124 03.0	53.2	33 04.3	94	17.9	112	52	34	27	07	13	86	29	22		
21	139 03.0	53.9	47 32.7	94	-21 06.6	113	54	2 18	17	4 00	9 01	89	42	18		
22	154 02.9	54.6	62 01.1	94	-20 55.1	115	56	1 58	3 05	3 51	8 47	94	1	56		
23	169 02.9	55.4	76 29.6	95	43.6	115	58	1 33	2 51	41	30	99	2	13		
24	184 02.8	-16 56.1	90 58.2	96	-20 31.8	118	60 S	0 55	2 34	3 30	8 10	107	2	34		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 45.9 <sup>m</sup>		Mag.: -4.0		Mag.: -0.0		Mag.: -2.7		Mag.: +0.8	
	PMG: 14 <sup>h</sup> 30 <sup>m</sup>		PMG: 5 <sup>h</sup> 04 <sup>m</sup>		PMG: 2 <sup>h</sup> 05 <sup>m</sup>		PMG: 19 <sup>h</sup> 46 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	47 40.4	142 39.3	-25 23.8	283 48.5	+21 28.3	328 36.5	+22 20.5	62 45.7	-8 44.2	
1	62 42.9	157 38.5	24.0	298 50.1	28.2	343 39.2	20.5	77 48.2	44.2	
2	77 45.4	172 37.6	24.1	313 51.7	28.2	358 42.0	20.5	92 50.7	44.2	
3	92 47.8	187 36.8	24.3	328 53.4	28.1	13 44.7	20.5	107 53.2	44.2	
4	107 50.3	202 35.9	24.5	343 55.0	28.0	28 47.4	20.5	122 55.6	44.2	
5	122 52.8	217 35.1	-25 24.7	358 56.6	+21 27.9	43 50.1	+22 20.5	137 58.1	-8 44.2	
6	137 55.2	232 34.3	-25 24.9	13 58.3	+21 27.8	58 52.8	+22 20.4	153 00.6	-8 44.2	
7	152 57.7	247 33.4	25.0	28 59.9	27.7	73 55.6	20.4	168 03.1	44.2	
8	168 00.2	262 32.6	25.2	44 01.5	27.6	88 58.3	20.4	183 05.6	44.2	
9	183 02.6	277 31.7	25.4	59 03.2	27.6	104 01.0	20.4	198 08.1	44.2	
10	198 05.1	292 30.9	25.6	74 04.8	27.5	119 03.7	20.4	213 10.6	44.2	
11	213 07.6	307 30.1	-25 25.8	89 06.4	+21 27.4	134 06.4	+22 20.4	228 13.1	-8 44.2	
12	228 10.0	322 29.2	-25 25.9	104 08.1	+21 27.3	149 09.2	+22 20.3	243 15.6	-8 44.2	
13	243 12.5	337 28.4	26.1	119 09.7	27.2	164 11.9	20.3	258 18.1	44.2	
14	258 14.9	352 27.5	26.3	134 11.3	27.1	179 14.6	20.3	273 20.6	44.2	
15	273 17.4	7 26.7	26.4	149 13.0	27.0	194 17.3	20.3	288 23.1	44.2	
16	288 19.9	22 25.9	26.6	164 14.6	27.0	209 20.0	20.3	303 25.6	44.2	
17	303 22.3	37 25.0	-25 26.8	179 16.3	+21 26.9	224 22.8	+22 20.3	318 28.1	-8 44.3	
18	318 24.8	52 24.2	-25 26.9	194 17.9	+21 26.8	239 25.5	+22 20.3	333 30.6	-8 44.3	
19	333 27.3	67 23.3	27.1	209 19.6	26.7	254 28.2	20.2	348 33.1	44.3	
20	348 29.7	82 22.5	27.3	224 21.2	26.6	269 30.9	20.2	3 35.6	44.3	
21	3 32.2	97 21.7	27.4	239 22.8	26.5	284 33.7	20.2	18 38.1	44.3	
22	18 34.7	112 20.8	27.6	254 24.5	26.5	299 36.4	20.2	33 40.6	44.3	
23	33 37.1	127 20.0	27.8	269 26.1	26.4	314 39.1	20.2	48 43.1	44.3	
24	48 39.6	142 19.1	-25 27.9	284 27.8	+21 26.3	329 41.8	+22 20.2	63 45.6	-8 44.3	
Dif	—	-8	-2	+16	-1	+27	0	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.1' PMG: 11 <sup>h</sup> 43.9 <sup>m</sup>		SD: 15.8' Edad: 7.5 <sup>d</sup> PMG: 18 <sup>h</sup> 34 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.1' 12 <sup>h</sup> : 58.4' 20 <sup>h</sup> : 58.6'				R°: 50 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	184 02.8	-16 56.1	90 58.2	96	-20 31.8	118	60 N	15 43	16 30	17 21	14 40	-1	22 46 103			
1	199 02.8	56.8	105 26.8	96	20.0	119	58	15 53	37	25	28	5	22 56 99			
2	214 02.7	57.5	119 55.5	97	-20 08.1	121	56	16 02	43	28	19	8	23 05 94			
3	229 02.7	58.2	134 24.2	97	-19 56.0	122	54	10	49	31	10	11	13 91			
4	244 02.6	58.9	148 52.9	97	43.8	123	52	17	54	34	14 02	15	20 88			
5	259 02.6	-16 59.6	163 21.7	98	-19 31.5	124	50	16 23	16 58	17 37	13 55	17	23 27 84			
6	274 02.5	-17 00.3	177 50.6	99	-19 19.1	126	45	16 37	17 09	17 44	13 40	23	23 40 78			
7	289 02.5	01.0	192 19.5	99	-19 06.5	126	40	49	17	50	27	28	23 51 74			
8	304 02.4	01.7	206 48.5	100	-18 53.9	128	35	16 58	25	17 55	16	32	** ** *			
9	319 02.3	02.4	221 17.5	100	41.1	128	30	17 07	32	18 01	13 07	34	** ** *			
10	334 02.3	03.1	235 46.5	100	28.2	129	20	22	45	11	12 50	41	** ** *			
11	349 02.2	-17 03.9	250 15.6	101	-18 15.2	130	10 N	17 35	17 57	18 22	12 36	45	** ** *			
12	4 02.2	-17 04.6	264 44.8	102	-18 02.1	131	0	17 47	18 09	18 34	12 22	51	** ** *			
13	19 02.1	05.3	279 14.0	102	-17 48.9	132	10 S	18 00	22	18 48	12 09	55	0 11 47			
14	34 02.1	06.0	293 43.2	102	35.6	133	20	13	37	19 04	11 54	60	28 42			
15	49 02.0	06.7	308 12.5	103	22.2	134	30	29	18 55	26	37	66	47 36			
16	64 01.9	07.4	322 41.9	104	-17 08.7	135	35	38	19 06	39	27	70	0 58 33			
17	79 01.9	-17 08.1	337 11.2	103	-16 55.0	137	40	18 49	19 19	19 56	11 16	74	1 10 30			
18	94 01.8	-17 08.8	351 40.7	105	-16 41.3	137	45	19 01	19 34	20 16	11 03	78	1 25 25			
19	109 01.8	09.5	6 10.1	104	27.4	139	50	16	19 54	44	10 47	84	43 19			
20	124 01.7	10.2	20 39.6	105	-16 13.5	139	52	23	20 04	20 58	39	87	1 51 17			
21	139 01.6	10.9	35 09.2	106	-15 59.5	140	54	31	15	21 15	30	91	2 00 14			
22	154 01.6	11.6	49 38.8	106	45.3	142	56	40	27	21 36	21	94	11 10			
23	169 01.5	12.3	64 08.4	106	31.1	142	58	19 50	20 42	22 04	10 09	99	23 5			
24	184 01.5	-17 13.0	78 38.1	107	-15 16.7	144	60 S	20 02	21 00	22 49	9 57	104	2 37 0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 42.0 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 32 <sup>m</sup>		Mag.: -0.0 PMG: 5 <sup>h</sup> 02 <sup>m</sup>		Mag.: -2.7 PMG: 2 <sup>h</sup> 01 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	48 39.6	142 19.1	-25 27.9	284 27.8	+21 26.3	329 41.8	+22 20.2	63 45.6	-8 44.3	
1	63 42.0	157 18.3	28.1	299 29.4	26.2	344 44.5	20.1	78 48.0	44.3	
2	78 44.5	172 17.5	28.2	314 31.1	26.1	359 47.3	20.1	93 50.5	44.3	
3	93 47.0	187 16.6	28.4	329 32.7	26.1	14 50.0	20.1	108 53.0	44.3	
4	108 49.4	202 15.8	28.5	344 34.4	26.0	29 52.7	20.1	123 55.5	44.3	
5	123 51.9	217 14.9	-25 28.7	359 36.0	+21 25.9	44 55.4	+22 20.1	138 58.0	-8 44.3	
6	138 54.4	232 14.1	-25 28.8	14 37.7	+21 25.8	59 58.2	+22 20.1	154 00.5	-8 44.3	
7	153 56.8	247 13.2	29.0	29 39.3	25.7	75 00.9	20.0	169 03.0	44.3	
8	168 59.3	262 12.4	29.1	44 41.0	25.6	90 03.6	20.0	184 05.5	44.3	
9	184 01.8	277 11.6	29.3	59 42.6	25.6	105 06.4	20.0	199 08.0	44.3	
10	199 04.2	292 10.7	29.4	74 44.3	25.5	120 09.1	20.0	214 10.5	44.3	
11	214 06.7	307 09.9	-25 29.6	89 46.0	+21 25.4	135 11.8	+22 20.0	229 13.0	-8 44.3	
12	229 09.2	322 09.0	-25 29.7	104 47.6	+21 25.3	150 14.5	+22 20.0	244 15.5	-8 44.3	
13	244 11.6	337 08.2	29.8	119 49.3	25.2	165 17.3	19.9	259 18.0	44.3	
14	259 14.1	352 07.4	30.0	134 50.9	25.2	180 20.0	19.9	274 20.4	44.4	
15	274 16.5	7 06.5	30.1	149 52.6	25.1	195 22.7	19.9	289 22.9	44.4	
16	289 19.0	22 05.7	30.3	164 54.3	25.0	210 25.4	19.9	304 25.4	44.4	
17	304 21.5	37 04.8	-25 30.4	179 55.9	+21 24.9	225 28.2	+22 19.9	319 27.9	-8 44.4	
18	319 23.9	52 04.0	-25 30.5	194 57.6	+21 24.8	240 30.9	+22 19.9	334 30.4	-8 44.4	
19	334 26.4	67 03.2	30.7	209 59.3	24.8	255 33.6	19.8	349 32.9	44.4	
20	349 28.9	82 02.3	30.8	225 00.9	24.7	270 36.4	19.8	4 35.4	44.4	
21	4 31.3	97 01.5	30.9	240 02.6	24.6	285 39.1	19.8	19 37.9	44.4	
22	19 33.8	112 00.6	31.1	255 04.3	24.5	300 41.8	19.8	34 40.4	44.4	
23	34 36.3	126 59.8	31.2	270 05.9	24.5	315 44.6	19.8	49 42.9	44.4	
24	49 38.7	141 58.9	-25 31.3	285 07.6	+21 24.4	330 47.3	+22 19.7	64 45.4	-8 44.4	
Dif	—	-8	-1	+17	-1	+27	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 16.0'		Edad: 8.5 <sup>d</sup>			R <sup>o</sup> : 49 <sup>m</sup>			PHE { 4 <sup>h</sup> : 58.9' 12 <sup>h</sup> : 59.1' 20 <sup>h</sup> : 59.3'		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	PMG: 11 <sup>h</sup> 44.0 <sup>m</sup>		PMG: 19 <sup>h</sup> 24 <sup>m</sup>		R <sup>o</sup> : 49 <sup>m</sup>								Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m		
0	184 01.5	-17 13.0	78 38.1	107	-15 16.7	144	60 N	6 08	6 59	7 46	14 39	0	** ** *	** ** *		
1	199 01.4	13.7	93 07.8	108	-15 02.3	144	58	04	52	36	14 39	0	** ** *	** ** *		
2	214 01.3	14.4	107 37.6	108	-14 47.8	145	56	6 00	46	27	14 39	0	** ** *	** ** *		
3	229 01.3	15.1	122 07.4	108	33.2	147	54	5 57	40	19	14 39	0	** ** *	** ** *		
4	244 01.2	15.8	136 37.2	108	18.5	147	52	54	35	12	14 39	0	** ** *	** ** *		
5	259 01.1	-17 16.5	151 07.1	109	-14 03.7	148	50	5 51	6 30	7 05	14 12	15	** ** *	** ** *		
6	274 01.1	-17 17.2	165 37.0	109	-13 48.8	149	45	5 45	6 20	6 51	14 03	20	** ** *	** ** *		
7	289 01.0	17.9	180 06.9	109	33.8	150	40	39	11	40	13 55	25	** ** *	** ** *		
8	304 00.9	18.6	194 36.9	110	18.8	150	35	33	6 03	30	13 55	25	0 01	69		
9	319 00.9	19.3	209 06.9	110	-13 03.6	152	30	27	5 56	21	0 01	69	09	66		
10	334 00.8	19.9	223 36.9	110	-12 48.4	152	20	17	43	6 06	31	38	23	59		
11	349 00.7	-17 20.6	238 07.0	111	-12 33.1	153	10 N	5 06	5 31	5 53	13 21	44	0 35	54		
12	4 00.7	-17 21.3	252 37.1	111	-12 17.7	154	0	4 54	5 19	5 40	13 13	49	0 46	50		
13	19 00.6	22.0	267 07.2	111	-12 02.2	155	10 S	40	5 06	28	13 04	54	0 58	44		
14	34 00.5	22.7	281 37.4	112	-11 46.7	155	20	23	4 51	5 14	12 54	60	1 10	39		
15	49 00.5	23.4	296 07.5	111	31.1	156	30	4 02	33	4 58	43	66	23	33		
16	64 00.4	24.1	310 37.7	112	-11 15.3	158	35	3 48	22	49	37	69	31	30		
17	79 00.3	-17 24.8	325 08.0	113	-10 59.6	157	40	3 32	4 09	4 39	12 30	73	1 40	26		
18	94 00.3	-17 25.5	339 38.2	112	-10 43.7	159	45	3 11	3 53	4 26	12 21	79	1 50	21		
19	109 00.2	26.2	354 08.5	113	27.8	159	50	2 43	33	11	11	84	2 02	16		
20	124 00.1	26.9	8 38.8	113	-10 11.8	160	52	29	23	4 04	06	87	08	13		
21	139 00.1	27.5	23 09.1	113	-9 55.8	160	54	2 12	12	3 56	12 01	90	14	10		
22	154 00.0	28.2	37 39.4	113	39.6	162	56	1 51	3 00	47	11 55	94	21	7		
23	168 59.9	28.9	52 09.8	114	23.4	162	58	1 23	2 45	37	48	98	28	4		
24	183 59.9	-17 29.6	66 40.2	114	-9 07.2	162	60 S	0 38	2 27	3 25	11 41	102	2 37	0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -4.1		Mag.: -0.1		Mag.: -2.7		Mag.: +0.8	
	20 <sup>h</sup> 38.0 <sup>m</sup>		PMG: 14 <sup>h</sup> 33 <sup>m</sup>		PMG: 4 <sup>h</sup> 59 <sup>m</sup>		PMG: 1 <sup>h</sup> 56 <sup>m</sup>		PMG: 19 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	49 38.7	141 58.9	-25 31.3	285 07.6	+21 24.4	330 47.3	+22 19.7	64 45.4	-8 44.4	
1	64 41.2	156 58.1	31.4	300 09.3	24.3	345 50.0	19.7	79 47.8	44.4	
2	79 43.7	171 57.3	31.6	315 10.9	24.2	0 52.7	19.7	94 50.3	44.4	
3	94 46.1	186 56.4	31.7	330 12.6	24.1	15 55.5	19.7	109 52.8	44.4	
4	109 48.6	201 55.6	31.8	345 14.3	24.1	30 58.2	19.7	124 55.3	44.4	
5	124 51.0	216 54.7	-25 31.9	0 15.9	+21 24.0	46 00.9	+22 19.7	139 57.8	-8 44.4	
6	139 53.5	231 53.9	-25 32.1	15 17.6	+21 23.9	61 03.7	+22 19.6	155 00.3	-8 44.4	
7	154 56.0	246 53.1	32.2	30 19.3	23.8	76 06.4	19.6	170 02.8	44.4	
8	169 58.4	261 52.2	32.3	45 21.0	23.8	91 09.1	19.6	185 05.3	44.4	
9	185 00.9	276 51.4	32.4	60 22.7	23.7	106 11.9	19.6	200 07.8	44.4	
10	200 03.4	291 50.5	32.5	75 24.3	23.6	121 14.6	19.6	215 10.2	44.4	
11	215 05.8	306 49.7	-25 32.6	90 26.0	+21 23.5	136 17.3	+22 19.6	230 12.7	-8 44.4	
12	230 08.3	321 48.9	-25 32.8	105 27.7	+21 23.4	151 20.1	+22 19.5	245 15.2	-8 44.4	
13	245 10.8	336 48.0	32.9	120 29.4	23.4	166 22.8	19.5	260 17.7	44.4	
14	260 13.2	351 47.2	33.0	135 31.1	23.3	181 25.5	19.5	275 20.2	44.4	
15	275 15.7	6 46.3	33.1	150 32.7	23.2	196 28.3	19.5	290 22.7	44.4	
16	290 18.1	21 45.5	33.2	165 34.4	23.1	211 31.0	19.5	305 25.2	44.4	
17	305 20.6	36 44.6	-25 33.3	180 36.1	+21 23.1	226 33.8	+22 19.5	320 27.7	-8 44.4	
18	320 23.1	51 43.8	-25 33.4	195 37.8	+21 23.0	241 36.5	+22 19.4	335 30.1	-8 44.4	
19	335 25.5	66 43.0	33.5	210 39.5	22.9	256 39.2	19.4	350 32.6	44.4	
20	350 28.0	81 42.1	33.6	225 41.2	22.8	271 42.0	19.4	5 35.1	44.4	
21	5 30.5	96 41.3	33.7	240 42.9	22.8	286 44.7	19.4	20 37.6	44.4	
22	20 32.9	111 40.4	33.8	255 44.5	22.7	301 47.4	19.4	35 40.1	44.4	
23	35 35.4	126 39.6	33.9	270 46.2	22.6	316 50.2	19.4	50 42.6	44.4	
24	50 37.9	141 38.8	-25 34.0	285 47.9	+21 22.5	331 52.9	+22 19.3	65 45.1	-8 44.4	
Dif	—	-8	-1	+17	-1	+27	0	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 44.1 <sup>m</sup>		SD: 16.2' Edad: 9.5 <sup>d</sup> PMG: 20 <sup>h</sup> 13 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.6' 12 <sup>h</sup> : 59.8' 20 <sup>h</sup> : 60.0' R°: 49 <sup>m</sup>				Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	183 59.9	-17 29.6	66 40.2	-9 07.2	164	60 N	15 38	16 26	17 17	14 39	-1	0 29	103			
1	198 59.8	30.3	81 10.5 <sup>113</sup>	-8 50.8	164	58	49	34	21	36	3	35	98			
2	213 59.7	31.0	95 40.9 <sup>114</sup>	34.5	163	56	15 58	40	25	33	6	39	95			
3	228 59.6	31.7	110 11.4 <sup>115</sup>	18.0	165	54	16 07	46	29	31	9	44	90			
4	243 59.6	32.3	124 41.8 <sup>114</sup>	-8 01.5	165	52	14	51	32	29	12	48	87			
5	258 59.5	-17 33.0	139 12.2 <sup>114</sup>	-7 45.0	165	50	16 21	16 56	17 35	14 27	15	0 51	85			
6	273 59.4	-17 33.7	153 42.7 <sup>115</sup>	-7 28.3	167	45	16 35	17 06	17 42	14 23	20	0 58	79			
7	288 59.4	34.4	168 13.1 <sup>114</sup>	-7 11.7	166	40	47	16	48	20	24	1 05	74			
8	303 59.3	35.1	182 43.6 <sup>115</sup>	-6 54.9	168	35	16 57	24	17 54	17	28	10	70			
9	318 59.2	35.8	197 14.0 <sup>114</sup>	38.2	167	30	17 06	31	18 00	14	32	15	66			
10	333 59.1	36.4	211 44.5 <sup>115</sup>	21.3	169	20	21	44	11	09	39	22	60			
11	348 59.1	-17 37.1	226 15.0 <sup>115</sup>	-6 04.4	169	10 N	17 35	17 57	18 22	14 05	44	1 29	54			
12	3 59.0	-17 37.8	240 45.5 <sup>115</sup>	-5 47.5	169	0	17 48	18 09	18 35	14 02	49	1 36	49			
13	18 58.9	38.5	255 15.9 <sup>114</sup>	30.5	170	10 S	18 01	23	18 49	13 58	54	42	44			
14	33 58.8	39.2	269 46.4 <sup>115</sup>	-5 13.5	170	20	15	38	19 06	54	60	49	38			
15	48 58.8	39.8	284 16.9 <sup>115</sup>	-4 56.5	170	30	31	18 57	28	49	67	1 56	32			
16	63 58.7	40.5	298 47.4 <sup>115</sup>	39.4	171	35	40	19 08	42	46	71	2 01	28			
17	78 58.6	-17 41.2	313 17.8 <sup>114</sup>	-4 22.2	172	40	18 51	19 21	19 58	13 43	75	2 06	24			
18	93 58.5	-17 41.9	327 48.3 <sup>115</sup>	-4 05.0	172	45	19 04	19 37	20 20	13 40	79	2 11	20			
19	108 58.5	42.5	342 18.8 <sup>115</sup>	-3 47.8	172	50	20	19 58	20 49	35	86	18	14			
20	123 58.4	43.2	356 49.2 <sup>114</sup>	30.6	172	52	27	20 08	21 03	33	89	21	12			
21	138 58.3	43.9	11 19.7 <sup>115</sup>	-3 13.3	173	54	35	19	21	31	92	24	9			
22	153 58.2	44.6	25 50.1 <sup>114</sup>	-2 56.0	173	56	44	32	21 43	29	95	28	6			
23	168 58.1	45.2	40 20.5 <sup>114</sup>	38.6	174	58	19 55	20 48	22 14	26	99	32	3			
24	183 58.1	-17 45.9	54 50.9 <sup>114</sup>	-2 21.2	174	60 S	20 07	21 07	23 14	13 23	103	2 37	-1			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 20 <sup>h</sup> 34.1 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 34 <sup>m</sup>		Mag.: -0.1 PMG: 4 <sup>h</sup> 56 <sup>m</sup>		Mag.: -2.7 PMG: 1 <sup>h</sup> 52 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 34 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	50 37.9	141 38.8	-25 34.0	285 47.9	+21 22.5	331 52.9	+22 19.3	65 45.1	-8 44.4							
1	65 40.3	156 37.9	34.1	300 49.6	22.5	346 55.6	19.3	80 47.5	44.4							
2	80 42.8	171 37.1	34.2	315 51.3	22.4	1 58.4	19.3	95 50.0	44.5							
3	95 45.3	186 36.2	34.3	330 53.0	22.3	17 01.1	19.3	110 52.5	44.5							
4	110 47.7	201 35.4	34.4	345 54.7	22.3	32 03.9	19.3	125 55.0	44.5							
5	125 50.2	216 34.6	-25 34.5	0 56.4	+21 22.2	47 06.6	+22 19.2	140 57.5	-8 44.5							
6	140 52.6	231 33.7	-25 34.6	15 58.1	+21 22.1	62 09.3	+22 19.2	156 00.0	-8 44.5							
7	155 55.1	246 32.9	34.6	30 59.8	22.0	77 12.1	19.2	171 02.5	44.5							
8	170 57.6	261 32.0	34.7	46 01.5	22.0	92 14.8	19.2	186 04.9	44.5							
9	186 00.0	276 31.2	34.8	61 03.2	21.9	107 17.6	19.2	201 07.4	44.5							
10	201 02.5	291 30.4	34.9	76 04.9	21.8	122 20.3	19.2	216 09.9	44.5							
11	216 05.0	306 29.5	-25 35.0	91 06.6	+21 21.7	137 23.0	+22 19.1	231 12.4	-8 44.5							
12	231 07.4	321 28.7	-25 35.1	106 08.3	+21 21.7	152 25.8	+22 19.1	246 14.9	-8 44.5							
13	246 09.9	336 27.8	35.2	121 10.0	21.6	167 28.5	19.1	261 17.4	44.5							
14	261 12.4	351 27.0	35.2	136 11.7	21.5	182 31.3	19.1	276 19.8	44.5							
15	276 14.8	6 26.2	35.3	151 13.4	21.5	197 34.0	19.1	291 22.3	44.5							
16	291 17.3	21 25.3	35.4	166 15.1	21.4	212 36.7	19.0	306 24.8	44.5							
17	306 19.8	36 24.5	-25 35.5	181 16.8	+21 21.3	227 39.5	+22 19.0	321 27.3	-8 44.5							
18	321 22.2	51 23.6	-25 35.5	196 18.5	+21 21.3	242 42.2	+22 19.0	336 29.8	-8 44.5							
19	336 24.7	66 22.8	35.6	211 20.2	21.2	257 45.0	19.0	351 32.3	44.5							
20	351 27.1	81 22.0	35.7	226 21.9	21.1	272 47.7	19.0	6 34.7	44.5							
21	6 29.6	96 21.1	35.8	241 23.7	21.0	287 50.5	19.0	21 37.2	44.5							
22	21 32.1	111 20.3	35.8	256 25.4	21.0	302 53.2	18.9	36 39.7	44.5							
23	36 34.5	126 19.4	35.9	271 27.1	20.9	317 55.9	18.9	51 42.2	44.5							
24	51 37.0	141 18.6	-25 36.0	286 28.8	+21 20.8	332 58.7	+22 18.9	66 44.7	-8 44.5							
Dif	—	-8	-1	+17	-1	+27	0	+25	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 44.2 <sup>m</sup>		SD: 16.4' Edad: 10.5 <sup>d</sup> PMG: 21 <sup>h</sup> 02 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.2' 12 <sup>h</sup> : 60.4' 20 <sup>h</sup> : 60.5'R°: 52 <sup>m</sup>						Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	183 58.1	-17 45.9	54 50.9	-2 21.2	174	60 N	6 12	7 03	7 51	14 38	-1	2 12	104	
1	198 58.0	46.6	69 21.3 <sup>114</sup>	-2 03.8	174	58	08	6 56	41	39	3	13	99	
2	213 57.9	47.3	83 51.7 <sup>114</sup>	-1 46.4	174	56	04	6 49	31	39	7	14	95	
3	228 57.8	47.9	98 22.0 <sup>113</sup>	28.9	175	54	6 00	6 44	23	40	10	14	93	
4	243 57.7	48.6	112 52.4 <sup>114</sup>	-1 11.5	174	52	5 57	6 38	15	41	12	15	90	
5	258 57.7	-17 49.3	127 22.7 <sup>113</sup>	-0 54.0	175	50	5 54	6 33	7 09	14 42	15	2 16	86	
6	273 57.6	-17 50.0	141 53.0 <sup>113</sup>	-0 36.4	176	45	5 47	6 22	6 54	14 43	21	2 17	81	
7	288 57.5	50.6	156 23.2 <sup>112</sup>	18.9	175	40	41	6 13	42	44	26	19	75	
8	303 57.4	51.3	170 53.5 <sup>113</sup>	-0 01.4	176	35	35	6 05	32	45	30	20	71	
9	318 57.3	52.0	185 23.7 <sup>112</sup>	+0 16.2	176	30	29	5 58	23	46	33	21	67	
10	333 57.2	52.6	199 53.9 <sup>112</sup>	33.8	176	20	18	5 44	6 07	48	39	22	61	
11	348 57.2	-17 53.3	214 24.1 <sup>112</sup>	+0 51.4	176	10 N	5 06	5 32	5 54	14 49	46	2 23	55	
12	3 57.1	-17 54.0	228 54.2 <sup>111</sup>	+1 09.0	176	0	4 54	5 19	5 41	14 51	50	2 25	49	
13	18 57.0	54.6	243 24.3 <sup>111</sup>	26.6	176	10 S	39	5 05	28	52	56	26	44	
14	33 56.9	55.3	257 54.4 <sup>111</sup>	+1 44.2	176	20	22	4 50	5 14	54	61	27	39	
15	48 56.8	56.0	272 24.4 <sup>110</sup>	+2 01.8	176	30	4 00	4 31	4 57	56	68	28	33	
16	63 56.7	56.6	286 54.4 <sup>110</sup>	19.4	176	35	3 46	4 20	4 48	57	72	29	29	
17	78 56.7	-17 57.3	301 24.4 <sup>110</sup>	+2 37.0	176	40	3 29	4 07	4 37	14 58	76	2 30	25	
18	93 56.6	-17 58.0	315 54.3 <sup>109</sup>	+2 54.6	176	45	3 08	3 50	4 24	14 59	82	2 31	20	
19	108 56.5	58.6	330 24.2 <sup>109</sup>	+3 12.2	176	50	2 39	3 30	08	15 01	88	32	15	
20	123 56.4	59.3	344 54.1 <sup>109</sup>	29.8	176	52	24	3 20	4 01	02	91	33	12	
21	138 56.3	-17 59.9	359 23.9 <sup>108</sup>	+3 47.4	176	54	2 07	3 08	3 52	03	94	33	10	
22	153 56.2	-18 00.6	13 53.6 <sup>107</sup>	+4 05.0	176	56	1 44	2 55	43	04	97	34	6	
23	168 56.1	01.3	28 23.3 <sup>107</sup>	22.6	176	58	1 13	40	33	05	101	35	2	
24	183 56.1	-18 01.9	42 53.0 <sup>107</sup>	+4 40.2	176	60 S	0 14	2 21	3 20	15 06	106	2 36	-2	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 30.2 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 36 <sup>m</sup>		Mag.: -0.1 PMG: 4 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.7 PMG: 1 <sup>h</sup> 48 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 30 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	51 37.0	141 18.6	-25 36.0	286 28.8	+21 20.8	332 58.7	+22 18.9	66 44.7	-8 44.5	
1	66 39.5	156 17.8	36.0	301 30.5	20.8	348 01.4	18.9	81 47.1	44.5	
2	81 41.9	171 16.9	36.1	316 32.2	20.7	3 04.2	18.9	96 49.6	44.5	
3	96 44.4	186 16.1	36.1	331 33.9	20.6	18 06.9	18.9	111 52.1	44.5	
4	111 46.9	201 15.2	36.2	346 35.7	20.6	33 09.7	18.8	126 54.6	44.5	
5	126 49.3	216 14.4	-25 36.3	1 37.4	+21 20.5	48 12.4	+22 18.8	141 57.1	-8 44.5	
6	141 51.8	231 13.6	-25 36.3	16 39.1	+21 20.4	63 15.2	+22 18.8	156 59.5	-8 44.5	
7	156 54.2	246 12.7	36.4	31 40.8	20.4	78 17.9	18.8	172 02.0	44.5	
8	171 56.7	261 11.9	36.4	46 42.5	20.3	93 20.6	18.8	187 04.5	44.5	
9	186 59.2	276 11.0	36.5	61 44.3	20.2	108 23.4	18.7	202 07.0	44.5	
10	202 01.6	291 10.2	36.6	76 46.0	20.1	123 26.1	18.7	217 09.5	44.5	
11	217 04.1	306 09.4	-25 36.6	91 47.7	+21 20.1	138 28.9	+22 18.7	232 11.9	-8 44.5	
12	232 06.6	321 08.5	-25 36.7	106 49.4	+21 20.0	153 31.6	+22 18.7	247 14.4	-8 44.5	
13	247 09.0	336 07.7	36.7	121 51.2	19.9	168 34.4	18.7	262 16.9	44.5	
14	262 11.5	351 06.8	36.8	136 52.9	19.9	183 37.1	18.6	277 19.4	44.5	
15	277 14.0	6 06.0	36.8	151 54.6	19.8	198 39.9	18.6	292 21.9	44.5	
16	292 16.4	21 05.2	36.8	166 56.3	19.7	213 42.6	18.6	307 24.3	44.5	
17	307 18.9	36 04.3	-25 36.9	181 58.1	+21 19.7	228 45.4	+22 18.6	322 26.8	-8 44.5	
18	322 21.4	51 03.5	-25 36.9	196 59.8	+21 19.6	243 48.1	+22 18.6	337 29.3	-8 44.5	
19	337 23.8	66 02.6	37.0	212 01.5	19.6	258 50.9	18.6	352 31.8	44.4	
20	352 26.3	81 01.8	37.0	227 03.3	19.5	273 53.6	18.5	7 34.3	44.4	
21	7 28.7	96 01.0	37.1	242 05.0	19.4	288 56.4	18.5	22 36.7	44.4	
22	22 31.2	111 00.1	37.1	257 06.7	19.4	303 59.1	18.5	37 39.2	44.4	
23	37 33.7	125 59.3	37.1	272 08.5	19.3	319 01.9	18.5	52 41.7	44.4	
24	52 36.1	140 58.5	-25 37.2	287 10.2	+21 19.2	334 04.6	+22 18.5	67 44.2	-8 44.4	

Dif	—	-8	-1	+17	-1	+27	0	+25	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 44.3 <sup>m</sup>		SD: 16.5' Edad: 11.5 <sup>d</sup> PMG: 21 <sup>h</sup> 54 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.7' 12 <sup>h</sup> : 60.8' 20 <sup>h</sup> : 60.8'				R°: 54 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	183 56.1	-18 01.9	42 53.0	+ 4 40.2	175	60 N	15 34	16 22	17 14	14 37	0	3 56	108			
1	198 56.0	02.6	57 22.6	+ 4 57.7	175	58	45	30	18	42	4	52	104			
2	213 55.9	03.3	71 52.2	+ 5 15.2	175	56	15 55	37	22	46	8	49	100			
3	228 55.8	03.9	86 21.7	+ 5 32.7	175	54	16 03	43	26	50	12	47	95			
4	243 55.7	04.6	100 51.2	+ 5 50.2	175	52	11	48	29	53	15	45	92			
5	258 55.6	-18 05.2	115 20.6	+ 6 07.7	175	50	16 18	16 53	17 32	14 57	17	3 42	90			
6	273 55.5	-18 05.9	129 50.0	+ 6 25.1	174	45	16 33	17 04	17 40	15 04	23	3 38	83			
7	288 55.4	06.5	144 19.3	+ 6 42.5	174	40	45	14	47	10	28	34	78			
8	303 55.3	07.2	158 48.6	+ 6 59.9	174	35	16 55	22	53	15	33	31	73			
9	318 55.2	07.9	173 17.8	+ 7 17.3	174	30	17 05	30	17 59	19	37	28	69			
10	333 55.2	08.5	187 46.9	+ 7 34.6	173	20	21	44	18 10	27	43	23	63			
11	348 55.1	-18 09.2	202 16.0	+ 7 51.9	173	10 N	17 35	17 57	18 22	15 35	48	3 18	58			
12	3 55.0	-18 09.8	216 45.0	+ 8 09.2	173	0	17 48	18 10	18 35	15 41	54	3 14	52			
13	18 54.9	10.5	231 14.0	+ 8 26.4	172	10 S	18 01	23	18 50	48	59	10	47			
14	33 54.8	11.1	245 42.9	+ 8 43.5	171	20	16	39	19 07	15 55	65	06	41			
15	48 54.7	11.8	260 11.7	+ 9 00.7	172	30	32	18 58	30	16 04	71	3 01	34			
16	63 54.6	12.4	274 40.5	+ 9 17.8	171	35	42	19 10	19 44	09 75	2 58	31	31			
17	78 54.5	-18 13.1	289 09.1	+ 9 34.8	170	40	18 53	19 24	20 01	16 14	80	2 55	27			
18	93 54.4	-18 13.7	303 37.8	+ 9 51.8	170	45	19 07	19 41	20 23	16 21	85	2 51	22			
19	108 54.3	14.4	318 06.3	+ 10 08.7	169	50	23	20 02	20 53	29	91	47	16			
20	123 54.2	15.0	332 34.8	+ 10 25.6	169	52	31	12	21 09	33	94	45	13			
21	138 54.1	15.7	347 03.2	+ 10 42.4	168	54	39	24	21 27	37	98	43	10			
22	153 54.0	16.3	1 31.6	+ 10 59.2	168	56	19 49	38	21 51	41	102	40	7			
23	168 53.9	17.0	15 59.8	+ 11 15.9	167	58	20 00	20 54	22 26	46	107	37	4			
24	183 53.8	-18 17.6	30 28.0	+ 11 32.6	167	60 S	20 12	21 14	** **	16 52	112	2 34	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 26.2 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 37 <sup>m</sup>		Mag.: -0.1 PMG: 4 <sup>h</sup> 51 <sup>m</sup>		Mag.: -2.7 PMG: 1 <sup>h</sup> 43 <sup>m</sup>		Mag.: +0.8 PMG: 19 <sup>h</sup> 26 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	52 36.1	140 58.5	- 25 37.2	287 10.2	+ 21 19.2	334 04.6	+ 22 18.5	67 44.2	- 8 44.4	
1	67 38.6	155 57.6	37.2	302 11.9	19.2	349 07.4	18.4	82 46.6	44.4	
2	82 41.1	170 56.8	37.2	317 13.7	19.1	4 10.1	18.4	97 49.1	44.4	
3	97 43.5	185 55.9	37.3	332 15.4	19.0	19 12.9	18.4	112 51.6	44.4	
4	112 46.0	200 55.1	37.3	347 17.2	19.0	34 15.6	18.4	127 54.1	44.4	
5	127 48.5	215 54.3	- 25 37.3	2 18.9	+ 21 18.9	49 18.4	+ 22 18.4	142 56.6	- 8 44.4	
6	142 50.9	230 53.4	- 25 37.4	17 20.6	+ 21 18.8	64 21.1	+ 22 18.4	157 59.0	- 8 44.4	
7	157 53.4	245 52.6	37.4	32 22.4	18.8	79 23.9	18.3	173 01.5	44.4	
8	172 55.8	260 51.8	37.4	47 24.1	18.7	94 26.6	18.3	188 04.0	44.4	
9	187 58.3	275 50.9	37.4	62 25.9	18.7	109 29.4	18.3	203 06.5	44.4	
10	203 00.8	290 50.1	37.5	77 27.6	18.6	124 32.1	18.3	218 08.9	44.4	
11	218 03.2	305 49.2	- 25 37.5	92 29.4	+ 21 18.5	139 34.9	+ 22 18.3	233 11.4	- 8 44.4	
12	233 05.7	320 48.4	- 25 37.5	107 31.1	+ 21 18.5	154 37.6	+ 22 18.2	248 13.9	- 8 44.4	
13	248 08.2	335 47.6	37.5	122 32.9	18.4	169 40.4	18.2	263 16.4	44.4	
14	263 10.6	350 46.7	37.5	137 34.6	18.3	184 43.1	18.2	278 18.8	44.4	
15	278 13.1	5 45.9	37.6	152 36.4	18.3	199 45.9	18.2	293 21.3	44.4	
16	293 15.6	20 45.1	37.6	167 38.1	18.2	214 48.6	18.2	308 23.8	44.4	
17	308 18.0	35 44.2	- 25 37.6	182 39.9	+ 21 18.2	229 51.4	+ 22 18.1	323 26.3	- 8 44.4	
18	323 20.5	50 43.4	- 25 37.6	197 41.6	+ 21 18.1	244 54.2	+ 22 18.1	338 28.7	- 8 44.4	
19	338 23.0	65 42.6	37.6	212 43.4	18.0	259 56.9	18.1	353 31.2	44.4	
20	353 25.4	80 41.7	37.6	227 45.1	18.0	274 59.7	18.1	8 33.7	44.4	
21	8 27.9	95 40.9	37.6	242 46.9	17.9	290 02.4	18.1	23 36.2	44.4	
22	23 30.3	110 40.1	37.6	257 48.7	17.9	305 05.2	18.0	38 38.6	44.4	
23	38 32.8	125 39.2	37.7	272 50.4	17.8	320 07.9	18.0	53 41.1	44.4	
24	53 35.3	140 38.4	- 25 37.7	287 52.2	+ 21 17.7	335 10.7	+ 22 18.0	68 43.6	- 8 44.4	
Dif	—	-8	0	+17	-1	+28	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 44.5 <sup>m</sup>		SD: 16.6' Edad: 12.5 <sup>d</sup> PMG: 22 <sup>h</sup> 48 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.9' 12 <sup>h</sup> : 60.9' 20 <sup>h</sup> : 60.9'			R°: 58 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	183 53.8	-18 17.6	30 28.0	91	+11 32.6	166	60 N	6 16	7 08	7 57	14 37	1	5 44	114
1	198 53.7	18.3	44 56.1	91	+11 49.2	166	58	11	7 00	45	46	8	36	108
2	213 53.6	18.9	59 24.2	91	+12 05.7	165	56	07	6 53	35	14 54	13	29	103
3	228 53.5	19.6	73 52.1	89	22.2	165	54	04	47	27	15 02	16	22	100
4	243 53.4	20.2	88 20.0	89	38.5	163	52	6 00	41	19	08 20	17	95	95
5	258 53.3	-18 20.9	102 47.8	88	+12 54.9	164	50	5 57	6 36	7 12	15 14	23	5 12	92
6	273 53.3	-18 21.5	117 15.5	87	+13 11.1	162	45	5 49	6 25	6 57	15 27	29	5 01	85
7	288 53.2	22.1	131 43.1	86	27.3	162	40	43	15	44	38 34	4	52	80
8	303 53.1	22.8	146 10.7	86	43.4	161	35	36	6 07	34	48 38	44	76	76
9	318 53.0	23.4	160 38.2	85	+13 59.4	160	30	30	5 59	25	15 56	41	37	72
10	333 52.9	24.1	175 05.6	84	+14 15.3	159	20	19	45	6 08	16 10	48	26	65
11	348 52.8	-18 24.7	189 32.9	83	+14 31.1	158	10 N	5 07	5 32	5 54	16 23	52	4 16	60
12	3 52.7	-18 25.4	204 00.1	82	+14 46.9	158	0	4 54	5 19	5 41	16 35	57	4 06	55
13	18 52.6	26.0	218 27.2	81	+15 02.5	156	10 S	39	5 05	27	16 47	62	3 57	50
14	33 52.4	26.6	232 54.2	80	18.1	156	20	4 22	4 49	5 13	17 00	67	47	45
15	48 52.3	27.3	247 21.2	80	33.6	155	30	3 59	30	4 56	15 73	35	39	39
16	63 52.2	27.9	261 48.1	79	+15 49.0	154	35	45	18	46	24 76	29	35	35
17	78 52.1	-18 28.6	276 14.8	77	+16 04.3	153	40	3 27	4 05	4 35	17 34	81	3 22	30
18	93 52.0	-18 29.2	290 41.5	77	+16 19.4	151	45	3 05	3 48	4 22	17 46	86	3 13	26
19	108 51.9	29.8	305 08.1	76	34.5	151	50	2 35	27	4 05	18 00	93	3 03	19
20	123 51.8	30.5	319 34.6	75	+16 49.5	150	52	20	16	3 58	07 96	2	58	17
21	138 51.7	31.1	334 01.0	74	+17 04.4	149	54	2 01	3 04	49	15 100	53	13	13
22	153 51.6	31.7	348 27.4	74	19.1	147	56	1 37	2 51	39	23 105	47	10	10
23	168 51.5	32.4	2 53.6	72	33.8	147	58	1 02	34	28	33 111	41	5	5
24	183 51.4	-18 33.0	17 19.7	71	+17 48.3	145	60 S	** **	2 14	3 16	18 44	118	2 34	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 20 <sup>h</sup> 22.3 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 38 <sup>m</sup>		Mag.: -0.1 PMG: 4 <sup>h</sup> 48 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 39 <sup>m</sup>		Mag.: +0.9 PMG: 19 <sup>h</sup> 22 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
0	53 35.3	140 38.4	-25 37.7	287 52.2	+21 17.7	335 10.7	+22 18.0	68 43.6	-8 44.4		
1	68 37.7	155 37.5	37.7	302 53.9	17.7	350 13.4	18.0	83 46.1	44.4		
2	83 40.2	170 36.7	37.7	317 55.7	17.6	5 16.2	18.0	98 48.5	44.4		
3	98 42.7	185 35.9	37.7	332 57.5	17.6	20 19.0	17.9	113 51.0	44.4		
4	113 45.1	200 35.0	37.7	347 59.2	17.5	35 21.7	17.9	128 53.5	44.4		
5	128 47.6	215 34.2	-25 37.7	3 01.0	+21 17.4	50 24.5	+22 17.9	143 55.9	-8 44.4		
6	143 50.1	230 33.4	-25 37.7	18 02.8	+21 17.4	65 27.2	+22 17.9	158 58.4	-8 44.4		
7	158 52.5	245 32.5	37.7	33 04.5	17.3	80 30.0	17.9	174 00.9	44.3		
8	173 55.0	260 31.7	37.7	48 06.3	17.3	95 32.7	17.9	189 03.4	44.3		
9	188 57.5	275 30.9	37.7	63 08.1	17.2	110 35.5	17.8	204 05.8	44.3		
10	203 59.9	290 30.0	37.6	78 09.8	17.2	125 38.3	17.8	219 08.3	44.3		
11	219 02.4	305 29.2	-25 37.6	93 11.6	+21 17.1	140 41.0	+22 17.8	234 10.8	-8 44.3		
12	234 04.8	320 28.4	-25 37.6	108 13.4	+21 17.0	155 43.8	+22 17.8	249 13.2	-8 44.3		
13	249 07.3	335 27.5	37.6	123 15.1	17.0	170 46.5	17.8	264 15.7	44.3		
14	264 09.8	350 26.7	37.6	138 16.9	16.9	185 49.3	17.7	279 18.2	44.3		
15	279 12.2	5 25.9	37.6	153 18.7	16.9	200 52.1	17.7	294 20.7	44.3		
16	294 14.7	20 25.0	37.6	168 20.5	16.8	215 54.8	17.7	309 23.1	44.3		
17	309 17.2	35 24.2	-25 37.6	183 22.2	+21 16.8	230 57.6	+22 17.7	324 25.6	-8 44.3		
18	324 19.6	50 23.4	-25 37.5	198 24.0	+21 16.7	246 00.3	+22 17.7	339 28.1	-8 44.3		
19	339 22.1	65 22.5	37.5	213 25.8	16.6	261 03.1	17.6	354 30.5	44.3		
20	354 24.6	80 21.7	37.5	228 27.6	16.6	276 05.9	17.6	9 33.0	44.3		
21	9 27.0	95 20.9	37.5	243 29.4	16.5	291 08.6	17.6	24 35.5	44.3		
22	24 29.5	110 20.0	37.5	258 31.1	16.5	306 11.4	17.6	39 38.0	44.3		
23	39 31.9	125 19.2	37.4	273 32.9	16.4	321 14.1	17.6	54 40.4	44.3		
24	54 34.4	140 18.4	-25 37.4	288 34.7	+21 16.4	336 16.9	+22 17.5	69 42.9	-8 44.3		
Dif	—	-8	0	+18	-1	+28	0	+25	0		



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 44.7 <sup>m</sup>		SD: 16.6' Edad: 13.5 <sup>d</sup> PMG: 23 <sup>h</sup> 46 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.8' 12 <sup>h</sup> : 60.7' 20 <sup>h</sup> : 60.6'				R°: 62 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	183 51.4	-18 33.0	17 19.7	71	+17 48.3	145	60 N	15 30	16 19	17 11	14 38	6	7 38	120		
1	198 51.3	33.6	31 45.8	70	+18 02.8	144	58	41	27	15	14 54	13	24	111		
2	213 51.2	34.3	46 11.8	68	17.1	143	56	15 51	34	19	15 07	19	12	105		
3	228 51.1	34.9	60 37.6	68	31.2	141	54	16 00	40	23	18 24	7	02	99		
4	243 51.0	35.5	75 03.4	67	45.3	140	52	08	46	27	28 28	6	52	96		
5	258 50.9	-18 36.2	89 29.1	66	+18 59.3	138	50	16 15	16 51	17 30	15 37	31	6 44	92		
6	273 50.8	-18 36.8	103 54.7	65	+19 13.1	137	45	16 31	17 03	17 38	15 56	38	6 26	86		
7	288 50.7	37.4	118 20.2	64	26.8	135	40	43	12	45	16 12	42	12	81		
8	303 50.6	38.1	132 45.6	63	40.3	135	35	16 54	21	52	26 45	6	00	77		
9	318 50.5	38.7	147 10.9	62	+19 53.8	132	30	17 04	29	17 58	37 48	5	49	74		
10	333 50.3	39.3	161 36.1	61	+20 07.0	132	20	20	43	18 10	16 58	53	31	69		
11	348 50.2	-18 39.9	176 01.2	61	+20 20.2	130	10 N	17 35	17 57	18 22	17 15	57	5 16	63		
12	3 50.1	-18 40.6	190 26.3	59	+20 33.2	129	0	17 48	18 10	18 35	17 32	61	5 01	59		
13	18 50.0	41.2	204 51.2	59	46.1	128	10 S	18 02	24	18 50	17 49	64	4 47	55		
14	33 49.9	41.8	219 16.1	57	+20 58.9	125	20	17	18 40	19 08	18 07	69	32	50		
15	48 49.8	42.4	233 40.8	57	+21 11.4	125	30	34	19 00	32	28 73	14	45	45		
16	63 49.7	43.1	248 05.5	56	23.9	123	35	44	12	19 46	40 77	4	04	41		
17	78 49.6	-18 43.7	262 30.1	55	+21 36.2	122	40	18 56	19 26	20 04	18 55	80	3 52	38		
18	93 49.5	-18 44.3	276 54.6	54	+21 48.4	120	45	19 09	19 44	20 27	19 12	84	3 39	32		
19	108 49.3	44.9	291 19.0	53	+22 00.4	118	50	26	20 06	20 58	33 91	22	27	27		
20	123 49.2	45.6	305 43.3	53	12.2	117	52	34	16	21 14	43 94	15	23	23		
21	138 49.1	46.2	320 07.6	51	23.9	115	54	43	29	21 34	19 55	98	3 06	20		
22	153 49.0	46.8	334 31.7	51	35.4	114	56	19 53	20 43	22 00	20 08	103	2 57	15		
23	168 48.9	47.4	348 55.8	50	46.8	112	58	20 04	21 00	22 39	24 110	46	9	9		
24	183 48.8	-18 48.0	3 19.8	50	+22 58.0	112	60 S	20 18	21 21	** **	20 42	121	2 34	2		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 18.4 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 40 <sup>m</sup>		Mag.: -0.2 PMG: 4 <sup>h</sup> 45 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 35 <sup>m</sup>		Mag.: +0.9 PMG: 19 <sup>h</sup> 18 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	54 34.4	140 18.4	-25 37.4	288 34.7	+21 16.4	336 16.9	+22 17.5	69 42.9	-8 44.3	
1	69 36.9	155 17.5	37.4	303 36.5	16.3	351 19.7	17.5	84 45.4	44.3	
2	84 39.3	170 16.7	37.4	318 38.3	16.3	6 22.4	17.5	99 47.8	44.3	
3	99 41.8	185 15.9	37.3	333 40.1	16.2	21 25.2	17.5	114 50.3	44.3	
4	114 44.3	200 15.0	37.3	348 41.8	16.2	36 28.0	17.5	129 52.8	44.2	
5	129 46.7	215 14.2	-25 37.3	3 43.6	+21 16.1	51 30.7	+22 17.4	144 55.2	-8 44.2	
6	144 49.2	230 13.4	-25 37.2	18 45.4	+21 16.1	66 33.5	+22 17.4	159 57.7	-8 44.2	
7	159 51.7	245 12.6	37.2	33 47.2	16.0	81 36.2	17.4	175 00.2	44.2	
8	174 54.1	260 11.7	37.2	48 49.0	15.9	96 39.0	17.4	190 02.6	44.2	
9	189 56.6	275 10.9	37.1	63 50.8	15.9	111 41.8	17.4	205 05.1	44.2	
10	204 59.1	290 10.1	37.1	78 52.6	15.8	126 44.5	17.3	220 07.6	44.2	
11	220 01.5	305 09.2	-25 37.1	93 54.4	+21 15.8	141 47.3	+22 17.3	235 10.0	-8 44.2	
12	235 04.0	320 08.4	-25 37.0	108 56.2	+21 15.7	156 50.1	+22 17.3	250 12.5	-8 44.2	
13	250 06.4	335 07.6	37.0	123 58.0	15.7	171 52.8	17.3	265 15.0	44.2	
14	265 08.9	350 06.7	36.9	138 59.8	15.6	186 55.6	17.3	280 17.4	44.2	
15	280 11.4	5 05.9	36.9	154 01.6	15.6	201 58.4	17.2	295 19.9	44.2	
16	295 13.8	20 05.1	36.8	169 03.4	15.5	217 01.1	17.2	310 22.4	44.2	
17	310 16.3	35 04.3	-25 36.8	184 05.2	+21 15.5	232 03.9	+22 17.2	325 24.8	-8 44.2	
18	325 18.8	50 03.4	-25 36.7	199 07.0	+21 15.4	247 06.7	+22 17.2	340 27.3	-8 44.2	
19	340 21.2	65 02.6	36.7	214 08.8	15.4	262 09.4	17.2	355 29.8	44.2	
20	355 23.7	80 01.8	36.6	229 10.6	15.3	277 12.2	17.1	10 32.2	44.1	
21	10 26.2	95 00.9	36.6	244 12.4	15.3	292 15.0	17.1	25 34.7	44.1	
22	25 28.6	110 00.1	36.5	259 14.2	15.2	307 17.7	17.1	40 37.2	44.1	
23	40 31.1	124 59.3	36.5	274 16.0	15.2	322 20.5	17.1	55 39.6	44.1	
24	55 33.6	139 58.5	-25 36.4	289 17.8	+21 15.1	337 23.3	+22 17.1	70 42.1	-8 44.1	
Dif	—	-8	0	+18	-1	+28	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 16.5'		Edad: 14.5 <sup>d</sup>			R <sup>o</sup> : ***m			PHE { 4 <sup>h</sup> : 60.5'		12 <sup>h</sup> : 60.3'		20 <sup>h</sup> : 60.1'	
	PMG: 11 <sup>h</sup> 44.8 <sup>m</sup>		PMG: **h **m		R <sup>o</sup> : ***m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m		
0	183 48.8	-18 48.0	3 19.8	49	+22 58.0	111	60 N	6 20	7 12	8 02	14 44	17	9 38	115		
1	198 48.7	48.7	17 43.7	48	+23 09.1	109	58	15	7 04	7 50	15 07	28	9 15	104		
2	213 48.6	49.3	32 07.5	47	20.0	107	56	11	6 57	39	26 34	34	8 57	97		
3	228 48.4	49.9	46 31.2	47	30.7	106	54	07	50	30	42 38	38	41	93		
4	243 48.3	50.5	60 54.9	47	41.3	104	52	03	45	22	15 56	41	28	89		
5	258 48.2	-18 51.1	75 18.5	46	+23 51.7	102	50	6 00	6 39	7 15	16 08	44	8 16	86		
6	273 48.1	-18 51.8	89 42.0	45	+24 01.9	100	45	5 52	6 28	6 59	16 34	48	7 52	81		
7	288 48.0	52.4	104 05.4	44	11.9	99	40	45	18	47	16 54	51	33	77		
8	303 47.9	53.0	118 28.8	44	21.8	97	35	38	09	36	17 11	53	17	74		
9	318 47.7	53.6	132 52.1	43	31.5	95	30	32	6 01	26	25 56	56	7 03	72		
10	333 47.6	54.2	147 15.3	42	41.0	94	20	20	5 46	6 10	17 51	58	6 40	68		
11	348 47.5	-18 54.8	161 38.4	41	+24 50.4	91	10 N	5 07	5 33	5 55	18 12	61	6 19	66		
12	3 47.4	-18 55.4	176 01.5	41	+24 59.5	90	0	4 54	5 19	5 41	18 33	63	6 00	63		
13	18 47.3	56.1	190 24.5	40	+25 08.5	88	10 S	39	5 05	27	18 53	65	5 42	59		
14	33 47.1	56.7	204 47.5	40	17.3	86	20	4 21	4 49	5 12	19 16	67	5 22	56		
15	48 47.0	57.3	219 10.4	39	25.9	85	30	3 58	29	4 55	41 70	70	4 59	51		
16	63 46.9	57.9	233 33.2	38	34.4	82	35	43	17	45	19 57	71	45	50		
17	78 46.8	-18 58.5	247 56.0	38	+25 42.6	81	40	3 25	4 03	4 33	20 15	73	4 30	46		
18	93 46.7	-18 59.1	262 18.7	37	+25 50.7	78	45	3 02	3 45	4 20	20 36	76	4 11	43		
19	108 46.5	-18 59.7	276 41.4	37	+25 58.5	77	50	2 31	23	4 03	21 04	79	3 49	36		
20	123 46.4	-19 00.3	291 04.0	36	+26 06.2	75	52	2 15	13	3 55	17 82	82	38	34		
21	138 46.3	00.9	305 26.5	35	13.7	73	54	1 55	3 00	46	33 84	84	26	30		
22	153 46.2	01.6	319 49.1	36	21.0	71	56	1 29	2 46	36	21 51	88	3 12	25		
23	168 46.1	02.2	334 11.5	34	28.1	69	58	0 50	29	24	22 14	93	2 55	19		
24	183 45.9	-19 02.8	348 34.0	35	+26 35.0		60 S	** **	2 08	3 11	22 43	106	2 36	8		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 14.4 <sup>m</sup>		Mag.: -4.1		Mag.: -0.2		Mag.: -2.8		Mag.: +0.9	
	PMG: 14 <sup>h</sup> 41 <sup>m</sup>		PMG: 4 <sup>h</sup> 42 <sup>m</sup>		PMG: 1 <sup>h</sup> 30 <sup>m</sup>		PMG: 19 <sup>h</sup> 14 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	55 33.6	139 58.5	-25 36.4	289 17.8	+21 15.1	337 23.3	+22 17.1	70 42.1	-8 44.1	
1	70 36.0	154 57.6	36.4	304 19.6	15.1	352 26.0	17.0	85 44.6	44.1	
2	85 38.5	169 56.8	36.3	319 21.4	15.0	7 28.8	17.0	100 47.0	44.1	
3	100 40.9	184 56.0	36.3	334 23.2	15.0	22 31.6	17.0	115 49.5	44.1	
4	115 43.4	199 55.1	36.2	349 25.0	14.9	37 34.3	17.0	130 52.0	44.1	
5	130 45.9	214 54.3	-25 36.1	4 26.9	+21 14.9	52 37.1	+22 17.0	145 54.4	-8 44.1	
6	145 48.3	229 53.5	-25 36.1	19 28.7	+21 14.9	67 39.9	+22 16.9	160 56.9	-8 44.1	
7	160 50.8	244 52.7	36.0	34 30.5	14.8	82 42.6	16.9	175 59.4	44.1	
8	175 53.3	259 51.8	35.9	49 32.3	14.8	97 45.4	16.9	191 01.8	44.1	
9	190 55.7	274 51.0	35.9	64 34.1	14.7	112 48.2	16.9	206 04.3	44.1	
10	205 58.2	289 50.2	35.8	79 35.9	14.7	127 51.0	16.9	221 06.7	44.0	
11	221 00.7	304 49.4	-25 35.7	94 37.8	+21 14.6	142 53.7	+22 16.8	236 09.2	-8 44.0	
12	236 03.1	319 48.5	-25 35.7	109 39.6	+21 14.6	157 56.5	+22 16.8	251 11.7	-8 44.0	
13	251 05.6	334 47.7	35.6	124 41.4	14.5	172 59.3	16.8	266 14.1	44.0	
14	266 08.1	349 46.9	35.5	139 43.2	14.5	188 02.0	16.8	281 16.6	44.0	
15	281 10.5	4 46.1	35.4	154 45.0	14.4	203 04.8	16.8	296 19.1	44.0	
16	296 13.0	19 45.2	35.4	169 46.9	14.4	218 07.6	16.7	311 21.5	44.0	
17	311 15.4	34 44.4	-25 35.3	184 48.7	+21 14.3	233 10.3	+22 16.7	326 24.0	-8 44.0	
18	326 17.9	49 43.6	-25 35.2	199 50.5	+21 14.3	248 13.1	+22 16.7	341 26.5	-8 44.0	
19	341 20.4	64 42.8	35.1	214 52.3	14.3	263 15.9	16.7	356 28.9	44.0	
20	356 22.8	79 41.9	35.1	229 54.2	14.2	278 18.7	16.6	11 31.4	44.0	
21	11 25.3	94 41.1	35.0	244 56.0	14.2	293 21.4	16.6	26 33.8	44.0	
22	26 27.8	109 40.3	34.9	259 57.8	14.1	308 24.2	16.6	41 36.3	43.9	
23	41 30.2	124 39.5	34.8	274 59.7	14.1	323 27.0	16.6	56 38.8	43.9	
24	56 32.7	139 38.6	-25 34.7	290 01.5	+21 14.0	338 29.8	+22 16.6	71 41.2	-8 43.9	
Dif	—	-8	+1	+18	0	+28	0	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16.2' PMG: 11 <sup>h</sup> 45.0 <sup>m</sup>		SD: 16.3' Edad: 15.5 <sup>d</sup> PMG: 0 <sup>h</sup> 48 <sup>m</sup> R <sup>o</sup> : 63 <sup>m</sup>						PHE { 4 <sup>h</sup> : 59.9' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.4'	Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m		
0	183 45.9	-19 02.8	348 34.0	+26 35.0	68	60 N	15 25	16 15	17 07	15 01	48	11 33	83		
1	198 45.8	03.4	2 56.4	34	41.8	58	37	23	12	15 35	54	10 59	77		
2	213 45.7	04.0	17 18.7	33	48.3	56	48	31	17	16 00	56	34	75		
3	228 45.6	04.6	31 41.0	33	+26 54.6	54	15 57	37	21	20 58	58	10 14	73		
4	243 45.4	05.2	46 03.3	33	+27 00.8	52	16 06	43	25	37 59	59	9 57	72		
5	258 45.3	-19 05.8	60 25.6	33	+27 06.7	50	16 13	16 49	17 28	16 52	59	9 42	72		
6	273 45.2	-19 06.4	74 47.8	32	+27 12.5	45	16 29	17 01	17 37	17 22	60	9 13	70		
7	288 45.1	07.0	89 10.0	32	18.0	40	42	11	44	17 45	61	8 50	69		
8	303 44.9	07.6	103 32.2	32	23.3	35	16 53	20	51	18 04	62	31	68		
9	318 44.8	08.2	117 54.3	31	28.5	30	17 03	28	17 57	21 62	62	8 15	67		
10	333 44.7	08.8	132 16.5	32	33.4	20	20	43	18 10	18 49	62	7 48	65		
11	348 44.6	-19 09.4	146 38.6	31	+27 38.2	10 N	17 35	17 57	18 22	19 13	62	7 25	64		
12	3 44.4	-19 10.0	161 00.7	31	+27 42.7	0	17 49	18 11	18 36	19 36	62	7 03	63		
13	18 44.3	10.6	175 22.8	31	47.1	10 S	18 03	25	18 51	19 58	63	6 41	62		
14	33 44.2	11.2	189 44.9	31	51.2	20	18	18 42	19 10	20 23	63	6 18	60		
15	48 44.1	11.8	204 07.0	31	55.2	30	36	19 02	34	20 51	63	5 50	59		
16	63 43.9	12.4	218 29.1	31	+27 58.9	35	46	14	19 49	21 08	63	35	57		
17	78 43.8	-19 13.0	232 51.2	31	+28 02.5	40	18 58	19 29	20 07	21 28	63	5 16	56		
18	93 43.7	-19 13.6	247 13.3	31	+28 05.8	45	19 12	19 47	20 31	21 52	62	4 54	54		
19	108 43.5	14.2	261 35.4	31	09.0	50	29	20 09	21 03	22 23	62	25	52		
20	123 43.4	14.8	275 57.5	31	11.9	52	38	20	20	39 61	61	4 12	49		
21	138 43.3	15.4	290 19.6	31	14.6	54	47	33	21 40	22 57	61	3 56	47		
22	153 43.1	16.0	304 41.8	32	17.2	56	19 57	20 48	22 08	23 19	60	37	44		
23	168 43.0	16.5	319 03.9	31	19.5	58	20 09	21 06	22 54	23 47	60	3 14	39		
24	183 42.9	-19 17.1	333 26.1	32	+28 21.7	60 S	20 23	21 28	** ** *	** ** *	** ** *	2 44	27		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 10.5 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 42 <sup>m</sup>		Mag.: -0.2 PMG: 4 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 26 <sup>m</sup>		Mag.: +0.9 PMG: 19 <sup>h</sup> 10 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	56 32.7	139 38.6	-25 34.7	290 01.5	+21 14.0	338 29.8	+22 16.6	71 41.2	-8 43.9	
1	71 35.2	154 37.8	34.6	305 03.3	14.0	353 32.5	16.5	86 43.7	43.9	
2	86 37.6	169 37.0	34.5	320 05.2	14.0	8 35.3	16.5	101 46.1	43.9	
3	101 40.1	184 36.2	34.5	335 07.0	13.9	23 38.1	16.5	116 48.6	43.9	
4	116 42.6	199 35.4	34.4	350 08.8	13.9	38 40.8	16.5	131 51.1	43.9	
5	131 45.0	214 34.5	-25 34.3	5 10.7	+21 13.8	53 43.6	+22 16.5	146 53.5	-8 43.9	
6	146 47.5	229 33.7	-25 34.2	20 12.5	+21 13.8	68 46.4	+22 16.4	161 56.0	-8 43.9	
7	161 49.9	244 32.9	34.1	35 14.3	13.7	83 49.2	16.4	176 58.4	43.9	
8	176 52.4	259 32.1	34.0	50 16.2	13.7	98 51.9	16.4	192 00.9	43.9	
9	191 54.9	274 31.2	33.9	65 18.0	13.7	113 54.7	16.4	207 03.4	43.8	
10	206 57.3	289 30.4	33.8	80 19.9	13.6	128 57.5	16.4	222 05.8	43.8	
11	221 59.8	304 29.6	-25 33.7	95 21.7	+21 13.6	144 00.3	+22 16.3	237 08.3	-8 43.8	
12	237 02.3	319 28.8	-25 33.6	110 23.6	+21 13.5	159 03.0	+22 16.3	252 10.7	-8 43.8	
13	252 04.7	334 28.0	33.5	125 25.4	13.5	174 05.8	16.3	267 13.2	43.8	
14	267 07.2	349 27.1	33.4	140 27.3	13.5	189 08.6	16.3	282 15.7	43.8	
15	282 09.7	4 26.3	33.3	155 29.1	13.4	204 11.4	16.2	297 18.1	43.8	
16	297 12.1	19 25.5	33.2	170 30.9	13.4	219 14.2	16.2	312 20.6	43.8	
17	312 14.6	34 24.7	-25 33.1	185 32.8	+21 13.3	234 16.9	+22 16.2	327 23.0	-8 43.8	
18	327 17.0	49 23.9	-25 33.0	200 34.6	+21 13.3	249 19.7	+22 16.2	342 25.5	-8 43.8	
19	342 19.5	64 23.1	32.8	215 36.5	13.3	264 22.5	16.2	357 28.0	43.7	
20	357 22.0	79 22.2	32.7	230 38.4	13.2	279 25.3	16.1	12 30.4	43.7	
21	12 24.4	94 21.4	32.6	245 40.2	13.2	294 28.0	16.1	27 32.9	43.7	
22	27 26.9	109 20.6	32.5	260 42.1	13.1	309 30.8	16.1	42 35.3	43.7	
23	42 29.4	124 19.8	32.4	275 43.9	13.1	324 33.6	16.1	57 37.8	43.7	
24	57 31.8	139 19.0	-25 32.3	290 45.8	+21 13.1	339 36.4	+22 16.1	72 40.2	-8 43.7	

Dif	—	-8	+1	+18	0	+28	0	+25	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 45.2 <sup>m</sup>		SD: 16.1' Edad: 16.5 <sup>d</sup> PMG: 1 <sup>h</sup> 51 <sup>m</sup>		R <sup>o</sup> : 62 <sup>m</sup>			PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 58.8' 20 <sup>h</sup> : 58.5'			Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	m	h
0	183 42.9	-19 17.1	333 26.1		+28 21.7	19	60 N	6 24	7 16	8 06	15 49	91	12 56	35
1	198 42.8	17.7	347 48.3	32	23.6	19	58	19	08	7 54	16 29	82	12 16	44
2	213 42.6	18.3	2 10.6	33	25.3	17	56	14	7 00	43	16 56	79	11 49	47
3	228 42.5	18.9	16 32.8	32	26.9	16	54	10	6 54	34	17 18	76	27	50
4	243 42.4	19.5	30 55.2	34	28.2	13	52	06	48	26	36 73	11 09	51	51
5	258 42.2	-19 20.1	45 17.5	33	+28 29.4	12	50	6 03	6 42	7 18	17 51	72	10 54	52
6	273 42.1	-19 20.7	59 39.9	34	+28 30.3	9	45	5 54	6 30	7 02	18 22	69	10 23	55
7	288 42.0	21.3	74 02.3	34	31.0	7	40	47	20	6 49	18 46	67	9 59	56
8	303 41.8	21.9	88 24.8	35	31.6	6	35	40	11	38	19 06	65	39	57
9	318 41.7	22.4	102 47.3	35	32.0	4	30	33	6 02	28	23 64	9	22	58
10	333 41.5	23.0	117 09.8	35	32.1	1	20	21	5 47	6 11	19 51	63	8 53	60
11	348 41.4	-19 23.6	131 32.4	36	+28 32.1	0	10 N	5 08	5 34	5 56	20 15	61	8 29	60
12	3 41.3	-19 24.2	145 55.1	37	+28 31.9	2	0	4 54	5 20	5 42	20 38	59	8 06	61
13	18 41.1	24.8	160 17.8	37	31.4	5	10 S	5 39	5 05	27	21 01	57	7 43	62
14	33 41.0	25.4	174 40.6	38	30.8	6	20	4 20	4 48	5 12	26 55	7	18	63
15	48 40.9	26.0	189 03.5	39	30.0	8	30	3 56	28	4 54	21 54	53	6 49	64
16	63 40.7	26.5	203 26.4	39	29.0	10	35	41	16	44	22 11	52	32	65
17	78 40.6	-19 27.1	217 49.4	40	+28 27.8	12	40	3 23	4 01	4 32	22 31	49	6	12 65
18	93 40.5	-19 27.7	232 12.4	40	+28 26.5	13	45	2 59	3 43	4 18	22 54	48	5 48	66
19	108 40.3	28.3	246 35.5	41	24.9	16	50	27	21	4 00	23 25	44	17	66
20	123 40.2	28.9	260 58.7	42	23.2	17	52	2 10	3 09	3 52	40 42	5	01	67
21	138 40.0	29.4	275 22.0	43	21.2	20	54	1 49	2 57	43	23 58	39	4 43	68
22	153 39.9	30.0	289 45.3	43	19.1	21	56	1 21	42	32	** ** *	** ** *	4 21	69
23	168 39.8	30.6	304 08.8	45	16.8	23	58	0 36	24	21	** ** *	** ** *	3 53	70
24	183 39.6	-19 31.2	318 32.3	45	+28 14.3	25	60 S	** ** *	2 01	3 07	0 29	56	3 11	73

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 06.6 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 44 <sup>m</sup>		Mag.: -0.2 PMG: 4 <sup>h</sup> 36 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 21 <sup>m</sup>		Mag.: +0.9 PMG: 19 <sup>h</sup> 06 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	57 31.8	139 19.0	-25 32.3	290 45.8	+21 13.1	339 36.4	+22 16.1	72 40.2	-8 43.7	
1	72 34.3	154 18.1	32.2	305 47.6	13.0	354 39.2	16.0	87 42.7	43.7	
2	87 36.8	169 17.3	32.0	320 49.5	13.0	9 41.9	16.0	102 45.2	43.7	
3	102 39.2	184 16.5	31.9	335 51.4	13.0	24 44.7	16.0	117 47.6	43.7	
4	117 41.7	199 15.7	31.8	350 53.2	12.9	39 47.5	16.0	132 50.1	43.7	
5	132 44.2	214 14.9	-25 31.7	5 55.1	+21 12.9	54 50.3	+22 16.0	147 52.5	-8 43.6	
6	147 46.6	229 14.1	-25 31.6	20 56.9	+21 12.9	69 53.0	+22 15.9	162 55.0	-8 43.6	
7	162 49.1	244 13.2	31.4	35 58.8	12.8	84 55.8	15.9	177 57.4	43.6	
8	177 51.5	259 12.4	31.3	51 00.7	12.8	99 58.6	15.9	192 59.9	43.6	
9	192 54.0	274 11.6	31.2	66 02.5	12.7	115 01.4	15.9	208 02.3	43.6	
10	207 56.5	289 10.8	31.0	81 04.4	12.7	130 04.2	15.8	223 04.8	43.6	
11	222 58.9	304 10.0	-25 30.9	96 06.3	+21 12.7	145 06.9	+22 15.8	238 07.3	-8 43.6	
12	238 01.4	319 09.2	-25 30.8	111 08.1	+21 12.6	160 09.7	+22 15.8	253 09.7	-8 43.6	
13	253 03.9	334 08.4	30.7	126 10.0	12.6	175 12.5	15.8	268 12.2	43.6	
14	268 06.3	349 07.5	30.5	141 11.9	12.6	190 15.3	15.8	283 14.6	43.5	
15	283 08.8	4 06.7	30.4	156 13.8	12.5	205 18.1	15.7	298 17.1	43.5	
16	298 11.3	19 05.9	30.2	171 15.6	12.5	220 20.9	15.7	313 19.5	43.5	
17	313 13.7	34 05.1	-25 30.1	186 17.5	+21 12.5	235 23.6	+22 15.7	328 22.0	-8 43.5	
18	328 16.2	49 04.3	-25 30.0	201 19.4	+21 12.4	250 26.4	+22 15.7	343 24.4	-8 43.5	
19	343 18.7	64 03.5	29.8	216 21.3	12.4	265 29.2	15.6	358 26.9	43.5	
20	358 21.1	79 02.7	29.7	231 23.1	12.4	280 32.0	15.6	13 29.3	43.5	
21	13 23.6	94 01.9	29.5	246 25.0	12.3	295 34.8	15.6	28 31.8	43.5	
22	28 26.0	109 01.0	29.4	261 26.9	12.3	310 37.5	15.6	43 34.3	43.4	
23	43 28.5	124 00.2	29.3	276 28.8	12.3	325 40.3	15.6	58 36.7	43.4	
24	58 31.0	138 59.4	-25 29.1	291 30.7	+21 12.3	340 43.1	+22 15.5	73 39.2	-8 43.4	
Dif	—	-8	+1	+19	0	+28	0	+25	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 45.5 <sup>m</sup>		SD: 15.9' Edad: 17.5 <sup>d</sup> PMG: 2 <sup>h</sup> 53 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.2' 12 <sup>h</sup> : 57.9' 20 <sup>h</sup> : 57.6'				R°: 58 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m			
0	183 39.6	-19 31.2	318 32.3	46	+28 14.3	26	<b>60 N</b> 15 21	16 12	17 05	17 20	104	13 31	11			
1	198 39.5	31.7	332 55.9	47	11.7	29	<b>58</b> 34	20	10	17 51	94	13 00	20			
2	213 39.3	32.3	347 19.6	48	08.8	30	<b>56</b> 45	28	14	18 15	88	12 36	27			
3	228 39.2	32.9	1 43.4	48	05.8	31	<b>54</b> 15 54	35	19	34 83		17	31			
4	243 39.1	33.5	16 07.2	48	+28 02.6	32	<b>52</b> 16 03	41	23	18 49	81	12 00	34			
5	258 38.9	-19 34.1	30 31.2	50	+27 59.3	33	<b>50</b> 16 11	16 47	17 27	19 03	78	11 46	37			
6	273 38.8	-19 34.6	44 55.3	51	+27 55.7	36	<b>45</b> 16 27	16 59	17 35	19 31	73	11 18	41			
7	288 38.6	35.2	59 19.4	51	52.0	37	<b>40</b> 40	17 10	43	19 53	70	10 55	44			
8	303 38.5	35.8	73 43.7	53	48.1	39	<b>35</b> 16 52	19	50	20 11	67	36	47			
9	318 38.3	36.3	88 08.0	53	44.1	40	<b>30</b> 17 02	28	17 57	27 64		10 20	49			
10	333 38.2	36.9	102 32.5	55	39.9	42	<b>20</b> 19	43	18 10	20 54	60	9 53	52			
11	348 38.1	-19 37.5	116 57.1	56	+27 35.5	44	<b>10 N</b> 17 35	17 57	18 23	21 16	57	9 29	55			
12	3 37.9	-19 38.1	131 21.7	56	+27 30.9	46	<b>0</b> 17 49	18 11	18 37	21 37	55	9 07	57			
13	18 37.8	38.6	145 46.5	58	26.2	47	<b>10 S</b> 18 04	26	18 52	21 58	52	8 45	59			
14	33 37.6	39.2	160 11.4	59	21.3	49	<b>20</b> 19	18 43	19 11	22 21	48	8 21	62			
15	48 37.5	39.8	174 36.4	60	16.3	50	<b>30</b> 37	19 04	36	22 47	44	7 53	65			
16	63 37.3	40.3	189 01.5	61	11.1	52	<b>35</b> 18 48	16	19 51	23 03	41	37	66			
17	78 37.2	-19 40.9	203 26.7	62	+27 05.7	54	<b>40</b> 19 00	19 31	20 10	23 20	39	7 17	69			
18	93 37.0	-19 41.5	217 52.0	63	+27 00.2	55	<b>45</b> 19 15	19 50	20 34	23 42	35	6 54	72			
19	108 36.9	42.0	232 17.5	65	+26 54.6	56	<b>50</b> 33	20 13	21 07	** ** *	** ** *	23	77			
20	123 36.7	42.6	246 43.0	65	48.7	59	<b>52</b> 41	24	25	** ** *	** ** *	6 08	79			
21	138 36.6	43.2	261 08.7	67	42.8	59	<b>54</b> 19 51	38	21 47	** ** *	** ** *	5 51	81			
22	153 36.4	43.7	275 34.5	68	36.7	61	<b>56</b> 20 01	20 53	22 17	0 19	35	30	85			
23	168 36.3	44.3	290 00.4	69	30.4	63	<b>58</b> 14	21 12	23 15	0 47	28	5 03	91			
24	183 36.1	-19 44.9	304 26.4	70	+26 24.0	64	<b>60 S</b> 20 28	21 35	** ** *	1 25	17	4 24	104			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 <sup>h</sup> 02.6 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 45 <sup>m</sup>		Mag.: -0.2 PMG: 4 <sup>h</sup> 33 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 17 <sup>m</sup>		Mag.: +0.9 PMG: 19 <sup>h</sup> 02 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	58 31.0	138 59.4	-25 29.1	291 30.7	+21 12.3	340 43.1	+22 15.5	73 39.2	-8 43.4	
1	73 33.4	153 58.6	29.0	306 32.6	12.2	355 45.9	15.5	88 41.6	43.4	
2	88 35.9	168 57.8	28.8	321 34.4	12.2	10 48.7	15.5	103 44.1	43.4	
3	103 38.4	183 57.0	28.7	336 36.3	12.2	25 51.5	15.5	118 46.5	43.4	
4	118 40.8	198 56.2	28.5	351 38.2	12.1	40 54.2	15.5	133 49.0	43.4	
5	133 43.3	213 55.4	-25 28.4	6 40.1	+21 12.1	55 57.0	+22 15.4	148 51.4	-8 43.4	
6	148 45.8	228 54.6	-25 28.2	21 42.0	+21 12.1	70 59.8	+22 15.4	163 53.9	-8 43.3	
7	163 48.2	243 53.7	28.1	36 43.9	12.0	86 02.6	15.4	178 56.3	43.3	
8	178 50.7	258 52.9	27.9	51 45.8	12.0	101 05.4	15.4	193 58.8	43.3	
9	193 53.2	273 52.1	27.7	66 47.7	12.0	116 08.2	15.3	209 01.2	43.3	
10	208 55.6	288 51.3	27.6	81 49.6	12.0	131 11.0	15.3	224 03.7	43.3	
11	223 58.1	303 50.5	-25 27.4	96 51.4	+21 11.9	146 13.7	+22 15.3	239 06.1	-8 43.3	
12	239 00.5	318 49.7	-25 27.3	111 53.3	+21 11.9	161 16.5	+22 15.3	254 08.6	-8 43.3	
13	254 03.0	333 48.9	27.1	126 55.2	11.9	176 19.3	15.3	269 11.0	43.3	
14	269 05.5	348 48.1	26.9	141 57.1	11.8	191 22.1	15.2	284 13.5	43.2	
15	284 07.9	3 47.3	26.8	156 59.0	11.8	206 24.9	15.2	299 15.9	43.2	
16	299 10.4	18 46.5	26.6	172 00.9	11.8	221 27.7	15.2	314 18.4	43.2	
17	314 12.9	33 45.7	-25 26.4	187 02.8	+21 11.8	236 30.5	+22 15.2	329 20.8	-8 43.2	
18	329 15.3	48 44.9	-25 26.3	202 04.7	+21 11.7	251 33.2	+22 15.1	344 23.3	-8 43.2	
19	344 17.8	63 44.1	26.1	217 06.6	11.7	266 36.0	15.1	359 25.7	43.2	
20	359 20.3	78 43.3	25.9	232 08.6	11.7	281 38.8	15.1	14 28.2	43.2	
21	14 22.7	93 42.4	25.8	247 10.5	11.7	296 41.6	15.1	29 30.6	43.2	
22	29 25.2	108 41.6	25.6	262 12.4	11.6	311 44.4	15.1	44 33.1	43.1	
23	44 27.7	123 40.8	25.4	277 14.3	11.6	326 47.2	15.0	59 35.5	43.1	
24	59 30.1	138 40.0	-25 25.2	292 16.2	+21 11.6	341 50.0	+22 15.0	74 38.0	-8 43.1	
Dif	—	-8	+2	+19	0	+28	0	+25	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 45.7 <sup>m</sup>		SD: 15.6' Edad: 18.5 <sup>d</sup> PMG: 3 <sup>h</sup> 51 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 56.7'			R°: 53 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	183 36.1	-19 44.9	304 26.4	72	+26 24.0	66	60 N	6 28	7 20	8 11	19 04	100	13 42	4
1	198 36.0	45.4	318 52.6	74	17.4	67	58	22	12	7 58	25	93	20	11
2	213 35.9	46.0	333 18.8	72	10.7	67	56	18	7 04	47	43	87	13 03	15
3	228 35.7	46.5	347 45.2	74	+26 03.9	70	54	13	6 57	38	19 57	84	12 48	19
4	243 35.6	47.1	2 11.7	75	+25 56.9	71	52	09	51	29	20 10	80	34	23
5	258 35.4	-19 47.7	16 38.4	77	+25 49.8	73	50	6 05	6 45	7 21	20 21	77	12 23	25
6	273 35.2	-19 48.2	31 05.1	77	+25 42.5	73	45	5 57	6 33	7 05	20 44	72	11 59	30
7	288 35.1	48.8	45 32.0	79	35.2	76	40	49	22	6 51	21 03	67	39	35
8	303 34.9	49.3	59 59.0	80	27.6	76	35	42	12	40	18	64	23	38
9	318 34.8	49.9	74 26.1	81	20.0	76	30	35	6 04	29	31	62	11 09	40
10	333 34.6	50.4	88 53.4	83	12.2	78	20	22	5 49	6 12	21 54	57	10 45	44
11	348 34.5	-19 51.0	103 20.7	83	+25 04.3	79	10 N	5 09	5 34	5 57	22 13	53	10 24	48
12	3 34.3	-19 51.6	117 48.2	85	+24 56.3	80	0	4 55	5 20	5 42	22 32	49	10 04	52
13	18 34.2	52.1	132 15.8	86	48.1	82	10 S	39	5 05	27	22 50	45	9 44	55
14	33 34.0	52.7	146 43.6	88	39.8	83	20	4 20	4 48	5 12	23 09	41	9 23	59
15	48 33.9	53.2	161 11.5	89	31.4	84	30	3 55	27	4 53	31	37	8 58	63
16	63 33.7	53.8	175 39.4	89	22.9	85	35	40	4 14	43	44	34	43	66
17	78 33.6	-19 54.3	190 07.6	92	+24 14.3	86	40	3 21	3 59	4 30	23 59	30	8 26	69
18	93 33.4	-19 54.9	204 35.8	92	+24 05.5	88	45	2 57	3 41	4 16	** ** *	***	8 06	73
19	108 33.3	55.4	219 04.2	94	+23 56.6	89	50	23	18	3 58	0 09	29	7 40	78
20	123 33.1	56.0	233 32.7	95	47.7	89	52	2 06	3 06	49	22	27	27	81
21	138 32.9	56.5	248 01.3	96	38.6	91	54	1 44	2 53	40	37	23	7 12	85
22	153 32.8	57.1	262 30.0	97	29.3	93	56	1 13	38	29	0 54	20	6 55	90
23	168 32.6	57.6	276 58.9	99	20.0	93	58	0 16	2 19	17	1 15	14	34	96
24	183 32.5	-19 58.2	291 27.9	100	+23 10.6	94	60 S	** ** *	1 55	3 02	1 42	5	6 08	104
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 19 <sup>h</sup> 58.7 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 46 <sup>m</sup>		Mag.: -0.3 PMG: 4 <sup>h</sup> 30 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 12 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 58 <sup>m</sup>					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
0	59 30.1	138 40.0	-25 25.2	292 16.2	+21 11.6	341 50.0	+22 15.0	74 38.0	-8 43.1					
1	74 32.6	153 39.2	25.0	307 18.1	11.6	356 52.8	15.0	89 40.4	43.1					
2	89 35.0	168 38.4	24.9	322 20.0	11.5	11 55.6	15.0	104 42.9	43.1					
3	104 37.5	183 37.6	24.7	337 21.9	11.5	26 58.3	14.9	119 45.3	43.1					
4	119 40.0	198 36.8	24.5	352 23.8	11.5	42 01.1	14.9	134 47.8	43.1					
5	134 42.4	213 36.0	-25 24.3	7 25.7	+21 11.5	57 03.9	+22 14.9	149 50.2	-8 43.0					
6	149 44.9	228 35.2	-25 24.1	22 27.7	+21 11.4	72 06.7	+22 14.9	164 52.7	-8 43.0					
7	164 47.4	243 34.4	24.0	37 29.6	11.4	87 09.5	14.9	179 55.1	43.0					
8	179 49.8	258 33.6	23.8	52 31.5	11.4	102 12.3	14.8	194 57.6	43.0					
9	194 52.3	273 32.8	23.6	67 33.4	11.4	117 15.1	14.8	210 00.0	43.0					
10	209 54.8	288 32.0	23.4	82 35.3	11.3	132 17.9	14.8	225 02.5	43.0					
11	224 57.2	303 31.2	-25 23.2	97 37.3	+21 11.3	147 20.7	+22 14.8	240 04.9	-8 43.0					
12	239 59.7	318 30.4	-25 23.0	112 39.2	+21 11.3	162 23.4	+22 14.7	255 07.4	-8 42.9					
13	255 02.2	333 29.6	22.8	127 41.1	11.3	177 26.2	14.7	270 09.8	42.9					
14	270 04.6	348 28.8	22.6	142 43.0	11.3	192 29.0	14.7	285 12.2	42.9					
15	285 07.1	3 28.0	22.4	157 44.9	11.2	207 31.8	14.7	300 14.7	42.9					
16	300 09.5	18 27.2	22.2	172 46.9	11.2	222 34.6	14.7	315 17.1	42.9					
17	315 12.0	33 26.4	-25 22.0	187 48.8	+21 11.2	237 37.4	+22 14.6	330 19.6	-8 42.9					
18	330 14.5	48 25.6	-25 21.8	202 50.7	+21 11.2	252 40.2	+22 14.6	345 22.0	-8 42.8					
19	345 16.9	63 24.8	21.6	217 52.7	11.2	267 43.0	14.6	0 24.5	42.8					
20	0 19.4	78 24.0	21.4	232 54.6	11.1	282 45.8	14.6	15 26.9	42.8					
21	15 21.9	93 23.2	21.2	247 56.5	11.1	297 48.6	14.5	30 29.4	42.8					
22	30 24.3	108 22.4	21.0	262 58.5	11.1	312 51.4	14.5	45 31.8	42.8					
23	45 26.8	123 21.6	20.8	278 00.4	11.1	327 54.2	14.5	60 34.3	42.8					
24	60 29.3	138 20.8	-25 20.6	293 02.3	+21 11.1	342 56.9	+22 14.5	75 36.7	-8 42.8					
Dif	—	-8	+2	+19	0	+28	0	+24	0					

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 46.0 <sup>m</sup>		SD: 15.4' Edad: 19.5 <sup>d</sup> PMG: 4 <sup>h</sup> 44 <sup>m</sup>		PHE: $\begin{cases} 4^h: 56.4' \\ 12^h: 56.1' \\ 20^h: 55.8' \end{cases}$ R°: 48 <sup>m</sup>				Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	183 32.5	-19 58.2	291 27.9	+23 10.6	95	60 N	15 18	16 09	17 02	20 44	93	13 46	0			
1	198 32.3	58.7	305 57.0 <sup>101</sup>	+23 01.1	95	58	31	18 07	20 58	88	31	5	0			
2	213 32.2	59.3	320 26.2 <sup>102</sup>	+22 51.5	96	56	42	26 12	21 10	84	18	10	10			
3	228 32.0	-19 59.8	334 55.5 <sup>103</sup>	41.7	98	54	15 52	33 17	21 80	13	13	07	13			
4	243 31.8	-20 00.4	349 25.0 <sup>105</sup>	31.9	98	52	16 01	39 21	30 77	12	57	16	16			
5	258 31.7	-20 00.9	3 54.6 <sup>106</sup>	+22 22.0	99	50	16 09	16 45	17 25	21 38	75	12 48	18			
6	273 31.5	-20 01.5	18 24.3 <sup>107</sup>	+22 11.9	101	45	16 25	16 58	17 34	21 56	69	12 29	24			
7	288 31.4	02.0	32 54.2 <sup>109</sup>	+22 01.8	101	40	39	17 09	42	22 10	65	14	27			
8	303 31.2	02.5	47 24.1 <sup>109</sup>	+21 51.6	102	35	16 51	18 49	22 61	12	01	31	31			
9	318 31.0	03.1	61 54.2 <sup>111</sup>	41.3	103	30	17 01	27 17	56	33	58	11 49	34			
10	333 30.9	03.6	76 24.4 <sup>112</sup>	30.9	104	20	19	43	18 09	22 51	53	29	39			
11	348 30.7	-20 04.2	90 54.7 <sup>113</sup>	+21 20.4	105	10 N	17 35	17 57	18 23	23 06	49	11 12	43			
12	3 30.6	-20 04.7	105 25.1 <sup>114</sup>	+21 09.8	106	0	17 50	18 12	18 37	23 21	44	10 56	46			
13	18 30.4	05.2	119 55.6 <sup>115</sup>	+20 59.1	107	10 S	18 04	27 18	53	35	41	39	51			
14	33 30.2	05.8	134 26.3 <sup>117</sup>	48.3	108	20	21	18 44	19 13	23 50	37	22	55			
15	48 30.1	06.3	148 57.0 <sup>117</sup>	37.5	108	30	39	19 06	38	** ** *	** ** *	10 01	60			
16	63 29.9	06.9	163 27.9 <sup>119</sup>	26.6	109	35	18 50	19 19	53	** ** *	** ** *	9 49	63			
17	78 29.7	-20 07.4	177 58.9 <sup>120</sup>	+20 15.6	110	40	19 03	19 34	20 13	** ** *	** ** *	9 35	67			
18	93 29.6	-20 07.9	192 30.0 <sup>121</sup>	+20 04.5	111	45	19 18	19 53	20 38	0 17	26	9 19	71			
19	108 29.4	08.5	207 01.2 <sup>122</sup>	+19 53.3	112	50	36	20 17	21 12	38	21	8 58	77			
20	123 29.3	09.0	221 32.6 <sup>124</sup>	42.1	112	52	45	28	30	0 49	18	48	80			
21	138 29.1	09.5	236 04.0 <sup>124</sup>	30.7	114	54	19 54	42	21 54	1 00	16	37	83			
22	153 28.9	10.1	250 35.5 <sup>125</sup>	19.3	114	56	20 06	20 58	22 27	14	11	25	86			
23	168 28.8	10.6	265 07.2 <sup>127</sup>	+19 07.9	114	58	18	21 18	** ** *	29	7	8 10	91			
24	183 28.6	-20 11.1	279 38.9 <sup>127</sup>	+18 56.3	116	60 S	20 33	21 43	** ** *	1 47	1	7 52	97			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 54.8 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 47 <sup>m</sup>		Mag.: -0.3 PMG: 4 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 08 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 54 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	60 29.3	138 20.8	-25 20.6	293 02.3	+21 11.1	342 56.9	+22 14.5	75 36.7	-8 42.8							
1	75 31.7	153 20.0	20.4	308 04.3	11.1	357 59.7	14.4	90 39.1	42.7							
2	90 34.2	168 19.2	20.2	323 06.2	11.0	13 02.5	14.4	105 41.6	42.7							
3	105 36.7	183 18.4	20.0	338 08.1	11.0	28 05.3	14.4	120 44.0	42.7							
4	120 39.1	198 17.6	19.8	353 10.1	11.0	43 08.1	14.4	135 46.5	42.7							
5	135 41.6	213 16.9	-25 19.6	8 12.0	+21 11.0	58 10.9	+22 14.4	150 48.9	-8 42.7							
6	150 44.0	228 16.1	-25 19.4	23 14.0	+21 11.0	73 13.7	+22 14.3	165 51.4	-8 42.7							
7	165 46.5	243 15.3	19.1	38 15.9	10.9	88 16.5	14.3	180 53.8	42.6							
8	180 49.0	258 14.5	18.9	53 17.9	10.9	103 19.3	14.3	195 56.3	42.6							
9	195 51.4	273 13.7	18.7	68 19.8	10.9	118 22.1	14.3	210 58.7	42.6							
10	210 53.9	288 12.9	18.5	83 21.7	10.9	133 24.9	14.2	226 01.1	42.6							
11	225 56.4	303 12.1	-25 18.3	98 23.7	+21 10.9	148 27.7	+22 14.2	241 03.6	-8 42.6							
12	240 58.8	318 11.3	-25 18.0	113 25.6	+21 10.9	163 30.5	+22 14.2	256 06.0	-8 42.6							
13	256 01.3	333 10.5	17.8	128 27.6	10.9	178 33.3	14.2	271 08.5	42.5							
14	271 03.8	348 09.7	17.6	143 29.5	10.8	193 36.1	14.1	286 10.9	42.5							
15	286 06.2	3 08.9	17.4	158 31.5	10.8	208 38.9	14.1	301 13.4	42.5							
16	301 08.7	18 08.1	17.1	173 33.5	10.8	223 41.7	14.1	316 15.8	42.5							
17	316 11.1	33 07.3	-25 16.9	188 35.4	+21 10.8	238 44.5	+22 14.1	331 18.2	-8 42.5							
18	331 13.6	48 06.6	-25 16.7	203 37.4	+21 10.8	253 47.3	+22 14.1	346 20.7	-8 42.5							
19	346 16.1	63 05.8	16.5	218 39.3	10.8	268 50.0	14.0	1 23.1	42.4							
20	1 18.5	78 05.0	16.2	233 41.3	10.8	283 52.8	14.0	16 25.6	42.4							
21	16 21.0	93 04.2	16.0	248 43.2	10.8	298 55.6	14.0	31 28.0	42.4							
22	31 23.5	108 03.4	15.8	263 45.2	10.7	313 58.4	14.0	46 30.4	42.4							
23	46 25.9	123 02.6	15.5	278 47.2	10.7	329 01.2	13.9	61 32.9	42.4							
24	61 28.4	138 01.8	-25 15.3	293 49.1	+21 10.7	344 04.0	+22 13.9	76 35.3	-8 42.4							
Dif	—	-8	+2	+19	0	+28	0	+24	0							



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 46.2 <sup>m</sup>		SD: 15.2' Edad: 20.5 <sup>d</sup> PMG: 5 <sup>h</sup> 32 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.6' 12 <sup>h</sup> : 55.4' 20 <sup>h</sup> : 55.2'			R <sup>o</sup> : 43 <sup>m</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R <sup>o</sup>	Hora	R <sup>o</sup>	Hora
0	183 28.6	-20 11.1	279 38.9	+18 56.3	116	60 N	6 31	7 25	8 16	22 17	87	13 46	0			
1	198 28.4	11.7	294 10.8 <sup>129</sup>	44.7	116	58	26	16	8 03	26	83	36	4			
2	213 28.3	12.2	308 42.8 <sup>130</sup>	33.0	117	56	21	08	7 51	34	79	28	6			
3	228 28.1	12.7	323 14.8 <sup>130</sup>	21.3	117	54	16	7 00	41	41	76	20	9			
4	243 27.9	13.3	337 47.0 <sup>132</sup>	+18 09.5	118	52	12	6 54	32	47	74	13	12			
5	258 27.8	-20 13.8	352 19.3 <sup>133</sup>	+17 57.6	119	50	6 08	6 48	7 24	22 53	71	13 06	15			
6	273 27.6	-20 14.3	6 51.6 <sup>133</sup>	+17 45.6	120	45	5 59	6 35	7 07	23 05	66	12 53	19			
7	288 27.4	14.9	21 24.1 <sup>135</sup>	33.6	120	40	51	24	6 53	15	62	41	23			
8	303 27.3	15.4	35 56.7 <sup>136</sup>	21.5	121	35	43	14	42	23	59	32	26			
9	318 27.1	15.9	50 29.3 <sup>136</sup>	+17 09.4	121	30	36	6 05	31	31	55	23	29			
10	333 26.9	16.4	65 02.1 <sup>138</sup>	+16 57.2	122	20	23	5 50	6 13	44	50	12 08	34			
11	348 26.7	-20 17.0	79 35.0 <sup>139</sup>	+16 45.0	122	10 N	5 09	5 35	5 57	23 55	45	11 55	39			
12	3 26.6	-20 17.5	94 07.9 <sup>139</sup>	+16 32.6	124	0	4 55	5 21	5 43	** ** *	** ** *	11 42	43			
13	18 26.4	18.0	108 40.9 <sup>140</sup>	20.3	123	10 S	3 39	5 05	28	** ** *	** ** *	30	47			
14	33 26.2	18.5	123 14.1 <sup>142</sup>	+16 07.8	125	20	4 19	4 48	5 11	** ** *	** ** *	17	51			
15	48 26.1	19.1	137 47.3 <sup>142</sup>	+15 55.4	124	30	3 54	26	4 53	0 08	31	11 01	57			
16	63 25.9	19.6	152 20.6 <sup>143</sup>	42.8	126	35	3 39	4 13	4 2	18	28	10 52	60			
17	78 25.7	-20 20.1	166 54.0 <sup>144</sup>	+15 30.2	126	40	3 19	3 58	4 29	0 29	25	10 42	63			
18	93 25.5	-20 20.6	181 27.5 <sup>145</sup>	+15 17.6	126	45	2 54	3 39	4 14	0 43	21	10 30	67			
19	108 25.4	21.1	196 01.0 <sup>145</sup>	+15 04.9	127	50	20	15	3 56	0 59	16	15	72			
20	123 25.2	21.7	210 34.7 <sup>147</sup>	+14 52.2	127	52	2 01	3 03	47	1 07	14	08	75			
21	138 25.0	22.2	225 08.4 <sup>147</sup>	39.4	128	54	1 38	2 50	37	1 07	16	10 00	78			
22	153 24.9	22.7	239 42.2 <sup>148</sup>	26.6	128	56	1 05	34	26	25	8	9 51	81			
23	168 24.7	23.2	254 16.1 <sup>149</sup>	13.7	129	58	** ** *	2 14	3 13	36	4	41	85			
24	183 24.5	-20 23.7	268 50.1 <sup>150</sup>	+14 00.8	129	60 S	** ** *	1 49	2 58	1 48	0	9 29	90			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 <sup>h</sup> 50.8 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 49 <sup>m</sup>		Mag.: -0.3 PMG: 4 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.8 PMG: 1 <sup>h</sup> 04 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 51 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	61 28.4	138 01.8	-25 15.3	293 49.1	+21 10.7	344 04.0	+22 13.9	76 35.3	-8 42.4	
1	76 30.9	153 01.0	15.1	308 51.1	10.7	359 06.8	13.9	91 37.8	42.3	
2	91 33.3	168 00.2	14.8	323 53.1	10.7	14 09.6	13.9	106 40.2	42.3	
3	106 35.8	182 59.5	14.6	338 55.0	10.7	29 12.4	13.8	121 42.6	42.3	
4	121 38.3	197 58.7	14.3	353 57.0	10.7	44 15.2	13.8	136 45.1	42.3	
5	136 40.7	212 57.9	-25 14.1	8 59.0	+21 10.7	59 18.0	+22 13.8	151 47.5	-8 42.3	
6	151 43.2	227 57.1	-25 13.9	24 00.9	+21 10.7	74 20.8	+22 13.8	166 50.0	-8 42.3	
7	166 45.6	242 56.3	13.6	39 02.9	10.6	89 23.6	13.8	181 52.4	42.2	
8	181 48.1	257 55.5	13.4	54 04.9	10.6	104 26.4	13.7	196 54.8	42.2	
9	196 50.6	272 54.7	13.1	69 06.8	10.6	119 29.2	13.7	211 57.3	42.2	
10	211 53.0	287 54.0	12.9	84 08.8	10.6	134 32.0	13.7	226 59.7	42.2	
11	226 55.5	302 53.2	-25 12.6	99 10.8	+21 10.6	149 34.8	+22 13.7	242 02.2	-8 42.2	
12	241 58.0	317 52.4	-25 12.4	114 12.8	+21 10.6	164 37.6	+22 13.6	257 04.6	-8 42.2	
13	257 00.4	332 51.6	12.1	129 14.7	10.6	179 40.4	13.6	272 07.0	42.1	
14	272 02.9	347 50.8	11.9	144 16.7	10.6	194 43.2	13.6	287 09.5	42.1	
15	287 05.4	2 50.0	11.6	159 18.7	10.6	209 46.0	13.6	302 11.9	42.1	
16	302 07.8	17 49.3	11.3	174 20.7	10.6	224 48.8	13.5	317 14.4	42.1	
17	317 10.3	32 48.5	-25 11.1	189 22.7	+21 10.6	239 51.6	+22 13.5	332 16.8	-8 42.1	
18	332 12.8	47 47.7	-25 10.8	204 24.7	+21 10.6	254 54.4	+22 13.5	347 19.2	-8 42.0	
19	347 15.2	62 46.9	10.6	219 26.6	10.6	269 57.2	13.5	2 21.7	42.0	
20	2 17.7	77 46.1	10.3	234 28.6	10.5	285 00.0	13.4	17 24.1	42.0	
21	17 20.1	92 45.4	10.1	249 30.6	10.5	300 02.8	13.4	32 26.5	42.0	
22	32 22.6	107 44.6	09.8	264 32.6	10.5	315 05.6	13.4	47 29.0	42.0	
23	47 25.1	122 43.8	09.5	279 34.6	10.5	330 08.4	13.4	62 31.4	41.9	
24	62 27.5	137 43.0	-25 09.3	294 36.6	+21 10.5	345 11.2	+22 13.3	77 33.8	-8 41.9	
Dif	—	-8	+3	+20	0	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 46.5 <sup>m</sup>		SD: 15.0' Edad: 21.5 <sup>d</sup> PMG: 6 <sup>h</sup> 15 <sup>m</sup>		R <sup>o</sup> : 41 <sup>m</sup>				PHE { 4 <sup>h</sup> : 55.0' 12 <sup>h</sup> : 54.8' 20 <sup>h</sup> : 54.7'		Civil Nautico		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	183 24.5	-20 23.7	268 50.1	151	+14 00.8	130	60 N	15 14	16 06	16 59	23 44	82	13 46	-1		
1	198 24.3	24.2	283 24.2	151	+13 47.8	130	58	28	15	17 05	49 79	40	2			
2	213 24.2	24.8	297 58.3	151	34.8	130	56	39	23	10	53 76	34	5			
3	228 24.0	25.3	312 32.5	152	21.7	131	54	49	31	15	23 57	73	29	8		
4	243 23.8	25.8	327 06.8	153	+13 08.6	131	52	15 59	37	19	** ** *	** ** *	25	10		
5	258 23.6	-20 26.3	341 41.2	154	+12 55.5	131	50	16 07	16 43	17 23	** ** *	** ** *	13 21	12		
6	273 23.5	-20 26.8	356 15.6	154	+12 42.3	132	45	16 24	16 56	17 33	** ** *	** ** *	13 12	16		
7	288 23.3	27.3	10 50.1	155	29.1	132	40	38	17 08	41	** ** *	** ** *	13 04	21		
8	303 23.1	27.8	25 24.6	155	15.9	132	35	16 50	18	49	** ** *	** ** *	12 58	24		
9	318 22.9	28.4	39 59.3	157	+12 02.6	133	30	17 01	26	17 56	** ** *	** ** *	52	27		
10	333 22.7	28.9	54 34.0	157	+11 49.3	133	20	19	43	18 09	** ** *	** ** *	42	32		
11	348 22.6	-20 29.4	69 08.7	157	+11 35.9	134	10 N	17 35	17 57	18 23	** ** *	** ** *	12 34	36		
12	3 22.4	-20 29.9	83 43.6	159	+11 22.5	134	0	17 50	18 12	18 38	0 05	42	12 25	41		
13	18 22.2	30.4	98 18.5	159	+11 09.1	134	10 S	18 05	28	18 54	16 37	17	45			
14	33 22.0	30.9	112 53.4	159	+10 55.6	135	20	22	18 46	19 14	27 32	12 08	49			
15	48 21.9	31.4	127 28.5	161	42.1	135	30	41	19 07	40	39 28	11 58	54			
16	63 21.7	31.9	142 03.5	160	28.6	135	35	18 52	21	19 56	46 25	52	57			
17	78 21.5	-20 32.4	156 38.7	162	+10 15.1	135	40	19 05	19 36	20 15	0 54	22	11 45	61		
18	93 21.3	-20 32.9	171 13.9	162	+10 01.5	136	45	19 20	19 55	20 41	1 04	17	11 37	65		
19	108 21.1	33.4	185 49.1	162	+ 9 47.9	136	50	39	20 20	21 16	15 13	27	70			
20	123 20.9	33.9	200 24.4	163	34.3	136	52	48	32	21 36	21 10	23	72			
21	138 20.8	34.4	214 59.8	164	20.6	137	54	19 58	20 46	22 01	26 8	18	75			
22	153 20.6	34.9	229 35.2	164	+ 9 06.9	137	56	20 10	21 03	22 37	33 5	12	78			
23	168 20.4	35.4	244 10.6	164	+ 8 53.2	137	58	23	24	** ** *	40 2	11 06	81			
24	183 20.2	-20 36.0	258 46.2	166	+ 8 39.5	137	60 S	20 38	21 50	** ** *	1 48	-1	10 59	85		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 46.9 <sup>m</sup>		Mag.: -4.1 PMG: 14 <sup>h</sup> 50 <sup>m</sup>		Mag.: -0.3 PMG: 4 <sup>h</sup> 21 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 59 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 47 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	62 27.5	137 43.0	-25 09.3	294 36.6	+21 10.5	345 11.2	+22 13.3	77 33.8	-8 41.9							
1	77 30.0	152 42.2	09.0	309 38.6	10.5	0 14.0	13.3	92 36.3	41.9							
2	92 32.5	167 41.5	08.7	324 40.6	10.5	15 16.8	13.3	107 38.7	41.9							
3	107 34.9	182 40.7	08.5	339 42.6	10.5	30 19.6	13.3	122 41.2	41.9							
4	122 37.4	197 39.9	08.2	354 44.6	10.5	45 22.4	13.3	137 43.6	41.9							
5	137 39.9	212 39.1	-25 07.9	9 46.5	+21 10.5	60 25.2	+22 13.2	152 46.0	-8 41.8							
6	152 42.3	227 38.3	-25 07.6	24 48.5	+21 10.5	75 28.0	+22 13.2	167 48.5	-8 41.8							
7	167 44.8	242 37.6	07.4	39 50.5	10.5	90 30.8	13.2	182 50.9	41.8							
8	182 47.2	257 36.8	07.1	54 52.5	10.5	105 33.6	13.2	197 53.3	41.8							
9	197 49.7	272 36.0	06.8	69 54.5	10.5	120 36.4	13.1	212 55.8	41.8							
10	212 52.2	287 35.2	06.5	84 56.5	10.5	135 39.2	13.1	227 58.2	41.7							
11	227 54.6	302 34.5	-25 06.3	99 58.6	+21 10.5	150 42.0	+22 13.1	243 00.6	-8 41.7							
12	242 57.1	317 33.7	-25 06.0	115 00.6	+21 10.5	165 44.8	+22 13.1	258 03.1	-8 41.7							
13	257 59.6	332 32.9	05.7	130 02.6	10.5	180 47.6	13.0	273 05.5	41.7							
14	273 02.0	347 32.1	05.4	145 04.6	10.5	195 50.5	13.0	288 07.9	41.7							
15	288 04.5	2 31.4	05.1	160 06.6	10.5	210 53.3	13.0	303 10.4	41.6							
16	303 07.0	17 30.6	04.8	175 08.6	10.5	225 56.1	13.0	318 12.8	41.6							
17	318 09.4	32 29.8	-25 04.6	190 10.6	+21 10.5	240 58.9	+22 12.9	333 15.2	-8 41.6							
18	333 11.9	47 29.1	-25 04.3	205 12.6	+21 10.5	256 01.7	+22 12.9	348 17.7	-8 41.6							
19	348 14.4	62 28.3	04.0	220 14.6	10.5	271 04.5	12.9	3 20.1	41.6							
20	3 16.8	77 27.5	03.7	235 16.6	10.5	286 07.3	12.9	18 22.5	41.5							
21	18 19.3	92 26.7	03.4	250 18.7	10.5	301 10.1	12.8	33 25.0	41.5							
22	33 21.7	107 26.0	03.1	265 20.7	10.5	316 12.9	12.8	48 27.4	41.5							
23	48 24.2	122 25.2	02.8	280 22.7	10.5	331 15.7	12.8	63 29.8	41.5							
24	63 26.7	137 24.4	-25 02.5	295 24.7	+21 10.5	346 18.5	+22 12.8	78 32.3	-8 41.5							
Dif	—	-8	+3	+20	0	+28	0	+24	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 14.9'		Edad: 22.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.5'								
	PMG: 11 <sup>h</sup> 46.8 <sup>m</sup>		PMG: 6 <sup>h</sup> 56 <sup>m</sup>		R <sup>o</sup> : 39 <sup>m</sup>			12 <sup>h</sup> : 54.4'			20 <sup>h</sup> : 54.3'					
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m	m	h m	m		
0	183 20.2	-20 36.0	258 46.2	+8 39.5	138	60 N	6 35	7 29	8 21	** ** *	13 45	-2				
1	198 20.0	36.5	273 21.7 <sup>165</sup>	25.7	138	58	29	19	8 07	** ** *	42	1				
2	213 19.9	37.0	287 57.3 <sup>166</sup>	+8 11.9	138	56	24	11	7 55	** ** *	39	4				
3	228 19.7	37.5	302 33.0 <sup>167</sup>	+7 58.1	138	54	19	7 04	45	** ** *	37	6				
4	243 19.5	37.9	317 08.7 <sup>167</sup>	44.3	138	52	15	6 57	36	0 01	70	35	9			
5	258 19.3	-20 38.4	331 44.4 <sup>167</sup>	+7 30.5	138	50	6 10	6 51	7 27	0 04	68	13 33	11			
6	273 19.1	-20 38.9	346 20.2 <sup>168</sup>	+7 16.6	139	45	6 01	6 37	7 10	0 11	64	13 28	16			
7	288 18.9	39.4	0 56.0 <sup>168</sup>	+7 02.7	139	40	5 53	26	6 56	17 59	25	19				
8	303 18.8	39.9	15 31.9 <sup>169</sup>	+6 48.8	139	35	45	16	43	22 56	22	22				
9	318 18.6	40.4	30 07.8 <sup>169</sup>	34.9	139	30	38	6 07	33	26 53	19	25				
10	333 18.4	40.9	44 43.7 <sup>169</sup>	21.0	139	20	24	5 51	6 14	34 48	14	30				
11	348 18.2	-20 41.4	59 19.7 <sup>170</sup>	+6 07.0	140	10 N	5 10	5 36	5 58	0 40	44	13 10	34			
12	3 18.0	-20 41.9	73 55.7 <sup>170</sup>	+5 53.1	139	0	4 55	5 21	5 43	0 47	39	13 06	39			
13	18 17.8	42.4	88 31.7 <sup>170</sup>	39.1	140	10 S	4 39	5 05	28	53 35	13	02	43			
14	33 17.6	42.9	103 07.8 <sup>171</sup>	25.1	140	20	4 19	4 47	5 11	0 59	31	12 57	48			
15	48 17.4	43.4	117 43.9 <sup>171</sup>	+5 11.1	140	30	3 54	26	4 52	1 07	25	52	53			
16	63 17.3	43.9	132 20.1 <sup>172</sup>	+4 57.1	140	35	3 37	4 12	41	11 23	49	56				
17	78 17.1	-20 44.4	146 56.2 <sup>171</sup>	+4 43.0	141	40	3 18	3 57	4 28	1 16	19	12 46	59			
18	93 16.9	-20 44.9	161 32.4 <sup>172</sup>	+4 29.0	140	45	2 52	3 37	4 13	1 21	16	12 42	63			
19	108 16.7	45.4	176 08.6 <sup>172</sup>	15.0	140	50	2 16	13	3 54	28 11	37	68				
20	123 16.5	45.8	190 44.9 <sup>173</sup>	+4 00.9	141	52	1 57	3 01	45	31 9	35	70				
21	138 16.3	46.3	205 21.2 <sup>173</sup>	+3 46.8	141	54	1 32	2 46	35	34 7	33	72				
22	153 16.1	46.8	219 57.5 <sup>173</sup>	32.7	141	56	0 56	30	23	38 5	30	75				
23	168 15.9	47.3	234 33.8 <sup>173</sup>	18.7	140	58	** ** *	2 09	3 10	42 2	27	78				
24	183 15.7	-20 47.8	249 10.1 <sup>173</sup>	+3 04.6	141	60 S	** ** *	1 43	2 54	1 47	-2	12 24	81			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 <sup>h</sup> 43.0 <sup>m</sup>		Mag.: -4.1		Mag.: -0.3		Mag.: -2.8		Mag.: +0.9	
	PMG: 14 <sup>h</sup> 51 <sup>m</sup>		PMG: 4 <sup>h</sup> 18 <sup>m</sup>		PMG: 0 <sup>h</sup> 55 <sup>m</sup>		PMG: 18 <sup>h</sup> 43 <sup>m</sup>			
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	63 26.7	137 24.4	-25 02.5	295 24.7	+21 10.5	346 18.5	+22 12.8	78 32.3	-8 41.5	
1	78 29.1	152 23.7	02.2	310 26.7	10.5	1 21.3	12.7	93 34.7	41.4	
2	93 31.6	167 22.9	01.9	325 28.8	10.5	16 24.1	12.7	108 37.1	41.4	
3	108 34.1	182 22.1	01.6	340 30.8	10.5	31 26.9	12.7	123 39.6	41.4	
4	123 36.5	197 21.4	01.3	355 32.8	10.5	46 29.7	12.7	138 42.0	41.4	
5	138 39.0	212 20.6	-25 01.0	10 34.8	+21 10.5	61 32.5	+22 12.6	153 44.4	-8 41.3	
6	153 41.5	227 19.8	-25 00.7	25 36.8	+21 10.5	76 35.3	+22 12.6	168 46.9	-8 41.3	
7	168 43.9	242 19.1	00.4	40 38.9	10.5	91 38.1	12.6	183 49.3	41.3	
8	183 46.4	257 18.3	-25 00.1	55 40.9	10.5	106 40.9	12.6	198 51.7	41.3	
9	198 48.9	272 17.5	-24 59.8	70 42.9	10.6	121 43.8	12.6	213 54.2	41.3	
10	213 51.3	287 16.8	59.5	85 45.0	10.6	136 46.6	12.5	228 56.6	41.2	
11	228 53.8	302 16.0	-24 59.2	100 47.0	+21 10.6	151 49.4	+22 12.5	243 59.0	-8 41.2	
12	243 56.2	317 15.2	-24 58.9	115 49.0	+21 10.6	166 52.2	+22 12.5	259 01.5	-8 41.2	
13	258 58.7	332 14.5	58.6	130 51.1	10.6	181 55.0	12.5	274 03.9	41.2	
14	274 01.2	347 13.7	58.3	145 53.1	10.6	196 57.8	12.4	289 06.3	41.2	
15	289 03.6	2 12.9	57.9	160 55.1	10.6	212 00.6	12.4	304 08.7	41.1	
16	304 06.1	17 12.2	57.6	175 57.2	10.6	227 03.4	12.4	319 11.2	41.1	
17	319 08.6	32 11.4	-24 57.3	190 59.2	+21 10.6	242 06.2	+22 12.4	334 13.6	-8 41.1	
18	334 11.0	47 10.7	-24 57.0	206 01.3	+21 10.6	257 09.0	+22 12.3	349 16.0	-8 41.1	
19	349 13.5	62 09.9	56.7	221 03.3	10.6	272 11.8	12.3	4 18.5	41.0	
20	4 16.0	77 09.1	56.4	236 05.3	10.6	287 14.6	12.3	19 20.9	41.0	
21	19 18.4	92 08.4	56.0	251 07.4	10.6	302 17.4	12.3	34 23.3	41.0	
22	34 20.9	107 07.6	55.7	266 09.4	10.7	317 20.3	12.2	49 25.7	41.0	
23	49 23.3	122 06.9	55.4	281 11.5	10.7	332 23.1	12.2	64 28.2	41.0	
24	64 25.8	137 06.1	-24 55.1	296 13.5	+21 10.7	347 25.9	+22 12.2	79 30.6	-8 40.9	
Dif	—	-8	+3	+20	0	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 47.1 <sup>m</sup>		SD: 14.8' Edad: 23.5 <sup>d</sup> PMG: 7 <sup>h</sup> 35 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.1'				R°: 39 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	183 15.7	-20 47.8	249 10.1	+3 04.6	141	60 N	15 11	16 03	16 57	1 06 81	13 43 -1					
1	198 15.6	48.3	263 46.5 <sup>174</sup>	+2 50.5	141	58	25	13	17 03	08 78	43 2					
2	213 15.4	48.8	278 22.8 <sup>173</sup>	36.4	141	56	37	21	08	09 75	43 5					
3	228 15.2	49.2	292 59.2 <sup>174</sup>	22.3	141	54	47	29	13	10 72	43 7					
4	243 15.0	49.7	307 35.6 <sup>174</sup>	+2 08.1	142	52	15 57	35	18	11 70	44 8					
5	258 14.8	-20 50.2	322 12.0 <sup>174</sup>	+1 54.0	141	50	16 05	16 42	17 22	1 12 68	13 44 10					
6	273 14.6	-20 50.7	336 48.5 <sup>175</sup>	+1 39.9	141	45	16 23	16 55	17 32	1 15 62	13 44 15					
7	288 14.4	51.2	351 24.9 <sup>174</sup>	25.8	141	40	37	17 07	40	16 59	44 19					
8	303 14.2	51.6	6 01.4 <sup>175</sup>	+1 11.7	141	35	16 50	17	48	18 56	44 22					
9	318 14.0	52.1	20 37.8 <sup>174</sup>	+0 57.5	142	30	17 00	26	17 55	19 53	44 25					
10	333 13.8	52.6	35 14.3 <sup>175</sup>	43.4	141	20	19	43	18 10	22 47	44 30					
11	348 13.6	-20 53.1	49 50.8 <sup>175</sup>	+0 29.3	141	10 N	17 35	17 58	18 24	1 24 43	13 44 35					
12	3 13.4	-20 53.6	64 27.3 <sup>175</sup>	+0 15.2	141	0	17 51	18 13	18 39	1 26 39	13 45 38					
13	18 13.2	54.0	79 03.8 <sup>175</sup>	+0 01.0	142	10 S	18 06	29	18 55	28 34	45 43					
14	33 13.0	54.5	93 40.3 <sup>175</sup>	-0 13.1	141	20	23	18 47	19 16	30 30	45 47					
15	48 12.8	55.0	108 16.8 <sup>175</sup>	27.2	141	30	42	19 09	41	32 25	45 52					
16	63 12.6	55.5	122 53.3 <sup>175</sup>	41.3	141	35	18 54	23	19 58	34 22	45 55					
17	78 12.5	-20 55.9	137 29.8 <sup>175</sup>	-0 55.4	141	40	19 07	19 39	20 18	1 35 19	13 45 59					
18	93 12.3	-20 56.4	152 06.3 <sup>175</sup>	-1 09.5	141	45	19 23	19 58	20 44	1 37 15	13 45 63					
19	108 12.1	56.9	166 42.8 <sup>175</sup>	23.6	141	50	42	20 24	21 21	39 11	45 68					
20	123 11.9	57.4	181 19.2 <sup>174</sup>	37.7	141	52	19 51	36	21 41	40 9	45 70					
21	138 11.7	57.8	195 55.7 <sup>175</sup>	-1 51.8	141	54	20 02	20 51	22 07	41 7	45 72					
22	153 11.5	58.3	210 32.2 <sup>175</sup>	-2 05.9	141	56	13	21 08	22 48	43 4	45 75					
23	168 11.3	58.8	225 08.7 <sup>175</sup>	20.0	141	58	27	29	** ** *	44 1	45 78					
24	183 11.1	-20 59.2	239 45.2 <sup>175</sup>	-2 34.0	140	60 S	20 43	21 58	** ** *	1 45 -1	13 45 82					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 39.1 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 52 <sup>m</sup>		Mag.: -0.4 PMG: 4 <sup>h</sup> 15 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 50 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 39 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	64 25.8	137 06.1	-24 55.1	296 13.5	+21 10.7	347 25.9	+22 12.2	79 30.6	-8 40.9							
1	79 28.3	152 05.3	54.7	311 15.6	10.7	2 28.7	12.2	94 33.0	40.9							
2	94 30.7	167 04.6	54.4	326 17.6	10.7	17 31.5	12.1	109 35.5	40.9							
3	109 33.2	182 03.8	54.1	341 19.7	10.7	32 34.3	12.1	124 37.9	40.9							
4	124 35.7	197 03.1	53.8	356 21.7	10.7	47 37.1	12.1	139 40.3	40.8							
5	139 38.1	212 02.3	-24 53.4	11 23.8	+21 10.7	62 39.9	+22 12.1	154 42.7	-8 40.8							
6	154 40.6	227 01.6	-24 53.1	26 25.8	+21 10.7	77 42.7	+22 12.0	169 45.2	-8 40.8							
7	169 43.1	242 00.8	52.8	41 27.9	10.8	92 45.5	12.0	184 47.6	40.8							
8	184 45.5	257 00.0	52.4	56 30.0	10.8	107 48.3	12.0	199 50.0	40.8							
9	199 48.0	271 59.3	52.1	71 32.0	10.8	122 51.2	12.0	214 52.5	40.7							
10	214 50.5	286 58.5	51.8	86 34.1	10.8	137 54.0	11.9	229 54.9	40.7							
11	229 52.9	301 57.8	-24 51.4	101 36.1	+21 10.8	152 56.8	+22 11.9	244 57.3	-8 40.7							
12	244 55.4	316 57.0	-24 51.1	116 38.2	+21 10.8	167 59.6	+22 11.9	259 59.7	-8 40.7							
13	259 57.8	331 56.3	50.8	131 40.3	10.8	183 02.4	11.9	275 02.2	40.6							
14	275 00.3	346 55.5	50.4	146 42.3	10.8	198 05.2	11.8	290 04.6	40.6							
15	290 02.8	1 54.8	50.1	161 44.4	10.9	213 08.0	11.8	305 07.0	40.6							
16	305 05.2	16 54.0	49.7	176 46.5	10.9	228 10.8	11.8	320 09.4	40.6							
17	320 07.7	31 53.3	-24 49.4	191 48.5	+21 10.9	243 13.6	+22 11.8	335 11.9	-8 40.5							
18	335 10.2	46 52.5	-24 49.0	206 50.6	+21 10.9	258 16.5	+22 11.7	350 14.3	-8 40.5							
19	350 12.6	61 51.8	48.7	221 52.7	10.9	273 19.3	11.7	5 16.7	40.5							
20	5 15.1	76 51.0	48.3	236 54.7	10.9	288 22.1	11.7	20 19.1	40.5							
21	20 17.6	91 50.3	48.0	251 56.8	11.0	303 24.9	11.7	35 21.6	40.4							
22	35 20.0	106 49.5	47.6	266 58.9	11.0	318 27.7	11.6	50 24.0	40.4							
23	50 22.5	121 48.8	47.3	282 01.0	11.0	333 30.5	11.6	65 26.4	40.4							
24	65 25.0	136 48.0	-24 46.9	297 03.0	+21 11.0	348 33.3	+22 11.6	80 28.8	-8 40.4							
Dif	—	-8	+3	+21	0	+28	0	+24	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 47.4 <sup>m</sup>		SD: 14.7' Edad: 24.5 <sup>d</sup> PMG: 8 <sup>h</sup> 14 <sup>m</sup>		R°: 39 <sup>m</sup>			PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.1' 20 <sup>h</sup> : 54.1'			Náutico		Civil		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		h m	h m		h m	h m m	h m m	h m m	R°	R°
0	183 11.1	-20 59.2	239 45.2		-2 34.0	141	60 N	6 38	7 32	8 25	2 27 82	13 42 -2				
1	198 10.9	-20 59.7	254 21.6 <sup>174</sup>		-2 48.1	140	58	32	23	8 11	26 78	45 2				
2	213 10.7	-21 00.2	268 58.1 <sup>175</sup>		-3 02.1	140	56	27	14	7 59	24 75	48 4				
3	228 10.5	00.6	283 34.5 <sup>174</sup>		16.2	140	54	22	07	48	22 73	50 7				
4	243 10.3	01.1	298 10.9 <sup>174</sup>		30.2	140	52	17	00	39	21 71	52 10				
5	258 10.1	-21 01.6	312 47.4 <sup>175</sup>		-3 44.2	140	50	6 13	6 53	7 30	2 20 68	13 54 12				
6	273 09.9	-21 02.0	327 23.8 <sup>174</sup>		-3 58.2	140	45	6 03	6 40	7 12	2 17 64	13 59 16				
7	288 09.7	02.5	342 00.1 <sup>173</sup>		-4 12.2	140	40	5 55	28	6 58	15 60	14 03 20				
8	303 09.5	03.0	356 36.5 <sup>174</sup>		26.1	139	35	47	18	45	14 55	06 24				
9	318 09.3	03.4	11 12.9 <sup>174</sup>		40.1	140	30	39	6 09	34	12 53	09 27				
10	333 09.1	03.9	25 49.2 <sup>173</sup>		-4 54.0	139	20	25	5 52	6 16	09 48	14 32				
11	348 08.9	-21 04.4	40 25.5 <sup>173</sup>		-5 08.0	140	10 N	5 11	5 37	5 59	2 07 43	14 19 36				
12	3 08.7	-21 04.8	55 01.8 <sup>173</sup>		-5 21.9	139	0	4 56	5 22	5 44	2 05 39	14 23 40				
13	18 08.5	05.3	69 38.1 <sup>173</sup>		35.8	139	10 S	39	5 05	28	02 35	28 43				
14	33 08.3	05.7	84 14.3 <sup>172</sup>		-5 49.6	138	20	4 19	4 47	5 11	2 00 31	32 49				
15	48 08.1	06.2	98 50.5 <sup>172</sup>		-6 03.5	139	30	3 53	25	4 52	1 57 26	37 54				
16	63 07.9	06.7	113 26.7 <sup>172</sup>		17.3	138	35	36	4 12	40	56 23	40 57				
17	78 07.6	-21 07.1	128 02.9 <sup>172</sup>		-6 31.1	138	40	3 16	3 56	4 27	1 54 20	14 44 60				
18	93 07.4	-21 07.6	142 39.0 <sup>171</sup>		-6 44.9	138	45	2 50	3 36	4 11	1 52 16	14 48 64				
19	108 07.2	08.0	157 15.1 <sup>171</sup>		-6 58.7	138	50	2 13	3 11	3 52	50 11	53 69				
20	123 07.0	08.5	171 51.2 <sup>171</sup>		-7 12.4	137	52	1 53	2 58	43	49 9	55 71				
21	138 06.8	08.9	186 27.3 <sup>171</sup>		26.1	137	54	1 27	43	32	48 7	14 57 74				
22	153 06.6	09.4	201 03.3 <sup>170</sup>		39.8	137	56	0 46	26	21	47 4	15 00 77				
23	168 06.4	09.8	215 39.2 <sup>169</sup>		-7 53.5	137	58	** **	2 05	3 07	45 2	03 80				
24	183 06.2	-21 10.3	230 15.2 <sup>170</sup>		-8 07.2	137	60 S	** **	1 36	2 51	1 44 -2	15 07 83				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 35.1 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 54 <sup>m</sup>		Mag.: -0.4 PMG: 4 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 46 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 35 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
0	65 25.0	136 48.0	-24 46.9		297 03.0	+21 11.0	348 33.3	+22 11.6	80 28.8	-8 40.4						
1	80 27.4	151 47.3	46.6		312 05.1	11.0	3 36.1	11.6	95 31.3	40.4						
2	95 29.9	166 46.5	46.2		327 07.2	11.0	18 38.9	11.5	110 33.7	40.3						
3	110 32.3	181 45.8	45.9		342 09.3	11.1	33 41.8	11.5	125 36.1	40.3						
4	125 34.8	196 45.0	45.5		357 11.4	11.1	48 44.6	11.5	140 38.5	40.3						
5	140 37.3	211 44.3	-24 45.2		12 13.4	+21 11.1	63 47.4	+22 11.5	155 41.0	-8 40.3						
6	155 39.7	226 43.5	-24 44.8		27 15.5	+21 11.1	78 50.2	+22 11.4	170 43.4	-8 40.2						
7	170 42.2	241 42.8	44.4		42 17.6	11.1	93 53.0	11.4	185 45.8	40.2						
8	185 44.7	256 42.1	44.1		57 19.7	11.2	108 55.8	11.4	200 48.2	40.2						
9	200 47.1	271 41.3	43.7		72 21.8	11.2	123 58.6	11.4	215 50.6	40.2						
10	215 49.6	286 40.6	43.3		87 23.9	11.2	139 01.5	11.3	230 53.1	40.1						
11	230 52.1	301 39.8	-24 43.0		102 26.0	+21 11.2	154 04.3	+22 11.3	245 55.5	-8 40.1						
12	245 54.5	316 39.1	-24 42.6		117 28.1	+21 11.3	169 07.1	+22 11.3	260 57.9	-8 40.1						
13	260 57.0	331 38.3	42.2		132 30.2	11.3	184 09.9	11.3	276 00.3	40.1						
14	275 59.4	346 37.6	41.9		147 32.3	11.3	199 12.7	11.2	291 02.8	40.0						
15	291 01.9	1 36.9	41.5		162 34.4	11.3	214 15.5	11.2	306 05.2	40.0						
16	306 04.4	16 36.1	41.1		177 36.4	11.3	229 18.3	11.2	321 07.6	40.0						
17	321 06.8	31 35.4	-24 40.8		192 38.5	+21 11.4	244 21.2	+22 11.1	336 10.0	-8 40.0						
18	336 09.3	46 34.6	-24 40.4		207 40.6	+21 11.4	259 24.0	+22 11.1	351 12.4	-8 39.9						
19	351 11.8	61 33.9	40.0		222 42.7	11.4	274 26.8	11.1	6 14.9	39.9						
20	6 14.2	76 33.2	39.6		237 44.8	11.4	289 29.6	11.1	21 17.3	39.9						
21	21 16.7	91 32.4	39.2		252 47.0	11.5	304 32.4	11.0	36 19.7	39.9						
22	36 19.2	106 31.7	38.9		267 49.1	11.5	319 35.2	11.0	51 22.1	39.8						
23	51 21.6	121 31.0	38.5		282 51.2	11.5	334 38.0	11.0	66 24.5	39.8						
24	66 24.1	136 30.2	-24 38.1		297 53.3	+21 11.5	349 40.9	+22 11.0	81 27.0	-8 39.8						
Dif	—	-7	+4		+21	0	+28	0	+24	0						

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 47.7 <sup>m</sup>		SD: 14.7' Edad: 25.5 <sup>d</sup> PMG: 8 <sup>h</sup> 53 <sup>m</sup> R°: 42 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.1' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m				
0	183 06.2	-21 10.3	230 15.2	169	- 8 07.2	136	60 N 15 08	16 01	16 55	3 49 86	13 40 0					
1	198 06.0	10.7	244 51.1	169	20.8	136	58 22	10	17 01	44 81	47 3					
2	213 05.8	11.2	259 27.0	168	34.4	135	56 34	19	07	39 78	52 7					
3	228 05.6	11.6	274 02.8	168	- 8 47.9	135	54 45	27	12	35 75	13 57 10					
4	243 05.4	12.1	288 38.6	168	- 9 01.5	136	52 15 55	34	16	32 72	14 02 12					
5	258 05.2	-21 12.5	303 14.4	168	- 9 15.0	135	50 16 03	16 40	17 21	3 28 70	14 06 14					
6	273 05.0	-21 13.0	317 50.1	167	- 9 28.5	135	45 16 22	16 54	17 31	3 21 65	14 15 19					
7	288 04.8	13.4	332 25.8	167	41.9	134	40 36	17 06	40	15 60	23 23					
8	303 04.6	13.9	347 01.4	166	- 9 55.3	134	35 16 49	17	48	09 58	30 26					
9	318 04.3	14.3	1 37.0	166	- 10 08.7	134	30 17 00	26	17 55	3 05 54	36 28					
10	333 04.1	14.8	16 12.5	165	22.1	134	20 19	43	18 10	2 57 49	46 33					
11	348 03.9	-21 15.2	30 48.0	165	- 10 35.4	133	10 N 17 36	17 58	18 24	2 50 45	14 55 37					
12	3 03.7	-21 15.7	45 23.5	165	- 10 48.7	133	0 17 51	18 14	18 39	2 44 40	15 03 42					
13	18 03.5	16.1	59 58.9	164	- 11 01.9	132	10 S 18 07	30	18 57	37 37	11 46					
14	33 03.3	16.6	74 34.3	164	15.1	132	20 24	18 48	19 17	31 32	21 50					
15	48 03.1	17.0	89 09.6	163	28.3	132	30 44	19 11	19 43	23 27	31 55					
16	63 02.9	17.4	103 44.8	162	41.5	132	35 18 56	25	20 00	19 24	37 58					
17	78 02.7	-21 17.9	118 20.0	162	- 11 54.6	131	40 19 09	19 41	20 21	2 14 21	15 44 62					
18	93 02.4	-21 18.3	132 55.2	162	- 12 07.6	130	45 19 25	20 01	20 48	2 08 18	15 52 66					
19	108 02.2	18.8	147 30.3	161	20.6	130	50 45	27	21 25	2 01 13	16 02 70					
20	123 02.0	19.2	162 05.3	160	33.6	130	52 19 55	40	21 46	1 58 11	06 73					
21	138 01.8	19.6	176 40.3	160	46.5	129	54 20 05	20 55	22 14	55 8	11 76					
22	153 01.6	20.1	191 15.2	159	- 12 59.4	129	56 17	21 13	23 00	51 6	17 79					
23	168 01.4	20.5	205 50.1	159	- 13 12.3	129	58 31	21 35	** ** *	47 3	23 83					
24	183 01.2	-21 21.0	220 24.9	158	- 13 25.1	128	60 S 20 48	22 05	** ** *	1 42 -1	16 30 87					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 31.2 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 55 <sup>m</sup>		Mag.: -0.4 PMG: 4 <sup>h</sup> 08 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 41 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 31 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	66 24.1	136 30.2	- 24 38.1	297 53.3	+ 21 11.5	349 40.9	+ 22 11.0	81 27.0	- 8 39.8							
1	81 26.6	151 29.5	37.7	312 55.4	11.6	4 43.7	10.9	96 29.4	39.8							
2	96 29.0	166 28.8	37.3	327 57.5	11.6	19 46.5	10.9	111 31.8	39.7							
3	111 31.5	181 28.0	37.0	342 59.6	11.6	34 49.3	10.9	126 34.2	39.7							
4	126 33.9	196 27.3	36.6	358 01.7	11.6	49 52.1	10.9	141 36.6	39.7							
5	141 36.4	211 26.6	- 24 36.2	13 03.8	+ 21 11.7	64 54.9	+ 22 10.8	156 39.1	- 8 39.7							
6	156 38.9	226 25.8	- 24 35.8	28 05.9	+ 21 11.7	79 57.8	+ 22 10.8	171 41.5	- 8 39.6							
7	171 41.3	241 25.1	35.4	43 08.1	11.7	95 00.6	10.8	186 43.9	39.6							
8	186 43.8	256 24.4	35.0	58 10.2	11.8	110 03.4	10.8	201 46.3	39.6							
9	201 46.3	271 23.6	34.6	73 12.3	11.8	125 06.2	10.7	216 48.7	39.5							
10	216 48.7	286 22.9	34.2	88 14.4	11.8	140 09.0	10.7	231 51.2	39.5							
11	231 51.2	301 22.2	- 24 33.8	103 16.5	+ 21 11.8	155 11.8	+ 22 10.7	246 53.6	- 8 39.5							
12	246 53.7	316 21.4	- 24 33.4	118 18.7	+ 21 11.9	170 14.7	+ 22 10.7	261 56.0	- 8 39.5							
13	261 56.1	331 20.7	33.0	133 20.8	11.9	185 17.5	10.6	276 58.4	39.4							
14	276 58.6	346 20.0	32.6	148 22.9	11.9	200 20.3	10.6	292 00.8	39.4							
15	292 01.0	1 19.2	32.2	163 25.0	12.0	215 23.1	10.6	307 03.2	39.4							
16	307 03.5	16 18.5	31.8	178 27.2	12.0	230 25.9	10.6	322 05.7	39.4							
17	322 06.0	31 17.8	- 24 31.4	193 29.3	+ 21 12.0	245 28.7	+ 22 10.5	337 08.1	- 8 39.3							
18	337 08.4	46 17.1	- 24 31.0	208 31.4	+ 21 12.1	260 31.6	+ 22 10.5	352 10.5	- 8 39.3							
19	352 10.9	61 16.3	30.6	223 33.5	12.1	275 34.4	10.5	7 12.9	39.3							
20	7 13.4	76 15.6	30.2	238 35.7	12.1	290 37.2	10.5	22 15.3	39.3							
21	22 15.8	91 14.9	29.8	253 37.8	12.1	305 40.0	10.4	37 17.7	39.2							
22	37 18.3	106 14.2	29.4	268 40.0	12.2	320 42.8	10.4	52 20.2	39.2							
23	52 20.8	121 13.4	29.0	283 42.1	12.2	335 45.6	10.4	67 22.6	39.2							
24	67 23.2	136 12.7	- 24 28.6	298 44.2	+ 21 12.2	350 48.5	+ 22 10.3	82 25.0	- 8 39.1							
Dif	—	-7	+4	+21	0	+28	0	+24	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 48.1 <sup>m</sup>		SD: 14.8' Edad: 26.5 <sup>d</sup> PMG: 9 <sup>h</sup> 35 <sup>m</sup> R°: 44 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.4' 20 <sup>h</sup> : 54.4'			Náutico	Civil		Hora R°	R°	Hora R°	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	183 01.2	-21 21.0	220 24.9	157	-13 25.1	127	6 42	7 36	8 30	5 15	90	13 40	0	
1	198 01.0	21.4	234 59.6	157	37.8	127	58	35	26	15	5 05	86	50 5	
2	213 00.7	21.8	249 34.3	157	-13 50.6	128	56	30	17	8 02	4 57	81	13 59 9	
3	228 00.5	22.3	264 09.0	157	-14 03.2	126	54	25	10	7 51	50	78	14 07 12	
4	243 00.3	22.7	278 43.5	155	15.8	126	52	20	7 02	42	44	75	14 15	
5	258 00.1	-21 23.1	293 18.0	155	-14 28.4	126	50	6 15	6 56	7 33	4 38	72	14 20 18	
6	272 59.9	-21 23.6	307 52.5	155	-14 40.9	125	45	6 05	6 42	7 15	4 26	67	14 34 23	
7	287 59.7	24.0	322 26.8	153	-14 53.4	125	40	5 57	30	7 00	15	63	46 26	
8	302 59.4	24.4	337 01.1	153	-15 05.8	124	35	48	20	6 47	4 07	59	14 56 29	
9	317 59.2	24.8	351 35.4	153	18.1	123	30	41	6 10	36	3 59	57	15 04 33	
10	332 59.0	25.3	6 09.5	151	30.4	123	20	26	5 53	17	46	52	19 37	
11	347 58.8	-21 25.7	20 43.6	151	-15 42.7	123	10 N	5 12	5 38	6 00	3 35	47	15 32 42	
12	2 58.6	-21 26.1	35 17.7	151	-15 54.9	122	0	4 56	5 22	5 44	3 24	44	15 45 45	
13	17 58.4	26.6	49 51.6	149	-16 07.0	121	10 S	39	5 06	29	14	39	15 57 49	
14	32 58.1	27.0	64 25.5	149	19.1	121	20	4 19	4 47	5 11	3 03	35	16 11 53	
15	47 57.9	27.4	78 59.3	148	31.1	120	30	3 52	25	4 51	2 50	31	26 58	
16	62 57.7	27.8	93 33.1	148	43.1	120	35	35	4 11	40	43	28	35 61	
17	77 57.5	-21 28.3	108 06.7	146	-16 55.0	119	40	3 15	3 55	4 26	2 35	24	16 46 63	
18	92 57.3	-21 28.7	122 40.3	146	-17 06.8	118	45	2 48	3 34	4 10	2 26	20	16 58 67	
19	107 57.0	29.1	137 13.9	146	18.6	118	50	2 10	3 09	3 50	14	16	17 12 74	
20	122 56.8	29.5	151 47.3	144	30.3	117	52	1 49	2 56	41	09	13	19 76	
21	137 56.6	29.9	166 20.7	144	41.9	116	54	1 21	41	30	2 03	11	27 79	
22	152 56.4	30.4	180 54.0	143	-17 53.5	116	56	0 35	23	18	1 57	7	36 82	
23	167 56.2	30.8	195 27.2	142	-18 05.0	115	58	** **	2 00	3 04	50	4	46 87	
24	182 55.9	-21 31.2	210 00.3	141	-18 16.5	115	60 S	** **	1 30	2 47	1 41	0	17 57 93	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 <sup>h</sup> 27.3 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 56 <sup>m</sup>		Mag.: -0.4 PMG: 4 <sup>h</sup> 04 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 37 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 27 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	67 23.2	136 12.7	-24 28.6	298 44.2	+21 12.2	350 48.5	+22 10.3	82 25.0	-8 39.1	
1	82 25.7	151 12.0	28.2	313 46.4	12.3	5 51.3	10.3	97 27.4	39.1	
2	97 28.2	166 11.3	27.8	328 48.5	12.3	20 54.1	10.3	112 29.8	39.1	
3	112 30.6	181 10.5	27.4	343 50.6	12.4	35 56.9	10.3	127 32.2	39.1	
4	127 33.1	196 09.8	26.9	358 52.8	12.4	50 59.7	10.2	142 34.7	39.0	
5	142 35.5	211 09.1	-24 26.5	13 54.9	+21 12.4	66 02.6	+22 10.2	157 37.1	-8 39.0	
6	157 38.0	226 08.4	-24 26.1	28 57.1	+21 12.5	81 05.4	+22 10.2	172 39.5	-8 39.0	
7	172 40.5	241 07.7	25.7	43 59.2	12.5	96 08.2	10.2	187 41.9	38.9	
8	187 42.9	256 06.9	25.3	59 01.4	12.5	111 11.0	10.1	202 44.3	38.9	
9	202 45.4	271 06.2	24.9	74 03.5	12.6	126 13.8	10.1	217 46.7	38.9	
10	217 47.9	286 05.5	24.4	89 05.7	12.6	141 16.6	10.1	232 49.1	38.9	
11	232 50.3	301 04.8	-24 24.0	104 07.8	+21 12.6	156 19.5	+22 10.1	247 51.6	-8 38.8	
12	247 52.8	316 04.1	-24 23.6	119 10.0	+21 12.7	171 22.3	+22 10.0	262 54.0	-8 38.8	
13	262 55.3	331 03.4	23.2	134 12.1	12.7	186 25.1	10.0	277 56.4	38.8	
14	277 57.7	346 02.6	22.7	149 14.3	12.8	201 27.9	10.0	292 58.8	38.7	
15	293 00.2	1 01.9	22.3	164 16.4	12.8	216 30.7	10.0	308 01.2	38.7	
16	308 02.7	16 01.2	21.9	179 18.6	12.8	231 33.6	09.9	323 03.6	38.7	
17	323 05.1	31 00.5	-24 21.5	194 20.8	+21 12.9	246 36.4	+22 09.9	338 06.0	-8 38.7	
18	338 07.6	45 59.8	-24 21.0	209 22.9	+21 12.9	261 39.2	+22 09.9	353 08.5	-8 38.6	
19	353 10.0	60 59.1	20.6	224 25.1	13.0	276 42.0	09.8	8 10.9	38.6	
20	8 12.5	75 58.4	20.2	239 27.3	13.0	291 44.8	09.8	23 13.3	38.6	
21	23 15.0	90 57.6	19.7	254 29.4	13.0	306 47.7	09.8	38 15.7	38.5	
22	38 17.4	105 56.9	19.3	269 31.6	13.1	321 50.5	09.8	53 18.1	38.5	
23	53 19.9	120 56.2	18.9	284 33.7	13.1	336 53.3	09.7	68 20.5	38.5	
24	68 22.4	135 55.5	-24 18.4	299 35.9	+21 13.2	351 56.1	+22 09.7	83 22.9	-8 38.5	

Dif	—	-7	+4	+22	0	+28	0	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 48.4 <sup>m</sup>		SD: 14.8' Edad: 27.5 <sup>d</sup> PMG: 10 <sup>h</sup> 19 <sup>m</sup> R°: 47 <sup>m</sup>						PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.7' 20 <sup>h</sup> : 54.8'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	182 55.9	-21 31.2	210 00.3	140	-18 16.5	114	15 05	15 58	16 53	6 45 95	13 40 2	13 40 2				
1	197 55.7	31.6	224 33.3	140	27.9	113	58	20	16 09	16 59	31 89	13 55 9				
2	212 55.5	32.0	239 06.3	140	39.2	113	56	32	17	17 05	18 84	14 08 13				
3	227 55.3	32.5	253 39.2	139	-18 50.4	112	54	43	25	10	6 08 80	19 17				
4	242 55.1	32.9	268 12.0	138	-19 01.6	112	52	15 53	33	15	5 59 76	29 20				
5	257 54.8	-21 33.3	282 44.7	137	-19 12.6	110	50	16 02	16 39	17 20	5 50 74	14 38 23				
6	272 54.6	-21 33.7	297 17.4	137	-19 23.7	111	45	16 21	16 54	17 30	5 33 68	14 57 28				
7	287 54.4	34.1	311 49.9	135	34.6	109	40	36	17 06	39	18 65	15 12 32				
8	302 54.2	34.5	326 22.4	135	45.5	109	35	16 49	16	47	5 06 62	25 35				
9	317 53.9	34.9	340 54.8	134	-19 56.2	107	30	17 00	26	17 55	4 56 58	37 37				
10	332 53.7	35.4	355 27.1	133	-20 06.9	107	20	19	43	18 10	38 54	15 56 42				
11	347 53.5	-21 35.8	9 59.3	132	-20 17.6	107	10 N	17 36	17 59	18 25	4 22 51	16 14 45				
12	2 53.3	-21 36.2	24 31.5	132	-20 28.1	105	0	17 52	18 14	18 40	4 08 47	16 30 48				
13	17 53.0	36.6	39 03.5	130	38.6	105	10 S	18 08	31	18 58	3 53 44	16 46 52				
14	32 52.8	37.0	53 35.5	130	48.9	103	20	26	18 50	19 19	38 40	17 04 55				
15	47 52.6	37.4	68 07.4	129	-20 59.2	103	30	46	19 13	19 45	21 35	24 59				
16	62 52.4	37.8	82 39.1	127	-21 09.4	102	35	18 58	27	20 02	3 11 32	36 62				
17	77 52.1	-21 38.2	97 10.8	127	-21 19.6	102	40	19 11	19 43	20 23	2 59 30	17 49 65				
18	92 51.9	-21 38.6	111 42.4	126	-21 29.6	100	45	19 28	20 04	20 51	2 46 25	18 05 69				
19	107 51.7	39.0	126 14.0	126	39.5	99	50	48	30	21 30	30 20	26 73				
20	122 51.5	39.4	140 45.4	124	49.4	99	52	19 58	43	21 51	22 18	35 77				
21	137 51.2	39.8	155 16.7	123	-21 59.1	97	54	20 08	20 59	22 21	14 15	46 80				
22	152 51.0	40.2	169 48.0	123	-22 08.8	97	56	21	21 17	23 15	2 04 12	18 58 84				
23	167 50.8	40.6	184 19.2	122	18.4	96	58	35	21 41	** ** *	1 54 7	19 13 89				
24	182 50.6	-21 41.1	198 50.2	120	-22 27.8	94	60 S	20 53	22 12	** ** *	1 41 2	19 30 96				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 <sup>h</sup> 23.3 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 57 <sup>m</sup>		Mag.: -0.4 PMG: 4 <sup>h</sup> 01 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 32 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 24 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	68 22.4	135 55.5	-24 18.4	299 35.9	+21 13.2	351 56.1	+22 09.7	83 22.9	-8 38.5	38.4						
1	83 24.8	150 54.8	18.0	314 38.1	13.2	6 59.0	09.7	98 25.3	38.4	38.4						
2	98 27.3	165 54.1	17.5	329 40.3	13.2	22 01.8	09.7	113 27.8	38.4	38.4						
3	113 29.8	180 53.4	17.1	344 42.4	13.3	37 04.6	09.6	128 30.2	38.4	38.4						
4	128 32.2	195 52.7	16.7	359 44.6	13.3	52 07.4	09.6	143 32.6	38.3	38.3						
5	143 34.7	210 52.0	-24 16.2	14 46.8	+21 13.4	67 10.2	+22 09.6	158 35.0	-8 38.3	38.3						
6	158 37.2	225 51.3	-24 15.8	29 49.0	+21 13.4	82 13.1	+22 09.6	173 37.4	-8 38.3	38.3						
7	173 39.6	240 50.6	15.3	44 51.1	13.5	97 15.9	09.5	188 39.8	38.3	38.3						
8	188 42.1	255 49.8	14.9	59 53.3	13.5	112 18.7	09.5	203 42.2	38.2	38.2						
9	203 44.5	270 49.1	14.4	74 55.5	13.5	127 21.5	09.5	218 44.6	38.2	38.2						
10	218 47.0	285 48.4	14.0	89 57.7	13.6	142 24.3	09.5	233 47.0	38.2	38.2						
11	233 49.5	300 47.7	-24 13.5	104 59.9	+21 13.6	157 27.2	+22 09.4	248 49.4	-8 38.1	38.1						
12	248 51.9	315 47.0	-24 13.1	120 02.0	+21 13.7	172 30.0	+22 09.4	263 51.9	-8 38.1	38.1						
13	263 54.4	330 46.3	12.6	135 04.2	13.7	187 32.8	09.4	278 54.3	38.1	38.1						
14	278 56.9	345 45.6	12.2	150 06.4	13.8	202 35.6	09.3	293 56.7	38.0	38.0						
15	293 59.3	0 44.9	11.7	165 08.6	13.8	217 38.5	09.3	308 59.1	38.0	38.0						
16	309 01.8	15 44.2	11.3	180 10.8	13.9	232 41.3	09.3	324 01.5	38.0	38.0						
17	324 04.3	30 43.5	-24 10.8	195 13.0	+21 13.9	247 44.1	+22 09.3	339 03.9	-8 38.0	38.0						
18	339 06.7	45 42.8	-24 10.3	210 15.2	+21 14.0	262 46.9	+22 09.2	354 06.3	-8 37.9	37.9						
19	354 09.2	60 42.1	09.9	225 17.4	14.0	277 49.7	09.2	9 08.7	37.9	37.9						
20	9 11.6	75 41.4	09.4	240 19.6	14.1	292 52.6	09.2	24 11.1	37.9	37.9						
21	24 14.1	90 40.7	09.0	255 21.8	14.1	307 55.4	09.2	39 13.5	37.8	37.8						
22	39 16.6	105 40.0	08.5	270 24.0	14.2	322 58.2	09.1	54 15.9	37.8	37.8						
23	54 19.0	120 39.3	08.0	285 26.2	14.2	338 01.0	09.1	69 18.4	37.8	37.8						
24	69 21.5	135 38.6	-24 07.6	300 28.4	+21 14.3	353 03.9	+22 09.1	84 20.8	-8 37.7	37.7						
Dif	—	-7	+5	+22	0	+28	0	+24	0	0						

UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 14.9'		Edad: 28.5 <sup>d</sup>			PHE { 4 <sup>h</sup> : 54.9' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.2'			R°: 52 <sup>m</sup>		Hora R°		Hora R°	
	PMG: 11 <sup>h</sup> 48.8 <sup>m</sup>		PMG: 11 <sup>h</sup> 06 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora R°	R°	Hora R°	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	182 50.6	-21 41.1	198 50.2	120	-22 27.8	94	60 N	6 45	7 40	8 34	8 20 99	13 42 9	13 42 9	9		
1	197 50.3	41.5	213 21.2	119	37.2	94	58	38	29	19	8 00 89	14 04 17	14 04 17	17		
2	212 50.1	41.9	227 52.1	118	46.5	93	56	33	20	8 06	7 42 84	21 24	21 24	24		
3	227 49.9	42.3	242 22.9	117	-22 55.7	92	54	27	12	7 55	28 79	36 27	36 27	27		
4	242 49.6	42.7	256 53.6	116	-23 04.8	91	52	22	7 05	45	15 76	14 49 31	14 49 31	31		
5	257 49.4	-21 43.1	271 24.2	116	-23 13.8	90	50	6 18	6 59	7 36	7 04 73	15 01 32	15 01 32	32		
6	272 49.2	-21 43.4	285 54.8	114	-23 22.6	88	45	6 08	6 44	7 17	6 41 69	15 25 37	15 25 37	37		
7	287 48.9	43.8	300 25.2	113	31.4	88	40	5 58	32	7 02	23 65	15 44 40	15 44 40	40		
8	302 48.7	44.2	314 55.5	113	40.1	87	35	50	21	6 49	6 08 62	16 00 43	16 00 43	43		
9	317 48.5	44.6	329 25.8	113	48.7	86	30	42	6 12	38	5 54 61	14 45	14 45	45		
10	332 48.3	45.0	343 56.0	112	-23 57.1	84	20	27	5 55	18	32 56	38 48	38 48	48		
11	347 48.0	-21 45.4	358 26.0	110	-24 05.5	84	10 N	5 13	5 39	6 01	5 13 53	16 59 50	16 59 50	50		
12	2 47.8	-21 45.8	12 56.0	110	-24 13.7	82	0	4 57	5 23	5 45	4 55 50	17 18 53	17 18 53	53		
13	17 47.6	46.2	27 25.9	109	21.9	82	10 S	39	5 06	29	37 47	38 55	38 55	55		
14	32 47.3	46.6	41 55.7	108	29.9	80	20	4 19	4 47	5 11	4 18 44	17 59 57	17 59 57	57		
15	47 47.1	47.0	56 25.4	107	37.8	79	30	3 52	24	4 51	3 56 41	18 23 60	18 23 60	60		
16	62 46.9	47.4	70 55.1	107	45.6	78	35	35	4 10	39	43 39	38 61	38 61	61		
17	77 46.6	-21 47.8	85 24.6	105	-24 53.3	77	40	3 14	3 54	4 26	3 29 35	18 54 64	18 54 64	64		
18	92 46.4	-21 48.2	99 54.0	104	-25 00.8	75	45	2 46	3 33	4 09	3 11 33	19 14 67	19 14 67	67		
19	107 46.2	48.6	114 23.4	104	08.3	75	50	2 07	3 07	3 49	2 50 28	39 71	39 71	71		
20	122 45.9	48.9	128 52.7	103	15.6	73	52	1 46	2 53	39	40 25	19 52 73	19 52 73	73		
21	137 45.7	49.3	143 21.8	101	22.8	72	54	1 16	38	28	29 22	20 06 75	20 06 75	75		
22	152 45.5	49.7	157 50.9	101	29.9	71	56	0 22	2 19	16	16 18	22 80	22 80	80		
23	167 45.2	50.1	172 20.0	101	36.9	70	58	** **	1 56	3 01	2 01 13	20 42 85	20 42 85	85		
24	182 45.0	-21 50.5	186 48.9	99	-25 43.7	68	60 S	** **	1 24	2 44	1 43 6	21 06 95	21 06 95	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 19 <sup>h</sup> 19.4 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 58 <sup>m</sup>		Mag.: -0.5 PMG: 3 <sup>h</sup> 58 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 28 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 20 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
0	69 21.5	135 38.6	-24 07.6	300 28.4	+21 14.3	353 03.9	+22 09.1	84 20.8	-8 37.7	84 20.8	-8 37.7
1	84 24.0	150 37.9	07.1	315 30.6	14.3	8 06.7	09.0	99 23.2	37.7	99 23.2	37.7
2	99 26.4	165 37.2	06.6	330 32.8	14.4	23 09.5	09.0	114 25.6	37.7	114 25.6	37.7
3	114 28.9	180 36.5	06.2	345 35.0	14.4	38 12.3	09.0	129 28.0	37.6	129 28.0	37.6
4	129 31.4	195 35.8	05.7	0 37.2	14.5	53 15.1	09.0	144 30.4	37.6	144 30.4	37.6
5	144 33.8	210 35.1	-24 05.2	15 39.4	+21 14.5	68 18.0	+22 08.9	159 32.8	-8 37.6	159 32.8	-8 37.6
6	159 36.3	225 34.5	-24 04.8	30 41.6	+21 14.6	83 20.8	+22 08.9	174 35.2	-8 37.6	174 35.2	-8 37.6
7	174 38.8	240 33.8	04.3	45 43.8	14.6	98 23.6	08.9	189 37.6	37.5	189 37.6	37.5
8	189 41.2	255 33.1	03.8	60 46.0	14.7	113 26.4	08.9	204 40.0	37.5	204 40.0	37.5
9	204 43.7	270 32.4	03.3	75 48.2	14.7	128 29.3	08.8	219 42.4	37.5	219 42.4	37.5
10	219 46.1	285 31.7	02.9	90 50.4	14.8	143 32.1	08.8	234 44.8	37.4	234 44.8	37.4
11	234 48.6	300 31.0	-24 02.4	105 52.7	+21 14.8	158 34.9	+22 08.8	249 47.2	-8 37.4	249 47.2	-8 37.4
12	249 51.1	315 30.3	-24 01.9	120 54.9	+21 14.9	173 37.7	+22 08.8	264 49.6	-8 37.4	264 49.6	-8 37.4
13	264 53.5	330 29.6	01.4	135 57.1	14.9	188 40.6	08.7	279 52.1	37.3	279 52.1	37.3
14	279 56.0	345 28.9	00.9	150 59.3	15.0	203 43.4	08.7	294 54.5	37.3	294 54.5	37.3
15	294 58.5	0 28.2	00.5	166 01.5	15.1	218 46.2	08.7	309 56.9	37.3	309 56.9	37.3
16	310 00.9	15 27.6	-24 00.0	181 03.7	15.1	233 49.0	08.6	324 59.3	37.2	324 59.3	37.2
17	325 03.4	30 26.9	-23 59.5	196 06.0	+21 15.2	248 51.9	+22 08.6	340 01.7	-8 37.2	340 01.7	-8 37.2
18	340 05.9	45 26.2	-23 59.0	211 08.2	+21 15.2	263 54.7	+22 08.6	355 04.1	-8 37.2	355 04.1	-8 37.2
19	355 08.3	60 25.5	58.5	226 10.4	15.3	278 57.5	08.6	10 06.5	37.1	10 06.5	37.1
20	10 10.8	75 24.8	58.0	241 12.6	15.3	294 00.3	08.5	25 08.9	37.1	25 08.9	37.1
21	25 13.3	90 24.1	57.5	256 14.9	15.4	309 03.2	08.5	40 11.3	37.1	40 11.3	37.1
22	40 15.7	105 23.4	57.0	271 17.1	15.4	324 06.0	08.5	55 13.7	37.0	55 13.7	37.0
23	55 18.2	120 22.8	56.6	286 19.3	15.5	339 08.8	08.5	70 16.1	37.0	70 16.1	37.0
24	70 20.6	135 22.1	-23 56.1	301 21.6	+21 15.6	354 11.6	+22 08.4	85 18.5	-8 37.0	85 18.5	-8 37.0

Dif	—	-7	+5	+22	+1	+28	0	+24	0
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UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna											
	SD: 16.2' PMG: 11 <sup>h</sup> 49.2 <sup>m</sup>		SD: 15.0' Edad: 29.5 <sup>d</sup> PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.4' 20 <sup>h</sup> : 55.6' PMG: 11 <sup>h</sup> 58 <sup>m</sup> R°: 55 <sup>m</sup>						hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil		Náutico		Hora R°	Hora R°				
	h	m	°	'	°	'									°	'	°	'			h	m	h	m
0	182	45.0	-21	50.5	186	48.9	-25	43.7	67	<b>60 N</b>	15	02	15	56	16	51	9	59	89	13	51	25		
1	197	44.8		50.9	201	17.7		50.4	67	<b>58</b>	17	16	16	07	16	58	29	79	14	21	35			
2	212	44.5		51.3	215	46.5	98	-25	57.0	66	<b>56</b>	30		16	17	04	9	06	74	14	45	39		
3	227	44.3		51.6	230	15.1	96	-26	03.5	65	<b>54</b>	42		24	09		8	47	71	15	03	42		
4	242	44.0		52.0	244	43.7	96		09.8	63	<b>52</b>	15	52	32	14		31	69		20	43			
5	257	43.8	-21	52.4	259	12.2	95	-26	16.0	62	<b>50</b>	16	01	16	38	17	19	8	17	68	15	33	46	
6	272	43.6	-21	52.8	273	40.6	94	-26	22.1	61	<b>45</b>	16	20	16	53	17	30	7	50	64	16	02	48	
7	287	43.3		53.2	288	09.0	94		28.0	59	<b>40</b>	35		17	05	39		28	63		24	50		
8	302	43.1		53.5	302	37.2	92		33.9	59	<b>35</b>	16	48	16		47		7	10	61		43	50	
9	317	42.9		53.9	317	05.4	92		39.5	56	<b>30</b>	17	00	26		17	55	6	55	59	16	59	51	
10	332	42.6		54.3	331	33.5	91		45.1	56	<b>20</b>	19		43		18	10	28	58	17	26	53		
11	347	42.4	-21	54.7	346	01.5	90	-26	50.5	54	<b>10 N</b>	17	37	17	59	18	25	6	06	56	17	49	54	
12	2	42.1	-21	55.0	0	29.5	90	-26	55.8	53	<b>0</b>	17	53	18	15	18	41	5	45	54	18	11	55	
13	17	41.9		55.4	14	57.4	89	-27	00.9	51	<b>10 S</b>	18	09	32		18	59	24	53		33	56		
14	32	41.7		55.8	29	25.2	88		05.9	50	<b>20</b>	27		18	51	19	20	5	02	51	18	56	57	
15	47	41.4		56.2	43	52.9	87		10.8	49	<b>30</b>	47		19	14	19	47	4	37	48	19	23	59	
16	62	41.2		56.5	58	20.5	86		15.5	47	<b>35</b>	18	59	29		20	04	22	46		39	60		
17	77	41.0	-21	56.9	72	48.1	86	-27	20.1	46	<b>40</b>	19	13	19	46	20	26	4	04	45	19	58	60	
18	92	40.7	-21	57.3	87	15.6	85	-27	24.5	44	<b>45</b>	19	30	20	06	20	54	3	44	42	20	21	61	
19	107	40.5		57.7	101	43.1	85		28.8	43	<b>50</b>	19	51	33		21	34	18	38		20	50	63	
20	122	40.2		58.0	116	10.4	83		33.0	42	<b>52</b>	20	01	20	47	21	56	3	05	37	21	05	63	
21	137	40.0		58.4	130	37.7	83		37.0	40	<b>54</b>	12		21	03	22	28	2	51	34		21	65	
22	152	39.8		58.8	145	05.0	83		40.8	38	<b>56</b>	24		22		23	43	34	30		21	42	65	
23	167	39.5		59.1	159	32.2	82		44.5	37	<b>58</b>	39		21	46	** **		2	14	25	22	07	68	
24	182	39.3	-21	59.5	173	59.3	81	-27	48.1	36	<b>60 S</b>	20	57	22	20	** **		1	49	16	22	41	73	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO															
	PMG: 19 <sup>h</sup> 15.5 <sup>m</sup>		Mag.: -4.2 PMG: 14 <sup>h</sup> 59 <sup>m</sup>		Mag.: -0.5 PMG: 3 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 23 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 16 <sup>m</sup>															
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec														
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	70	20.6	135	22.1	-23	56.1	301	21.6	+21	15.6	354	11.6	+22	08.4	85	18.5	-8	37.0						
1	85	23.1	150	21.4		55.6	316	23.8		15.6	9	14.5		08.4	100	20.9		36.9						
2	100	25.6	165	20.7		55.1	331	26.0		15.7	24	17.3		08.4	115	23.3		36.9						
3	115	28.0	180	20.0		54.6	346	28.3		15.7	39	20.1		08.3	130	25.7		36.9						
4	130	30.5	195	19.3		54.1	1	30.5		15.8	54	22.9		08.3	145	28.1		36.8						
5	145	33.0	210	18.7	-23	53.6	16	32.7	+21	15.9	69	25.8	+22	08.3	160	30.5	-8	36.8						
6	160	35.4	225	18.0	-23	53.1	31	35.0	+21	15.9	84	28.6	+22	08.3	175	32.9	-8	36.8						
7	175	37.9	240	17.3		52.6	46	37.2		16.0	99	31.4		08.2	190	35.3		36.8						
8	190	40.4	255	16.6		52.1	61	39.5		16.0	114	34.2		08.2	205	37.7		36.7						
9	205	42.8	270	16.0		51.6	76	41.7		16.1	129	37.1		08.2	220	40.1		36.7						
10	220	45.3	285	15.3		51.1	91	44.0		16.2	144	39.9		08.2	235	42.5		36.7						
11	235	47.8	300	14.6	-23	50.6	106	46.2	+21	16.2	159	42.7	+22	08.1	250	44.9	-8	36.6						
12	250	50.2	315	13.9	-23	50.1	121	48.5	+21	16.3	174	45.5	+22	08.1	265	47.3	-8	36.6						
13	265	52.7	330	13.3		49.6	136	50.7		16.4	189	48.4		08.1	280	49.7		36.6						
14	280	55.1	345	12.6		49.1	151	53.0		16.4	204	51.2		08.0	295	52.1		36.5						
15	295	57.6	0	11.9		48.5	166	55.2		16.5	219	54.0		08.0	310	54.5		36.5						
16	311	00.1	15	11.2		48.0	181	57.5		16.5	234	56.8		08.0	325	56.9		36.5						
17	326	02.5	30	10.6	-23	47.5	196	59.7	+21	16.6	249	59.7	+22	08.0	340	59.3	-8	36.4						
18	341	05.0	45	09.9	-23	47.0	212	02.0	+21	16.7	265	02.5	+22	07.9	356	01.7	-8	36.4						
19	356	07.5	60	09.2		46.5	227	04.2		16.7	280	05.3		07.9	11	04.1		36.3						
20	11	09.9	75	08.5		46.0	242	06.5		16.8	295	08.1		07.9	26	06.5		36.3						
21	26	12.4	90	07.9		45.5	257	08.8		16.9	310	11.0		07.8	41	08.9		36.3						
22	41	14.9	105	07.2		44.9	272	11.0		16.9	325	13.8		07.8	56	11.3		36.2						
23	56	17.3	120	06.5		44.4	287	13.3		17.0	340	16.6		07.8	71	13.7		36.2						
24	71	19.8	135	05.9	-23	43.9	302	15.5	+21	17.1	355	19.5	+22	07.8	86	16.1	-8	36.2						
Dif	—		-7		+5		+22		+1		+28		0		+24		0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16.2' PMG: 11 <sup>h</sup> 49.6 <sup>m</sup>		SD: 15.2' Edad: 0.7 <sup>d</sup> PMG: 12 <sup>h</sup> 53 <sup>m</sup> R°: 56 <sup>m</sup>					PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 55.9' 20 <sup>h</sup> : 56.0'										
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	h m	R°	Hora	R°			
0	182	39.3	-21	59.5	173	59.3	-27	48.1	34	60 N	6 48	7 43	8 38	11 28	53	14 16	64	
1	197	39.0	-21	59.9	188	26.3	80	51.5	34	58	41	33	22	10 48	55	14 56	62	
2	212	38.8	-22	00.2	202	53.3	80	54.8	33	56	35	23	8 09	10 20	56	15 24	61	
3	227	38.5		00.6	217	20.3	80	-27	57.9	31	54	30	15	7 58	9 58	56	15 45	61
4	242	38.3		01.0	231	47.1	78	-28	00.9	30	52	25	08	48	40 57	16 03	61	
5	257	38.1	-22	01.3	246	14.0	79	-28	03.7	28	50	6 20	7 01	7 39	9 25	57	16 19	60
6	272	37.8	-22	01.7	260	40.7	77	-28	06.4	27	45	6 10	6 46	7 19	8 54	57	16 50	59
7	287	37.6		02.0	275	07.5	78	08.9	25	40	6 00	34	7 04	31	56	17 14	58	
8	302	37.3		02.4	289	34.1	76	11.2	23	35	5 52	23	6 51	8 11	57	33	59	
9	317	37.1		02.8	304	00.7	76	13.4	22	30	5 44	6 13	39	7 54	57	17 50	58	
10	332	36.8		03.1	318	27.3	76	15.5	21	20	28	5 56	19	26	56	18 19	57	
11	347	36.6	-22	03.5	332	53.8	75	-28	17.4	19	10 N	5 13	5 40	6 02	7 02	56	18 43	57
12	2	36.3	-22	03.8	347	20.3	75	-28	19.1	17	0	4 58	5 24	5 46	6 39	56	19 06	56
13	17	36.1		04.2	1	46.8	75	20.7	16	10 S	40	5 07	29	6 17	56	29	56	
14	32	35.9		04.6	16	13.2	74	22.1	14	20	4 19	4 47	5 12	5 53	55	19 53	55	
15	47	35.6		04.9	30	39.5	73	23.4	13	30	3 51	24	4 51	25	55	20 22	54	
16	62	35.4		05.3	45	05.9	74	24.5	11	35	3 34	4 10	39	5 08	55	39	53	
17	77	35.1	-22	05.6	59	32.1	72	-28	25.4	9	40	3 13	3 53	4 25	4 49	54	20 58	53
18	92	34.9	-22	06.0	73	58.4	73	-28	26.2	8	45	2 45	3 32	4 08	4 26	54	21 22	52
19	107	34.6		06.3	88	24.6	72	26.8	6	50	2 05	3 05	3 48	3 56	53	21 53	50	
20	122	34.4		06.7	102	50.8	72	27.3	5	52	1 42	2 52	38	42	52	22 08	49	
21	137	34.1		07.0	117	17.0	72	27.6	3	54	1 11	36	27	25	51	26	47	
22	152	33.9		07.4	131	43.1	71	27.7	1	56	** **	2 17	3 14	3 04	51	22 47	46	
23	167	33.6		07.7	146	09.2	71	27.7	0	58	** **	1 52	2 59	2 39	48	23 15	42	
24	182	33.4	-22	08.1	160	35.3	71	-28	27.6	1	60 S	** **	1 19	2 41	2 05	43	23 54	35

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 19 <sup>h</sup> 11.5 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 00 <sup>m</sup>		Mag.: -0.5 PMG: 3 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 19 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 12 <sup>m</sup>									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	71	19.8	135	05.9	-23	43.9	302	15.5	+21	17.1	355	19.5	+22	07.8	86	16.1	-8	36.2
1	86	22.3	150	05.2		43.4	317	17.8		17.1	10	22.3		07.7	101	18.5		36.1
2	101	24.7	165	04.5		42.9	332	20.1		17.2	25	25.1		07.7	116	20.9		36.1
3	116	27.2	180	03.9		42.3	347	22.3		17.3	40	27.9		07.7	131	23.3		36.1
4	131	29.6	195	03.2		41.8	2	24.6		17.3	55	30.8		07.7	146	25.7		36.0
5	146	32.1	210	02.5	-23	41.3	17	26.9	+21	17.4	70	33.6	+22	07.6	161	28.1	-8	36.0
6	161	34.6	225	01.9	-23	40.8	32	29.2	+21	17.5	85	36.4	+22	07.6	176	30.5	-8	36.0
7	176	37.0	240	01.2		40.2	47	31.4		17.6	100	39.2		07.6	191	32.9		35.9
8	191	39.5	255	00.6		39.7	62	33.7		17.6	115	42.1		07.5	206	35.3		35.9
9	206	42.0	269	59.9		39.2	77	36.0		17.7	130	44.9		07.5	221	37.7		35.9
10	221	44.4	284	59.2		38.7	92	38.3		17.8	145	47.7		07.5	236	40.1		35.8
11	236	46.9	299	58.6	-23	38.1	107	40.5	+21	17.8	160	50.6	+22	07.5	251	42.5	-8	35.8
12	251	49.4	314	57.9	-23	37.6	122	42.8	+21	17.9	175	53.4	+22	07.4	266	44.9	-8	35.8
13	266	51.8	329	57.2		37.1	137	45.1		18.0	190	56.2		07.4	281	47.3		35.7
14	281	54.3	344	56.6		36.5	152	47.4		18.0	205	59.0		07.4	296	49.7		35.7
15	296	56.7	359	55.9		36.0	167	49.7		18.1	221	01.9		07.4	311	52.1		35.7
16	311	59.2	14	55.3		35.4	182	52.0		18.2	236	04.7		07.3	326	54.5		35.6
17	327	01.7	29	54.6	-23	34.9	197	54.2	+21	18.3	251	07.5	+22	07.3	341	56.9	-8	35.6
18	342	04.1	44	54.0	-23	34.4	212	56.5	+21	18.3	266	10.3	+22	07.3	356	59.3	-8	35.6
19	357	06.6	59	53.3		33.8	227	58.8		18.4	281	13.2		07.2	12	01.7		35.5
20	12	09.1	74	52.6		33.3	243	01.1		18.5	296	16.0		07.2	27	04.1		35.5
21	27	11.5	89	52.0		32.7	258	03.4		18.6	311	18.8		07.2	42	06.5		35.4
22	42	14.0	104	51.3		32.2	273	05.7		18.6	326	21.7		07.2	57	08.9		35.4
23	57	16.5	119	50.7		31.7	288	08.0		18.7	341	24.5		07.1	72	11.3		35.4
24	72	18.9	134	50.0	-23	31.1	303	10.3	+21	18.8	356	27.3	+22	07.1	87	13.7	-8	35.3

Dif	—	-7	+5	+23	+1	+28	0	+24	0
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 50.0 <sup>m</sup>		SD: 15.3' Edad: 1.7 <sup>d</sup> PMG: 13 <sup>h</sup> 49 <sup>m</sup> R°: 56 <sup>m</sup>						PHE $\left\{ \begin{array}{l} 4^h: 56.2' \\ 12^h: 56.4' \\ 20^h: 56.5' \end{array} \right.$		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	182 33.4	-22 08.1	160 35.3	71	-28 27.6	4	60 N	15 00	15 55	16 50	12 21	20	15 20	97		
1	197 33.1	08.4	175 01.4	70	27.2	5	58	16	16 05	16 57	11 43	30	15 58	86		
2	212 32.9	08.8	189 27.5	71	26.7	6	56	29	15	17 03	11 16	35	16 25	81		
3	227 32.6	09.1	203 53.5	70	26.0	7	54	40	23	08	10 54	39	16 46	77		
4	242 32.4	09.5	218 19.5	70	25.2	8	52	15 51	31	14	37 41	17 04	74	74		
5	257 32.1	-22 09.8	232 45.5	70	-28 24.2	10	50	16 00	16 37	17 18	10 22	43	17 19	72		
6	272 31.9	-22 10.2	247 11.5	70	-28 23.1	11	45	16 19	16 52	17 29	9 51	46	17 49	69		
7	287 31.6	10.5	261 37.5	70	21.8	13	40	35	17 05	39	27 49	18 12	67	67		
8	302 31.4	10.9	276 03.5	70	20.3	15	35	16 48	16	47	9 08 50	32	64	64		
9	317 31.1	11.2	290 29.5	70	18.6	17	30	17 00	26	17 55	8 51 51	18 48	63	63		
10	332 30.9	11.5	304 55.5	70	16.8	19	20	20	17 44	18 11	8 22 54	19 16	60	60		
11	347 30.6	-22 11.9	319 21.4	69	-28 14.9	19	10 N	17 37	18 00	18 26	7 58 55	19 40	58	58		
12	2 30.4	-22 12.2	333 47.4	70	-28 12.7	22	0	17 54	18 16	18 42	7 35 57	20 02	56	56		
13	17 30.1	12.6	348 13.4	70	10.4	23	10 S	18 10	33	19 00	7 13 57	25 53	53	53		
14	32 29.9	12.9	2 39.4	70	08.0	24	20	28	18 53	21	6 48 59	20 48	52	52		
15	47 29.6	13.2	17 05.4	70	05.4	26	30	18 49	19 16	19 49	20 61	21 16	48	48		
16	62 29.4	13.6	31 31.3	69	-28 02.6	28	35	19 01	31	20 07	6 03 62	32 47	47	47		
17	77 29.1	-22 13.9	45 57.3	70	-27 59.6	30	40	19 15	19 48	20 28	5 43 64	21 51	44	44		
18	92 28.9	-22 14.2	60 23.4	71	-27 56.5	31	45	19 32	20 09	20 57	5 20 64	22 14	41	41		
19	107 28.6	14.6	74 49.4	70	53.3	32	50	19 53	36	21 38	4 49 67	43 37	37	37		
20	122 28.4	14.9	89 15.4	70	49.8	35	52	20 03	20 50	22 01	3 64 68	22 57	35	35		
21	137 28.1	15.3	103 41.5	71	46.2	36	54	15	21 06	22 34	4 16 70	23 13	32	32		
22	152 27.9	15.6	118 07.5	70	42.5	37	56	28	26	** **	3 55 72	33 28	28	28		
23	167 27.6	15.9	132 33.6	71	38.5	40	58	20 43	21 51	** **	3 27 76	23 57	22	22		
24	182 27.4	-22 16.3	146 59.7	71	-27 34.5	40	60 S	21 01	22 27	** **	2 48 83	** **	** **	** **		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 <sup>h</sup> 07.6 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 01 <sup>m</sup>		Mag.: -0.5 PMG: 3 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 14 <sup>m</sup>		Mag.: +0.9 PMG: 18 <sup>h</sup> 08 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	72 18.9	134 50.0	-23 31.1	303 10.3	+21 18.8	356 27.3	+22 07.1	87 13.7	-8 35.3	35.3
1	87 21.4	149 49.4	30.6	318 12.6	18.9	11 30.1	07.1	102 16.1	35.3	35.3
2	102 23.9	164 48.7	30.0	333 14.9	18.9	26 33.0	07.0	117 18.5	35.3	35.3
3	117 26.3	179 48.1	29.5	348 17.2	19.0	41 35.8	07.0	132 20.9	35.2	35.2
4	132 28.8	194 47.4	28.9	3 19.5	19.1	56 38.6	07.0	147 23.3	35.2	35.2
5	147 31.2	209 46.8	-23 28.4	18 21.8	+21 19.2	71 41.5	+22 07.0	162 25.7	-8 35.2	35.2
6	162 33.7	224 46.1	-23 27.8	33 24.1	+21 19.2	86 44.3	+22 06.9	177 28.1	-8 35.1	35.1
7	177 36.2	239 45.5	27.3	48 26.4	19.3	101 47.1	06.9	192 30.5	35.1	35.1
8	192 38.6	254 44.8	26.7	63 28.7	19.4	116 49.9	06.9	207 32.8	35.1	35.1
9	207 41.1	269 44.2	26.2	78 31.0	19.5	131 52.8	06.9	222 35.2	35.0	35.0
10	222 43.6	284 43.5	25.6	93 33.4	19.6	146 55.6	06.8	237 37.6	35.0	35.0
11	237 46.0	299 42.9	-23 25.0	108 35.7	+21 19.6	161 58.4	+22 06.8	252 40.0	-8 34.9	34.9
12	252 48.5	314 42.3	-23 24.5	123 38.0	+21 19.7	177 01.3	+22 06.8	267 42.4	-8 34.9	34.9
13	267 51.0	329 41.6	23.9	138 40.3	19.8	192 04.1	06.7	282 44.8	34.9	34.9
14	282 53.4	344 41.0	23.4	153 42.6	19.9	207 06.9	06.7	297 47.2	34.8	34.8
15	297 55.9	359 40.3	22.8	168 44.9	20.0	222 09.7	06.7	312 49.6	34.8	34.8
16	312 58.4	14 39.7	22.2	183 47.3	20.0	237 12.6	06.7	327 52.0	34.8	34.8
17	328 00.8	29 39.0	-23 21.7	198 49.6	+21 20.1	252 15.4	+22 06.6	342 54.4	-8 34.7	34.7
18	343 03.3	44 38.4	-23 21.1	213 51.9	+21 20.2	267 18.2	+22 06.6	357 56.8	-8 34.7	34.7
19	358 05.7	59 37.8	20.5	228 54.2	20.3	282 21.1	06.6	12 59.2	34.6	34.6
20	13 08.2	74 37.1	20.0	243 56.5	20.4	297 23.9	06.5	28 01.6	34.6	34.6
21	28 10.7	89 36.5	19.4	258 58.9	20.5	312 26.7	06.5	43 04.0	34.6	34.6
22	43 13.1	104 35.8	18.8	274 01.2	20.5	327 29.5	06.5	58 06.3	34.5	34.5
23	58 15.6	119 35.2	18.3	289 03.5	20.6	342 32.4	06.5	73 08.7	34.5	34.5
24	73 18.1	134 34.6	-23 17.7	304 05.9	+21 20.7	357 35.2	+22 06.4	88 11.1	-8 34.5	34.5

Dif	—	-6	+6	+23	+1	+28	0	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 15.4'		Edad: 2.7 <sup>d</sup>			PHE { 4 <sup>h</sup> : 56.7' 12 <sup>h</sup> : 56.8' 20 <sup>h</sup> : 57.0'			PMG: 14 <sup>h</sup> 45 <sup>m</sup>		R°: 54 <sup>m</sup>			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	m	h m	m			
0	182 27.4	-22 16.3	146 59.7	72	-27 34.5	43	6 51	7 46	8 42	12 41	7	16 57	106			
1	197 27.1	16.6	161 25.9	72	30.2	44	58	44	36	26	12 13	16	17 24 98			
2	212 26.9	16.9	175 52.0	71	25.8	44	56	38	26	12	11 51	22	17 46 91			
3	227 26.6	17.2	190 18.2	72	21.3	45	54	32	18	8 01	33	26	18 03 87			
4	242 26.3	17.6	204 44.4	72	16.6	47	52	27	10	7 50	18	29	18 83			
5	257 26.1	-22 17.9	219 10.7	73	-27 11.7	49	50	6 22	7 03	7 41	11 05	31	18 31 81			
6	272 25.8	-22 18.2	233 37.0	73	-27 06.6	51	45	6 11	6 48	7 22	10 37	37	18 58 75			
7	287 25.6	18.5	248 03.3	73	-27 01.4	52	40	6 02	36	7 06	10 16	40	19 19 71			
8	302 25.3	18.9	262 29.6	73	-26 56.1	53	35	5 53	25	6 52	9 58	43	36 68			
9	317 25.1	19.2	276 56.0	74	50.6	55	30	45	6 15	41	42	46	19 51 65			
10	332 24.8	19.5	291 22.4	74	44.9	57	20	30	5 57	21	9 16	49	20 16 61			
11	347 24.6	-22 19.8	305 48.8	74	-26 39.1	58	10 N	5 14	5 41	6 03	8 53	52	20 38 57			
12	2 24.3	-22 20.2	320 15.3	75	-26 33.1	60	0	4 58	5 24	5 47	8 32	55	20 58 54			
13	17 24.0	20.5	334 41.8	75	27.0	61	10 S	40	5 07	30	8 10	58	21 18 51			
14	32 23.8	20.8	349 08.4	76	20.7	63	20	4 19	4 48	5 12	7 47	61	21 40 46			
15	47 23.5	21.1	3 35.0	76	14.3	64	30	3 51	24	4 51	21	64	22 04 43			
16	62 23.3	21.5	18 01.7	77	07.7	66	35	34	4 10	39	7 05	66	19 39			
17	77 23.0	-22 21.8	32 28.4	77	-26 00.9	68	40	3 12	3 52	4 25	6 47	69	22 35 37			
18	92 22.8	-22 22.1	46 55.1	77	-25 54.0	69	45	2 43	3 31	4 08	6 24	73	22 55 33			
19	107 22.5	22.4	61 21.9	78	47.0	70	50	2 03	3 04	3 47	5 56	77	23 20 27			
20	122 22.2	22.7	75 48.8	79	39.8	72	52	1 39	2 50	37	42	80	32 24			
21	137 22.0	23.0	90 15.7	79	32.4	74	54	1 06	34	25	26	83	23 45 21			
22	152 21.7	23.4	104 42.6	79	25.0	74	56	** ** *	2 14	3 12	5 07	87	** ** *			
23	167 21.5	23.7	119 09.6	80	17.3	77	58	** ** *	1 49	2 57	4 43	93	** ** *			
24	182 21.2	-22 24.0	133 36.7	81	-25 09.5	78	60 S	** ** *	1 13	2 39	4 11	103	0 29 13			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag.: -4.2		Mag.: -0.6		Mag.: -2.8		Mag.: +1.0	
	19 <sup>h</sup> 03.7 <sup>m</sup>		PMG: 15 <sup>h</sup> 02 <sup>m</sup>		PMG: 3 <sup>h</sup> 43 <sup>m</sup>		PMG: 0 <sup>h</sup> 10 <sup>m</sup>		PMG: 18 <sup>h</sup> 04 <sup>m</sup>	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	73 18.1	134 34.6	-23 17.7	304 05.9	+21 20.7	357 35.2	+22 06.4	88 11.1	-8 34.5	
1	88 20.5	149 33.9	17.1	319 08.2	20.8	12 38.0	06.4	103 13.5	34.4	
2	103 23.0	164 33.3	16.5	334 10.5	20.9	27 40.9	06.4	118 15.9	34.4	
3	118 25.5	179 32.7	16.0	349 12.9	21.0	42 43.7	06.3	133 18.3	34.3	
4	133 27.9	194 32.0	15.4	4 15.2	21.1	57 46.5	06.3	148 20.7	34.3	
5	148 30.4	209 31.4	-23 14.8	19 17.5	+21 21.1	72 49.3	+22 06.3	163 23.1	-8 34.3	
6	163 32.9	224 30.8	-23 14.2	34 19.9	+21 21.2	87 52.2	+22 06.3	178 25.5	-8 34.2	
7	178 35.3	239 30.1	13.7	49 22.2	21.3	102 55.0	06.2	193 27.9	34.2	
8	193 37.8	254 29.5	13.1	64 24.6	21.4	117 57.8	06.2	208 30.3	34.2	
9	208 40.2	269 28.9	12.5	79 26.9	21.5	133 00.7	06.2	223 32.7	34.1	
10	223 42.7	284 28.2	11.9	94 29.2	21.6	148 03.5	06.1	238 35.0	34.1	
11	238 45.2	299 27.6	-23 11.3	109 31.6	+21 21.7	163 06.3	+22 06.1	253 37.4	-8 34.0	
12	253 47.6	314 27.0	-23 10.7	124 33.9	+21 21.8	178 09.2	+22 06.1	268 39.8	-8 34.0	
13	268 50.1	329 26.4	10.2	139 36.3	21.8	193 12.0	06.1	283 42.2	34.0	
14	283 52.6	344 25.7	09.6	154 38.6	21.9	208 14.8	06.0	298 44.6	33.9	
15	298 55.0	359 25.1	09.0	169 41.0	22.0	223 17.6	06.0	313 47.0	33.9	
16	313 57.5	14 24.5	08.4	184 43.3	22.1	238 20.5	06.0	328 49.4	33.9	
17	329 00.0	29 23.9	-23 07.8	199 45.7	+21 22.2	253 23.3	+22 05.9	343 51.8	-8 33.8	
18	344 02.4	44 23.2	-23 07.2	214 48.1	+21 22.3	268 26.1	+22 05.9	358 54.2	-8 33.8	
19	359 04.9	59 22.6	06.6	229 50.4	22.4	283 29.0	05.9	13 56.5	33.7	
20	14 07.4	74 22.0	06.0	244 52.8	22.5	298 31.8	05.9	28 58.9	33.7	
21	29 09.8	89 21.4	05.4	259 55.1	22.6	313 34.6	05.8	44 01.3	33.7	
22	44 12.3	104 20.7	04.8	274 57.5	22.7	328 37.5	05.8	59 03.7	33.6	
23	59 14.7	119 20.1	04.2	289 59.9	22.8	343 40.3	05.8	74 06.1	33.6	
24	74 17.2	134 19.5	-23 03.7	305 02.2	+21 22.8	358 43.1	+22 05.8	89 08.5	-8 33.5	
Dif	—	-6	+6	+23	+1	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 50.8 <sup>m</sup>		SD: 15.6' Edad: 3.7 <sup>d</sup> PMG: 15 <sup>h</sup> 39 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 57.3' 20 <sup>h</sup> : 57.5'				R°: 52 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
0	182 21.2	-22 24.0	133 36.7	81	-25 09.5	79	60 N	14 58	15 53	16 49	12 48	2	18 43	105		
1	197 20.9	24.3	148 03.8	81	-25 01.6	81	58	15 14	16 04	16 56	29	8	19 02	98		
2	212 20.7	24.6	162 30.9	81	-24 53.5	82	56	28	14	17 02	12 13	13	17	93		
3	227 20.4	24.9	176 58.1	82	45.3	84	54	39	22	08	11 59	17	30	89		
4	242 20.2	25.2	191 25.4	83	36.9	84	52	50	30	13	47	21	41	86		
5	257 19.9	-22 25.5	205 52.7	83	-24 28.4	85	50	15 59	16 37	17 18	11 36	24	19 52	82		
6	272 19.6	-22 25.8	220 20.1	84	-24 19.8	86	45	16 19	16 52	17 29	11 14	29	20 13	76		
7	287 19.4	26.2	234 47.5	84	11.0	88	40	35	17 05	39	10 56	33	30	72		
8	302 19.1	26.5	249 15.0	85	-24 02.1	89	35	16 48	16	47	41	37	44	68		
9	317 18.9	26.8	263 42.6	86	-23 53.0	91	30	17 00	26	17 56	28	39	20 56	65		
10	332 18.6	27.1	278 10.2	86	43.8	92	20	20	17 44	18 11	10 05	44	21 17	60		
11	347 18.3	-22 27.4	292 37.9	87	-23 34.5	93	10 N	17 38	18 00	18 27	9 45	49	21 35	56		
12	2 18.1	-22 27.7	307 05.6	87	-23 25.0	95	0	17 55	18 17	18 43	9 27	52	21 52	51		
13	17 17.8	28.0	321 33.4	88	15.4	96	10 S	18 11	34	19 01	9 08	56	22 09	47		
14	32 17.5	28.3	336 01.3	89	-23 05.7	97	20	29	18 54	23	8 48	61	26	43		
15	47 17.3	28.6	350 29.2	89	-22 55.8	99	30	18 51	19 18	19 51	25	65	47	37		
16	62 17.0	28.9	4 57.2	90	45.8	100	35	19 03	32	20 08	8 11	69	22 58	34		
17	77 16.8	-22 29.2	19 25.3	91	-22 35.7	101	40	19 17	19 50	20 31	7 56	71	23 12	30		
18	92 16.5	-22 29.5	33 53.4	91	-22 25.4	103	45	19 34	20 11	20 59	7 37	76	23 28	26		
19	107 16.2	29.8	48 21.6	92	15.0	104	50	19 56	39	21 41	13	82	47	20		
20	122 16.0	30.1	62 49.8	92	-22 04.5	105	52	20 06	20 53	22 06	7 02	84	23 56	18		
21	137 15.7	30.4	77 18.1	93	-21 53.9	106	54	18	21 10	22 41	6 49	88	** ** *	** ** *		
22	152 15.4	30.7	91 46.5	94	43.1	108	56	31	30	** ** *	34	92	0 01	17		
23	167 15.2	31.0	106 14.9	94	32.2	109	58	20 46	21 56	** ** *	6 16	98	19	12		
24	182 14.9	-22 31.3	120 43.4	95	-21 21.2	110	60 S	21 05	22 34	** ** *	5 54	105	0 42	4		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 59.7 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 03 <sup>m</sup>		Mag.: -0.6 PMG: 3 <sup>h</sup> 39 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 05 <sup>m</sup>		Mag.: +1.0 PMG: 18 <sup>h</sup> 01 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	74 17.2	134 19.5	-23 03.7	305 02.2	+21 22.8	358 43.1	+22 05.8	89 08.5	-8 33.5	
1	89 19.7	149 18.9	03.1	320 04.6	22.9	13 45.9	05.7	104 10.9	33.5	
2	104 22.1	164 18.3	02.5	335 07.0	23.0	28 48.8	05.7	119 13.3	33.5	
3	119 24.6	179 17.6	01.9	350 09.3	23.1	43 51.6	05.7	134 15.6	33.4	
4	134 27.1	194 17.0	01.3	5 11.7	23.2	58 54.4	05.6	149 18.0	33.4	
5	149 29.5	209 16.4	-23 00.6	20 14.1	+21 23.3	73 57.3	+22 05.6	164 20.4	-8 33.3	
6	164 32.0	224 15.8	-23 00.0	35 16.4	+21 23.4	89 00.1	+22 05.6	179 22.8	-8 33.3	
7	179 34.5	239 15.2	-22 59.4	50 18.8	23.5	104 02.9	05.6	194 25.2	33.3	
8	194 36.9	254 14.6	58.8	65 21.2	23.6	119 05.8	05.5	209 27.6	33.2	
9	209 39.4	269 13.9	58.2	80 23.6	23.7	134 08.6	05.5	224 30.0	33.2	
10	224 41.9	284 13.3	57.6	95 25.9	23.8	149 11.4	05.5	239 32.4	33.1	
11	239 44.3	299 12.7	-22 57.0	110 28.3	+21 23.9	164 14.2	+22 05.4	254 34.7	-8 33.1	
12	254 46.8	314 12.1	-22 56.4	125 30.7	+21 24.0	179 17.1	+22 05.4	269 37.1	-8 33.1	
13	269 49.2	329 11.5	55.8	140 33.1	24.1	194 19.9	05.4	284 39.5	33.0	
14	284 51.7	344 10.9	55.2	155 35.5	24.2	209 22.7	05.4	299 41.9	33.0	
15	299 54.2	359 10.3	54.6	170 37.9	24.3	224 25.6	05.3	314 44.3	32.9	
16	314 56.6	14 09.7	54.0	185 40.2	24.4	239 28.4	05.3	329 46.7	32.9	
17	329 59.1	29 09.1	-22 53.3	200 42.6	+21 24.5	254 31.2	+22 05.3	344 49.0	-8 32.9	
18	345 01.6	44 08.5	-22 52.7	215 45.0	+21 24.6	269 34.1	+22 05.2	359 51.4	-8 32.8	
19	0 04.0	59 07.8	52.1	230 47.4	24.7	284 36.9	05.2	14 53.8	32.8	
20	15 06.5	74 07.2	51.5	245 49.8	24.8	299 39.7	05.2	29 56.2	32.7	
21	30 09.0	89 06.6	50.9	260 52.2	24.9	314 42.5	05.2	44 58.6	32.7	
22	45 11.4	104 06.0	50.2	275 54.6	25.0	329 45.4	05.1	60 01.0	32.7	
23	60 13.9	119 05.4	49.6	290 57.0	25.1	344 48.2	05.1	75 03.4	32.6	
24	75 16.4	134 04.8	-22 49.0	305 59.4	+21 25.2	359 51.0	+22 05.1	90 05.7	-8 32.6	

Dif	—	-6	+6	+24	+1	+28	0	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 51.2 <sup>m</sup>		SD: 15.7' Edad: 4.7 <sup>d</sup> PMG: 16 <sup>h</sup> 31 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.7' 12 <sup>h</sup> : 57.8' 20 <sup>h</sup> : 58.0'			R°: 50 <sup>m</sup>			Hora		R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	
0	182 14.9	-22 31.3	120 43.4	95	-21 21.2	111	6 54	7 49	8 45	12 50	0	20 28	102	
1	197 14.6	31.6	135 11.9	96	-21 10.1	113	58	47	38	29	37	5	40 96	
2	212 14.4	31.9	149 40.6	97	-20 58.8	113	56	40	29	15	26	9	50 92	
3	227 14.1	32.2	164 09.2	96	47.5	115	54	35	20	8 03	16	13	20 59 89	
4	242 13.8	32.4	178 38.0	98	36.0	116	52	29	13	7 53	08	15	21 07 85	
5	257 13.6	-22 32.7	193 06.8	98	-20 24.4	117	50	6 24	7 06	7 43	12 00	18	21 14 83	
6	272 13.3	-22 33.0	207 35.7	99	-20 12.7	119	45	6 13	6 50	7 24	11 43	24	21 29 77	
7	287 13.0	33.3	222 04.6	99	-20 00.8	119	40	6 04	37	7 08	29	28	42 72	
8	302 12.8	33.6	236 33.6	100	-19 48.9	119	35	5 55	26	6 54	18	31	21 52 68	
9	317 12.5	33.9	251 02.7	101	36.8	121	30	46	6 16	42	11 07	35	22 01 65	
10	332 12.2	34.2	265 31.8	101	24.7	121	20	31	5 58	22	10 49	41	17 58	
11	347 12.0	-22 34.5	280 01.0	102	-19 12.4	123	10 N	5 15	5 42	6 04	10 34	45	22 31 53	
12	2 11.7	-22 34.8	294 30.2	102	-19 00.0	124	0	4 59	5 25	5 47	10 19	50	22 43 49	
13	17 11.4	35.0	308 59.5	103	-18 47.5	125	10 S	41	5 08	31	10 04	55	22 56 44	
14	32 11.2	35.3	323 28.9	104	34.9	126	20	4 19	4 48	5 12	9 49	59	23 09 39	
15	47 10.9	35.6	337 58.3	104	22.2	127	30	3 51	24	4 51	30	65	24 33	
16	62 10.6	35.9	352 27.8	105	-18 09.4	128	35	33	4 10	39	20	68	32 31	
17	77 10.4	-22 36.2	6 57.3	105	-17 56.5	129	40	3 11	3 52	4 25	9 07	72	23 42 27	
18	92 10.1	-22 36.5	21 26.9	106	-17 43.5	130	45	2 42	3 31	4 07	8 53	76	23 54 22	
19	107 09.8	36.7	35 56.6	107	30.4	131	50	2 01	3 03	3 46	35	82	** ** *	
20	122 09.6	37.0	50 26.3	107	17.2	132	52	1 36	2 49	36	26	86	** ** *	
21	137 09.3	37.3	64 56.1	108	-17 03.9	133	54	1 01	32	24	17	89	0 06 15	
22	152 09.0	37.6	79 25.9	108	-16 50.5	134	56	** ** *	2 12	3 11	8 06	93	18 11	
23	167 08.8	37.9	93 55.8	109	37.0	135	58	** ** *	1 46	2 55	7 54	97	31 7	
24	182 08.5	-22 38.1	108 25.8	110	-16 23.4	136	60 S	** ** *	1 08	2 37	7 39	103	0 46 1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 55.8 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 04 <sup>m</sup>		Mag.: -0.6 PMG: 3 <sup>h</sup> 35 <sup>m</sup>		Mag.: -2.8 PMG: 0 <sup>h</sup> 01 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	75 16.4	134 04.8	-22 49.0	305 59.4	+21 25.2	359 51.0	+22 05.1	90 05.7	-8 32.6	
1	90 18.8	149 04.2	48.4	321 01.8	25.3	14 53.9	05.0	105 08.1	32.5	
2	105 21.3	164 03.6	47.8	336 04.2	25.4	29 56.7	05.0	120 10.5	32.5	
3	120 23.7	179 03.0	47.1	351 06.6	25.5	44 59.5	05.0	135 12.9	32.5	
4	135 26.2	194 02.4	46.5	6 09.0	25.6	60 02.4	05.0	150 15.3	32.4	
5	150 28.7	209 01.8	-22 45.9	21 11.4	+21 25.7	75 05.2	+22 04.9	165 17.7	-8 32.4	
6	165 31.1	224 01.2	-22 45.2	36 13.8	+21 25.8	90 08.0	+22 04.9	180 20.0	-8 32.3	
7	180 33.6	239 00.6	44.6	51 16.2	25.9	105 10.9	04.9	195 22.4	32.3	
8	195 36.1	254 00.0	44.0	66 18.6	26.0	120 13.7	04.8	210 24.8	32.3	
9	210 38.5	268 59.4	43.4	81 21.0	26.1	135 16.5	04.8	225 27.2	32.2	
10	225 41.0	283 58.8	42.7	96 23.5	26.2	150 19.3	04.8	240 29.6	32.2	
11	240 43.5	298 58.2	-22 42.1	111 25.9	+21 26.3	165 22.2	+22 04.7	255 31.9	-8 32.1	
12	255 45.9	313 57.6	-22 41.5	126 28.3	+21 26.4	180 25.0	+22 04.7	270 34.3	-8 32.1	
13	270 48.4	328 57.0	40.8	141 30.7	26.5	195 27.8	04.7	285 36.7	32.0	
14	285 50.8	343 56.5	40.2	156 33.1	26.7	210 30.7	04.7	300 39.1	32.0	
15	300 53.3	358 55.9	39.5	171 35.5	26.8	225 33.5	04.6	315 41.5	32.0	
16	315 55.8	13 55.3	38.9	186 38.0	26.9	240 36.3	04.6	330 43.9	31.9	
17	330 58.2	28 54.7	-22 38.3	201 40.4	+21 27.0	255 39.2	+22 04.6	345 46.2	-8 31.9	
18	346 00.7	43 54.1	-22 37.6	216 42.8	+21 27.1	270 42.0	+22 04.5	0 48.6	-8 31.8	
19	1 03.2	58 53.5	37.0	231 45.2	27.2	285 44.8	04.5	15 51.0	31.8	
20	16 05.6	73 52.9	36.3	246 47.7	27.3	300 47.7	04.5	30 53.4	31.8	
21	31 08.1	88 52.3	35.7	261 50.1	27.4	315 50.5	04.5	45 55.8	31.7	
22	46 10.6	103 51.7	35.0	276 52.5	27.5	330 53.3	04.4	60 58.1	31.7	
23	61 13.0	118 51.1	34.4	291 55.0	27.6	345 56.1	04.4	76 00.5	31.6	
24	76 15.5	133 50.6	-22 33.8	306 57.4	+21 27.7	0 59.0	+22 04.4	91 02.9	-8 31.6	
Dif	—	-6	+6	+24	+1	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 51.6 <sup>m</sup>		SD: 15.8' Edad: 5.7 <sup>d</sup> PMG: 17 <sup>h</sup> 21 <sup>m</sup>		PHE { 4 <sup>h</sup> : 58.2' 12 <sup>h</sup> : 58.3' 20 <sup>h</sup> : 58.5'				R°: 47 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	182 08.5	-22 38.1	108 25.8	-16 23.4	137 137	60 N	14 56	15 52	16 48	12 50	-1	22 10	99			
1	197 08.2	38.4	122 55.8	-16 09.7	138 138	58	15 13	16 03	16 55	42 4		16 95				
2	212 07.9	38.7	137 25.8	-15 55.9	138 138	56	26	13	17 01	35 7		22 91				
3	227 07.7	39.0	151 55.9	42.1	140 140	54	38	22	07	29 10		28 87				
4	242 07.4	39.2	166 26.1	28.1	140 140	52	49	29	13	23 13		32 85				
5	257 07.1	-22 39.5	180 56.3	-15 14.1	141 141	50	15 58	16 36	17 18	12 18	15	22 37	82			
6	272 06.9	-22 39.8	195 26.5	-15 00.0	142 142	45	16 18	16 52	17 29	12 07	20	22 46	76			
7	287 06.6	40.0	209 56.9	-14 45.8	143 143	40	35	17 05	39	11 57	26	22 54	71			
8	302 06.3	40.3	224 27.2	31.5	144 144	35	16 48	16	48	49 29		23 00	67			
9	317 06.0	40.6	238 57.6	17.1	145 145	30	17 00	26	17 56	42 33		06 64				
10	332 05.8	40.9	253 28.1	-14 02.6	145 145	20	21	17 44	18 12	30 38		15 58				
11	347 05.5	-22 41.1	267 58.6	-13 48.1	146 146	10 N	17 38	18 01	18 27	11 19	43	23 24	52			
12	2 05.2	-22 41.4	282 29.1	-13 33.5	147 147	0	17 55	18 18	18 44	11 09	48	23 32	47			
13	17 05.0	41.7	296 59.7	18.8	148 148	10 S	18 12	35	19 02	10 59	52	40 42				
14	32 04.7	41.9	311 30.3	-13 04.0	148 148	20	31	18 55	24	48 58		48 37				
15	47 04.4	42.2	326 01.0	-12 49.2	149 149	30	18 52	19 19	19 52	35 64		23 57	32			
16	62 04.1	42.4	340 31.7	34.3	150 150	35	19 05	34	20 10	28 67		** ** *	** ** *			
17	77 03.9	-22 42.7	355 02.5	-12 19.3	151 151	40	19 19	19 52	20 33	10 19	72	** ** *	** ** *			
18	92 03.6	-22 43.0	9 33.3	-12 04.2	151 151	45	19 36	20 13	21 02	10 09	77	** ** *	** ** *			
19	107 03.3	43.2	24 04.1	-11 49.1	152 152	50	19 58	42	21 45	9 57	83	0 07	17			
20	122 03.0	43.5	38 35.0	33.9	153 153	52	20 08	20 56	22 10	52 85		14 14				
21	137 02.8	43.8	53 05.9	18.6	153 153	54	20 21	13	22 47	46 88		21 11				
22	152 02.5	44.0	67 36.8	-11 03.3	154 154	56	34	21 34	** ** *	39 91		29 8				
23	167 02.2	44.3	82 07.8	-10 47.9	155 155	58	20 50	22 01	** ** *	31 95		38 4				
24	182 01.9	-22 44.5	96 38.8	-10 32.4	155 155	60 S	21 09	22 41	** ** *	9 22	100	0 47	0			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 18 <sup>h</sup> 51.9 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 05 <sup>m</sup>		Mag.: -0.6 PMG: 3 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 52 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 53 <sup>m</sup>							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "						
0	76 15.5	133 50.6	-22 33.8	306 57.4	+21 27.7	0 59.0	+22 04.4	91 02.9	-8 31.6							
1	91 18.0	148 50.0	33.1	321 59.8	27.9	16 01.8	04.3	106 05.3	31.5							
2	106 20.4	163 49.4	32.5	337 02.3	28.0	31 04.6	04.3	121 07.7	31.5							
3	121 22.9	178 48.8	31.8	352 04.7	28.1	46 07.5	04.3	136 10.0	31.5							
4	136 25.3	193 48.2	31.2	7 07.1	28.2	61 10.3	04.3	151 12.4	31.4							
5	151 27.8	208 47.6	-22 30.5	22 09.6	+21 28.3	76 13.1	+22 04.2	166 14.8	-8 31.4							
6	166 30.3	223 47.1	-22 29.9	37 12.0	+21 28.4	91 16.0	+22 04.2	181 17.2	-8 31.3							
7	181 32.7	238 46.5	29.2	52 14.5	28.5	106 18.8	04.2	196 19.6	31.3							
8	196 35.2	253 45.9	28.5	67 16.9	28.6	121 21.6	04.1	211 21.9	31.2							
9	211 37.7	268 45.3	27.9	82 19.3	28.8	136 24.5	04.1	226 24.3	31.2							
10	226 40.1	283 44.7	27.2	97 21.8	28.9	151 27.3	04.1	241 26.7	31.2							
11	241 42.6	298 44.2	-22 26.6	112 24.2	+21 29.0	166 30.1	+22 04.1	256 29.1	-8 31.1							
12	256 45.1	313 43.6	-22 25.9	127 26.7	+21 29.1	181 32.9	+22 04.0	271 31.4	-8 31.1							
13	271 47.5	328 43.0	25.3	142 29.1	29.2	196 35.8	04.0	286 33.8	31.0							
14	286 50.0	343 42.4	24.6	157 31.6	29.3	211 38.6	04.0	301 36.2	31.0							
15	301 52.5	358 41.9	23.9	172 34.1	29.5	226 41.4	03.9	316 38.6	30.9							
16	316 54.9	13 41.3	23.3	187 36.5	29.6	241 44.3	03.9	331 41.0	30.9							
17	331 57.4	28 40.7	-22 22.6	202 39.0	+21 29.7	256 47.1	+22 03.9	346 43.3	-8 30.9							
18	346 59.8	43 40.1	-22 21.9	217 41.4	+21 29.8	271 49.9	+22 03.9	1 45.7	-8 30.8							
19	2 02.3	58 39.6	21.3	232 43.9	29.9	286 52.8	03.8	16 48.1	30.8							
20	17 04.8	73 39.0	20.6	247 46.4	30.0	301 55.6	03.8	31 50.5	30.7							
21	32 07.2	88 38.4	19.9	262 48.8	30.2	316 58.4	03.8	46 52.8	30.7							
22	47 09.7	103 37.9	19.3	277 51.3	30.3	332 01.3	03.7	61 55.2	30.6							
23	62 12.2	118 37.3	18.6	292 53.7	30.4	347 04.1	03.7	76 57.6	30.6							
24	77 14.6	133 36.7	-22 17.9	307 56.2	+21 30.5	2 06.9	+22 03.7	92 00.0	-8 30.6							
Dif	—	-6	+7	+25	+1	+28	0	+24	0							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.2'		SD: 16.0'		Edad: 6.7 <sup>d</sup>			R <sup>o</sup> : 47 <sup>m</sup>			PHE { 4 <sup>h</sup> : 58.7' 12 <sup>h</sup> : 58.8' 20 <sup>h</sup> : 59.0'		Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	182 01.9	-22 44.5	96 38.8		-10 32.4	155	6 56	7 52	8 48	12 49 0	23 49 99					
1	197 01.7	44.8	111 09.8	120	16.9	155	58	49	41	32	46 2	51 95				
2	212 01.4	45.1	125 40.9	121	-10 01.3	156	56	43	31	18	42 6	53 92				
3	227 01.1	45.3	140 12.0	121	-9 45.7	156	54	37	23	8 06	39 9	55 89				
4	242 00.8	45.6	154 43.1	121	30.0	157	52	31	15	7 55	36 11	57 85				
5	257 00.6	-22 45.8	169 14.3	122	-9 14.2	158	50	6 26	7 08	7 46	12 33 14	23 59 82				
6	272 00.3	-22 46.1	183 45.5	122	-8 58.4	158	45	6 15	6 52	7 26	12 27 20	** ** *	** ** *			
7	287 00.0	46.3	198 16.7	122	42.6	158	40	6 05	39	7 09	23 23	** ** *	** ** *			
8	301 59.7	46.6	212 47.9	122	26.6	160	35	5 56	28	6 56	18 28	** ** *	** ** *			
9	316 59.5	46.8	227 19.2	123	-8 10.7	159	30	4 48	6 18	44	15 31	** ** *	** ** *			
10	331 59.2	47.1	241 50.4	122	-7 54.6	161	20	32	5 59	23	08 37	** ** *	** ** *			
11	346 58.9	-22 47.3	256 21.7	123	-7 38.6	160	10 N	5 16	5 43	6 05	12 02 43	** ** *	** ** *			
12	1 58.6	-22 47.6	270 53.0	123	-7 22.5	161	0	5 00	5 26	5 48	11 57 47	** ** *	** ** *			
13	16 58.3	47.8	285 24.4	124	-7 06.3	162	10 S	4 41	5 08	31	51 53	** ** *	** ** *			
14	31 58.1	48.1	299 55.7	123	-6 50.1	162	20	4 19	4 49	5 13	46 57	** ** *	** ** *			
15	46 57.8	48.3	314 27.1	124	33.8	163	30	3 51	24	4 52	39 64	** ** *	** ** *			
16	61 57.5	48.6	328 58.4	123	17.5	163	35	33	4 10	39	35 68	0 03 28				
17	76 57.2	-22 48.8	343 29.8	124	-6 01.2	163	40	3 11	3 52	4 24	11 31 71	0 09 24				
18	91 57.0	-22 49.0	358 01.2	124	-5 44.8	164	45	2 42	3 30	4 07	11 26 76	0 16 19				
19	106 56.7	49.3	12 32.6	124	28.4	164	50	1 59	3 02	3 45	20 82	24 14				
20	121 56.4	49.5	27 04.0	124	-5 11.9	165	52	1 34	2 47	35	17 85	28 12				
21	136 56.1	49.8	41 35.4	124	-4 55.4	165	54	0 56	30	23	14 87	32 9				
22	151 55.8	50.0	56 06.9	125	38.9	165	56	** ** *	2 10	3 10	10 91	37 6				
23	166 55.6	50.3	70 38.3	124	22.3	166	58	** ** *	1 43	2 54	06 95	42 3				
24	181 55.3	-22 50.5	85 09.7	124	-4 05.7	166	60 S	** ** *	1 03	2 35	11 02 99	0 47 0				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 47.9 <sup>m</sup>		Mag.: -4.2 PMG: 15 <sup>h</sup> 06 <sup>m</sup>		Mag.: -0.7 PMG: 3 <sup>h</sup> 28 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 47 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	77 14.6	133 36.7	-22 17.9	307 56.2	+21 30.5	2 06.9	+22 03.7	92 00.0	-8 30.6	
1	92 17.1	148 36.2	17.3	322 58.7	30.6	17 09.7	03.6	107 02.3	30.5	
2	107 19.6	163 35.6	16.6	338 01.2	30.8	32 12.6	03.6	122 04.7	30.5	
3	122 22.0	178 35.0	15.9	353 03.6	30.9	47 15.4	03.6	137 07.1	30.4	
4	137 24.5	193 34.5	15.2	8 06.1	31.0	62 18.2	03.6	152 09.5	30.4	
5	152 26.9	208 33.9	-22 14.6	23 08.6	+21 31.1	77 21.1	+22 03.5	167 11.8	-8 30.3	
6	167 29.4	223 33.3	-22 13.9	38 11.0	+21 31.2	92 23.9	+22 03.5	182 14.2	-8 30.3	
7	182 31.9	238 32.8	13.2	53 13.5	31.4	107 26.7	03.5	197 16.6	30.2	
8	197 34.3	253 32.2	12.5	68 16.0	31.5	122 29.6	03.4	212 19.0	30.2	
9	212 36.8	268 31.7	11.8	83 18.5	31.6	137 32.4	03.4	227 21.3	30.2	
10	227 39.3	283 31.1	11.2	98 21.0	31.7	152 35.2	03.4	242 23.7	30.1	
11	242 41.7	298 30.5	-22 10.5	113 23.5	+21 31.9	167 38.1	+22 03.4	257 26.1	-8 30.1	
12	257 44.2	313 30.0	-22 09.8	128 25.9	+21 32.0	182 40.9	+22 03.3	272 28.5	-8 30.0	
13	272 46.7	328 29.4	09.1	143 28.4	32.1	197 43.7	03.3	287 30.8	30.0	
14	287 49.1	343 28.9	08.4	158 30.9	32.2	212 46.5	03.3	302 33.2	29.9	
15	302 51.6	358 28.3	07.7	173 33.4	32.4	227 49.4	03.2	317 35.6	29.9	
16	317 54.1	13 27.7	07.1	188 35.9	32.5	242 52.2	03.2	332 38.0	29.8	
17	332 56.5	28 27.2	-22 06.4	203 38.4	+21 32.6	257 55.0	+22 03.2	347 40.3	-8 29.8	
18	347 59.0	43 26.6	-22 05.7	218 40.9	+21 32.7	272 57.9	+22 03.2	2 42.7	-8 29.8	
19	3 01.4	58 26.1	05.0	233 43.4	32.9	288 00.7	03.1	17 45.1	29.7	
20	18 03.9	73 25.5	04.3	248 45.9	33.0	303 03.5	03.1	32 47.4	29.7	
21	33 06.4	88 25.0	03.6	263 48.4	33.1	318 06.4	03.1	47 49.8	29.6	
22	48 08.8	103 24.4	02.9	278 50.9	33.2	333 09.2	03.0	62 52.2	29.6	
23	63 11.3	118 23.9	02.2	293 53.4	33.4	348 12.0	03.0	77 54.6	29.5	
24	78 13.8	133 23.3	-22 01.5	308 55.9	+21 33.5	3 14.8	+22 03.0	92 56.9	-8 29.5	
Dif	—	-6	+7	+25	+1	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 52.5 <sup>m</sup>		SD: 16.1' Edad: 7.7 <sup>d</sup> PMG: 18 <sup>h</sup> 55 <sup>m</sup>		R°: 49 <sup>m</sup>				PHE { 4 <sup>h</sup> : 59.1' 12 <sup>h</sup> : 59.3' 20 <sup>h</sup> : 59.4'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	181 55.3	-22 50.5	85 09.7	-4 05.7	166	60 N	14 55	15 51	16 47	12 49	-1	** ** *	** ** *	** ** *		
1	196 55.0	50.7	99 41.2	-3 49.1	166	58	15 12	16 03	16 55	48	3	** ** *	** ** *	** ** *		
2	211 54.7	51.0	114 12.6	32.5	166	56	26	12	17 01	48	6	** ** *	** ** *	** ** *		
3	226 54.4	51.2	128 44.0	-3 15.8	167	54	38	21	07	48	9	** ** *	** ** *	** ** *		
4	241 54.2	51.4	143 15.4	-2 59.1	167	52	49	29	12	47	12	** ** *	** ** *	** ** *		
5	256 53.9	-22 51.7	157 46.9	-2 42.4	167	50	15 58	16 36	17 18	12 47	14	** ** *	** ** *	** ** *		
6	271 53.6	-22 51.9	172 18.3	-2 25.6	168	45	16 18	16 52	17 29	12 47	19	0 02	77			
7	286 53.3	52.2	186 49.7	-2 08.8	168	40	35	17 05	39	46	24	05	72			
8	301 53.0	52.4	201 21.1	-1 52.0	168	35	16 48	16	48	46	28	07	68			
9	316 52.8	52.6	215 52.5	35.2	168	30	17 00	27	17 56	46	31	10	64			
10	331 52.5	52.8	230 23.9	18.4	168	20	21	17 45	18 12	45	38	13	58			
11	346 52.2	-22 53.1	244 55.2	-1 01.5	169	10 N	17 39	18 02	18 28	12 45	43	0 16	53			
12	1 51.9	-22 53.3	259 26.6	-0 44.6	169	0	17 56	18 19	18 45	12 44	48	0 19	48			
13	16 51.6	53.5	273 57.9	27.7	169	10 S	18 13	36	19 03	44	53	22	43			
14	31 51.4	53.8	288 29.2	-0 10.9	168	20	32	18 56	26	43	59	25	37			
15	46 51.1	54.0	303 00.5	+0 06.1	170	30	18 53	19 21	19 54	43	65	29	31			
16	61 50.8	54.2	317 31.8	23.0	169	35	19 06	36	20 12	43	68	31	27			
17	76 50.5	-22 54.4	332 03.1	+0 39.9	169	40	19 21	19 53	20 35	12 42	73	0 33	23			
18	91 50.2	-22 54.7	346 34.3	+0 56.8	169	45	19 38	20 15	21 04	12 42	78	0 35	20			
19	106 49.9	54.9	1 05.6	+1 13.8	170	50	20 00	44	21 48	42	83	38	14			
20	121 49.7	55.1	15 36.7	30.7	169	52	11	20 59	22 14	42	86	40	11			
21	136 49.4	55.3	30 07.9	+1 47.7	169	54	23	21 16	22 53	41	90	41	9			
22	151 49.1	55.6	44 39.0	+2 04.6	169	56	36	21 37	** ** *	41	93	43	6			
23	166 48.8	55.8	59 10.2	21.6	169	58	20 53	22 05	** ** *	41	96	45	2			
24	181 48.5	-22 56.0	73 41.2	+2 38.5	170	60 S	21 12	22 47	** ** *	12 41	100	0 47	-1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 44.0 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 07 <sup>m</sup>		Mag.: -0.7 PMG: 3 <sup>h</sup> 24 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 43 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 45 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	78 13.8	133 23.3	-22 01.5	308 55.9	+21 33.5	3 14.8	+22 03.0	92 56.9	-8 29.5	
1	93 16.2	148 22.8	00.8	323 58.4	33.6	18 17.7	02.9	107 59.3	29.4	
2	108 18.7	163 22.2	-22 00.1	339 00.9	33.8	33 20.5	02.9	123 01.7	29.4	
3	123 21.2	178 21.7	-21 59.4	354 03.4	33.9	48 23.3	02.9	138 04.1	29.3	
4	138 23.6	193 21.1	58.7	9 05.9	34.0	63 26.2	02.9	153 06.4	29.3	
5	153 26.1	208 20.6	-21 58.0	24 08.4	+21 34.2	78 29.0	+22 02.8	168 08.8	-8 29.3	
6	168 28.6	223 20.0	-21 57.3	39 10.9	+21 34.3	93 31.8	+22 02.8	183 11.2	-8 29.2	
7	183 31.0	238 19.5	56.6	54 13.4	34.4	108 34.7	02.8	198 13.5	29.2	
8	198 33.5	253 19.0	55.9	69 16.0	34.5	123 37.5	02.7	213 15.9	29.1	
9	213 35.9	268 18.4	55.2	84 18.5	34.7	138 40.3	02.7	228 18.3	29.1	
10	228 38.4	283 17.9	54.5	99 21.0	34.8	153 43.1	02.7	243 20.6	29.0	
11	243 40.9	298 17.3	-21 53.8	114 23.5	+21 34.9	168 46.0	+22 02.7	258 23.0	-8 29.0	
12	258 43.3	313 16.8	-21 53.1	129 26.0	+21 35.1	183 48.8	+22 02.6	273 25.4	-8 28.9	
13	273 45.8	328 16.3	52.4	144 28.5	35.2	198 51.6	02.6	288 27.8	28.9	
14	288 48.3	343 15.7	51.7	159 31.1	35.3	213 54.5	02.6	303 30.1	28.8	
15	303 50.7	358 15.2	51.0	174 33.6	35.5	228 57.3	02.5	318 32.5	28.8	
16	318 53.2	13 14.6	50.3	189 36.1	35.6	244 00.1	02.5	333 34.9	28.7	
17	333 55.7	28 14.1	-21 49.6	204 38.6	+21 35.7	259 03.0	+22 02.5	348 37.2	-8 28.7	
18	348 58.1	43 13.6	-21 48.8	219 41.2	+21 35.9	274 05.8	+22 02.4	3 39.6	-8 28.7	
19	4 00.6	58 13.0	48.1	234 43.7	36.0	289 08.6	02.4	18 42.0	28.6	
20	19 03.0	73 12.5	47.4	249 46.2	36.2	304 11.4	02.4	33 44.3	28.6	
21	34 05.5	88 12.0	46.7	264 48.8	36.3	319 14.3	02.4	48 46.7	28.5	
22	49 08.0	103 11.4	46.0	279 51.3	36.4	334 17.1	02.3	63 49.1	28.5	
23	64 10.4	118 10.9	45.3	294 53.8	36.6	349 19.9	02.3	78 51.4	28.4	
24	79 12.9	133 10.4	-21 44.6	309 56.4	+21 36.7	4 22.8	+22 02.3	93 53.8	-8 28.4	
Dif	—	-5	+7	+25	+1	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 53.0 <sup>m</sup>		SD: 16.2' Edad: 8.7 <sup>d</sup> PMG: 19 <sup>h</sup> 44 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.5' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.8'			R°: 51 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	181 48.5	-22 56.0	73 41.2	+2 38.5	169	60 N	6 58	7 55	8 51	12 48	-1	1 28	102	
1	196 48.2	56.2	88 12.3	+2 55.4	169	58	51	43	35	51	4	26	98	
2	211 48.0	56.4	102 43.3	+3 12.4	170	56	45	34	20	54	7	25	94	
3	226 47.7	56.7	117 14.3	29.3	169	54	39	25	8 08	57	10	24	90	
4	241 47.4	56.9	131 45.2	+3 46.2	169	52	33	17	7 57	12 59	13	22	88	
5	256 47.1	-22 57.1	146 16.1	+4 03.1	169	50	6 28	7 10	7 48	13 01	16	1 21	85	
6	271 46.8	-22 57.3	160 47.0	+4 20.0	169	45	6 17	6 54	7 28	13 06	22	1 19	79	
7	286 46.5	57.5	175 17.8	36.9	169	40	6 07	41	7 11	10 26		17	74	
8	301 46.3	57.7	189 48.6	+4 53.8	169	35	5 58	29	6 57	14 30		15	70	
9	316 46.0	58.0	204 19.3	+5 10.6	168	30	49	19	45	17 34		14	66	
10	331 45.7	58.2	218 50.0	27.5	169	20	33	6 01	24	23 39		11	60	
11	346 45.4	-22 58.4	233 20.6	+5 44.3	168	10 N	5 17	5 44	6 06	13 28	45	1 09	54	
12	1 45.1	-22 58.6	247 51.2	+6 01.1	168	0	5 01	5 27	5 49	13 32	50	1 07	49	
13	16 44.8	58.8	262 21.8	17.9	168	10 S	4 42	5 09	32	37 55		05	43	
14	31 44.5	59.0	276 52.2	34.6	167	20	4 20	4 49	5 13	42 61		02	39	
15	46 44.3	59.2	291 22.7	+6 51.3	167	30	3 51	25	4 52	48 67		1 00	32	
16	61 44.0	59.4	305 53.1	+7 08.0	167	35	33	4 10	39	51 71		0 58	29	
17	76 43.7	-22 59.6	320 23.4	+7 24.7	167	40	3 11	3 52	4 25	13 55	75	0 56	25	
18	91 43.4	-22 59.8	334 53.7	+7 41.4	167	45	2 41	3 30	4 07	14 00	80	0 55	20	
19	106 43.1	-23 00.0	349 23.9	+7 58.0	166	50	1 57	3 01	3 45	05 87		52	15	
20	121 42.8	00.3	3 54.1	+8 14.5	165	52	1 32	2 47	35	08 89		51	12	
21	136 42.5	00.5	18 24.2	31.1	166	54	0 52	29	23	11 92		50	9	
22	151 42.3	00.7	32 54.2	+8 47.6	165	56	** ** *	2 08	3 09	14 96		49	6	
23	166 42.0	00.9	47 24.2	+9 04.0	164	58	** ** *	1 41	2 53	17 100		47	3	
24	181 41.7	-23 01.1	61 54.1	+9 20.5	165	60 S	** ** *	0 58	2 33	14 21	105	0 46	-1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 40.1 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 08 <sup>m</sup>		Mag.: -0.7 PMG: 3 <sup>h</sup> 20 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 38 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	79 12.9	133 10.4	-21 44.6	309 56.4	+21 36.7	4 22.8	+22 02.3	93 53.8	-8 28.4	
1	94 15.4	148 09.8	43.8	324 58.9	36.8	19 25.6	02.2	108 56.2	28.3	
2	109 17.8	163 09.3	43.1	340 01.5	37.0	34 28.4	02.2	123 58.6	28.3	
3	124 20.3	178 08.8	42.4	355 04.0	37.1	49 31.3	02.2	139 00.9	28.2	
4	139 22.8	193 08.3	41.7	10 06.6	37.3	64 34.1	02.2	154 03.3	28.2	
5	154 25.2	208 07.7	-21 40.9	25 09.1	+21 37.4	79 36.9	+22 02.1	169 05.7	-8 28.1	
6	169 27.7	223 07.2	-21 40.2	40 11.6	+21 37.5	94 39.7	+22 02.1	184 08.0	-8 28.1	
7	184 30.2	238 06.7	39.5	55 14.2	37.7	109 42.6	02.1	199 10.4	28.0	
8	199 32.6	253 06.2	38.8	70 16.7	37.8	124 45.4	02.0	214 12.8	28.0	
9	214 35.1	268 05.6	38.0	85 19.3	38.0	139 48.2	02.0	229 15.1	27.9	
10	229 37.5	283 05.1	37.3	100 21.8	38.1	154 51.1	02.0	244 17.5	27.9	
11	244 40.0	298 04.6	-21 36.6	115 24.4	+21 38.2	169 53.9	+22 01.9	259 19.9	-8 27.8	
12	259 42.5	313 04.1	-21 35.9	130 27.0	+21 38.4	184 56.7	+22 01.9	274 22.2	-8 27.8	
13	274 44.9	328 03.6	35.1	145 29.5	38.5	199 59.5	01.9	289 24.6	27.8	
14	289 47.4	343 03.0	34.4	160 32.1	38.7	215 02.4	01.9	304 27.0	27.7	
15	304 49.9	358 02.5	33.7	175 34.6	38.8	230 05.2	01.8	319 29.3	27.7	
16	319 52.3	13 02.0	32.9	190 37.2	38.9	245 08.0	01.8	334 31.7	27.6	
17	334 54.8	28 01.5	-21 32.2	205 39.8	+21 39.1	260 10.9	+22 01.8	349 34.0	-8 27.6	
18	349 57.3	43 01.0	-21 31.5	220 42.3	+21 39.2	275 13.7	+22 01.7	4 36.4	-8 27.5	
19	4 59.7	58 00.4	30.7	235 44.9	39.4	290 16.5	01.7	19 38.8	27.5	
20	20 02.2	72 59.9	30.0	250 47.5	39.5	305 19.4	01.7	34 41.1	27.4	
21	35 04.7	87 59.4	29.3	265 50.0	39.7	320 22.2	01.7	49 43.5	27.4	
22	50 07.1	102 58.9	28.5	280 52.6	39.8	335 25.0	01.6	64 45.9	27.3	
23	65 09.6	117 58.4	27.8	295 55.2	40.0	350 27.8	01.6	79 48.2	27.3	
24	80 12.0	132 57.9	-21 27.0	310 57.7	+21 40.1	5 30.7	+22 01.6	94 50.6	-8 27.2	
Dif	—	-5	+7	+26	+1	+28	0	+24	0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 53.5 <sup>m</sup>		SD: 16.3' Edad: 9.7 <sup>d</sup> PMG: 20 <sup>h</sup> 35 <sup>m</sup>		PHE { 4 <sup>h</sup> : 59.8' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 60.0'				R°: 54 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	181 41.7	-23 01.1	61 54.1	+ 9 20.5	163	60 N	14 54	15 51	16 47	12 47	1	3 10	107			
1	196 41.4	01.3	76 23.9 <sup>108</sup>	+ 9 36.8	163	58	15 11	16 02	16 54	12 55	6	3 04	102			
2	211 41.1	01.5	90 53.7 <sup>108</sup>	+ 9 53.2	164	56	25	12	17 01	13 01	10	2 59	98			
3	226 40.8	01.7	105 23.4 <sup>107</sup>	+ 10 09.5	163	54	37	21	07	07 14		54	94			
4	241 40.5	01.9	119 53.1 <sup>107</sup>	+ 10 25.7	162	52	48	29	12	12 17		50	90			
5	256 40.2	-23 02.1	134 22.6 <sup>105</sup>	+ 10 41.9	162	50	15 58	16 36	17 18	13 17	20	2 46	87			
6	271 40.0	-23 02.3	148 52.1 <sup>105</sup>	+ 10 58.0	161	45	16 18	16 52	17 29	13 28	25	2 38	81			
7	286 39.7	02.5	163 21.6 <sup>105</sup>	+ 11 14.1	161	40	35	17 05	39	36 31		31	76			
8	301 39.4	02.7	177 50.9 <sup>103</sup>	+ 11 30.1	160	35	16 49	17	48	44 34		25	72			
9	316 39.1	02.8	192 20.2 <sup>103</sup>	+ 11 46.1	160	30	17 01	27	17 57	13 51	37	20	68			
10	331 38.8	03.0	206 49.4 <sup>102</sup>	+ 12 02.0	159	20	22	17 46	18 13	14 02	44	11	62			
11	346 38.5	-23 03.2	221 18.5 <sup>101</sup>	+ 12 17.9	159	10 N	17 40	18 03	18 29	14 13	48	2 03	57			
12	1 38.2	-23 03.4	235 47.6 <sup>101</sup>	+ 12 33.7	158	0	17 57	18 20	18 46	14 22	54	1 56	51			
13	16 37.9	03.6	250 16.5 <sup>99</sup>	+ 12 49.4	157	10 S	18 14	38	19 05	32 59		48	47			
14	31 37.6	03.8	264 45.4 <sup>99</sup>	+ 13 05.1	157	20	33	18 58	27	43 64		41	41			
15	46 37.3	04.0	279 14.2 <sup>98</sup>	+ 13 20.7	156	30	18 55	19 22	19 55	14 55	70	32	35			
16	61 37.1	04.2	293 42.9 <sup>97</sup>	+ 13 36.2	155	35	19 08	37	20 14	15 02	74	27	32			
17	76 36.8	-23 04.4	308 11.6 <sup>97</sup>	+ 13 51.6	154	40	19 22	19 55	20 37	15 10	78	1 21	28			
18	91 36.5	-23 04.6	322 40.1 <sup>95</sup>	+ 14 07.0	154	45	19 40	20 17	21 07	15 20	83	1 15	23			
19	106 36.2	04.7	337 08.6 <sup>95</sup>	+ 14 22.3	153	50	20 02	20 46	21 51	32 89		07	17			
20	121 35.9	04.9	351 37.0 <sup>94</sup>	+ 14 37.6	153	52	13	21 01	22 17	37 92	1	03	15			
21	136 35.6	05.1	6 05.2 <sup>92</sup>	+ 14 52.7	151	54	25	19	22 59	43 96	0	59	12			
22	151 35.3	05.3	20 33.4 <sup>92</sup>	+ 15 07.8	151	56	39	21 40	** ** *	50 100		55	8			
23	166 35.0	05.5	35 01.6 <sup>92</sup>	+ 15 22.8	150	58	20 55	22 09	** ** *	15 57 106		50	4			
24	181 34.7	-23 05.7	49 29.6 <sup>90</sup>	+ 15 37.7	149	60 S	21 15	22 53	** ** *	16 06 111		0 45	0			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 36.1 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 09 <sup>m</sup>		Mag.: -0.7 PMG: 3 <sup>h</sup> 16 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 34 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	80 12.0	132 57.9	-21 27.0	310 57.7	+21 40.1	5 30.7	+22 01.6	94 50.6	-8 27.2	
1	95 14.5	147 57.4	26.3	326 00.3	40.3	20 33.5	01.5	109 53.0	27.2	
2	110 17.0	162 56.9	25.6	341 02.9	40.4	35 36.3	01.5	124 55.3	27.1	
3	125 19.4	177 56.4	24.8	356 05.5	40.5	50 39.2	01.5	139 57.7	27.1	
4	140 21.9	192 55.8	24.1	11 08.1	40.7	65 42.0	01.4	155 00.1	27.0	
5	155 24.4	207 55.3	-21 23.3	26 10.6	+21 40.8	80 44.8	+22 01.4	170 02.4	-8 27.0	
6	170 26.8	222 54.8	-21 22.6	41 13.2	+21 41.0	95 47.6	+22 01.4	185 04.8	-8 26.9	
7	185 29.3	237 54.3	21.8	56 15.8	41.1	110 50.5	01.4	200 07.1	26.9	
8	200 31.8	252 53.8	21.1	71 18.4	41.3	125 53.3	01.3	215 09.5	26.8	
9	215 34.2	267 53.3	20.3	86 21.0	41.4	140 56.1	01.3	230 11.9	26.8	
10	230 36.7	282 52.8	19.6	101 23.6	41.6	155 59.0	01.3	245 14.2	26.7	
11	245 39.1	297 52.3	-21 18.8	116 26.2	+21 41.7	171 01.8	+22 01.2	260 16.6	-8 26.7	
12	260 41.6	312 51.8	-21 18.1	131 28.7	+21 41.9	186 04.6	+22 01.2	275 19.0	-8 26.6	
13	275 44.1	327 51.3	17.3	146 31.3	42.0	201 07.4	01.2	290 21.3	26.6	
14	290 46.5	342 50.8	16.6	161 33.9	42.2	216 10.3	01.1	305 23.7	26.5	
15	305 49.0	357 50.3	15.8	176 36.5	42.3	231 13.1	01.1	320 26.0	26.5	
16	320 51.5	12 49.8	15.1	191 39.1	42.5	246 15.9	01.1	335 28.4	26.4	
17	335 53.9	27 49.3	-21 14.3	206 41.7	+21 42.6	261 18.7	+22 01.1	350 30.8	-8 26.4	
18	350 56.4	42 48.8	-21 13.5	221 44.3	+21 42.8	276 21.6	+22 01.0	5 33.1	-8 26.3	
19	5 58.9	57 48.3	12.8	236 46.9	42.9	291 24.4	01.0	20 35.5	26.3	
20	21 01.3	72 47.8	12.0	251 49.5	43.1	306 27.2	01.0	35 37.9	26.2	
21	36 03.8	87 47.3	11.3	266 52.1	43.3	321 30.1	00.9	50 40.2	26.2	
22	51 06.3	102 46.8	10.5	281 54.7	43.4	336 32.9	00.9	65 42.6	26.1	
23	66 08.7	117 46.3	09.7	296 57.4	43.6	351 35.7	00.9	80 44.9	26.1	
24	81 11.2	132 45.8	-21 09.0	312 00.0	+21 43.7	6 38.5	+22 00.9	95 47.3	-8 26.0	

Dif	—	-5	+8	+26	+2	+28	0	+24	0
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.2' PMG: 11 <sup>h</sup> 53.9 <sup>m</sup>		SD: 16.3' Edad: 10.7 <sup>d</sup> PMG: 21 <sup>h</sup> 29 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.0' 12 <sup>h</sup> : 60.0' 20 <sup>h</sup> : 60.0'			R°: 59 <sup>m</sup>			Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
0	181 34.7	-23 05.7	49 29.6		+15 37.7	148	60 N	7 01	7 57	8 54	12 48	4	4 57	114
1	196 34.4	05.8	63 57.5	89	+15 52.5	148	58	6 53	46	37	13 01	10	46	107
2	211 34.2	06.0	78 25.3	88	+16 07.2	147	56	47	36	23	11 16		37	101
3	226 33.9	06.2	92 53.1	88	21.8	146	54	41	27	8 10	21 19		28	97
4	241 33.6	06.4	107 20.7	86	36.4	146	52	35	19	7 59	29 23		20	94
5	256 33.3	-23 06.6	121 48.3	86	+16 50.8	144	50	6 30	7 11	7 50	13 37	26	4 13	90
6	271 33.0	-23 06.7	136 15.8	85	+17 05.2	144	45	6 18	6 56	7 29	13 53	32	3 59	83
7	286 32.7	06.9	150 43.1	83	19.4	142	40	6 08	42	7 13	14 07	37	47	78
8	301 32.4	07.1	165 10.4	83	33.6	142	35	5 59	31	6 59	18 41		37	74
9	316 32.1	07.3	179 37.6	82	+17 47.6	140	30	50	20	47	28 44		28	71
10	331 31.8	07.4	194 04.7	81	+18 01.6	140	20	34	6 02	26	14 46	49	13	65
11	346 31.5	-23 07.6	208 31.6	79	+18 15.4	138	10 N	5 18	5 45	6 07	15 01	54	3 00	60
12	1 31.2	-23 07.8	222 58.5	79	+18 29.1	137	0	5 02	5 28	5 50	15 16	58	2 47	56
13	16 30.9	08.0	237 25.3	78	42.7	136	10 S	4 43	5 10	33	31 62		35	51
14	31 30.6	08.1	251 52.0	77	+18 56.3	136	20	4 20	4 50	5 14	15 47	66	22	46
15	46 30.4	08.3	266 18.6	76	+19 09.6	133	30	3 52	25	4 52	16 05	72	2 07	41
16	61 30.1	08.5	280 45.1	75	22.9	133	35	33	4 10	40	16 75		1 59	37
17	76 29.8	-23 08.6	295 11.5	74	+19 36.1	132	40	3 11	3 52	4 25	16 28	79	1 49	33
18	91 29.5	-23 08.8	309 37.8	73	+19 49.1	130	45	2 41	3 30	4 07	16 43	83	1 38	28
19	106 29.2	09.0	324 03.9	71	+20 02.0	129	50	1 56	3 01	3 45	17 01	90	24	22
20	121 28.9	09.2	338 30.0	71	14.8	128	52	1 30	2 46	34	09 94		18	19
21	136 28.6	09.3	352 56.0	70	27.5	127	54	0 49	29	22	19 97		11	16
22	151 28.3	09.5	7 21.9	69	40.0	125	56	** **	2 07	3 08	30 102		1 03	12
23	166 28.0	09.6	21 47.7	68	+20 52.5	125	58	** **	1 39	2 52	43 108		0 54	7
24	181 27.7	-23 09.8	36 13.4	67	+21 04.7	122	60 S	** **	0 54	2 32	17 57	118	0 45	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 32.2 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 09 <sup>m</sup>		Mag.: -0.7 PMG: 3 <sup>h</sup> 11 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 29 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 34 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	81 11.2	132 45.8	-21 09.0	312 00.0	+21 43.7	6 38.5	+22 00.9	95 47.3	-8 26.0	
1	96 13.6	147 45.4	08.2	327 02.6	43.9	21 41.4	00.8	110 49.7	26.0	
2	111 16.1	162 44.9	07.5	342 05.2	44.0	36 44.2	00.8	125 52.0	25.9	
3	126 18.6	177 44.4	06.7	357 07.8	44.2	51 47.0	00.8	140 54.4	25.9	
4	141 21.0	192 43.9	05.9	12 10.4	44.3	66 49.9	00.7	155 56.7	25.8	
5	156 23.5	207 43.4	-21 05.2	27 13.0	+21 44.5	81 52.7	+22 00.7	170 59.1	-8 25.8	
6	171 26.0	222 42.9	-21 04.4	42 15.7	+21 44.7	96 55.5	+22 00.7	186 01.5	-8 25.7	
7	186 28.4	237 42.4	03.6	57 18.3	44.8	111 58.3	00.6	201 03.8	25.7	
8	201 30.9	252 41.9	02.8	72 20.9	45.0	127 01.2	00.6	216 06.2	25.6	
9	216 33.4	267 41.5	02.1	87 23.5	45.1	142 04.0	00.6	231 08.5	25.6	
10	231 35.8	282 41.0	01.3	102 26.1	45.3	157 06.8	00.6	246 10.9	25.5	
11	246 38.3	297 40.5	-21 00.5	117 28.8	+21 45.4	172 09.6	+22 00.5	261 13.2	-8 25.5	
12	261 40.8	312 40.0	-20 59.8	132 31.4	+21 45.6	187 12.5	+22 00.5	276 15.6	-8 25.4	
13	276 43.2	327 39.5	59.0	147 34.0	45.8	202 15.3	00.5	291 18.0	25.4	
14	291 45.7	342 39.0	58.2	162 36.7	45.9	217 18.1	00.4	306 20.3	25.3	
15	306 48.1	357 38.6	57.4	177 39.3	46.1	232 20.9	00.4	321 22.7	25.3	
16	321 50.6	12 38.1	56.7	192 41.9	46.2	247 23.8	00.4	336 25.0	25.2	
17	336 53.1	27 37.6	-20 55.9	207 44.6	+21 46.4	262 26.6	+22 00.3	351 27.4	-8 25.2	
18	351 55.5	42 37.1	-20 55.1	222 47.2	+21 46.6	277 29.4	+22 00.3	6 29.8	-8 25.1	
19	6 58.0	57 36.7	54.3	237 49.8	46.7	292 32.3	00.3	21 32.1	25.1	
20	22 00.5	72 36.2	53.5	252 52.5	46.9	307 35.1	00.3	36 34.5	25.0	
21	37 02.9	87 35.7	52.8	267 55.1	47.1	322 37.9	00.2	51 36.8	25.0	
22	52 05.4	102 35.2	52.0	282 57.8	47.2	337 40.7	00.2	66 39.2	24.9	
23	67 07.9	117 34.8	51.2	298 00.4	47.4	352 43.6	00.2	81 41.5	24.9	
24	82 10.3	132 34.3	-20 50.4	313 03.0	+21 47.5	7 46.4	+22 00.1	96 43.9	-8 24.8	
Dif	—	-5	+8	+26	+2	+28	0	+24	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.2' PMG: 11 <sup>h</sup> 54.4 <sup>m</sup>		SD: 16.3' Edad: 11.7 <sup>d</sup> PMG: 22 <sup>h</sup> 28 <sup>m</sup>		PHE { 4 <sup>h</sup> : 60.0' 12 <sup>h</sup> : 59.9' 20 <sup>h</sup> : 59.8'				R°: 62 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	181 27.7	-23 09.8	36 13.4	66	+21 04.7	122	60 N	14 53	15 50	16 47	12 52	10	6 51	117		
1	196 27.4	10.0	50 39.0	66	16.9	120	58	15 10	16 02	16 54	13 11	19	33	107		
2	211 27.1	10.1	65 04.5	65	28.9	119	56	25	12	17 01	27	26	18	100		
3	226 26.8	10.3	79 29.9	64	40.8	117	54	37	21	07	40	31	6	95		
4	241 26.5	10.5	93 55.2	63	+21 52.5	116	52	48	29	13	13 52	34	5	91		
5	256 26.2	-23 10.6	108 20.4	62	+22 04.1	114	50	15 58	16 36	17 18	14 03	37	5	89		
6	271 25.9	-23 10.8	122 45.5	61	+22 15.5	114	45	16 19	16 52	17 29	14 25	42	5	83		
7	286 25.6	10.9	137 10.5	60	26.9	111	40	35	17 06	40	44	45	5	79		
8	301 25.4	11.1	151 35.5	60	38.0	110	35	16 49	17	49	14 59	49	4	75		
9	316 25.1	11.2	166 00.3	58	49.0	109	30	17 01	28	17 58	15 12	51	39	72		
10	331 24.8	11.4	180 25.0	57	+22 59.9	107	20	22	17 46	18 14	35	55	18	67		
11	346 24.5	-23 11.6	194 49.6	56	+23 10.6	106	10 N	17 41	18 04	18 30	15 55	58	4	63		
12	1 24.2	-23 11.7	209 14.2	56	+23 21.2	104	0	17 58	18 21	18 47	16 14	61	3	60		
13	16 23.9	11.9	223 38.6	54	31.6	102	10 S	18 16	39	19 06	33	64	26	56		
14	31 23.6	12.0	238 03.0	54	41.8	101	20	34	18 59	28	16 53	67	3	52		
15	46 23.3	12.2	252 27.2	52	+23 51.9	99	30	18 56	19 24	19 57	17 17	71	2	48		
16	61 23.0	12.3	266 51.4	52	+24 01.8	98	35	19 09	39	20 15	31	73	36	44		
17	76 22.7	-23 12.5	281 15.5	51	+24 11.6	96	40	19 24	19 57	20 38	17 47	76	2	41		
18	91 22.4	-23 12.6	295 39.5	50	+24 21.2	94	45	19 42	20 19	21 09	18 06	80	2	37		
19	106 22.1	12.8	310 03.4	49	30.6	93	50	20 04	20 48	21 53	31	85	1	31		
20	121 21.8	12.9	324 27.3	49	39.9	91	52	15	21 03	22 20	43	87	37	28		
21	136 21.5	13.1	338 51.0	47	49.0	89	54	27	21	23 04	18 56	91	27	24		
22	151 21.2	13.2	353 14.7	47	+24 57.9	88	56	41	21 43	** ** *	19 12	96	15	19		
23	166 20.9	13.3	7 38.3	46	+25 06.7	85	58	20 58	22 12	** ** *	31	103	1	14		
24	181 20.6	-23 13.5	22 01.8	45	+25 15.2	85	60 S	21 18	22 59	** ** *	19 55	114	0	46		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 28.3 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 10 <sup>m</sup>		Mag.: -0.8 PMG: 3 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 24 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 30 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	82 10.3	132 34.3	-20 50.4	313 03.0	+21 47.5	7 46.4	+22 00.1	96 43.9	-8 24.8	24.8
1	97 12.8	147 33.8	49.6	328 05.7	47.7	22 49.2	00.1	111 46.3	24.8	24.7
2	112 15.3	162 33.3	48.8	343 08.3	47.9	37 52.0	00.1	126 48.6	24.7	24.7
3	127 17.7	177 32.9	48.0	358 11.0	48.0	52 54.9	00.1	141 51.0	24.6	24.6
4	142 20.2	192 32.4	47.3	13 13.6	48.2	67 57.7	00.0	156 53.3	24.6	24.6
5	157 22.6	207 31.9	-20 46.5	28 16.3	+21 48.4	83 00.5	+22 00.0	171 55.7	-8 24.6	24.5
6	172 25.1	222 31.5	-20 45.7	43 18.9	+21 48.5	98 03.3	+22 00.0	186 58.0	-8 24.5	24.5
7	187 27.6	237 31.0	44.9	58 21.6	48.7	113 06.2	+21 59.9	202 00.4	24.5	24.4
8	202 30.0	252 30.5	44.1	73 24.3	48.9	128 09.0	59.9	217 02.7	24.4	24.3
9	217 32.5	267 30.1	43.3	88 26.9	49.0	143 11.8	59.9	232 05.1	24.3	24.3
10	232 35.0	282 29.6	42.5	103 29.6	49.2	158 14.6	59.8	247 07.5	24.3	24.2
11	247 37.4	297 29.1	-20 41.7	118 32.2	+21 49.4	173 17.5	+21 59.8	262 09.8	-8 24.2	24.2
12	262 39.9	312 28.7	-20 40.9	133 34.9	+21 49.5	188 20.3	+21 59.8	277 12.2	-8 24.2	24.1
13	277 42.4	327 28.2	40.1	148 37.6	49.7	203 23.1	59.8	292 14.5	24.1	24.1
14	292 44.8	342 27.8	39.3	163 40.2	49.9	218 25.9	59.7	307 16.9	24.0	24.0
15	307 47.3	357 27.3	38.5	178 42.9	50.0	233 28.8	59.7	322 19.2	24.0	24.0
16	322 49.7	12 26.8	37.7	193 45.6	50.2	248 31.6	59.7	337 21.6	24.0	23.9
17	337 52.2	27 26.4	-20 36.9	208 48.3	+21 50.4	263 34.4	+21 59.6	352 23.9	-8 23.9	23.9
18	352 54.7	42 25.9	-20 36.1	223 50.9	+21 50.5	278 37.2	+21 59.6	7 26.3	-8 23.9	23.8
19	7 57.1	57 25.5	35.3	238 53.6	50.7	293 40.1	59.6	22 28.6	23.8	23.8
20	22 59.6	72 25.0	34.5	253 56.3	50.9	308 42.9	59.5	37 31.0	23.8	23.7
21	38 02.1	87 24.6	33.7	268 59.0	51.1	323 45.7	59.5	52 33.4	23.7	23.7
22	53 04.5	102 24.1	32.9	284 01.6	51.2	338 48.5	59.5	67 35.7	23.7	23.6
23	68 07.0	117 23.7	32.1	299 04.3	51.4	353 51.4	59.5	82 38.1	23.6	23.6
24	83 09.5	132 23.2	-20 31.3	314 07.0	+21 51.6	8 54.2	+21 59.4	97 40.4	-8 23.6	23.6
Dif	—	-5	+8	+27	+2	+28	0	+24	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna									
	SD: 16.2'		SD: 16.3'		Edad: 12.7 <sup>d</sup>			R <sup>o</sup> : 63 <sup>m</sup>			PHE {		Hora R <sup>o</sup>		Hora R <sup>o</sup>							
	PMG: 11 <sup>h</sup> 54.9 <sup>m</sup>		PMG: 23 <sup>h</sup> 30 <sup>m</sup>		R <sup>o</sup> : 63 <sup>m</sup>			4 <sup>h</sup> : 59.7' 12 <sup>h</sup> : 59.6' 20 <sup>h</sup> : 59.5'			Náutico	Civil	h m m	h m m	h m m	h m m						
	hG ☉	Dec	hG ☾	Dif	Dec	Dif																
0	181	20.6	-23	13.5	22	01.8	+25	15.2	85	60 N	7	03	7	59	8	57	13	02	30	8	48	101
1	196	20.3		13.6	36	25.2	44	23.7	82	58	6	55	48	39	30	40	8	20	91			
2	211	20.0		13.8	50	48.6	44	31.9	81	56	48	37	25	13	53	44	7	58	86			
3	226	19.7		13.9	65	11.9	43	40.0	78	54	42	28	12	14	11	48	40	83				
4	241	19.4		14.1	79	35.1	42	47.8	77	52	37	20	8	01	26	50	25	81				
5	256	19.1	-23	14.2	93	58.2	41	+25	76	50	6	32	7	13	7	51	14	40	51	7	12	79
6	271	18.8	-23	14.3	108	21.3	41	+26	73	45	6	20	6	57	7	31	15	07	55	6	45	75
7	286	18.5		14.5	122	44.3	40	10.4	71	40	10	44	14	29	57	24	72					
8	301	18.2		14.6	137	07.3	40	17.5	70	35	6	00	32	7	00	15	48	57	6	06	71	
9	316	17.9		14.8	151	30.2	39	24.5	68	30	5	52	22	6	48	16	03	59	5	51	69	
10	331	17.6		14.9	165	53.0	38	31.3	66	20	35	6	03	27	30	61	25	67				
11	346	17.3	-23	15.0	180	15.8	38	+26	64	10 N	5	19	5	46	6	08	16	53	62	5	03	65
12	1	17.0	-23	15.2	194	38.5	37	+26	62	0	5	02	5	29	5	51	17	15	63	4	43	62
13	16	16.7		15.3	209	01.1	36	50.5	61	10 S	4	44	5	11	34	17	37	64	22	61		
14	31	16.4		15.4	223	23.8	37	+26	58	20	4	21	4	50	5	15	18	00	66	4	00	58
15	46	16.1		15.6	237	46.3	35	+27	56	30	3	52	26	4	53	28	66	3	35	55		
16	61	15.8		15.7	252	08.8	35	08.0	55	35	34	4	10	40	18	44	67	20	54			
17	76	15.5	-23	15.8	266	31.3	35	+27	53	40	3	11	3	52	4	25	19	03	68	3	03	51
18	91	15.2	-23	16.0	280	53.8	35	+27	50	45	2	41	3	30	4	07	19	26	70	2	43	48
19	106	14.9		16.1	295	16.2	34	23.8	49	50	1	56	3	01	3	45	19	56	71	17	44	
20	121	14.6		16.2	309	38.5	33	28.7	47	52	1	29	2	46	34	20	10	72	2	05	41	
21	136	14.3		16.3	324	00.9	34	33.4	45	54	0	45	28	22	27	73	1	51	38			
22	151	14.0		16.5	338	23.2	33	37.9	43	56	** **	2	06	3	08	20	48	75	34	34		
23	166	13.7		16.6	352	45.4	32	42.2	41	58	** **	1	37	2	52	21	14	77	1	15	27	
24	181	13.4	-23	16.7	7	07.7	33	+27	41	60 S	** **	0	50	2	31	21	49	83	0	51	15	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG		Mag.: -4.3		Mag.: -0.8		Mag.: -2.8		Mag.: +1.0										
	18 <sup>h</sup> 24.3 <sup>m</sup>		PMG: 15 <sup>h</sup> 11 <sup>m</sup>		PMG: 3 <sup>h</sup> 03 <sup>m</sup>		PMG: 23 <sup>h</sup> 20 <sup>m</sup>		PMG: 17 <sup>h</sup> 27 <sup>m</sup>										
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
0	83	09.5	132	23.2	-20	31.3	314	07.0	+21	51.6	8	54.2	+21	59.4	97	40.4	-8	23.6	
1	98	11.9	147	22.8		30.5	329	09.7		51.7	23	57.0		59.4	112	42.8		23.5	
2	113	14.4	162	22.3		29.7	344	12.4		51.9	38	59.8		59.4	127	45.1		23.4	
3	128	16.9	177	21.9		28.9	359	15.0		52.1	54	02.7		59.3	142	47.5		23.4	
4	143	19.3	192	21.4		28.1	14	17.7		52.3	69	05.5		59.3	157	49.8		23.3	
5	158	21.8	207	21.0	-20	27.3	29	20.4	+21	52.4	84	08.3	+21	59.3	172	52.2	-8	23.3	
6	173	24.2	222	20.5	-20	26.5	44	23.1	+21	52.6	99	11.1	+21	59.2	187	54.5	-8	23.2	
7	188	26.7	237	20.1		25.7	59	25.8		52.8	114	14.0		59.2	202	56.9		23.2	
8	203	29.2	252	19.6		24.8	74	28.5		53.0	129	16.8		59.2	217	59.2		23.1	
9	218	31.6	267	19.2		24.0	89	31.2		53.1	144	19.6		59.2	233	01.6		23.1	
10	233	34.1	282	18.7		23.2	104	33.9		53.3	159	22.4		59.1	248	03.9		23.0	
11	248	36.6	297	18.3	-20	22.4	119	36.6	+21	53.5	174	25.3	+21	59.1	263	06.3	-8	23.0	
12	263	39.0	312	17.8	-20	21.6	134	39.3	+21	53.7	189	28.1	+21	59.1	278	08.6	-8	22.9	
13	278	41.5	327	17.4		20.8	149	42.0		53.8	204	30.9		59.0	293	11.0		22.9	
14	293	44.0	342	17.0		19.9	164	44.7		54.0	219	33.7		59.0	308	13.3		22.8	
15	308	46.4	357	16.5		19.1	179	47.4		54.2	234	36.5		59.0	323	15.7		22.7	
16	323	48.9	12	16.1		18.3	194	50.1		54.4	249	39.4		58.9	338	18.0		22.7	
17	338	51.4	27	15.6	-20	17.5	209	52.8	+21	54.5	264	42.2	+21	58.9	353	20.4	-8	22.6	
18	353	53.8	42	15.2	-20	16.7	224	55.5	+21	54.7	279	45.0	+21	58.9	8	22.7	-8	22.6	
19	8	56.3	57	14.8		15.8	239	58.2		54.9	294	47.8		58.9	23	25.1		22.5	
20	23	58.7	72	14.3		15.0	255	01.0		55.1	309	50.7		58.8	38	27.4		22.5	
21	39	01.2	87	13.9		14.2	270	03.7		55.3	324	53.5		58.8	53	29.8		22.4	
22	54	03.7	102	13.5		13.4	285	06.4		55.4	339	56.3		58.8	68	32.1		22.4	
23	69	06.1	117	13.0		12.6	300	09.1		55.6	354	59.1		58.7	83	34.5		22.3	
24	84	08.6	132	12.6	-20	11.7	315	11.8	+21	55.8	10	01.9	+21	58.7	98	36.8	-8	22.3	
Dif		-		-4		+8		+27		+2		+28		0		+24			+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 55.3 <sup>m</sup>		SD: 16.2' Edad: 13.7 <sup>d</sup> PMG: **h **m R°: ****m		PHE { 4 <sup>h</sup> : 59.3' 12 <sup>h</sup> : 59.1' 20 <sup>h</sup> : 58.9'				Civil		Náutico		Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h	m	h	m	h	m	h	m
0	181 13.4	-23 16.7	7 07.7	32	+27 46.3	38	60 N	14 53	15 50	16 47	13 32	74	10 29	58		
1	196 13.1	16.8	21 29.9	32	50.1	37	58	15 10	16 02	16 55	14 10	71	9 51	60		
2	211 12.8	17.0	35 52.1	32	53.8	37	56	25	12	17 01	37 70		24	61		
3	226 12.5	17.1	50 14.3	32	+27 57.3	35	54	38	21	07	14 59	68	9 03	62		
4	241 12.2	17.2	64 36.5	32	+28 00.6	33	52	49	29	13	15 16	68	8 46	61		
5	256 11.9	-23 17.3	78 58.7	32	+28 03.7	31	50	15 58	16 37	17 18	15 31	68	8 31	62		
6	271 11.6	-23 17.4	93 20.8	31	+28 06.6	29	45	16 19	16 53	17 30	16 02	66	8 00	63		
7	286 11.3	17.6	107 43.0	32	09.4	28	40	36	17 06	40	26 65		7 36	63		
8	301 11.0	17.7	122 05.2	32	11.9	25	35	16 50	18	50	16 45	65	17	63		
9	316 10.7	17.8	136 27.3	31	14.2	23	30	17 02	28	17 58	17 02	65	7 00	63		
10	331 10.4	17.9	150 49.5	32	16.3	21	20	23	17 47	18 15	31 63		6 32	63		
11	346 10.1	-23 18.0	165 11.7	32	+28 18.2	19	10 N	17 42	18 05	18 31	17 55	63	6 08	63		
12	1 09.8	-23 18.2	179 33.8	31	+28 19.9	17	0	17 59	18 22	18 48	18 18	62	5 45	63		
13	16 09.5	18.3	193 56.0	32	21.4	15	10 S	18 17	18 40	19 07	18 41	61	5 23	62		
14	31 09.2	18.4	208 18.2	32	22.7	13	20	35	19 00	29	19 06	60	4 58	63		
15	46 08.9	18.5	222 40.5	33	23.8	11	30	18 57	25	19 58	34 59		4 30	62		
16	61 08.6	18.6	237 02.7	32	24.7	9	35	19 10	40	20 17	19 51	58	4 14	61		
17	76 08.3	-23 18.7	251 25.0	33	+28 25.4	7	40	19 25	19 58	20 40	20 11	57	3 54	62		
18	91 08.0	-23 18.8	265 47.3	33	+28 26.0	6	45	19 43	20 21	21 10	20 36	55	3 31	61		
19	106 07.7	18.9	280 09.6	33	26.3	3	50	20 06	20 50	21 56	21 07	52	3 01	59		
20	121 07.4	19.0	294 32.0	34	26.4	1	52	17	21 05	22 23	22 52		2 46	59		
21	136 07.1	19.2	308 54.4	34	26.3	1	54	29	23	23 08	21 40	50	29	58		
22	151 06.8	19.3	323 16.9	35	26.1	2	56	20 43	21 45	** **	22 03	46	2 08	57		
23	166 06.5	19.4	337 39.3	34	25.6	5	58	21 00	22 15	** **	22 31	42	1 42	55		
24	181 06.2	-23 19.5	352 01.9	36	+28 25.0	6	60 S	21 20	23 04	** **	23 12	33	1 06	49		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 18 <sup>h</sup> 20.4 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 12 <sup>m</sup>		Mag.: -0.8 PMG: 2 <sup>h</sup> 59 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 15 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 23 <sup>m</sup>							
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♅	Dec			
0	84 08.6	132 12.6	-20 11.7	315 11.8	+21 55.8	10 01.9	+21 58.7	98 36.8	-8 22.3							
1	99 11.1	147 12.2	10.9	330 14.5	56.0	25 04.8	58.7	113 39.2	22.2							
2	114 13.5	162 11.7	10.1	345 17.3	56.2	40 07.6	58.7	128 41.5	22.1							
3	129 16.0	177 11.3	09.2	0 20.0	56.3	55 10.4	58.6	143 43.9	22.1							
4	144 18.5	192 10.9	08.4	15 22.7	56.5	70 13.2	58.6	158 46.2	22.0							
5	159 20.9	207 10.5	-20 07.6	30 25.4	+21 56.7	85 16.1	+21 58.6	173 48.6	-8 22.0							
6	174 23.4	222 10.0	-20 06.8	45 28.2	+21 56.9	100 18.9	+21 58.5	188 50.9	-8 21.9							
7	189 25.9	237 09.6	05.9	60 30.9	57.1	115 21.7	58.5	203 53.3	21.9							
8	204 28.3	252 09.2	05.1	75 33.6	57.3	130 24.5	58.5	218 55.6	21.8							
9	219 30.8	267 08.8	04.3	90 36.4	57.4	145 27.3	58.4	233 58.0	21.8							
10	234 33.2	282 08.3	03.4	105 39.1	57.6	160 30.2	58.4	249 00.3	21.7							
11	249 35.7	297 07.9	-20 02.6	120 41.8	+21 57.8	175 33.0	+21 58.4	264 02.7	-8 21.7							
12	264 38.2	312 07.5	-20 01.7	135 44.6	+21 58.0	190 35.8	+21 58.4	279 05.0	-8 21.6							
13	279 40.6	327 07.1	00.9	150 47.3	58.2	205 38.6	58.3	294 07.4	21.5							
14	294 43.1	342 06.6	-20 00.1	165 50.0	58.4	220 41.5	58.3	309 09.7	21.5							
15	309 45.6	357 06.2	-19 59.2	180 52.8	58.5	235 44.3	58.3	324 12.1	21.4							
16	324 48.0	12 05.8	58.4	195 55.5	58.7	250 47.1	58.2	339 14.4	21.4							
17	339 50.5	27 05.4	-19 57.6	210 58.3	+21 58.9	265 49.9	+21 58.2	354 16.7	-8 21.3							
18	354 53.0	42 05.0	-19 56.7	226 01.0	+21 59.1	280 52.7	+21 58.2	9 19.1	-8 21.3							
19	9 55.4	57 04.6	55.9	241 03.8	59.3	295 55.6	58.1	24 21.4	21.2							
20	24 57.9	72 04.1	55.0	256 06.5	59.5	310 58.4	58.1	39 23.8	21.2							
21	40 00.4	87 03.7	54.2	271 09.3	59.7	326 01.2	58.1	54 26.1	21.1							
22	55 02.8	102 03.3	53.3	286 12.0	+21 59.8	341 04.0	58.1	69 28.5	21.0							
23	70 05.3	117 02.9	52.5	301 14.8	+22 00.0	356 06.8	58.0	84 30.8	21.0							
24	85 07.7	132 02.5	-19 51.7	316 17.5	+22 00.2	11 09.7	+21 58.0	99 33.2	-8 20.9							
Dif	—	-4	+8	+27	+2	+28	0	+23	+1							

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 55.8 <sup>m</sup>		SD: 16.0' Edad: 14.7 <sup>d</sup> PMG: 0 <sup>h</sup> 33 <sup>m</sup>		R <sup>o</sup> : 61 <sup>m</sup>			PHE { 4 <sup>h</sup> : 58.7' 12 <sup>h</sup> : 58.5' 20 <sup>h</sup> : 58.2'								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	h	m	Hora	R <sup>o</sup>
0	181 06.2	-23 19.5	352 01.9	36	+28 25.0	9	60 N	7 04	8 01	8 59	14 46	102	11 27	20		
1	196 05.9	19.6	6 24.5	36	24.1	9	58	6 57	7 49	41	15 21	92	10 51	30		
2	211 05.6	19.7	20 47.1	36	23.1	10	56	50	39	27	15 47	86	25	36		
3	226 05.3	19.8	35 09.8	37	21.8	13	54	44	30	14	16 07	82	10 05	39		
4	241 05.0	19.9	49 32.5	37	20.4	14	52	38	22	8 03	24 80	9 47	43	43		
5	256 04.7	-23 20.0	63 55.3	38	+28 18.8	16	50	6 33	7 15	7 53	16 39	77	9 33	44		
6	271 04.4	-23 20.1	78 18.2	39	+28 17.0	18	45	6 21	6 58	7 32	17 08	73	9 03	48		
7	286 04.1	20.2	92 41.1	39	15.0	20	40	11	45	16	31 70	8 39	51	51		
8	301 03.8	20.3	107 04.1	40	12.8	22	35	6 02	33	7 01	17 50	68	20	52		
9	316 03.5	20.4	121 27.1	40	10.4	24	30	5 53	23	6 49	18 07	66	8 03	54		
10	331 03.2	20.5	135 50.2	41	07.9	25	20	36	6 04	28	34 63	7 35	56	56		
11	346 02.9	-23 20.6	150 13.4	42	+28 05.1	28	10 N	5 20	5 47	6 09	18 58	60	7 11	58		
12	1 02.6	-23 20.7	164 36.7	43	+28 02.2	29	0	5 03	5 30	5 52	19 20	58	6 48	60		
13	16 02.3	20.8	179 00.1	44	+27 59.1	31	10 S	4 44	5 11	35	19 42	55	25	62		
14	31 02.0	20.9	193 23.5	44	55.8	33	20	4 22	4 51	5 16	20 06	52	6 01	63		
15	46 01.7	21.0	207 47.0	45	52.4	34	30	3 53	26	4 54	33 49	5 32	66	66		
16	61 01.4	21.1	222 10.6	46	48.7	37	35	34	4 11	41	20 49	47	5 15	67		
17	76 01.1	-23 21.1	236 34.3	47	+27 44.9	38	40	3 11	3 53	4 26	21 08	44	4 56	68		
18	91 00.7	-23 21.2	250 58.1	48	+27 40.9	40	45	2 41	3 30	4 08	21 31	41	4 32	70		
19	106 00.4	21.3	265 22.0	49	36.7	42	50	1 56	3 01	3 45	21 59	37	4 00	74		
20	121 00.1	21.4	279 45.9	49	32.4	43	52	1 28	2 46	34	22 14	33	3 45	75		
21	135 59.8	21.5	294 10.0	51	27.9	45	54	0 43	28	22	30 30	27	77	77		
22	150 59.5	21.6	308 34.2	52	23.2	47	56	** **	2 06	3 08	22 49	27	3 05	80		
23	165 59.2	21.7	322 58.4	52	18.3	49	58	** **	1 36	2 51	23 13	20	2 37	84		
24	180 58.9	-23 21.8	337 22.8	54	+27 13.3	50	60 S	** **	0 47	2 31	23 45	10	1 55	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 16.5 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 12 <sup>m</sup>		Mag.: -0.8 PMG: 2 <sup>h</sup> 54 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 11 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 19 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	85 07.7	132 02.5	-19 51.7	316 17.5	+22 00.2	11 09.7	+21 58.0	99 33.2	-8 20.9	20.9
1	100 10.2	147 02.1	50.8	331 20.3	00.4	26 12.5	58.0	114 35.5	20.9	20.9
2	115 12.7	162 01.7	50.0	346 23.0	00.6	41 15.3	57.9	129 37.9	20.8	20.8
3	130 15.1	177 01.3	49.1	1 25.8	00.8	56 18.1	57.9	144 40.2	20.8	20.8
4	145 17.6	192 00.9	48.3	16 28.6	01.0	71 20.9	57.9	159 42.5	20.7	20.7
5	160 20.1	207 00.5	-19 47.4	31 31.3	+22 01.2	86 23.8	+21 57.8	174 44.9	-8 20.6	20.6
6	175 22.5	222 00.0	-19 46.6	46 34.1	+22 01.4	101 26.6	+21 57.8	189 47.2	-8 20.6	20.6
7	190 25.0	236 59.6	45.7	61 36.9	01.6	116 29.4	57.8	204 49.6	20.5	20.5
8	205 27.5	251 59.2	44.9	76 39.6	01.7	131 32.2	57.8	219 51.9	20.5	20.5
9	220 29.9	266 58.8	44.0	91 42.4	01.9	146 35.0	57.7	234 54.3	20.4	20.4
10	235 32.4	281 58.4	43.1	106 45.2	02.1	161 37.9	57.7	249 56.6	20.4	20.4
11	250 34.9	296 58.0	-19 42.3	121 47.9	+22 02.3	176 40.7	+21 57.7	264 59.0	-8 20.3	20.3
12	265 37.3	311 57.6	-19 41.4	136 50.7	+22 02.5	191 43.5	+21 57.6	280 01.3	-8 20.2	20.2
13	280 39.8	326 57.2	40.6	151 53.5	02.7	206 46.3	57.6	295 03.6	20.2	20.2
14	295 42.2	341 56.8	39.7	166 56.3	02.9	221 49.1	57.6	310 06.0	20.1	20.1
15	310 44.7	356 56.4	38.9	181 59.0	03.1	236 51.9	57.6	325 08.3	20.1	20.1
16	325 47.2	11 56.0	38.0	197 01.8	03.3	251 54.8	57.5	340 10.7	20.0	20.0
17	340 49.6	26 55.6	-19 37.1	212 04.6	+22 03.5	266 57.6	+21 57.5	355 13.0	-8 20.0	20.0
18	355 52.1	41 55.2	-19 36.3	227 07.4	+22 03.7	282 00.4	+21 57.5	10 15.4	-8 19.9	19.9
19	10 54.6	56 54.8	35.4	242 10.2	03.9	297 03.2	57.4	25 17.7	19.8	19.8
20	25 57.0	71 54.5	34.6	257 12.9	04.1	312 06.0	57.4	40 20.0	19.8	19.8
21	40 59.5	86 54.1	33.7	272 15.7	04.3	327 08.9	57.4	55 22.4	19.7	19.7
22	56 02.0	101 53.7	32.8	287 18.5	04.5	342 11.7	57.3	70 24.7	19.7	19.7
23	71 04.4	116 53.3	32.0	302 21.3	04.7	357 14.5	57.3	85 27.1	19.6	19.6
24	86 06.9	131 52.9	-19 31.1	317 24.1	+22 04.8	12 17.3	+21 57.3	100 29.4	-8 19.6	19.6
Dif	—	-4	+9	+28	+2	+28	0	+23	+1	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.8'		Edad: 15.7 <sup>d</sup>				PHE { 4 <sup>h</sup> : 58.0' 12 <sup>h</sup> : 57.7' 20 <sup>h</sup> : 57.4'		R°: 57 <sup>m</sup>					
	PMG: 11 <sup>h</sup> 56.3 <sup>m</sup>		PMG: 1 <sup>h</sup> 34 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180 58.9	-23 21.8	337 22.8	54	+27 13.3	52	60 N	14 53	15 51	16 48	16 28 105	11 47 7	15 21 7			
1	195 58.6	21.9	351 47.2	56	08.1	55	58	15 11	16 02	16 55	16 53 97	11 01 21	10 44 25			
2	210 58.3	21.9	6 11.8	57	+27 02.7	54	56	25	13	17 02	17 13 91	11 01 21	10 44 25			
3	225 58.0	22.0	20 36.5	57	+26 57.2	57	54	38	22	08	29 87	10 44 25	30 28			
4	240 57.7	22.1	35 01.2	57	51.5	57	52	49	30	14	44 82	30 28	30 28			
5	255 57.4	-23 22.2	49 26.1	59	+26 45.7	58	50	15 59	16 37	17 19	17 56 80	10 17 31	10 17 31			
6	270 57.1	-23 22.3	63 51.1	60	+26 39.7	60	45	16 20	16 53	17 31	18 21 75	9 51 35	9 51 35			
7	285 56.8	22.3	78 16.2	61	33.6	61	40	36	17 07	41	41 71	30 39	30 39			
8	300 56.5	22.4	92 41.4	62	27.2	64	35	16 51	19	50	18 58 67	9 12 43	9 12 43			
9	315 56.2	22.5	107 06.7	63	20.8	64	30	17 03	29	17 59	19 13 64	8 57 45	8 57 45			
10	330 55.9	22.6	121 32.2	65	14.2	66	20	24	17 48	18 16	37 60	31 49	31 49			
11	345 55.6	-23 22.7	135 57.7	65	+26 07.4	68	10 N	17 43	18 05	18 32	19 58 56	8 09 52	8 09 52			
12	0 55.3	-23 22.7	150 23.4	67	+26 00.5	69	0	18 00	18 23	18 49	20 18 52	7 48 55	7 48 55			
13	15 55.0	22.8	164 49.2	68	+25 53.4	71	10 S	18	18 41	19 08	37 49	27 59	27 59			
14	30 54.6	22.9	179 15.1	69	46.2	72	20	37	19 01	30	20 58 45	7 04 62	7 04 62			
15	45 54.3	23.0	193 41.1	70	38.9	73	30	18 59	26	19 59	21 22 41	6 38 66	6 38 66			
16	60 54.0	23.0	208 07.3	72	31.4	75	35	19 12	19 41	20 18	36 38	22 68	22 68			
17	75 53.7	-23 23.1	222 33.5	72	+25 23.8	76	40	19 27	20 00	20 41	21 52 35	6 04 71	6 04 71			
18	90 53.4	-23 23.2	236 59.9	74	+25 16.0	78	45	19 45	20 22	21 12	22 12 30	5 42 75	5 42 75			
19	105 53.1	23.3	251 26.4	75	08.1	79	50	20 07	20 52	21 57	36 25	14 80	14 80			
20	120 52.8	23.3	265 53.1	77	+25 00.1	80	52	18	21 07	22 25	22 47 23	5 00 83	5 00 83			
21	135 52.5	23.4	280 19.8	77	+24 51.9	82	54	30	25	23 12	23 00 20	4 44 86	4 44 86			
22	150 52.2	23.5	294 46.7	79	43.6	83	56	20 45	21 47	** ** *	16 15	25 91	25 91			
23	165 51.9	23.5	309 13.7	80	35.2	84	58	21 01	22 17	** ** *	33 10	4 01 98	4 01 98			
24	180 51.6	-23 23.6	323 40.8	81	+24 26.6	86	60 S	21 22	23 07	** ** *	23 55 3	3 30 108	3 30 108			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 12.5 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 13 <sup>m</sup>		Mag.: -0.9 PMG: 2 <sup>h</sup> 50 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 07 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 15 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	86 06.9	131 52.9	-19 31.1	317 24.1	+22 04.8	12 17.3	+21 57.3	100 29.4	-8 19.6	100 29.4
1	101 09.4	146 52.5	30.2	332 26.9	05.0	27 20.1	57.3	115 31.8	19.5	115 31.8
2	116 11.8	161 52.1	29.4	347 29.7	05.2	42 22.9	57.2	130 34.1	19.4	130 34.1
3	131 14.3	176 51.7	28.5	2 32.5	05.4	57 25.8	57.2	145 36.4	19.4	145 36.4
4	146 16.7	191 51.3	27.6	17 35.3	05.6	72 28.6	57.2	160 38.8	19.3	160 38.8
5	161 19.2	206 50.9	-19 26.8	32 38.1	+22 05.8	87 31.4	+21 57.1	175 41.1	-8 19.3	175 41.1
6	176 21.7	221 50.6	-19 25.9	47 40.9	+22 06.0	102 34.2	+21 57.1	190 43.5	-8 19.2	190 43.5
7	191 24.1	236 50.2	25.0	62 43.7	06.2	117 37.0	57.1	205 45.8	19.2	205 45.8
8	206 26.6	251 49.8	24.2	77 46.5	06.4	132 39.8	57.0	220 48.1	19.1	220 48.1
9	221 29.1	266 49.4	23.3	92 49.3	06.6	147 42.7	57.0	235 50.5	19.0	235 50.5
10	236 31.5	281 49.0	22.4	107 52.1	06.8	162 45.5	57.0	250 52.8	19.0	250 52.8
11	251 34.0	296 48.6	-19 21.5	122 54.9	+22 07.0	177 48.3	+21 57.0	265 55.2	-8 18.9	265 55.2
12	266 36.5	311 48.3	-19 20.7	137 57.7	+22 07.2	192 51.1	+21 56.9	280 57.5	-8 18.9	280 57.5
13	281 38.9	326 47.9	19.8	153 00.5	07.4	207 53.9	56.9	295 59.8	18.8	295 59.8
14	296 41.4	341 47.5	18.9	168 03.4	07.6	222 56.7	56.9	311 02.2	18.7	311 02.2
15	311 43.9	356 47.1	18.0	183 06.2	07.8	237 59.6	56.8	326 04.5	18.7	326 04.5
16	326 46.3	11 46.8	17.2	198 09.0	08.0	253 02.4	56.8	341 06.9	18.6	341 06.9
17	341 48.8	26 46.4	-19 16.3	213 11.8	+22 08.2	268 05.2	+21 56.8	356 09.2	-8 18.6	356 09.2
18	356 51.2	41 46.0	-19 15.4	228 14.6	+22 08.4	283 08.0	+21 56.8	11 11.5	-8 18.5	11 11.5
19	11 53.7	56 45.6	14.5	243 17.4	08.6	298 10.8	56.7	26 13.9	18.5	26 13.9
20	26 56.2	71 45.3	13.6	258 20.3	08.8	313 13.6	56.7	41 16.2	18.4	41 16.2
21	41 58.6	86 44.9	12.8	273 23.1	09.0	328 16.4	56.7	56 18.6	18.3	56 18.6
22	57 01.1	101 44.5	11.9	288 25.9	09.3	343 19.3	56.6	71 20.9	18.3	71 20.9
23	72 03.6	116 44.1	11.0	303 28.7	09.5	358 22.1	56.6	86 23.2	18.2	86 23.2
24	87 06.0	131 43.8	-19 10.1	318 31.6	+22 09.7	13 24.9	+21 56.6	101 25.6	-8 18.2	101 25.6

Dif	—	-4	+9	+28	+2	+28	0	+23	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 56.8 <sup>m</sup>		SD: 15.6' Edad: 16.7 <sup>d</sup> PMG: 2 <sup>h</sup> 31 <sup>m</sup>		PHE { 4 <sup>h</sup> : 57.2' 12 <sup>h</sup> : 56.9' 20 <sup>h</sup> : 56.6'			R <sup>o</sup> : 51 <sup>m</sup>					Hora R <sup>o</sup>		Hora R <sup>o</sup>	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 51.6	-23 23.6	323 40.8	83	+24 26.6	87	7 06	8 03	9 00	18 13 98	11 54 2					
1	195 51.3	23.7	338 08.1	83	17.9	87	58	6 58	7 51	8 43	30 92	36 8				
2	210 51.0	23.7	352 35.5	83	09.1	88	56	51	41	28	44 87	22 12				
3	225 50.7	23.8	7 02.9	85	+24 00.2	89	54	45	31	15	18 56 83	11 09 16				
4	240 50.4	23.9	21 30.6	87	+23 51.1	91	52	40	23	8 04	19 06 81	10 58 18				
5	255 50.1	-23 23.9	35 58.3	87	+23 42.0	91	50	6 34	7 16	7 54	19 16 78	10 48 21				
6	270 49.7	-23 24.0	50 26.2	89	+23 32.7	93	45	6 22	7 00	7 34	19 36 72	10 26 27				
7	285 49.4	24.0	64 54.2	90	23.3	94	40	12	6 46	17	19 52 67	10 09 31				
8	300 49.1	24.1	79 22.3	91	13.7	96	35	6 03	34	7 03	20 05 64	9 55 34				
9	315 48.8	24.2	93 50.6	93	+23 04.1	96	30	5 54	24	6 50	17 61	42 37				
10	330 48.5	24.2	108 18.9	93	+22 54.4	97	20	37	6 05	29	37 56	20 42				
11	345 48.2	-23 24.3	122 47.4	95	+22 44.5	99	10 N	5 21	5 48	6 10	20 54 52	9 01 47				
12	0 47.9	-23 24.3	137 16.1	97	+22 34.6	99	0	5 04	5 31	5 53	21 10 48	8 43 51				
13	15 47.6	24.4	151 44.8	97	24.5	101	10 S	4 45	5 12	35	26 44	26 53				
14	30 47.3	24.4	166 13.7	99	14.3	102	20	4 23	4 52	5 16	21 43 39	8 06 58				
15	45 47.0	24.5	180 42.7	100	+22 04.1	102	30	3 54	27	4 54	22 03 34	7 44 63				
16	60 46.7	24.6	195 11.8	101	+21 53.7	104	35	35	4 12	41	14 31	30 66				
17	75 46.4	-23 24.6	209 41.0	102	+21 43.2	105	40	3 12	3 54	4 26	22 27 28	7 15 70				
18	90 46.1	-23 24.7	224 10.4	104	+21 32.7	105	45	2 41	3 31	4 08	22 42 24	6 57 74				
19	105 45.8	24.7	238 39.9	105	22.0	107	50	1 56	3 01	3 46	23 01 18	34 79				
20	120 45.4	24.8	253 09.5	106	11.2	108	52	1 28	2 46	35	10 15	23 82				
21	135 45.1	24.8	267 39.2	107	+21 00.4	108	54	0 42	28	23	20 12	6 10 86				
22	150 44.8	24.9	282 09.0	108	+20 49.5	109	56	** **	2 06	3 08	31 9	5 56 90				
23	165 44.5	24.9	296 39.0	110	38.4	111	58	** **	1 36	2 52	43 5	39 95				
24	180 44.2	-23 25.0	311 09.1	111	+20 27.3	111	60 S	** **	0 46	2 31	23 58 0	5 18 102				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 08.6 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 13 <sup>m</sup>		Mag.: -0.9 PMG: 2 <sup>h</sup> 45 <sup>m</sup>		Mag.: -2.8 PMG: 23 <sup>h</sup> 02 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 12 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	87 06.0	131 43.8	-19 10.1	318 31.6	+22 09.7	13 24.9	+21 56.6	101 25.6	-8 18.2	
1	102 08.5	146 43.4	09.2	333 34.4	09.9	28 27.7	56.5	116 27.9	18.1	
2	117 11.0	161 43.0	08.3	348 37.2	10.1	43 30.5	56.5	131 30.2	18.0	
3	132 13.4	176 42.7	07.4	3 40.1	10.3	58 33.3	56.5	146 32.6	18.0	
4	147 15.9	191 42.3	06.6	18 42.9	10.5	73 36.2	56.5	161 34.9	17.9	
5	162 18.4	206 41.9	-19 05.7	33 45.7	+22 10.7	88 39.0	+21 56.4	176 37.3	-8 17.9	
6	177 20.8	221 41.6	-19 04.8	48 48.6	+22 10.9	103 41.8	+21 56.4	191 39.6	-8 17.8	
7	192 23.3	236 41.2	03.9	63 51.4	11.1	118 44.6	56.4	206 41.9	17.7	
8	207 25.7	251 40.8	03.0	78 54.3	11.3	133 47.4	56.3	221 44.3	17.7	
9	222 28.2	266 40.5	02.1	93 57.1	11.5	148 50.2	56.3	236 46.6	17.6	
10	237 30.7	281 40.1	01.2	109 00.0	11.7	163 53.0	56.3	251 48.9	17.6	
11	252 33.1	296 39.8	-19 00.3	124 02.8	+22 11.9	178 55.8	+21 56.2	266 51.3	-8 17.5	
12	267 35.6	311 39.4	-18 59.4	139 05.6	+22 12.1	193 58.7	+21 56.2	281 53.6	-8 17.4	
13	282 38.1	326 39.0	58.5	154 08.5	12.3	209 01.5	56.2	296 56.0	17.4	
14	297 40.5	341 38.7	57.6	169 11.3	12.6	224 04.3	56.2	311 58.3	17.3	
15	312 43.0	356 38.3	56.7	184 14.2	12.8	239 07.1	56.1	327 00.6	17.3	
16	327 45.5	11 38.0	55.8	199 17.1	13.0	254 09.9	56.1	342 03.0	17.2	
17	342 47.9	26 37.6	-18 55.0	214 19.9	+22 13.2	269 12.7	+21 56.1	357 05.3	-8 17.1	
18	357 50.4	41 37.3	-18 54.1	229 22.8	+22 13.4	284 15.5	+21 56.0	12 07.6	-8 17.1	
19	12 52.8	56 36.9	53.2	244 25.6	13.6	299 18.4	56.0	27 10.0	17.0	
20	27 55.3	71 36.6	52.3	259 28.5	13.8	314 21.2	56.0	42 12.3	17.0	
21	42 57.8	86 36.2	51.4	274 31.3	14.0	329 24.0	56.0	57 14.6	16.9	
22	58 00.2	101 35.9	50.5	289 34.2	14.2	344 26.8	55.9	72 17.0	16.8	
23	73 02.7	116 35.5	49.6	304 37.1	14.4	359 29.6	55.9	87 19.3	16.8	
24	88 05.2	131 35.2	-18 48.6	319 39.9	+22 14.7	14 32.4	+21 55.9	102 21.6	-8 16.7	

Dif	—	-4	+9	+28	+2	+28	0	+23	+1
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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3'		SD: 15.4'		Edad: 17.7 <sup>d</sup>				PHE { 4 <sup>h</sup> : 56.4' 12 <sup>h</sup> : 56.1' 20 <sup>h</sup> : 55.9'		R <sup>o</sup> : 47 <sup>m</sup>					
	PMG: 11 <sup>h</sup> 57.3 <sup>m</sup>		PMG: 3 <sup>h</sup> 22 <sup>m</sup>													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	h m	h m			
0	180 44.2	-23 25.0	311 09.1		+20 27.3	112	60 N	14 54	15 51	16 48	19 51	90	11 56	0		
1	195 43.9	25.0	325 39.3	112	16.1	112	58	15 11	16 03	16 56	20 02	86	44	4		
2	210 43.6	25.0	340 09.6	113	+20 04.8	113	56	26	13	17 03	11 83		34	8		
3	225 43.3	25.1	354 40.0	114	+19 53.4	114	54	39	22	09	19 80		25	11		
4	240 43.0	25.1	9 10.6	116	42.0	114	52	15 50	31	14	27 76		16	14		
5	255 42.7	-23 25.2	23 41.2	116	+19 30.5	115	50	16 00	16 38	17 20	20 34	73	11 09	16		
6	270 42.4	-23 25.2	38 12.0	118	+19 18.8	117	45	16 20	16 54	17 31	20 48	68	10 53	22		
7	285 42.1	25.3	52 42.9	119	+19 07.2	116	40	37	17 08	42	20 59	65	40	26		
8	300 41.7	25.3	67 13.9	120	+18 55.4	118	35	16 51	20	17 51	21 09	61	29	29		
9	315 41.4	25.3	81 45.0	121	43.6	118	30	17 04	30	18 00	18 57		19	32		
10	330 41.1	25.4	96 16.2	122	31.6	120	20	25	17 49	17	33 52		10 02	37		
11	345 40.8	-23 25.4	110 47.6	124	+18 19.7	119	10 N	17 44	18 06	18 33	21 46	47	9 48	41		
12	0 40.5	-23 25.5	125 19.0	124	+18 07.6	121	0	18 01	18 24	18 50	21 58	43	9 34	45		
13	15 40.2	25.5	139 50.6	126	+17 55.5	121	10 S	19	18 42	19 09	22 10	39	19	50		
14	30 39.9	25.5	154 22.2	126	43.3	122	20	18 38	19 02	19 31	22 35		9 04	54		
15	45 39.6	25.6	168 54.0	128	31.1	122	30	19 00	27	20 01	37 30		8 47	59		
16	60 39.3	25.6	183 25.9	129	18.7	124	35	13	19 43	19	45 27		36	63		
17	75 39.0	-23 25.6	197 57.8	129	+17 06.4	123	40	19 28	20 01	20 42	22 55	23	8 25	66		
18	90 38.7	-23 25.7	212 29.9	131	+16 53.9	125	45	19 46	20 23	21 13	23 06	19	8 11	70		
19	105 38.3	25.7	227 02.1	132	41.4	125	50	20 08	20 53	21 59	19 14		7 53	76		
20	120 38.0	25.7	241 34.4	133	28.8	126	52	19	21 08	22 27	25 12		45	79		
21	135 37.7	25.8	256 06.7	133	16.2	126	54	32	26	23 14	32 10		36	82		
22	150 37.4	25.8	270 39.2	135	+16 03.5	127	56	20 46	21 49	** **	40 6		26	85		
23	165 37.1	25.8	285 11.8	136	+15 50.8	127	58	21 03	22 19	** **	48 3		14	90		
24	180 36.8	-23 25.8	299 44.5	137	+15 38.0	128	60 S	21 23	23 10	** **	23 58	-1	7 00	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 04.7 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 14 <sup>m</sup>		Mag.: -0.9 PMG: 2 <sup>h</sup> 41 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 58 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 08 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	88 05.2	131 35.2	-18 48.6	319 39.9	+22 14.7	14 32.4	+21 55.9	102 21.6	-8 16.7	
1	103 07.6	146 34.8	47.7	334 42.8	14.9	29 35.2	55.8	117 24.0	16.7	
2	118 10.1	161 34.5	46.8	349 45.7	15.1	44 38.0	55.8	132 26.3	16.6	
3	133 12.6	176 34.1	45.9	4 48.5	15.3	59 40.8	55.8	147 28.6	16.5	
4	148 15.0	191 33.8	45.0	19 51.4	15.5	74 43.7	55.7	162 31.0	16.5	
5	163 17.5	206 33.4	-18 44.1	34 54.3	+22 15.7	89 46.5	+21 55.7	177 33.3	-8 16.4	
6	178 20.0	221 33.1	-18 43.2	49 57.2	+22 15.9	104 49.3	+21 55.7	192 35.6	-8 16.4	
7	193 22.4	236 32.7	42.3	65 00.0	16.2	119 52.1	55.7	207 38.0	16.3	
8	208 24.9	251 32.4	41.4	80 02.9	16.4	134 54.9	55.6	222 40.3	16.2	
9	223 27.3	266 32.1	40.5	95 05.8	16.6	149 57.7	55.6	237 42.6	16.2	
10	238 29.8	281 31.7	39.6	110 08.7	16.8	165 00.5	55.6	252 45.0	16.1	
11	253 32.3	296 31.4	-18 38.7	125 11.6	+22 17.0	180 03.3	+21 55.5	267 47.3	-8 16.1	
12	268 34.7	311 31.0	-18 37.8	140 14.4	+22 17.2	195 06.1	+21 55.5	282 49.6	-8 16.0	
13	283 37.2	326 30.7	36.8	155 17.3	17.4	210 09.0	55.5	297 52.0	15.9	
14	298 39.7	341 30.4	35.9	170 20.2	17.7	225 11.8	55.5	312 54.3	15.9	
15	313 42.1	356 30.0	35.0	185 23.1	17.9	240 14.6	55.4	327 56.6	15.8	
16	328 44.6	11 29.7	34.1	200 26.0	18.1	255 17.4	55.4	342 59.0	15.7	
17	343 47.1	26 29.4	-18 33.2	215 28.9	+22 18.3	270 20.2	+21 55.4	358 01.3	-8 15.7	
18	358 49.5	41 29.0	-18 32.3	230 31.8	+22 18.5	285 23.0	+21 55.3	13 03.6	-8 15.6	
19	13 52.0	56 28.7	31.4	245 34.7	18.7	300 25.8	55.3	28 06.0	15.6	
20	28 54.5	71 28.4	30.4	260 37.6	19.0	315 28.6	55.3	43 08.3	15.5	
21	43 56.9	86 28.0	29.5	275 40.5	19.2	330 31.4	55.2	58 10.6	15.4	
22	58 59.4	101 27.7	28.6	290 43.4	19.4	345 34.2	55.2	73 13.0	15.4	
23	74 01.8	116 27.4	27.7	305 46.3	19.6	0 37.0	55.2	88 15.3	15.3	
24	89 04.3	131 27.1	-18 26.8	320 49.2	+22 19.8	15 39.9	+21 55.2	103 17.6	-8 15.3	
Dif	—	-3	+9	+29	+2	+28	0	+23	+1	



UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 57.8 <sup>m</sup>		SD: 15.2' Edad: 18.7 <sup>d</sup>		PHE { 4 <sup>h</sup> : 55.7' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.3'PMG: 4 <sup>h</sup> 09 <sup>m</sup> R°: 42 <sup>m</sup>								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
0	180 36.8	-23 25.8	299 44.5	+15 38.0	128	<b>60 N</b>	7 07	8 04	9 02	21 21 86	11 56 -1					
1	195 36.5	25.9	314 17.2 <sup>137</sup>	25.2	129	<b>58</b>	6 59	7 52	8 44	28 81 48	3					
2	210 36.2	25.9	328 50.1 <sup>139</sup>	+15 12.3	129	<b>56</b>	53	42	29	34 78 42	5					
3	225 35.9	25.9	343 23.0 <sup>139</sup>	+14 59.4	130	<b>54</b>	46	33	17	39 75 36	8					
4	240 35.6	25.9	357 56.1 <sup>141</sup>	46.4	131	<b>52</b>	41	24	8 05	43 73 30	11					
5	255 35.3	-23 26.0	12 29.2 <sup>141</sup>	+14 33.3	131	<b>50</b>	6 35	7 17	7 56	21 47 71	11 25 13					
6	270 34.9	-23 26.0	27 02.4 <sup>142</sup>	+14 20.2	131	<b>45</b>	6 24	7 01	7 35	21 56 66	11 15 17					
7	285 34.6	26.0	41 35.7 <sup>143</sup>	+14 07.1	131	<b>40</b>	13	6 47	18	22 04 61	11 06 21					
8	300 34.3	26.0	56 09.1 <sup>144</sup>	+13 53.9	132	<b>35</b>	6 04	36	7 04	10 58 25	10 58 25					
9	315 34.0	26.1	70 42.6 <sup>145</sup>	40.7	132	<b>30</b>	5 55	25	6 51	15 55 51	28					
10	330 33.7	26.1	85 16.2 <sup>146</sup>	27.5	132	<b>20</b>	39	6 06	30	25 50 39	34					
11	345 33.4	-23 26.1	99 49.8 <sup>146</sup>	+13 14.2	133	<b>10 N</b>	5 22	5 49	6 12	22 33 45	10 29 38					
12	0 33.1	-23 26.1	114 23.6 <sup>148</sup>	+13 00.8	134	<b>0</b>	5 05	5 31	5 54	22 41 41	10 19 42					
13	15 32.8	26.1	128 57.4 <sup>148</sup>	+12 47.4	134	<b>10 S</b>	4 46	5 13	36	49 36 10	09 46					
14	30 32.5	26.1	143 31.3 <sup>149</sup>	34.0	134	<b>20</b>	4 24	4 53	5 17	22 57 32	9 58 51					
15	45 32.2	26.2	158 05.3 <sup>150</sup>	20.5	135	<b>30</b>	3 54	28	4 55	23 07 26	46 56					
16	60 31.8	26.2	172 39.3 <sup>150</sup>	+12 07.1	134	<b>35</b>	36	4 13	42	12 24 39	59					
17	75 31.5	-23 26.2	187 13.4 <sup>151</sup>	+11 53.5	136	<b>40</b>	3 13	3 54	4 27	23 18 21	9 31 62					
18	90 31.2	-23 26.2	201 47.6 <sup>152</sup>	+11 40.0	135	<b>45</b>	2 42	3 32	4 09	23 25 17	9 21 67					
19	105 30.9	26.2	216 21.9 <sup>153</sup>	26.4	136	<b>50</b>	1 56	3 02	3 47	33 12 09	73					
20	120 30.6	26.2	230 56.2 <sup>153</sup>	+11 12.7	137	<b>52</b>	1 28	2 47	36	37 10 9	04 75					
21	135 30.3	26.2	245 30.7 <sup>155</sup>	+10 59.1	136	<b>54</b>	0 41	29	23	42 7 8	58 77					
22	150 30.0	26.3	260 05.1 <sup>154</sup>	45.4	137	<b>56</b>	** **	2 06	3 09	46 5 51	81					
23	165 29.7	26.3	274 39.7 <sup>156</sup>	31.7	137	<b>58</b>	** **	1 36	2 52	51 2 44	83					
24	180 29.4	-23 26.3	289 14.3 <sup>156</sup>	+10 17.9	138	<b>60 S</b>	** **	0 45	2 32	23 57 -1	8 35 88					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 <sup>h</sup> 00.8 <sup>m</sup>		Mag.: -4.3 PMG: 15 <sup>h</sup> 15 <sup>m</sup>		Mag.: -0.9 PMG: 2 <sup>h</sup> 36 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 53 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 04 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	89 04.3	131 27.1	-18 26.8	320 49.2	+22 19.8	15 39.9	+21 55.2	103 17.6	-8 15.3	
1	104 06.8	146 26.7	25.8	335 52.1	20.1	30 42.7	55.1	118 20.0	15.2	
2	119 09.2	161 26.4	24.9	350 55.0	20.3	45 45.5	55.1	133 22.3	15.1	
3	134 11.7	176 26.1	24.0	5 57.9	20.5	60 48.3	55.1	148 24.6	15.1	
4	149 14.2	191 25.8	23.1	21 00.8	20.7	75 51.1	55.0	163 27.0	15.0	
5	164 16.6	206 25.4	-18 22.1	36 03.7	+22 20.9	90 53.9	+21 55.0	178 29.3	-8 14.9	
6	179 19.1	221 25.1	-18 21.2	51 06.6	+22 21.2	105 56.7	+21 55.0	193 31.6	-8 14.9	
7	194 21.6	236 24.8	20.3	66 09.5	21.4	120 59.5	55.0	208 33.9	14.8	
8	209 24.0	251 24.5	19.4	81 12.5	21.6	136 02.3	54.9	223 36.3	14.8	
9	224 26.5	266 24.1	18.4	96 15.4	21.8	151 05.1	54.9	238 38.6	14.7	
10	239 29.0	281 23.8	17.5	111 18.3	22.1	166 07.9	54.9	253 40.9	14.6	
11	254 31.4	296 23.5	-18 16.6	126 21.2	+22 22.3	181 10.7	+21 54.8	268 43.3	-8 14.6	
12	269 33.9	311 23.2	-18 15.7	141 24.1	+22 22.5	196 13.5	+21 54.8	283 45.6	-8 14.5	
13	284 36.3	326 22.9	14.7	156 27.1	22.7	211 16.4	54.8	298 47.9	14.4	
14	299 38.8	341 22.6	13.8	171 30.0	22.9	226 19.2	54.7	313 50.2	14.4	
15	314 41.3	356 22.2	12.9	186 32.9	23.2	241 22.0	54.7	328 52.6	14.3	
16	329 43.7	11 21.9	11.9	201 35.8	23.4	256 24.8	54.7	343 54.9	14.3	
17	344 46.2	26 21.6	-18 11.0	216 38.8	+22 23.6	271 27.6	+21 54.7	358 57.2	-8 14.2	
18	359 48.7	41 21.3	-18 10.1	231 41.7	+22 23.8	286 30.4	+21 54.6	13 59.6	-8 14.1	
19	14 51.1	56 21.0	09.1	246 44.6	24.1	301 33.2	54.6	29 01.9	14.1	
20	29 53.6	71 20.7	08.2	261 47.6	24.3	316 36.0	54.6	44 04.2	14.0	
21	44 56.1	86 20.4	07.3	276 50.5	24.5	331 38.8	54.5	59 06.5	13.9	
22	59 58.5	101 20.1	06.3	291 53.4	24.7	346 41.6	54.5	74 08.9	13.9	
23	75 01.0	116 19.8	05.4	306 56.4	25.0	1 44.4	54.5	89 11.2	13.8	
24	90 03.4	131 19.5	-18 04.5	321 59.3	+22 25.2	16 47.2	+21 54.5	104 13.5	-8 13.7	
Dif	—	-3	+9	+29	+2	+28	0	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 58.3 <sup>m</sup>		SD: 15.0' Edad: 19.7 <sup>d</sup> PMG: 4 <sup>h</sup> 51 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.1' 12 <sup>h</sup> : 54.9' 20 <sup>h</sup> : 54.7'				R°: 40 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180 29.4	-23 26.3	289 14.3	+10 17.9	138	60 N	14 54	15 52	16 49	22 47 82	11 55 -1					
1	195 29.1	26.3	303 49.0 <sup>157</sup>	+10 04.1	138	58	15 12	16 04	16 57	49 79	51 2					
2	210 28.7	26.3	318 23.7 <sup>157</sup>	+ 9 50.3	138	56	27	14	17 03	52 75	47 5					
3	225 28.4	26.3	332 58.6 <sup>159</sup>	36.5	138	54	39	23	10	54 73	44 7					
4	240 28.1	26.3	347 33.4 <sup>158</sup>	22.7	138	52	15 51	32	15	56 71	41 10					
5	255 27.8	-23 26.3	2 08.4 <sup>160</sup>	+ 9 08.8	139	50	16 00	16 39	17 21	22 58 68	11 38 12					
6	270 27.5	-23 26.3	16 43.4 <sup>160</sup>	+ 8 54.9	139	45	16 21	16 55	17 32	23 02 63	11 32 16					
7	285 27.2	26.3	31 18.4 <sup>160</sup>	41.0	139	40	38	17 09	43	05 60	27 20					
8	300 26.9	26.3	45 53.5 <sup>161</sup>	27.0	140	35	16 52	21	17 52	08 56	23 23					
9	315 26.6	26.3	60 28.7 <sup>162</sup>	+ 8 13.1	139	30	17 05	31	18 01	10 53	19 26					
10	330 26.3	26.3	75 03.9 <sup>162</sup>	+ 7 59.1	140	20	26	17 50	18	15 48	13 31					
11	345 26.0	-23 26.3	89 39.2 <sup>163</sup>	+ 7 45.1	140	10 N	17 45	18 07	18 34	23 18 44	11 07 35					
12	0 25.6	-23 26.3	104 14.5 <sup>163</sup>	+ 7 31.1	140	0	18 02	18 25	18 51	23 22 39	11 01 40					
13	15 25.3	26.3	118 49.9 <sup>164</sup>	17.1	140	10 S	20	18 43	19 10	25 35	10 55 44					
14	30 25.0	26.3	133 25.3 <sup>164</sup>	+ 7 03.0	141	20	18 39	19 03	19 32	29 31	49 49					
15	45 24.7	26.3	148 00.8 <sup>165</sup>	+ 6 48.9	141	30	19 01	28	20 02	33 26	42 54					
16	60 24.4	26.3	162 36.3 <sup>165</sup>	34.9	140	35	19 14	19 44	20	36 22	38 57					
17	75 24.1	-23 26.3	177 11.9 <sup>166</sup>	+ 6 20.8	141	40	19 29	20 02	20 44	23 39 19	10 33 61					
18	90 23.8	-23 26.3	191 47.5 <sup>166</sup>	+ 6 06.7	141	45	19 47	20 24	21 14	23 42 15	10 28 65					
19	105 23.5	26.3	206 23.1 <sup>166</sup>	+ 5 52.6	141	50	20 10	20 54	22 00	45 12	22 69					
20	120 23.2	26.3	220 58.8 <sup>167</sup>	38.4	142	52	20	21 09	22 28	47 9	19 71					
21	135 22.8	26.2	235 34.5 <sup>167</sup>	24.3	141	54	33	27	23 15	49 7	15 74					
22	150 22.5	26.2	250 10.3 <sup>168</sup>	+ 5 10.1	142	56	20 47	21 50	** ** *	51 4	12 76					
23	165 22.2	26.2	264 46.1 <sup>168</sup>	+ 4 56.0	141	58	21 04	22 20	** ** *	53 2	07 80					
24	180 21.9	-23 26.2	279 22.0 <sup>169</sup>	+ 4 41.8	142	60 S	21 24	23 11	** ** *	23 56 -1	10 03 83					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 56.8 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 15 <sup>m</sup>		Mag.: -1.0 PMG: 2 <sup>h</sup> 32 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 49 <sup>m</sup>		Mag.: +1.0 PMG: 17 <sup>h</sup> 00 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	90 03.4	131 19.5	-18 04.5	321 59.3	+22 25.2	16 47.2	+21 54.5	104 13.5	-8 13.7	
1	105 05.9	146 19.2	03.5	337 02.3	25.4	31 50.0	54.4	119 15.9	13.7	
2	120 08.4	161 18.8	02.6	352 05.2	25.6	46 52.8	54.4	134 18.2	13.6	
3	135 10.8	176 18.5	01.6	7 08.1	25.9	61 55.6	54.4	149 20.5	13.6	
4	150 13.3	191 18.2	-18 00.7	22 11.1	26.1	76 58.4	54.3	164 22.8	13.5	
5	165 15.8	206 17.9	-17 59.8	37 14.0	+22 26.3	92 01.2	+21 54.3	179 25.2	-8 13.4	
6	180 18.2	221 17.6	-17 58.8	52 17.0	+22 26.6	107 04.0	+21 54.3	194 27.5	-8 13.4	
7	195 20.7	236 17.3	57.9	67 19.9	26.8	122 06.8	54.3	209 29.8	13.3	
8	210 23.2	251 17.0	56.9	82 22.9	27.0	137 09.6	54.2	224 32.1	13.2	
9	225 25.6	266 16.7	56.0	97 25.8	27.2	152 12.5	54.2	239 34.5	13.2	
10	240 28.1	281 16.4	55.0	112 28.8	27.5	167 15.3	54.2	254 36.8	13.1	
11	255 30.6	296 16.1	-17 54.1	127 31.7	+22 27.7	182 18.1	+21 54.1	269 39.1	-8 13.0	
12	270 33.0	311 15.8	-17 53.2	142 34.7	+22 27.9	197 20.9	+21 54.1	284 41.4	-8 13.0	
13	285 35.5	326 15.6	52.2	157 37.7	28.2	212 23.7	54.1	299 43.8	12.9	
14	300 37.9	341 15.3	51.3	172 40.6	28.4	227 26.5	54.1	314 46.1	12.9	
15	315 40.4	356 15.0	50.3	187 43.6	28.6	242 29.3	54.0	329 48.4	12.8	
16	330 42.9	11 14.7	49.4	202 46.6	28.9	257 32.1	54.0	344 50.7	12.7	
17	345 45.3	26 14.4	-17 48.4	217 49.5	+22 29.1	272 34.9	+21 54.0	359 53.1	-8 12.7	
18	0 47.8	41 14.1	-17 47.5	232 52.5	+22 29.3	287 37.7	+21 53.9	14 55.4	-8 12.6	
19	15 50.3	56 13.8	46.5	247 55.5	29.5	302 40.5	53.9	29 57.7	12.5	
20	30 52.7	71 13.5	45.6	262 58.4	29.8	317 43.3	53.9	45 00.0	12.5	
21	45 55.2	86 13.2	44.6	278 01.4	30.0	332 46.1	53.8	60 02.4	12.4	
22	60 57.7	101 12.9	43.7	293 04.4	30.2	347 48.9	53.8	75 04.7	12.3	
23	76 00.1	116 12.7	42.7	308 07.3	30.5	2 51.7	53.8	90 07.0	12.3	
24	91 02.6	131 12.4	-17 41.7	323 10.3	+22 30.7	17 54.5	+21 53.8	105 09.3	-8 12.2	
Dif	—	-3	+9	+30	+2	+28	0	+23	+1	

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 58.8 <sup>m</sup>		SD: 14.9' Edad: 20.7 <sup>d</sup> PMG: 5 <sup>h</sup> 31 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.6' 12 <sup>h</sup> : 54.5' 20 <sup>h</sup> : 54.4'			R <sup>o</sup> : 39 <sup>m</sup>								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h	m	R <sup>o</sup>	R <sup>o</sup>	Hora	R <sup>o</sup>
0	180 21.9	-23 26.2	279 22.0	+4 41.8	142	60 N	7 08	8 05	9 03	** ** *	** ** *	11 54	-2			
1	195 21.6	26.2	293 57.9 <sup>169</sup>	27.6	142	58	7 00	7 53	8 45	** ** *	** ** *	53	1			
2	210 21.3	26.2	308 33.8 <sup>169</sup>	+4 13.5	141	56	6 54	43	30	** ** *	** ** *	52	4			
3	225 21.0	26.2	323 09.7 <sup>169</sup>	+3 59.3	142	54	47	34	18	** ** *	** ** *	51	7			
4	240 20.7	26.2	337 45.7 <sup>170</sup>	45.1	142	52	42	25	8 06	** ** *	** ** *	51	8			
5	255 20.4	-23 26.1	352 21.7 <sup>170</sup>	+3 30.9	142	50	6 36	7 18	7 57	** ** *	** ** *	11 50	11			
6	270 20.1	-23 26.1	6 57.7 <sup>170</sup>	+3 16.7	142	45	6 25	7 02	7 36	** ** *	** ** *	11 48	16			
7	285 19.7	26.1	21 33.8 <sup>171</sup>	+3 02.5	142	40	14	6 48	19	** ** *	** ** *	47	19			
8	300 19.4	26.1	36 09.9 <sup>171</sup>	+2 48.3	142	35	6 05	37	7 05	** ** *	** ** *	46	23			
9	315 19.1	26.1	50 46.0 <sup>171</sup>	34.1	142	30	5 56	26	6 52	** ** *	** ** *	45	26			
10	330 18.8	26.1	65 22.2 <sup>172</sup>	19.8	143	20	40	6 07	31	** ** *	** ** *	44	30			
11	345 18.5	-23 26.0	79 58.3 <sup>171</sup>	+2 05.6	142	10 N	5 23	5 50	6 13	** ** *	** ** *	11 42	35			
12	0 18.2	-23 26.0	94 34.5 <sup>172</sup>	+1 51.4	142	0	5 06	5 32	5 55	** ** *	** ** *	11 41	39			
13	15 17.9	26.0	109 10.7 <sup>172</sup>	37.2	142	10 S	4 47	5 14	37	** ** *	** ** *	39	44			
14	30 17.6	26.0	123 46.9 <sup>172</sup>	23.0	142	20	4 25	4 54	5 18	** ** *	** ** *	38	48			
15	45 17.3	25.9	138 23.2 <sup>173</sup>	+1 08.8	142	30	3 55	29	4 56	23 59	25	36	53			
16	60 16.9	25.9	152 59.4 <sup>172</sup>	+0 54.6	142	35	37	4 14	43	58	23	35	56			
17	75 16.6	-23 25.9	167 35.7 <sup>173</sup>	+0 40.4	142	40	3 14	3 55	4 28	23 58	19	11 34	59			
18	90 16.3	-23 25.9	182 12.0 <sup>173</sup>	+0 26.2	142	45	2 43	3 33	4 10	23 57	16	11 33	63			
19	105 16.0	25.8	196 48.3 <sup>173</sup>	+0 12.0	142	50	1 57	3 03	3 48	57	11	31	68			
20	120 15.7	25.8	211 24.6 <sup>173</sup>	-0 02.2	142	52	1 29	2 48	37	56	9	30	70			
21	135 15.4	25.8	226 00.9 <sup>173</sup>	16.4	142	54	0 42	30	24	56	7	29	73			
22	150 15.1	25.8	240 37.3 <sup>174</sup>	30.6	142	56	** ** *	2 07	3 10	55	5	28	76			
23	165 14.8	25.7	255 13.6 <sup>173</sup>	44.7	141	58	** ** *	1 37	2 53	55	2	27	79			
24	180 14.5	-23 25.7	269 50.0 <sup>174</sup>	-0 58.9	142	60 S	** ** *	0 46	2 33	23 55	-2	11 26	82			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 52.9 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 15 <sup>m</sup>		Mag.: -1.0 PMG: 2 <sup>h</sup> 27 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 44 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 57 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	91 02.6	131 12.4	-17 41.7	323 10.3	+22 30.7	17 54.5	+21 53.8	105 09.3	-8 12.2	
1	106 05.1	146 12.1	40.8	338 13.3	30.9	32 57.3	53.7	120 11.7	12.1	
2	121 07.5	161 11.8	39.8	353 16.3	31.2	48 00.1	53.7	135 14.0	12.1	
3	136 10.0	176 11.5	38.9	8 19.3	31.4	63 02.9	53.7	150 16.3	12.0	
4	151 12.4	191 11.2	37.9	23 22.2	31.6	78 05.7	53.6	165 18.6	11.9	
5	166 14.9	206 11.0	-17 37.0	38 25.2	+22 31.9	93 08.5	+21 53.6	180 21.0	-8 11.9	
6	181 17.4	221 10.7	-17 36.0	53 28.2	+22 32.1	108 11.3	+21 53.6	195 23.3	-8 11.8	
7	196 19.8	236 10.4	35.0	68 31.2	32.3	123 14.1	53.6	210 25.6	11.8	
8	211 22.3	251 10.1	34.1	83 34.2	32.6	138 16.9	53.5	225 27.9	11.7	
9	226 24.8	266 09.8	33.1	98 37.2	32.8	153 19.7	53.5	240 30.3	11.6	
10	241 27.2	281 09.6	32.2	113 40.2	33.1	168 22.5	53.5	255 32.6	11.6	
11	256 29.7	296 09.3	-17 31.2	128 43.2	+22 33.3	183 25.3	+21 53.4	270 34.9	-8 11.5	
12	271 32.2	311 09.0	-17 30.2	143 46.2	+22 33.5	198 28.1	+21 53.4	285 37.2	-8 11.4	
13	286 34.6	326 08.8	29.3	158 49.2	33.8	213 30.9	53.4	300 39.5	11.4	
14	301 37.1	341 08.5	28.3	173 52.2	34.0	228 33.7	53.4	315 41.9	11.3	
15	316 39.5	356 08.2	27.3	188 55.2	34.2	243 36.5	53.3	330 44.2	11.2	
16	331 42.0	11 07.9	26.4	203 58.2	34.5	258 39.3	53.3	345 46.5	11.2	
17	346 44.5	26 07.7	-17 25.4	219 01.2	+22 34.7	273 42.1	+21 53.3	0 48.8	-8 11.1	
18	1 46.9	41 07.4	-17 24.4	234 04.2	+22 35.0	288 44.9	+21 53.2	15 51.2	-8 11.0	
19	16 49.4	56 07.1	23.5	249 07.2	35.2	303 47.7	53.2	30 53.5	11.0	
20	31 51.9	71 06.9	22.5	264 10.2	35.4	318 50.5	53.2	45 55.8	10.9	
21	46 54.3	86 06.6	21.5	279 13.2	35.7	333 53.3	53.2	60 58.1	10.8	
22	61 56.8	101 06.3	20.6	294 16.2	35.9	348 56.1	53.1	76 00.4	10.8	
23	76 59.3	116 06.1	19.6	309 19.2	36.1	3 58.9	53.1	91 02.8	10.7	
24	92 01.7	131 05.8	-17 18.6	324 22.2	+22 36.4	19 01.7	+21 53.1	106 05.1	-8 10.6	
Dif	—	-3	+10	+30	+2	+28	0	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 16.3'		SD: 14.8'		Edad: 21.7 <sup>d</sup>				PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.2'		R <sup>o</sup> : 39 <sup>m</sup>											
	PMG: 11 <sup>h</sup> 59.3 <sup>m</sup>		PMG: 6 <sup>h</sup> 10 <sup>m</sup>																			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>									
h	° /	° /	° /	'	° /	'	°	h m	h m	h m	h m	h m	h m									
0	180	14.5	-23	25.7	269	50.0	-0	58.9	142	60 N	14 56	15 53	16 50	0 09	81	11 52	-1					
1	195	14.1		25.7	284	26.3	173	-1	13.1	142	58	15 13	16 05	16 58	08	78	54	2				
2	210	13.8		25.6	299	02.7	174		27.2	141	56	28	15	17 05	07	76	56	5				
3	225	13.5		25.6	313	39.0	173		41.3	141	54	41	24	11	07	73	58	7				
4	240	13.2		25.6	328	15.4	174	-1	55.5	142	52	15	52	33	16	07	70	11	59	10		
5	255	12.9	-23	25.5	342	51.7	173	-2	09.6	141	50	16	02	16 40	17 22	0 06	68	12	01	11		
6	270	12.6	-23	25.5	357	28.1	174	-2	23.7	141	45	16	22	16 56	17 34	0 05	63	12	04	16		
7	285	12.3		25.5	12	04.5	174		37.8	141	40	39	17	10	44	05	59	06	20			
8	300	12.0		25.4	26	40.8	173	-2	51.9	141	35	16	53	22	17 53	04	56	09	23			
9	315	11.7		25.4	41	17.2	174	-3	05.9	140	30	17	06	32	18 02	03	53	11	25			
10	330	11.3		25.3	55	53.5	173		20.0	141	20	27	17	51	19	03	47	14	31			
11	345	11.0	-23	25.3	70	29.9	174	-3	34.0	140	10 N	17	46	18 08	18 35	0 02	43	12	17	35		
12	0	10.7	-23	25.3	85	06.2	173	-3	48.0	140	0	18	03	18 26	18 52	0 01	39	12	20	39		
13	15	10.4		25.2	99	42.5	173	-4	02.0	140	10 S	21	18	44	19 11	00	35	23	43			
14	30	10.1		25.2	114	18.8	173		16.0	140	20	18	40	19 04	19 33	0 00	30	26	47			
15	45	09.8		25.1	128	55.1	173		30.0	140	30	19	02	29	20 03	** ** *	** ** *	29	53			
16	60	09.5		25.1	143	31.4	173		44.0	140	35	15	19	44	21	** ** *	** ** *	31	56			
17	75	09.2	-23	25.0	158	07.7	173	-4	57.9	139	40	19	30	20 03	20 44	** ** *	** ** *	12	33	60		
18	90	08.9	-23	25.0	172	44.0	173	-5	11.8	139	45	19	48	20 25	21 15	** ** *	** ** *	12	36	63		
19	105	08.6		25.0	187	20.2	172		25.7	139	50	20	10	20 55	22 01	** ** *	** ** *	39	68			
20	120	08.2		24.9	201	56.4	172		39.6	139	52	21	21	10	22 29	** ** *	** ** *	40	71			
21	135	07.9		24.9	216	32.6	172	-5	53.4	138	54	34	28	23	15	** ** *	** ** *	42	73			
22	150	07.6		24.8	231	08.8	172	-6	07.3	139	56	20	48	21 50	** ** *	** ** *	** ** *	44	75			
23	165	07.3		24.8	245	45.0	172		21.1	138	58	21	05	22 20	** ** *	** ** *	23	57	2	46	78	
24	180	07.0	-23	24.7	260	21.1	171	-6	34.9	138	60 S	21	25	23 11	** ** *	** ** *	23	53	-1	12	48	82

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 17 <sup>h</sup> 49.0 <sup>m</sup>		Mag.: -4.4		Mag.: -1.0		Mag.: -2.8		Mag.: +1.0										
	PMG: 15 <sup>h</sup> 16 <sup>m</sup>		PMG: 2 <sup>h</sup> 22 <sup>m</sup>		PMG: 22 <sup>h</sup> 40 <sup>m</sup>		PMG: 16 <sup>h</sup> 53 <sup>m</sup>												
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	° /	° /	'	° /	'	° /	'	° /	'										
0	92	01.7	131	05.8	-17	18.6	324	22.2	+22	36.4	19	01.7	+21	53.1	106	05.1	-8	10.6	
1	107	04.2	146	05.5		17.7	339	25.2		36.6	34	04.5		53.0	121	07.4		10.6	
2	122	06.7	161	05.3		16.7	354	28.2		36.9	49	07.3		53.0	136	09.7		10.5	
3	137	09.1	176	05.0		15.7	9	31.3		37.1	64	10.1		53.0	151	12.0		10.4	
4	152	11.6	191	04.8		14.7	24	34.3		37.3	79	12.8		53.0	166	14.4		10.4	
5	167	14.0	206	04.5	-17	13.8	39	37.3	+22	37.6	94	15.6	+21	52.9	181	16.7	-8	10.3	
6	182	16.5	221	04.2	-17	12.8	54	40.3	+22	37.8	109	18.4	+21	52.9	196	19.0	-8	10.2	
7	197	19.0	236	04.0		11.8	69	43.3		38.1	124	21.2		52.9	211	21.3		10.2	
8	212	21.4	251	03.7		10.8	84	46.4		38.3	139	24.0		52.8	226	23.6		10.1	
9	227	23.9	266	03.5		09.9	99	49.4		38.5	154	26.8		52.8	241	26.0		10.0	
10	242	26.4	281	03.2		08.9	114	52.4		38.8	169	29.6		52.8	256	28.3		10.0	
11	257	28.8	296	03.0	-17	07.9	129	55.4	+22	39.0	184	32.4	+21	52.8	271	30.6	-8	09.9	
12	272	31.3	311	02.7	-17	06.9	144	58.5	+22	39.3	199	35.2	+21	52.7	286	32.9	-8	09.8	
13	287	33.8	326	02.5		06.0	160	01.5		39.5	214	38.0		52.7	301	35.2		09.8	
14	302	36.2	341	02.2		05.0	175	04.5		39.8	229	40.8		52.7	316	37.5		09.7	
15	317	38.7	356	02.0		04.0	190	07.6		40.0	244	43.6		52.6	331	39.9		09.6	
16	332	41.1	11	01.7		03.0	205	10.6		40.2	259	46.4		52.6	346	42.2		09.6	
17	347	43.6	26	01.5	-17	02.0	220	13.7	+22	40.5	274	49.2	+21	52.6	1	44.5	-8	09.5	
18	2	46.1	41	01.2	-17	01.1	235	16.7	+22	40.7	289	52.0	+21	52.6	16	46.8	-8	09.4	
19	17	48.5	56	01.0	-17	00.1	250	19.7		41.0	304	54.8		52.5	31	49.1		09.4	
20	32	51.0	71	00.7	-16	59.1	265	22.8		41.2	319	57.6		52.5	46	51.5		09.3	
21	47	53.5	86	00.5		58.1	280	25.8		41.5	335	00.4		52.5	61	53.8		09.2	
22	62	55.9	101	00.2		57.1	295	28.9		41.7	350	03.2		52.4	76	56.1		09.2	
23	77	58.4	116	00.0		56.1	310	31.9		42.0	5	05.9		52.4	91	58.4		09.1	
24	93	00.9	130	59.8	-16	55.1	325	35.0	+22	42.2	20	08.7	+21	52.4	107	00.7	-8	09.0	

Dif									
	-	-3	+10	+30	+2	+28	0	+23	+1

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 11 <sup>h</sup> 59.8 <sup>m</sup>		SD: 14.8' Edad: 22.7 <sup>d</sup>		PHE { 4 <sup>h</sup> : 54.2' 12 <sup>h</sup> : 54.2' 20 <sup>h</sup> : 54.2'								Hora R°		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		h m	h m m	h m m	h m m	h m m	h m m
0	180 07.0	-23 24.7	260 21.1		- 6 34.9	137	60 N	7 09	8 06	9 03	1 30 84	11 51 -1				
1	195 06.7	24.7	274 57.3	172	- 6 48.6	137	58	7 01	7 54	8 46	26 80	11 56 3				
2	210 06.4	24.6	289 33.4	171	- 7 02.4	138	56	6 54	44	31	23 76	12 01 6				
3	225 06.1	24.5	304 09.4	170	16.1	137	54	48	34	18	20 73	05 8				
4	240 05.8	24.5	318 45.5	171	29.8	137	52	43	26	8 07	17 71	09 11				
5	255 05.4	-23 24.4	333 21.5	170	- 7 43.4	136	50	6 37	7 19	7 57	1 14 69	12 12 13				
6	270 05.1	-23 24.4	347 57.5	170	- 7 57.1	137	45	6 25	7 03	7 37	1 08 64	12 20 17				
7	285 04.8	24.3	2 33.4	169	- 8 10.7	136	40	15	6 49	20	04 60	26 22				
8	300 04.5	24.3	17 09.4	170	24.2	135	35	6 06	37	7 06	1 00 56	32 24				
9	315 04.2	24.2	31 45.3	169	37.8	136	30	5 57	27	6 53	0 56 54	36 28				
10	330 03.9	24.2	46 21.1	168	- 8 51.3	135	20	40	6 08	32	50 49	45 32				
11	345 03.6	-23 24.1	60 57.0	169	- 9 04.8	135	10 N	5 24	5 51	6 13	0 45 44	12 52 37				
12	0 03.3	-23 24.0	75 32.7	167	- 9 18.3	135	0	5 07	5 33	5 56	0 40 40	12 59 41				
13	15 03.0	24.0	90 08.5	168	31.7	134	10 S	4 48	5 15	38	35 36	13 06 45				
14	30 02.6	23.9	104 44.2	167	45.1	134	20	4 26	4 55	5 19	30 31	13 50				
15	45 02.3	23.8	119 19.9	167	- 9 58.4	133	30	3 57	30	4 57	24 27	22 54				
16	60 02.0	23.8	133 55.5	166	- 10 11.8	134	35	38	4 15	44	21 23	27 57				
17	75 01.7	-23 23.7	148 31.1	166	- 10 25.1	133	40	3 15	3 56	4 29	0 17 20	13 33 60				
18	90 01.4	-23 23.7	163 06.7	166	- 10 38.3	132	45	2 44	3 34	4 11	0 13 16	13 39 65				
19	105 01.1	23.6	177 42.2	165	- 10 51.5	132	50	1 58	3 04	3 49	08 12	47 70				
20	120 00.8	23.5	192 17.7	165	- 11 04.7	132	52	1 31	2 49	38	05 10	51 72				
21	135 00.5	23.5	206 53.1	164	17.9	132	54	0 44	31	26	03 7	55 75				
22	150 00.2	23.4	221 28.4	163	31.0	131	56	** **	2 09	3 11	0 00 5	13 59 78				
23	164 59.9	23.3	236 03.8	164	44.1	131	58	** **	1 39	2 54	23 59 3	14 04 82				
24	179 59.5	-23 23.2	250 39.0	162	- 11 57.1	130	60 S	** **	0 48	2 34	23 52 0	14 10 85				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 45.0 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 16 <sup>m</sup>		Mag.: -1.0 PMG: 2 <sup>h</sup> 17 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 35 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 49 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	93 00.9	130 59.8	- 16 55.1	325 35.0	+ 22 42.2	20 08.7	+ 21 52.4	107 00.7	- 8 09.0	
1	108 03.3	145 59.5	54.2	340 38.0	42.4	35 11.5	52.4	122 03.0	09.0	
2	123 05.8	160 59.3	53.2	355 41.1	42.7	50 14.3	52.3	137 05.4	08.9	
3	138 08.3	175 59.0	52.2	10 44.1	42.9	65 17.1	52.3	152 07.7	08.8	
4	153 10.7	190 58.8	51.2	25 47.2	43.2	80 19.9	52.3	167 10.0	08.8	
5	168 13.2	205 58.6	- 16 50.2	40 50.2	+ 22 43.4	95 22.7	+ 21 52.2	182 12.3	- 8 08.7	
6	183 15.6	220 58.3	- 16 49.2	55 53.3	+ 22 43.7	110 25.5	+ 21 52.2	197 14.6	- 8 08.6	
7	198 18.1	235 58.1	48.2	70 56.3	43.9	125 28.3	52.2	212 16.9	08.6	
8	213 20.6	250 57.9	47.2	85 59.4	44.2	140 31.1	52.2	227 19.3	08.5	
9	228 23.0	265 57.6	46.2	101 02.5	44.4	155 33.9	52.1	242 21.6	08.4	
10	243 25.5	280 57.4	45.3	116 05.5	44.7	170 36.7	52.1	257 23.9	08.3	
11	258 28.0	295 57.2	- 16 44.3	131 08.6	+ 22 44.9	185 39.4	+ 21 52.1	272 26.2	- 8 08.3	
12	273 30.4	310 56.9	- 16 43.3	146 11.7	+ 22 45.2	200 42.2	+ 21 52.0	287 28.5	- 8 08.2	
13	288 32.9	325 56.7	42.3	161 14.7	45.4	215 45.0	52.0	302 30.8	08.1	
14	303 35.4	340 56.5	41.3	176 17.8	45.7	230 47.8	52.0	317 33.1	08.1	
15	318 37.8	355 56.2	40.3	191 20.9	45.9	245 50.6	52.0	332 35.5	08.0	
16	333 40.3	10 56.0	39.3	206 23.9	46.2	260 53.4	51.9	347 37.8	07.9	
17	348 42.8	25 55.8	- 16 38.3	221 27.0	+ 22 46.4	275 56.2	+ 21 51.9	2 40.1	- 8 07.9	
18	3 45.2	40 55.6	- 16 37.3	236 30.1	+ 22 46.7	290 59.0	+ 21 51.9	17 42.4	- 8 07.8	
19	18 47.7	55 55.3	36.3	251 33.2	46.9	306 01.8	51.8	32 44.7	07.7	
20	33 50.1	70 55.1	35.3	266 36.2	47.2	321 04.6	51.8	47 47.0	07.7	
21	48 52.6	85 54.9	34.3	281 39.3	47.4	336 07.3	51.8	62 49.3	07.6	
22	63 55.1	100 54.7	33.3	296 42.4	47.7	351 10.1	51.8	77 51.7	07.5	
23	78 57.5	115 54.4	32.3	311 45.5	47.9	6 12.9	51.7	92 54.0	07.5	
24	94 00.0	130 54.2	- 16 31.3	326 48.6	+ 22 48.2	21 15.7	+ 21 51.7	107 56.3	- 8 07.4	
Dif	—	-2	+10	+31	+2	+28	0	+23	+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 00.3 <sup>m</sup>		SD: 14.8' Edad: 23.7 <sup>d</sup> PMG: 7 <sup>h</sup> 30 <sup>m</sup>		PHE { 4 <sup>h</sup> : 54.3' 12 <sup>h</sup> : 54.3' 20 <sup>h</sup> : 54.4'				R <sup>o</sup> : 43 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R <sup>o</sup>	Hora	R <sup>o</sup>		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	m	h m	m			
0	179 59.5	-23 23.2	250 39.0	-11 57.1	130	60 N	14 57	15 55	16 52	2 54	88	11 50	0			
1	194 59.2	23.2	265 14.3 <sup>163</sup>	-12 10.1	129	58	15 15	16 07	16 59	46	83	11 59	4			
2	209 58.9	23.1	279 49.4 <sup>161</sup>	23.0	129	56	29	17	17 06	39	80	12 07	7			
3	224 58.6	23.0	294 24.6 <sup>162</sup>	35.9	129	54	42	26	12	33	77	13	11			
4	239 58.3	23.0	308 59.6 <sup>160</sup>	-12 48.8	129	52	15 53	34	18	28	73	20	13			
5	254 58.0	-23 22.9	323 34.6 <sup>160</sup>	-13 01.6	128	50	16 03	16 41	17 23	2 23	71	12 25	16			
6	269 57.7	-23 22.8	338 09.6 <sup>160</sup>	-13 14.4	128	45	16 24	16 57	17 35	2 12	66	12 37	21			
7	284 57.4	22.7	352 44.5 <sup>159</sup>	27.1	127	40	40	17 11	45	2 04	62	48	24			
8	299 57.1	22.6	7 19.3 <sup>158</sup>	39.8	127	35	16 55	23	17 54	1 56	59	12 56	28			
9	314 56.8	22.6	21 54.1 <sup>158</sup>	-13 52.4	126	30	17 07	33	18 03	50	55	13 04	31			
10	329 56.4	22.5	36 28.8 <sup>157</sup>	-14 05.0	126	20	28	17 52	20	39	50	17	36			
11	344 56.1	-23 22.4	51 03.5 <sup>157</sup>	-14 17.6	126	10 N	17 47	18 09	18 36	1 29	46	13 29	40			
12	359 55.8	-23 22.3	65 38.1 <sup>156</sup>	-14 30.0	124	0	18 04	18 27	18 53	1 20	42	13 40	43			
13	14 55.5	22.3	80 12.6 <sup>155</sup>	42.5	125	10 S	22	18 45	19 12	11	38	13 51	47			
14	29 55.2	22.2	94 47.1 <sup>155</sup>	-14 54.9	124	20	18 41	19 05	19 34	1 01	34	14 03	51			
15	44 54.9	22.1	109 21.5 <sup>154</sup>	-15 07.2	123	30	19 03	30	20 03	0 51	29	16	57			
16	59 54.6	22.0	123 55.8 <sup>153</sup>	19.5	123	35	16	19 45	22	44	27	24	60			
17	74 54.3	-23 21.9	138 30.1 <sup>153</sup>	-15 31.7	122	40	19 31	20 03	20 45	0 37	23	14 33	63			
18	89 54.0	-23 21.8	153 04.3 <sup>152</sup>	-15 43.9	122	45	19 49	20 26	21 16	0 29	19	14 44	67			
19	104 53.7	21.8	167 38.5 <sup>152</sup>	-15 56.0	121	50	20 11	20 56	22 01	20	14	14 57	72			
20	119 53.3	21.7	182 12.5 <sup>150</sup>	-16 08.1	121	52	22	21 11	22 29	15	12	15 03	74			
21	134 53.0	21.6	196 46.5 <sup>150</sup>	20.1	120	54	34	29	23 14	10	10	10	77			
22	149 52.7	21.5	211 20.5 <sup>150</sup>	32.0	119	56	20 48	21 51	** ** *	0 05	7	17	81			
23	164 52.4	21.4	225 54.3 <sup>148</sup>	43.9	119	58	21 05	22 20	** ** *	** ** *	** ** *	26	85			
24	179 52.1	-23 21.3	240 28.1 <sup>148</sup>	-16 55.7	118	60 S	21 25	23 10	** ** *	23 52	1	15 35	90			

UT	ARIES	VENUS	MARTE	JÚPITER	SATURNO				
	PMG	Mag.: -4.4	Mag.: -1.0	Mag.: -2.8	Mag.: +1.0				
	17 <sup>h</sup> 41.1 <sup>m</sup>	PMG: 15 <sup>h</sup> 17 <sup>m</sup>	PMG: 2 <sup>h</sup> 12 <sup>m</sup>	PMG: 22 <sup>h</sup> 31 <sup>m</sup>	PMG: 16 <sup>h</sup> 46 <sup>m</sup>				
h	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec			
0	94 00.0	130 54.2	-16 31.3	326 48.6	+22 48.2	21 15.7	+21 51.7	107 56.3	-8 07.4
1	109 02.5	145 54.0	30.3	341 51.7	48.4	36 18.5	51.7	122 58.6	07.3
2	124 04.9	160 53.8	29.3	356 54.7	48.7	51 21.3	51.6	138 00.9	07.3
3	139 07.4	175 53.6	28.3	11 57.8	48.9	66 24.1	51.6	153 03.2	07.2
4	154 09.9	190 53.4	27.3	27 00.9	49.2	81 26.9	51.6	168 05.5	07.1
5	169 12.3	205 53.1	-16 26.3	42 04.0	+22 49.4	96 29.6	+21 51.6	183 07.9	-8 07.0
6	184 14.8	220 52.9	-16 25.3	57 07.1	+22 49.7	111 32.4	+21 51.5	198 10.2	-8 07.0
7	199 17.2	235 52.7	24.3	72 10.2	49.9	126 35.2	51.5	213 12.5	06.9
8	214 19.7	250 52.5	23.3	87 13.3	50.2	141 38.0	51.5	228 14.8	06.8
9	229 22.2	265 52.3	22.3	102 16.4	50.4	156 40.8	51.5	243 17.1	06.8
10	244 24.6	280 52.1	21.2	117 19.5	50.7	171 43.6	51.4	258 19.4	06.7
11	259 27.1	295 51.9	-16 20.2	132 22.6	+22 50.9	186 46.4	+21 51.4	273 21.7	-8 06.6
12	274 29.6	310 51.7	-16 19.2	147 25.7	+22 51.2	201 49.2	+21 51.4	288 24.0	-8 06.6
13	289 32.0	325 51.4	18.2	162 28.8	51.4	216 51.9	51.3	303 26.4	06.5
14	304 34.5	340 51.2	17.2	177 31.9	51.7	231 54.7	51.3	318 28.7	06.4
15	319 37.0	355 51.0	16.2	192 35.0	52.0	246 57.5	51.3	333 31.0	06.3
16	334 39.4	10 50.8	15.2	207 38.1	52.2	262 00.3	51.3	348 33.3	06.3
17	349 41.9	25 50.6	-16 14.2	222 41.2	+22 52.5	277 03.1	+21 51.2	3 35.6	-8 06.2
18	4 44.4	40 50.4	-16 13.2	237 44.3	+22 52.7	292 05.9	+21 51.2	18 37.9	-8 06.1
19	19 46.8	55 50.2	12.2	252 47.4	53.0	307 08.6	51.2	33 40.2	06.1
20	34 49.3	70 50.0	11.1	267 50.6	53.2	322 11.4	51.1	48 42.5	06.0
21	49 51.7	85 49.8	10.1	282 53.7	53.5	337 14.2	51.1	63 44.8	05.9
22	64 54.2	100 49.6	09.1	297 56.8	53.7	352 17.0	51.1	78 47.2	05.9
23	79 56.7	115 49.4	08.1	312 59.9	54.0	7 19.8	51.1	93 49.5	05.8
24	94 59.1	130 49.2	-16 07.1	328 03.0	+22 54.2	22 22.6	+21 51.0	108 51.8	-8 05.7

Dif	—	-2	+10	+31	+3	+28	0	+23	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.3' PMG: 12 <sup>h</sup> 00.8 <sup>m</sup>		SD: 14.8' Edad: 24.7 <sup>d</sup> PHE { 4 <sup>h</sup> : 54.5' 12 <sup>h</sup> : 54.6' 20 <sup>h</sup> : 54.7' PMG: 8 <sup>h</sup> 13 <sup>m</sup> R°: 46 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	179 52.1	-23 21.3	240 28.1		-16 55.7	118	60 N	7 09	8 06	9 04	4 22 93	11 50 2		
1	194 51.8	21.2	255 01.8	147	-17 07.5	118	58	7 02	7 54	8 46	4 09 88	12 03 7		
2	209 51.5	21.1	269 35.4	146	19.2	117	56	6 55	44	31	3 59 83	14 12		
3	224 51.2	21.0	284 09.0	146	30.8	116	54	49	35	19	50 79	24 16		
4	239 50.9	20.9	298 42.5	145	42.4	116	52	43	27	8 08	41 76	33 18		
5	254 50.6	-23 20.8	313 15.9	144	-17 53.9	115	50	6 38	7 20	7 58	3 34 73	12 41 21		
6	269 50.3	-23 20.8	327 49.2	143	-18 05.4	115	45	6 26	7 03	7 37	3 18 68	12 58 26		
7	284 49.9	20.7	342 22.4	142	16.7	113	40	16	6 50	21	3 06 63	13 12 30		
8	299 49.6	20.6	356 55.6	142	28.0	113	35	6 07	38	7 06	2 55 60	24 33		
9	314 49.3	20.5	11 28.7	141	39.3	113	30	5 58	28	6 54	45 58	35 35		
10	329 49.0	20.4	26 01.7	140	-18 50.5	112	20	41	6 09	33	29 53	13 53 40		
11	344 48.7	-23 20.3	40 34.6	139	-19 01.6	111	10 N	5 25	5 52	6 14	2 15 49	14 09 43		
12	359 48.4	-23 20.2	55 07.4	138	-19 12.6	110	0	5 08	5 34	5 57	2 02 45	14 23 48		
13	14 48.1	20.1	69 40.2	138	23.5	109	10 S	4 49	5 16	39	1 49 42	38 51		
14	29 47.8	20.0	84 12.8	136	34.4	109	20	4 27	4 56	5 21	35 38	14 54 55		
15	44 47.5	19.9	98 45.4	136	45.2	108	30	3 58	31	4 59	20 33	15 13 59		
16	59 47.2	19.8	113 17.9	135	-19 55.9	107	35	3 39	4 16	46	11 30	24 61		
17	74 46.9	-23 19.7	127 50.3	134	-20 06.6	107	40	3 16	3 58	4 31	1 00 28	15 36 65		
18	89 46.6	-23 19.6	142 22.6	133	-20 17.2	106	45	2 46	3 35	4 13	0 48 24	15 51 68		
19	104 46.2	19.4	156 54.8	132	27.7	105	50	2 00	3 06	3 50	34 18	16 09 74		
20	119 45.9	19.3	171 27.0	132	38.1	104	52	1 33	2 51	39	27 16	17 77		
21	134 45.6	19.2	185 59.0	130	48.4	103	54	0 47	33	27	20 13	27 80		
22	149 45.3	19.1	200 31.0	130	-20 58.6	102	56	** **	2 10	3 13	12 9	38 83		
23	164 45.0	19.0	215 02.8	128	-21 08.8	102	58	** **	1 41	2 56	0 02 6	16 51 88		
24	179 44.7	-23 18.9	229 34.6	128	-21 18.9	101	60 S	** **	0 51	2 36	23 53 4	17 05 95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 37.2 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 17 <sup>m</sup>		Mag.: -1.1 PMG: 2 <sup>h</sup> 07 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 26 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 42 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	94 59.1	130 49.2	-16 07.1	328 03.0	+22 54.2	22 22.6	+21 51.0	108 51.8	-8 05.7	
1	110 01.6	145 49.0	06.1	343 06.1	54.5	37 25.4	51.0	123 54.1	05.6	
2	125 04.1	160 48.8	05.1	358 09.3	54.8	52 28.1	51.0	138 56.4	05.6	
3	140 06.5	175 48.6	04.0	13 12.4	55.0	67 30.9	51.0	153 58.7	05.5	
4	155 09.0	190 48.4	03.0	28 15.5	55.3	82 33.7	50.9	169 01.0	05.4	
5	170 11.5	205 48.2	-16 02.0	43 18.6	+22 55.5	97 36.5	+21 50.9	184 03.3	-8 05.4	
6	185 13.9	220 48.0	-16 01.0	58 21.8	+22 55.8	112 39.3	+21 50.9	199 05.6	-8 05.3	
7	200 16.4	235 47.9	-16 00.0	73 24.9	56.0	127 42.0	50.8	214 07.9	05.2	
8	215 18.9	250 47.7	-15 58.9	88 28.0	56.3	142 44.8	50.8	229 10.2	05.2	
9	230 21.3	265 47.5	57.9	103 31.2	56.6	157 47.6	50.8	244 12.6	05.1	
10	245 23.8	280 47.3	56.9	118 34.3	56.8	172 50.4	50.8	259 14.9	05.0	
11	260 26.2	295 47.1	-15 55.9	133 37.4	+22 57.1	187 53.2	+21 50.7	274 17.2	-8 04.9	
12	275 28.7	310 46.9	-15 54.9	148 40.6	+22 57.3	202 56.0	+21 50.7	289 19.5	-8 04.9	
13	290 31.2	325 46.7	53.8	163 43.7	57.6	217 58.7	50.7	304 21.8	04.8	
14	305 33.6	340 46.5	52.8	178 46.8	57.8	233 01.5	50.6	319 24.1	04.7	
15	320 36.1	355 46.4	51.8	193 50.0	58.1	248 04.3	50.6	334 26.4	04.7	
16	335 38.6	10 46.2	50.8	208 53.1	58.4	263 07.1	50.6	349 28.7	04.6	
17	350 41.0	25 46.0	-15 49.7	223 56.3	+22 58.6	278 09.9	+21 50.6	4 31.0	-8 04.5	
18	5 43.5	40 45.8	-15 48.7	238 59.4	+22 58.9	293 12.6	+21 50.5	19 33.3	-8 04.4	
19	20 46.0	55 45.6	47.7	254 02.6	59.1	308 15.4	50.5	34 35.6	04.4	
20	35 48.4	70 45.4	46.7	269 05.7	59.4	323 18.2	50.5	49 37.9	04.3	
21	50 50.9	85 45.3	45.6	284 08.9	59.7	338 21.0	50.5	64 40.3	04.2	
22	65 53.4	100 45.1	44.6	299 12.0	+22 59.9	353 23.8	50.4	79 42.6	04.2	
23	80 55.8	115 44.9	43.6	314 15.2	+23 00.2	8 26.5	50.4	94 44.9	04.1	
24	95 58.3	130 44.7	-15 42.5	329 18.3	+23 00.4	23 29.3	+21 50.4	109 47.2	-8 04.0	
Dif	—	-2	+10	+31	+3	+28	0	+23	+1	



UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 01.3 <sup>m</sup>		SD: 14.9' Edad: 25.7 <sup>d</sup> PMG: 8 <sup>h</sup> 59 <sup>m</sup>		R°: 50 <sup>m</sup>				PHE { 4 <sup>h</sup> : 54.8' 12 <sup>h</sup> : 55.0' 20 <sup>h</sup> : 55.2'							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m			
0	179 44.7	-23 18.9	229 34.6	-21 18.9	100	60 N	14 59	15 57	16 53	5 55 98	11 52 5	12 10 14	12 10 14			
1	194 44.4	18.8	244 06.3 <sup>127</sup>	28.9	99	58	15 16	16 08	17 01	37 89	26 19	40 23	40 23			
2	209 44.1	18.7	258 37.9 <sup>126</sup>	38.8	98	56	31	18	07	22 84	26 19	27 11	27 11			
3	224 43.8	18.6	273 09.4 <sup>125</sup>	48.6	97	54	44	27	14	5 09 80	40 23	41 51	41 51			
4	239 43.5	18.5	287 40.8 <sup>124</sup>	-21 58.3	96	52	15 55	35	19	4 57 77	12 51 27	13 02 29	13 02 29			
5	254 43.2	-23 18.3	302 12.1 <sup>123</sup>	-22 07.9	96	50	16 04	16 43	17 24	4 47 74	13 02 29	13 24 34	13 24 34			
6	269 42.9	-23 18.2	316 43.4 <sup>123</sup>	-22 17.5	94	45	16 25	16 59	17 36	4 26 69	13 24 34	13 57 40	13 57 40			
7	284 42.6	18.1	331 14.5 <sup>121</sup>	26.9	94	40	42	17 12	46	4 09 66	13 57 40	14 10 42	14 10 42			
8	299 42.2	18.0	345 45.5 <sup>120</sup>	36.3	92	35	16 56	24	17 56	3 55 62	14 10 42	14 42 29	14 42 29			
9	314 41.9	17.9	0 16.5 <sup>120</sup>	45.5	92	30	17 08	34	18 04	43 60	14 10 42	15 11 51	15 11 51			
10	329 41.6	17.8	14 47.3 <sup>118</sup>	-22 54.7	91	20	29	17 53	21	22 56	15 11 51	15 49 56	15 49 56			
11	344 41.3	-23 17.6	29 18.1 <sup>118</sup>	-23 03.8	89	10 N	17 48	18 10	18 37	3 04 52	15 49 56	16 12 60	16 12 60			
12	359 41.0	-23 17.5	43 48.7 <sup>116</sup>	-23 12.7	89	0	18 05	18 28	18 54	2 47 50	16 12 60	16 41 64	16 41 64			
13	14 40.7	17.4	58 19.3 <sup>116</sup>	21.6	88	10 S	22	18 46	19 13	31 46	16 41 64	17 11 51	17 11 51			
14	29 40.4	17.3	72 49.7 <sup>114</sup>	30.4	88	20	18 41	19 06	19 35	2 13 43	17 11 51	17 47 78	17 47 78			
15	44 40.1	17.2	87 20.1 <sup>114</sup>	39.0	86	30	19 03	31	20 04	1 53 38	17 47 78	18 01 83	18 01 83			
16	59 39.8	17.0	101 50.4 <sup>113</sup>	47.6	86	35	19 16	19 46	23	41 36	18 01 83	18 42 29	18 42 29			
17	74 39.5	-23 16.9	116 20.5 <sup>111</sup>	-23 56.0	84	40	19 31	20 04	20 46	1 28 33	18 42 29	19 19 88	19 19 88			
18	89 39.2	-23 16.8	130 50.6 <sup>111</sup>	-24 04.4	84	45	19 49	20 26	21 16	1 12 29	19 19 88	20 02 29	20 02 29			
19	104 38.9	16.7	145 20.6 <sup>110</sup>	12.6	82	50	20 11	20 56	22 01	0 52 25	20 02 29	20 42 29	20 42 29			
20	119 38.6	16.5	159 50.5 <sup>109</sup>	20.7	81	52	22	21 11	22 28	43 22	20 42 29	21 11 51	21 11 51			
21	134 38.3	16.4	174 20.3 <sup>108</sup>	28.7	80	54	34	29	23 12	33 19	21 11 51	21 51 27	21 51 27			
22	149 37.9	16.3	188 50.0 <sup>107</sup>	36.6	79	56	20 48	21 50	** ** *	21 16	21 51 27	22 42 29	22 42 29			
23	164 37.6	16.2	203 19.6 <sup>106</sup>	44.4	78	58	21 05	22 20	** ** *	0 08 11	22 42 29	23 34 29	23 34 29			
24	179 37.3	-23 16.0	217 49.1 <sup>105</sup>	-24 52.1	77	60 S	21 25	23 08	** ** *	23 57 11	23 34 29	24 29 29	24 29 29			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 33.2 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 17 <sup>m</sup>		Mag.: -1.1 PMG: 2 <sup>h</sup> 02 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 22 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 38 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	95 58.3	130 44.7	-15 42.5	329 18.3	+23 00.4	23 29.3	+21 50.4	109 47.2	-8 04.0	109 47.2
1	111 00.7	145 44.6	41.5	344 21.5	00.7	38 32.1	50.3	124 49.5	03.9	124 49.5
2	126 03.2	160 44.4	40.5	359 24.6	01.0	53 34.9	50.3	139 51.8	03.9	139 51.8
3	141 05.7	175 44.2	39.4	14 27.8	01.2	68 37.6	50.3	154 54.1	03.8	154 54.1
4	156 08.1	190 44.0	38.4	29 30.9	01.5	83 40.4	50.3	169 56.4	03.7	169 56.4
5	171 10.6	205 43.9	-15 37.4	44 34.1	+23 01.8	98 43.2	+21 50.2	184 58.7	-8 03.7	184 58.7
6	186 13.1	220 43.7	-15 36.3	59 37.3	+23 02.0	113 46.0	+21 50.2	200 01.0	-8 03.6	200 01.0
7	201 15.5	235 43.5	35.3	74 40.4	02.3	128 48.8	50.2	215 03.3	03.5	215 03.3
8	216 18.0	250 43.4	34.3	89 43.6	02.5	143 51.5	50.2	230 05.6	03.4	230 05.6
9	231 20.5	265 43.2	33.2	104 46.8	02.8	158 54.3	50.1	245 07.9	03.4	245 07.9
10	246 22.9	280 43.0	32.2	119 49.9	03.1	173 57.1	50.1	260 10.2	03.3	260 10.2
11	261 25.4	295 42.9	-15 31.2	134 53.1	+23 03.3	188 59.9	+21 50.1	275 12.5	-8 03.2	275 12.5
12	276 27.8	310 42.7	-15 30.1	149 56.3	+23 03.6	204 02.6	+21 50.0	290 14.8	-8 03.1	290 14.8
13	291 30.3	325 42.5	29.1	164 59.4	03.8	219 05.4	50.0	305 17.2	03.1	305 17.2
14	306 32.8	340 42.4	28.1	180 02.6	04.1	234 08.2	50.0	320 19.5	03.0	320 19.5
15	321 35.2	355 42.2	27.0	195 05.8	04.4	249 11.0	50.0	335 21.8	02.9	335 21.8
16	336 37.7	10 42.0	26.0	210 09.0	04.6	264 13.7	49.9	350 24.1	02.9	350 24.1
17	351 40.2	25 41.9	-15 24.9	225 12.1	+23 04.9	279 16.5	+21 49.9	5 26.4	-8 02.8	5 26.4
18	6 42.6	40 41.7	-15 23.9	240 15.3	+23 05.2	294 19.3	+21 49.9	20 28.7	-8 02.7	20 28.7
19	21 45.1	55 41.6	22.9	255 18.5	05.4	309 22.1	49.9	35 31.0	02.6	35 31.0
20	36 47.6	70 41.4	21.8	270 21.7	05.7	324 24.8	49.8	50 33.3	02.6	50 33.3
21	51 50.0	85 41.2	20.8	285 24.9	06.0	339 27.6	49.8	65 35.6	02.5	65 35.6
22	66 52.5	100 41.1	19.7	300 28.0	06.2	354 30.4	49.8	80 37.9	02.4	80 37.9
23	81 55.0	115 40.9	18.7	315 31.2	06.5	9 33.2	49.8	95 40.2	02.3	95 40.2
24	96 57.4	130 40.8	-15 17.7	330 34.4	+23 06.7	24 35.9	+21 49.7	110 42.5	-8 02.3	110 42.5

Dif	—	-2	+10	+32	+3	+28	0	+23	+1
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UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16.3' PMG: 12 <sup>h</sup> 01.8 <sup>m</sup>		SD: 15.0' Edad: 26.7 <sup>d</sup> PMG: 9 <sup>h</sup> 49 <sup>m</sup> R°: 54 <sup>m</sup>					PHE { 4 <sup>h</sup> : 55.3' 12 <sup>h</sup> : 55.5' 20 <sup>h</sup> : 55.7'										
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Náutico		Civil	Hora	R°	Hora	R°			
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h	m	h	m	h	m	h	m	h	m	h	m
0	179 37.3	-23 16.0	217 49.1		-24 52.1	76	60 N	7 09	8 06	9 03	7 33	95	11 57	17				
1	194 37.0	15.9	232 18.5	104	-24 59.7	74	58	7 02	7 55	8 46	7 06	85	12 24	27				
2	209 36.7	15.8	246 47.8	103	-25 07.1	74	56	6 55	44	32	6 46	79	12 45	33				
3	224 36.4	15.6	261 17.0	102	14.5	72	54	49	35	19	29	75	13 03	36				
4	239 36.1	15.5	275 46.1	101	21.7	71	52	44	27	8 08	14	73	18	38				
5	254 35.8	-23 15.4	290 15.2	101	-25 28.8	69	50	6 38	7 20	7 58	6 01	71	13 31	40				
6	269 35.5	-23 15.2	304 44.1	99	-25 35.7	67	45	6 27	7 04	7 38	5 35	67	13 58	44				
7	284 35.2	15.1	319 12.9	98	42.6	67	40	17	6 51	21	5 15	64	14 19	46				
8	299 34.9	15.0	333 41.7	98	49.3	66	35	6 07	39	7 07	4 57	63	37	48				
9	314 34.6	14.8	348 10.3	96	-25 55.9	66	30	5 59	28	6 55	4 3	60	14 52	49				
10	329 34.3	14.7	2 38.9	96	-26 02.4	65	20	42	6 10	34	4 18	57	15 18	52				
11	344 34.0	-23 14.6	17 07.4	95	-26 08.7	63	10 N	5 26	5 53	6 15	3 56	56	15 41	53				
12	359 33.7	-23 14.4	31 35.8	94	-26 14.9	62	0	5 09	5 35	5 58	3 37	53	16 02	54				
13	14 33.4	14.3	46 04.1	93	21.0	61	10 S	4 50	5 18	41	3 17	51	23	56				
14	29 33.1	14.1	60 32.3	92	27.0	60	20	4 28	4 57	22	2 56	48	16 45	58				
15	44 32.7	14.0	75 00.4	91	32.8	58	30	3 59	32	5 00	31	46	17 12	59				
16	59 32.4	13.9	89 28.4	90	38.5	57	35	41	4 17	4 47	17	44	27	61				
17	74 32.1	-23 13.7	103 56.3	89	-26 44.1	56	40	3 18	3 59	4 32	2 01	41	17 45	63				
18	89 31.8	-23 13.6	118 24.2	89	-26 49.5	54	45	2 47	3 37	4 14	1 41	39	18 07	64				
19	104 31.5	13.4	132 52.0	88	54.8	53	50	2 02	3 07	3 52	17	34	35	67				
20	119 31.2	13.3	147 19.6	86	-26 59.9	51	52	1 35	2 52	41	1 05	32	18 49	68				
21	134 30.9	13.1	161 47.2	86	-27 05.0	51	54	0 51	35	29	0 52	29	19 05	70				
22	149 30.6	13.0	176 14.8	86	09.8	48	56	** ** *	2 13	3 15	37	25	24	72				
23	164 30.3	12.8	190 42.2	84	14.6	48	58	** ** *	1 43	2 58	0 19	20	19 47	76				
24	179 30.0	-23 12.7	205 09.5	83	-27 19.2	46	60 S	** ** *	0 56	2 38	** ** *	** ** *	20 17	85				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 17 <sup>h</sup> 29.3 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 17 <sup>m</sup>		Mag.: -1.1 PMG: 1 <sup>h</sup> 57 <sup>m</sup>		Mag.: -2.8 PMG: 22 <sup>h</sup> 17 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 35 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	96 57.4	130 40.8	-15 17.7	330 34.4	+23 06.7	24 35.9	+21 49.7	110 42.5	-8 02.3		
1	111 59.9	145 40.6	16.6	345 37.6	07.0	39 38.7	49.7	125 44.8	02.2		
2	127 02.3	160 40.5	15.6	0 40.8	07.3	54 41.5	49.7	140 47.1	02.1		
3	142 04.8	175 40.3	14.5	15 44.0	07.5	69 44.2	49.6	155 49.4	02.1		
4	157 07.3	190 40.2	13.5	30 47.2	07.8	84 47.0	49.6	170 51.7	02.0		
5	172 09.7	205 40.0	-15 12.4	45 50.4	+23 08.1	99 49.8	+21 49.6	185 54.0	-8 01.9		
6	187 12.2	220 39.9	-15 11.4	60 53.6	+23 08.3	114 52.6	+21 49.6	200 56.3	-8 01.8		
7	202 14.7	235 39.7	10.3	75 56.8	08.6	129 55.3	49.5	215 58.6	01.8		
8	217 17.1	250 39.6	09.3	90 59.9	08.9	144 58.1	49.5	231 00.9	01.7		
9	232 19.6	265 39.4	08.3	106 03.1	09.1	160 00.9	49.5	246 03.2	01.6		
10	247 22.1	280 39.3	07.2	121 06.3	09.4	175 03.6	49.5	261 05.5	01.5		
11	262 24.5	295 39.1	-15 06.2	136 09.5	+23 09.7	190 06.4	+21 49.4	276 07.8	-8 01.5		
12	277 27.0	310 39.0	-15 05.1	151 12.8	+23 09.9	205 09.2	+21 49.4	291 10.1	-8 01.4		
13	292 29.5	325 38.9	04.1	166 16.0	10.2	220 12.0	49.4	306 12.4	01.3		
14	307 31.9	340 38.7	03.0	181 19.2	10.5	235 14.7	49.3	321 14.7	01.2		
15	322 34.4	355 38.6	02.0	196 22.4	10.7	250 17.5	49.3	336 17.0	01.2		
16	337 36.8	10 38.4	-15 00.9	211 25.6	11.0	265 20.3	49.3	351 19.3	01.1		
17	352 39.3	25 38.3	-14 59.9	226 28.8	+23 11.3	280 23.0	+21 49.3	6 21.6	-8 01.0		
18	7 41.8	40 38.2	-14 58.8	241 32.0	+23 11.5	295 25.8	+21 49.2	21 23.9	-8 00.9		
19	22 44.2	55 38.0	57.7	256 35.2	11.8	310 28.6	49.2	36 26.2	00.9		
20	37 46.7	70 37.9	56.7	271 38.4	12.1	325 31.3	49.2	51 28.5	00.8		
21	52 49.2	85 37.8	55.6	286 41.6	12.3	340 34.1	49.2	66 30.8	00.7		
22	67 51.6	100 37.6	54.6	301 44.9	12.6	355 36.9	49.1	81 33.1	00.7		
23	82 54.1	115 37.5	53.5	316 48.1	12.9	10 39.6	49.1	96 35.4	00.6		
24	97 56.6	130 37.4	-14 52.5	331 51.3	+23 13.1	25 42.4	+21 49.1	111 37.7	-8 00.5		
Dif	—	-1	+10	+32	+3	+28	0	+23	+1		

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 02.2 <sup>m</sup>		SD: 15.2' Edad: 27.7 <sup>d</sup> PMG: 10 <sup>h</sup> 43 <sup>m</sup>		PHE { 4 <sup>h</sup> : 55.9' 12 <sup>h</sup> : 56.0' 20 <sup>h</sup> : 56.2'				R°: 57 <sup>m</sup>							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	°	h m	h m	h m	h m m	h m m	h m m			
0	179 30.0	-23 12.7	205 09.5	83	-27 19.2	44	60 N	15 01	15 59	16 55	9 08 70	12 14 49				
1	194 29.7	12.5	219 36.8	82	23.6	44	58	19	16 10	17 03	8 31 66	12 51 53				
2	209 29.4	12.4	234 04.0	82	27.9	43	56	33	20	09	8 05 64	13 18 54				
3	224 29.1	12.2	248 31.1	81	32.1	42	54	45	29	15	7 44 63	39 55				
4	239 28.8	12.1	262 58.2	81	36.1	40	52	15 56	37	21	27 62	13 56 55				
5	254 28.5	-23 11.9	277 25.2	80	-27 39.9	38	50	16 06	16 45	17 26	7 12 62	14 11 56				
6	269 28.2	-23 11.8	291 52.1	79	-27 43.7	38	45	16 27	17 00	17 38	6 42 61	14 42 56				
7	284 27.9	11.6	306 18.9	78	47.2	35	40	43	14	48	19 60	15 05 57				
8	299 27.6	11.5	320 45.6	77	50.6	34	35	16 57	25	17 57	6 00 59	25 56				
9	314 27.3	11.3	335 12.3	77	53.9	33	30	17 09	36	18 06	5 43 59	15 41 57				
10	329 27.0	11.2	349 38.9	76	-27 57.0	31	20	30	17 54	22	5 15 58	16 10 57				
11	344 26.7	-23 11.0	4 05.5	76	-28 00.0	30	10 N	17 49	18 12	18 38	4 52 57	16 34 57				
12	359 26.4	-23 10.9	18 32.0	75	-28 02.8	28	0	18 06	18 28	18 55	4 30 56	16 56 57				
13	14 26.1	10.7	32 58.4	74	05.4	26	10 S	18 23	18 46	19 13	4 08 55	17 19 57				
14	29 25.8	10.5	47 24.8	74	07.9	25	20	18 42	19 07	19 36	3 44 55	17 43 57				
15	44 25.5	10.4	61 51.1	73	10.3	24	30	19 04	31	20 05	3 17 53	18 11 57				
16	59 25.1	10.2	76 17.3	72	12.5	22	35	17 19	46	23	3 01 52	28 57				
17	74 24.8	-23 10.0	90 43.5	72	-28 14.5	20	40	19 32	20 04	20 46	2 42 52	18 48 56				
18	89 24.5	-23 09.9	105 09.7	72	-28 16.4	19	45	19 49	20 27	21 16	2 20 50	19 11 56				
19	104 24.2	09.7	119 35.7	70	18.1	17	50	20 12	20 56	22 00	1 51 48	42 55				
20	119 23.9	09.6	134 01.8	71	19.6	15	52	22	21 11	22 27	37 47	19 57 55				
21	134 23.6	09.4	148 27.8	70	21.0	14	54	34	28	23 09	21 45 20	20 15 54				
22	149 23.3	09.2	162 53.7	69	22.3	13	56	20 48	21 50	** ** *	1 02 43	20 36 54				
23	164 23.0	09.1	177 19.6	69	23.3	10	58	21 05	22 18	** ** *	0 39 39	21 03 52				
24	179 22.7	-23 08.9	191 45.4	68	-28 24.2	9	60 S	21 25	23 04	** ** *	0 08 31	21 42 48				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 25.4 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 18 <sup>m</sup>		Mag.: -1.1 PMG: 1 <sup>h</sup> 52 <sup>m</sup>		Mag.: -2.7 PMG: 22 <sup>h</sup> 13 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 31 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	97 56.6	130 37.4	-14 52.5	331 51.3	+23 13.1	25 42.4	+21 49.1	111 37.7	-8 00.5	
1	112 59.0	145 37.2	51.4	346 54.5	13.4	40 45.2	49.1	126 40.0	00.4	
2	128 01.5	160 37.1	50.4	1 57.7	13.7	55 47.9	49.0	141 42.3	00.4	
3	143 04.0	175 37.0	49.3	17 01.0	13.9	70 50.7	49.0	156 44.6	00.3	
4	158 06.4	190 36.8	48.2	32 04.2	14.2	85 53.5	49.0	171 46.9	00.2	
5	173 08.9	205 36.7	-14 47.2	47 07.4	+23 14.5	100 56.2	+21 49.0	186 49.2	-8 00.1	
6	188 11.3	220 36.6	-14 46.1	62 10.6	+23 14.7	115 59.0	+21 48.9	201 51.5	-8 00.1	
7	203 13.8	235 36.5	45.1	77 13.9	15.0	131 01.8	48.9	216 53.8	-8 00.0	
8	218 16.3	250 36.3	44.0	92 17.1	15.3	146 04.5	48.9	231 56.1	-7 59.9	
9	233 18.7	265 36.2	43.0	107 20.3	15.6	161 07.3	48.8	246 58.4	59.8	
10	248 21.2	280 36.1	41.9	122 23.6	15.8	176 10.1	48.8	262 00.7	59.8	
11	263 23.7	295 36.0	-14 40.8	137 26.8	+23 16.1	191 12.8	+21 48.8	277 03.0	-7 59.7	
12	278 26.1	310 35.8	-14 39.8	152 30.0	+23 16.4	206 15.6	+21 48.8	292 05.3	-7 59.6	
13	293 28.6	325 35.7	38.7	167 33.3	16.6	221 18.4	48.7	307 07.6	59.5	
14	308 31.1	340 35.6	37.6	182 36.5	16.9	236 21.1	48.7	322 09.9	59.5	
15	323 33.5	355 35.5	36.6	197 39.7	17.2	251 23.9	48.7	337 12.2	59.4	
16	338 36.0	10 35.4	35.5	212 43.0	17.4	266 26.7	48.7	352 14.5	59.3	
17	353 38.5	25 35.3	-14 34.5	227 46.2	+23 17.7	281 29.4	+21 48.6	7 16.8	-7 59.2	
18	8 40.9	40 35.1	-14 33.4	242 49.5	+23 18.0	296 32.2	+21 48.6	22 19.1	-7 59.2	
19	23 43.4	55 35.0	32.3	257 52.7	18.3	311 35.0	48.6	37 21.4	59.1	
20	38 45.8	70 34.9	31.3	272 55.9	18.5	326 37.7	48.6	52 23.7	59.0	
21	53 48.3	85 34.8	30.2	287 59.2	18.8	341 40.5	48.5	67 26.0	58.9	
22	68 50.8	100 34.7	29.1	303 02.4	19.1	356 43.2	48.5	82 28.3	58.9	
23	83 53.2	115 34.6	28.1	318 05.7	19.3	11 46.0	48.5	97 30.6	58.8	
24	98 55.7	130 34.5	-14 27.0	333 08.9	+23 19.6	26 48.8	+21 48.5	112 32.9	-7 58.7	

Dif	—	-1	+11	+32	+3	+28	0	+23	+1
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UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16.3' PMG: 12 <sup>h</sup> 02.7 <sup>m</sup>		SD: 15.3' Edad: 28.7 <sup>d</sup> PHE { 4 <sup>h</sup> : 56.4' 12 <sup>h</sup> : 56.6' 20 <sup>h</sup> : 56.8' PMG: 11 <sup>h</sup> 40 <sup>m</sup> R°: 57 <sup>m</sup>					Náutico	Civil		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m m	h m m	h m m	h m m	
0	179 22.7	-23 08.9	191 45.4	68	-28 24.2	8	60 N	7 09	8 06	9 03	10 18 29	13 03 91		
1	194 22.4	08.7	206 11.2	68	25.0	5	58	7 02	7 55	8 46	9 37 39	13 44 81		
2	209 22.1	08.6	220 37.0	68	25.5	5	56	6 56	44	32	9 09 43	14 12 76		
3	224 21.8	08.4	235 02.7	67	26.0	5	54	50	36	19	8 47 46	34 73		
4	239 21.5	08.2	249 28.4	67	26.2	2	52	44	28	8 08	8 29 47	14 51 72		
5	254 21.2	-23 08.0	263 54.1	67	-28 26.3	1	50	6 39	7 20	7 59	8 14 48	15 07 70		
6	269 20.9	-23 07.9	278 19.7	66	-28 26.2	1	45	6 27	7 04	7 38	7 43 51	15 38 67		
7	284 20.6	07.7	292 45.3	66	26.0	2	40	17	6 51	22	7 19 52	16 02 65		
8	299 20.3	07.5	307 10.9	66	25.5	5	35	6 08	40	7 08	6 59 53	21 64		
9	314 20.0	07.3	321 36.4	65	25.0	5	30	5 59	29	6 55	42 54	16 38 63		
10	329 19.7	07.2	336 01.9	65	24.2	8	20	43	6 11	34	6 13 56	17 07 60		
11	344 19.4	-23 07.0	350 27.4	65	-28 23.3	9	10 N	5 27	5 53	6 16	5 49 56	17 31 59		
12	359 19.1	-23 06.8	4 52.9	65	-28 22.2	11	0	5 10	5 36	5 59	5 26 57	17 53 58		
13	14 18.8	06.6	19 18.3	64	21.0	12	10 S	4 52	5 19	42	5 03 58	18 16 56		
14	29 18.5	06.5	33 43.8	65	19.5	15	20	29	4 58	23	4 39 59	18 40 54		
15	44 18.2	06.3	48 09.2	64	17.9	16	30	4 00	34	5 01	4 10 60	19 08 52		
16	59 17.9	06.1	62 34.6	64	16.2	17	35	3 42	19	4 48	3 53 61	25 50		
17	74 17.6	-23 05.9	77 00.0	64	-28 14.3	19	40	3 19	4 01	4 33	3 34 61	19 44 48		
18	89 17.3	-23 05.7	91 25.4	64	-28 12.2	21	45	2 49	3 38	4 16	3 10 62	20 07 46		
19	104 17.0	05.5	105 50.8	64	09.9	23	50	2 05	3 09	3 53	2 39 64	37 42		
20	119 16.7	05.4	120 16.2	64	07.5	24	52	1 38	2 54	43	24 64	20 52 40		
21	134 16.4	05.2	134 41.5	63	04.9	26	54	0 56	37	31	2 06 65	21 09 37		
22	149 16.1	05.0	149 06.9	64	-28 02.1	28	56	** **	2 15	17	1 45 66	30 33		
23	164 15.8	04.8	163 32.3	64	-27 59.2	29	58	** **	1 47	3 00	1 18 68	21 55 29		
24	179 15.5	-23 04.6	177 57.7	64	-27 56.1	31	60 S	** **	1 01	2 40	0 39 72	22 30 19		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 <sup>h</sup> 21.4 <sup>m</sup>		Mag.: -4.4 PMG: 15 <sup>h</sup> 18 <sup>m</sup>		Mag.: -1.1 PMG: 1 <sup>h</sup> 47 <sup>m</sup>		Mag.: -2.7 PMG: 22 <sup>h</sup> 09 <sup>m</sup>		Mag.: +1.0 PMG: 16 <sup>h</sup> 27 <sup>m</sup>	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	98 55.7	130 34.5	-14 27.0	333 08.9	+23 19.6	26 48.8	+21 48.5	112 32.9	-7 58.7	
1	113 58.2	145 34.4	25.9	348 12.2	19.9	41 51.5	48.4	127 35.2	58.6	
2	129 00.6	160 34.2	24.9	3 15.4	20.1	56 54.3	48.4	142 37.5	58.5	
3	144 03.1	175 34.1	23.8	18 18.7	20.4	71 57.1	48.4	157 39.8	58.5	
4	159 05.6	190 34.0	22.7	33 22.0	20.7	86 59.8	48.4	172 42.1	58.4	
5	174 08.0	205 33.9	-14 21.6	48 25.2	+23 21.0	102 02.6	+21 48.3	187 44.4	-7 58.3	
6	189 10.5	220 33.8	-14 20.6	63 28.5	+23 21.2	117 05.3	+21 48.3	202 46.7	-7 58.2	
7	204 13.0	235 33.7	19.5	78 31.7	21.5	132 08.1	48.3	217 49.0	58.2	
8	219 15.4	250 33.6	18.4	93 35.0	21.8	147 10.9	48.3	232 51.3	58.1	
9	234 17.9	265 33.5	17.4	108 38.3	22.0	162 13.6	48.2	247 53.6	58.0	
10	249 20.3	280 33.4	16.3	123 41.5	22.3	177 16.4	48.2	262 55.9	57.9	
11	264 22.8	295 33.3	-14 15.2	138 44.8	+23 22.6	192 19.1	+21 48.2	277 58.2	-7 57.9	
12	279 25.3	310 33.2	-14 14.1	153 48.0	+23 22.9	207 21.9	+21 48.1	293 00.5	-7 57.8	
13	294 27.7	325 33.1	13.1	168 51.3	23.1	222 24.7	48.1	308 02.8	57.7	
14	309 30.2	340 33.0	12.0	183 54.6	23.4	237 27.4	48.1	323 05.0	57.6	
15	324 32.7	355 32.9	10.9	198 57.9	23.7	252 30.2	48.1	338 07.3	57.6	
16	339 35.1	10 32.8	09.8	214 01.1	24.0	267 32.9	48.0	353 09.6	57.5	
17	354 37.6	25 32.7	-14 08.8	229 04.4	+23 24.2	282 35.7	+21 48.0	8 11.9	-7 57.4	
18	9 40.1	40 32.6	-14 07.7	244 07.7	+23 24.5	297 38.4	+21 48.0	23 14.2	-7 57.3	
19	24 42.5	55 32.6	06.6	259 10.9	24.8	312 41.2	48.0	38 16.5	57.3	
20	39 45.0	70 32.5	05.5	274 14.2	25.0	327 44.0	47.9	53 18.8	57.2	
21	54 47.4	85 32.4	04.5	289 17.5	25.3	342 46.7	47.9	68 21.1	57.1	
22	69 49.9	100 32.3	03.4	304 20.8	25.6	357 49.5	47.9	83 23.4	57.0	
23	84 52.4	115 32.2	02.3	319 24.1	25.9	12 52.2	47.9	98 25.7	56.9	
24	99 54.8	130 32.1	-14 01.2	334 27.3	+23 26.1	27 55.0	+21 47.8	113 28.0	-7 56.9	
Dif	—	-1	+11	+33	+3	+28	0	+23	+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16.3' PMG: 12 <sup>h</sup> 03.2 <sup>m</sup>		SD: 15.5' Edad: 0.1 <sup>d</sup> PMG: 12 <sup>h</sup> 37 <sup>m</sup> R°: 56 <sup>m</sup>						PHE { 4 <sup>h</sup> : 57.0' 12 <sup>h</sup> : 57.2' 20 <sup>h</sup> : 57.4'		Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m		
0	179 15.5	-23 04.6	177 57.7	64	-27 56.1	33	60 N	15 04	16 01	16 57	17 05	10 47	10	14 34 107		
1	194 15.2	04.4	192 23.1	64	52.8	35	58 N	21	12	21	17 05	10 16	19	15 05 97		
2	209 14.9	04.2	206 48.5	64	49.3	36	56	35	22	11	9 52	26	28	91		
3	224 14.6	04.1	221 13.9	64	45.7	35	54	48	31	17	33	30	15	47 87		
4	239 14.3	03.9	235 39.3	64	41.9	38	52	15 58	39	23	16	34	16	03 83		
5	254 14.0	-23 03.7	250 04.8	65	-27 38.0	39	50	16 08	16 46	17 28	9 02	36	16	17 80		
6	269 13.7	-23 03.5	264 30.2	64	-27 33.9	41	45	16 28	17 02	17 39	8 34	40	16	45 75		
7	284 13.4	03.3	278 55.7	65	29.6	43	40	45	15	49	8 11	44	17	07 71		
8	299 13.1	03.1	293 21.2	65	25.1	45	35	16 59	27	17 58	7 52	47	25	69		
9	314 12.8	02.9	307 46.7	65	20.5	46	30	17 11	37	18 07	36	48	17	41 66		
10	329 12.5	02.7	322 12.2	65	15.7	48	20	32	17 56	23	7 09	51	18	07 62		
11	344 12.2	-23 02.5	336 37.8	66	-27 10.8	49	10 N	17 50	18 13	18 39	6 45	55	18	30 59		
12	359 11.9	-23 02.3	351 03.4	66	-27 05.7	51	0	18 07	18 29	18 56	6 23	57	18	51 56		
13	14 11.6	02.1	5 29.0	66	-27 00.4	53	10 S	24	18 47	19 14	6 01	60	19	12 52		
14	29 11.3	01.9	19 54.6	66	-26 55.0	54	20	18 43	19 07	19 36	5 38	62	19	34 49		
15	44 11.0	01.7	34 20.3	67	49.3	57	30	19 04	32	20 05	5 10	65	20	00 45		
16	59 10.7	01.5	48 46.0	67	43.6	57	35	17	19 47	23	4 54	67	15	42		
17	74 10.5	-23 01.3	63 11.8	68	-26 37.6	60	40	19 32	20 05	20 46	4 35	69	20	32 40		
18	89 10.2	-23 01.1	77 37.6	68	-26 31.6	60	45	19 50	20 27	21 16	4 12	72	20	53 36		
19	104 09.9	00.9	92 03.4	68	25.3	63	50	20 12	20 56	22 00	3 43	76	21	19 31		
20	119 09.6	00.7	106 29.3	69	18.9	64	52	22	21 10	22 26	28	78	32	28		
21	134 09.3	00.5	120 55.2	69	12.3	66	54	34	28	23 06	3 11	81	21	46 25		
22	149 09.0	00.3	135 21.1	69	-26 05.6	67	56	20 48	21 49	** ** *	2 51	85	22	03 21		
23	164 08.7	-23 00.1	149 47.1	70	-25 58.7	69	58	21 04	22 17	** ** *	2 26	90	24	14		
24	179 08.4	-22 59.9	164 13.2	71	-25 51.6	71	60 S	21 24	23 00	** ** *	1 51	100	22	49 6		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 17 <sup>h</sup> 17.5 <sup>m</sup>		Mag: -4.5 PMG: 15 <sup>h</sup> 18 <sup>m</sup>		Mag: -1.2 PMG: 1 <sup>h</sup> 42 <sup>m</sup>		Mag: -2.7 PMG: 22 <sup>h</sup> 04 <sup>m</sup>		Mag: +1.1 PMG: 16 <sup>h</sup> 24 <sup>m</sup>		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "
0	99 54.8	130 32.1	-14 01.2	334 27.3	+23 26.1	27 55.0	+21 47.8	113 28.0	-7 56.9		
1	114 57.3	145 32.0	-14 00.1	349 30.6	26.4	42 57.7	47.8	128 30.3	56.8		
2	129 59.8	160 31.9	-13 59.1	4 33.9	26.7	58 00.5	47.8	143 32.6	56.7		
3	145 02.2	175 31.9	58.0	19 37.2	27.0	73 03.2	47.8	158 34.9	56.6		
4	160 04.7	190 31.8	56.9	34 40.5	27.2	88 06.0	47.7	173 37.2	56.6		
5	175 07.2	205 31.7	-13 55.8	49 43.8	+23 27.5	103 08.8	+21 47.7	188 39.5	-7 56.5		
6	190 09.6	220 31.6	-13 54.7	64 47.0	+23 27.8	118 11.5	+21 47.7	203 41.7	-7 56.4		
7	205 12.1	235 31.5	53.7	79 50.3	28.1	133 14.3	47.7	218 44.0	56.3		
8	220 14.6	250 31.4	52.6	94 53.6	28.3	148 17.0	47.6	233 46.3	56.2		
9	235 17.0	265 31.4	51.5	109 56.9	28.6	163 19.8	47.6	248 48.6	56.2		
10	250 19.5	280 31.3	50.4	125 00.2	28.9	178 22.5	47.6	263 50.9	56.1		
11	265 21.9	295 31.2	-13 49.3	140 03.5	+23 29.1	193 25.3	+21 47.6	278 53.2	-7 56.0		
12	280 24.4	310 31.1	-13 48.2	155 06.8	+23 29.4	208 28.0	+21 47.5	293 55.5	-7 55.9		
13	295 26.9	325 31.1	47.1	170 10.1	29.7	223 30.8	47.5	308 57.8	55.9		
14	310 29.3	340 31.0	46.1	185 13.4	30.0	238 33.5	47.5	324 00.1	55.8		
15	325 31.8	355 30.9	45.0	200 16.7	30.2	253 36.3	47.5	339 02.4	55.7		
16	340 34.3	10 30.8	43.9	215 20.0	30.5	268 39.0	47.4	354 04.7	55.6		
17	355 36.7	25 30.8	-13 42.8	230 23.3	+23 30.8	283 41.8	+21 47.4	9 07.0	-7 55.6		
18	10 39.2	40 30.7	-13 41.7	245 26.6	+23 31.1	298 44.5	+21 47.4	24 09.3	-7 55.5		
19	25 41.7	55 30.6	40.6	260 29.9	31.3	313 47.3	47.4	39 11.5	55.4		
20	40 44.1	70 30.6	39.5	275 33.2	31.6	328 50.0	47.3	54 13.8	55.3		
21	55 46.6	85 30.5	38.5	290 36.5	31.9	343 52.8	47.3	69 16.1	55.2		
22	70 49.1	100 30.4	37.4	305 39.8	32.2	358 55.5	47.3	84 18.4	55.2		
23	85 51.5	115 30.4	36.3	320 43.1	32.4	373 58.3	47.3	99 20.7	55.1		
24	100 54.0	130 30.3	-13 35.2	335 46.4	+23 32.7	388 01.0	+21 47.2	114 23.0	-7 55.0		
Dif	—	-1	+11	+33	+3	+28	0	+23	+1		

N°	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
1 - $\alpha$ And.	<i>Alpheratz</i>	2.1	<b>357</b> <sup>o</sup>	35.7	35.8	35.9	35.8	35.6	35.3	35.1	34.8	34.7	34.7	34.8
2 - $\beta$ Cas.	<i>Caph</i>	2.3	<b>357</b>	23.4	23.6	23.7	23.6	23.3	22.9	22.5	22.2	22.0	22.1	22.3
3 - $\gamma$ Peg.	<i>Algenib</i>	2.8	<b>356</b>	23.1	23.1	23.2	23.1	22.9	22.7	22.4	22.2	22.1	22.0	22.1
4 - $\alpha$ Phe.	<i>Ankaa</i>	2.4	<b>353</b>	8.1	8.2	8.2	8.2	8.0	7.7	7.4	7.2	7.0	6.9	7.0
5 - $\alpha$ Cas.	<i>Schedar</i>	2.2	<b>349</b>	32.1	32.3	32.4	32.3	32.1	31.8	31.4	31.1	30.8	30.8	31.0
6 - $\beta$ Cet.	<i>Diphda</i>	2.0	<b>348</b>	48.2	48.3	48.3	48.2	48.1	47.9	47.6	47.4	47.2	47.2	47.3
7 - $\gamma$ Cas.	<i>Navi</i>	*2.3	<b>345</b>	27.7	28.0	28.1	28.1	27.8	27.5	27.1	26.7	26.4	26.3	26.5
8 - $\beta$ And.	<i>Mirach</i>	2.1	<b>342</b>	13.9	14.0	14.1	14.1	13.9	13.7	13.4	13.1	12.9	12.8	12.9
9 - $\alpha$ Eri.	<i>Achernar</i>	0.5	<b>335</b>	20.7	21.0	21.1	21.2	21.1	20.8	20.5	20.1	19.8	19.7	19.9
10 - $\gamma$ And.	<i>Almak</i>	2.3	<b>328</b>	39.3	39.5	39.6	39.6	39.5	39.3	39.0	38.7	38.4	38.3	38.2
12 - $\alpha$ Ari.	<i>Hamal</i>	2.0	<b>327</b>	52.1	52.2	52.3	52.3	52.2	52.0	51.7	51.5	51.2	51.1	51.0
11 - $\alpha$ UMi.	<b>Polaris</b>	2.0	<b>313</b>	73.9	88.5	101.2	108.8	108.4	100.2	86.6	70.0	54.3	42.9	37.3
13 - $\theta$ Eri.	<i>Acamar</i>	3.3	<b>315</b>	12.2	12.4	12.5	12.6	12.6	12.5	12.2	12.0	11.7	11.5	11.4
14 - $\alpha$ Cet.	<i>Menkar</i>	2.5	<b>314</b>	6.9	7.0	7.1	7.1	7.1	6.9	6.7	6.5	6.2	6.1	6.0
15 - $\beta$ Per.	<i>Algol</i>	*2.8	<b>312</b>	33.8	34.0	34.1	34.2	34.1	34.0	33.7	33.4	33.1	32.9	32.7
16 - $\alpha$ Per.	<i>Mirfak</i>	1.8	<b>308</b>	29.2	29.3	29.5	29.6	29.6	29.4	29.1	28.7	28.4	28.1	28.0
17 - $\eta$ Tau.	<i>Alcyone</i>	2.9	<b>302</b>	46.1	46.2	46.4	46.4	46.4	46.3	46.1	45.8	45.5	45.3	45.1
18 - $\gamma$ Eri.	<i>Zaurak</i>	3.0	<b>300</b>	12.5	12.7	12.8	12.9	12.9	12.8	12.6	12.4	12.1	11.9	11.7
19 - $\alpha$ Tau.	<i>Aldebaran</i>	0.9	<b>290</b>	40.3	40.4	40.5	40.6	40.6	40.5	40.3	40.1	39.9	39.6	39.5
20 - $\beta$ Ori.	<i>Rigel</i>	0.1	<b>281</b>	4.4	4.4	4.6	4.7	4.7	4.7	4.5	4.3	4.1	3.9	3.7
21 - $\alpha$ Aur.	<i>Capella</i>	0.1	<b>280</b>	22.7	22.8	22.9	23.1	23.2	23.1	22.9	22.6	22.3	22.0	21.7
22 - $\gamma$ Ori.	<i>Bellatrix</i>	1.6	<b>278</b>	23.5	23.5	23.6	23.7	23.8	23.7	23.6	23.4	23.2	22.9	22.6
23 - $\beta$ Tau.	<i>Elnath</i>	1.7	<b>278</b>	2.6	2.6	2.8	2.9	2.9	2.9	2.7	2.5	2.2	1.9	1.7
24 - $\delta$ Ori.	<i>Mintaka</i>	2.2	<b>276</b>	41.2	41.3	41.4	41.5	41.6	41.5	41.4	41.2	41.0	40.8	40.6
25 - $\epsilon$ Ori.	<i>Alnilam</i>	1.7	<b>275</b>	38.3	38.3	38.4	38.5	38.6	38.6	38.4	38.2	38.0	37.8	37.5
26 - $\zeta$ Ori.	<i>Alnitak</i>	2.1	<b>274</b>	30.2	30.2	30.3	30.5	30.5	30.5	30.4	30.2	29.9	29.7	29.5
27 - $\kappa$ Ori.	<i>Saiph</i>	2.1	<b>272</b>	46.3	46.3	46.5	46.6	46.7	46.6	46.5	46.3	46.1	45.9	45.5
28 - $\alpha$ Ori.	<i>Betelgeuse</i>	*0.9	<b>270</b>	52.6	52.7	52.8	52.9	53.0	52.9	52.8	52.6	52.4	52.2	51.8
29 - $\beta$ Aur.	<i>Menkalinan</i>	1.9	<b>269</b>	40.3	40.3	40.5	40.6	40.7	40.7	40.6	40.3	40.0	39.7	39.4
30 - $\beta$ CMa.	<i>Mirzam</i>	2.0	<b>264</b>	3.3	3.4	3.5	3.6	3.7	3.7	3.7	3.5	3.3	3.1	2.8
31 - $\alpha$ Car.	<i>Canopus</i>	-0.7	<b>263</b>	52.2	52.4	52.6	52.9	53.1	53.2	53.1	52.9	52.6	52.3	52.0
32 - $\gamma$ Gem.	<i>Alhena</i>	1.9	<b>260</b>	13.2	13.2	13.3	13.5	13.5	13.5	13.4	13.3	13.0	12.8	12.4
33 - $\alpha$ CMa.	<i>Sirius</i>	-1.5	<b>258</b>	26.6	26.7	26.8	26.9	27.0	27.0	27.0	26.8	26.6	26.4	26.0
34 - $\epsilon$ CMa.	<i>Adhara</i>	1.5	<b>255</b>	6.1	6.2	6.3	6.4	6.6	6.6	6.6	6.4	6.2	6.0	5.7
35 - $\delta$ CMa.	<i>Wezen</i>	1.9	<b>252</b>	39.2	39.2	39.3	39.4	39.6	39.6	39.6	39.4	39.2	39.0	38.8
36 - $\eta$ CMa.	<i>Aludra</i>	2.5	<b>248</b>	44.0	44.0	44.1	44.3	44.4	44.5	44.4	44.3	44.1	43.9	43.7
37 - $\alpha$ Gem.	<i>Castor</i>	2.0	<b>245</b>	57.7	57.7	57.7	57.9	58.0	58.0	58.0	57.8	57.6	57.3	57.0
38 - $\alpha$ Cmi.	<i>Procyon</i>	0.4	<b>244</b>	51.3	51.3	51.4	51.5	51.6	51.6	51.6	51.5	51.3	51.1	50.8
39 - $\beta$ Gem.	<i>Pollux</i>	2.1	<b>243</b>	17.9	17.9	18.0	18.1	18.2	18.2	18.2	18.0	17.8	17.6	17.3
40 - $\zeta$ Puppis		1.3	<b>238</b>	53.2	53.2	53.3	53.5	53.7	53.8	53.8	53.7	53.5	53.3	53.0
41 - $\gamma$ Vel.	<i>Regor</i>	1.8	<b>237</b>	25.5	25.5	25.7	25.9	26.1	26.2	26.2	26.2	26.0	25.7	25.4
42 - $\epsilon$ Car.	<i>Avior</i>	1.8	<b>234</b>	14.4	14.5	14.6	14.9	15.2	15.5	15.6	15.5	15.3	15.0	14.6
43 - $\delta$ Velorum		2.0	<b>228</b>	39.1	39.1	39.2	39.4	39.7	39.9	40.0	39.9	39.8	39.5	39.2
44 - $\zeta$ Hydrae		3.1	<b>225</b>	49.8	49.7	49.7	49.8	49.9	50.0	50.0	49.9	49.8	49.6	49.4
45 - $\lambda$ Vel.	<i>Suhail</i>	2.2	<b>222</b>	46.5	46.4	46.5	46.6	46.8	47.0	47.0	47.0	46.9	46.7	46.4
46 - $\beta$ Car.	<i>Miaplacidus</i>	1.7	<b>221</b>	37.6	37.6	37.8	38.1	38.6	39.0	39.3	39.3	39.2	38.8	38.2
47 - $\iota$ Car.	<i>Aspidiske</i>	2.5	<b>220</b>	33.6	33.6	33.7	33.9	34.2	34.4	34.6	34.6	34.5	34.2	33.8
48 - $\alpha$ Lyncis		3.1	<b>219</b>	22.0	21.8	21.8	21.9	22.1	22.2	22.2	22.1	22.0	21.8	21.5
49 - $\alpha$ Hya.	<i>Alphard</i>	2.0	<b>217</b>	48.3	48.2	48.2	48.2	48.3	48.4	48.4	48.4	48.3	48.1	47.9
50 - $\alpha$ Leo.	<i>Regulus</i>	1.4	<b>207</b>	35.0	34.9	34.9	34.9	35.0	35.1	35.1	35.1	35.0	34.9	34.6

\* Estrella de magnitud variable. Se presenta el valor promedio.

## POSICIONES APARENTES

## DECLINACIÓN

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
1 - $\alpha$ And.	<i>Alpheratz</i>	2.1	+29	13.5	13.4	13.3	13.3	13.3	13.4	13.6	13.7	13.8	13.9	13.9
2 - $\beta$ Cas.	<i>Caph</i>	2.3	+59	17.2	17.1	16.9	16.8	16.8	16.8	17.0	17.2	17.3	17.5	17.5
3 - $\gamma$ Peg.	<i>Algenib</i>	2.8	+15	19.0	19.0	18.9	18.9	19.0	19.0	19.1	19.3	19.4	19.4	19.4
4 - $\alpha$ Phe.	<i>Ankaa</i>	2.4	-42	10.8	10.8	10.7	10.5	10.3	10.2	10.1	10.1	10.2	10.3	10.5
5 - $\alpha$ Cas.	<i>Schedar</i>	2.2	+56	40.4	40.3	40.2	40.1	40.0	40.0	40.1	40.2	40.4	40.5	40.7
6 - $\beta$ Cet.	<i>Diphda</i>	2.0	-17	51.5	51.5	51.4	51.3	51.2	51.1	51.0	50.9	50.9	51.0	51.1
7 - $\gamma$ Cas.	<i>Navi</i>	*2.3	+60	51.1	51.0	50.9	50.7	50.7	50.6	50.7	50.8	51.0	51.2	51.3
8 - $\beta$ And.	<i>Mirach</i>	2.1	+35	45.0	45.0	44.9	44.8	44.8	44.8	44.9	45.0	45.1	45.2	45.3
9 - $\alpha$ Eri.	<i>Achernar</i>	0.5	-57	7.2	7.2	7.0	6.9	6.7	6.5	6.4	6.4	6.6	6.7	6.8
10 - $\gamma$ And.	<i>Almak</i>	2.3	+42	26.9	26.8	26.8	26.7	26.6	26.6	26.7	26.7	26.9	27.0	27.1
12 - $\alpha$ Ari.	<i>Hamal</i>	2.0	+23	34.6	34.6	34.6	34.5	34.5	34.5	34.6	34.7	34.8	34.9	34.9
11 - $\alpha$ UMi.	<b>Polaris</b>	2.0	+89	22.2	22.3	22.2	22.1	21.9	21.8	21.7	21.8	21.8	22.0	22.2
13 - $\theta$ Eri.	<i>Acamar</i>	3.3	-40	12.7	12.8	12.7	12.6	12.4	12.3	12.1	12.0	12.0	12.1	12.3
14 - $\alpha$ Cet.	<i>Menkar</i>	2.5	+4	11.0	11.0	11.0	11.0	11.0	11.1	11.2	11.3	11.3	11.3	11.3
15 - $\beta$ Per.	<i>Algol</i>	*2.8	+41	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.9	3.0	3.1	3.2
16 - $\alpha$ Per.	<i>Mirfak</i>	1.8	+49	57.0	57.0	56.9	56.9	56.8	56.7	56.7	56.7	56.8	56.9	57.0
17 - $\eta$ Tau.	<i>Alcyone</i>	2.9	+24	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.9	11.0	11.0
18 - $\gamma$ Eri.	<i>Zaurak</i>	3.0	-13	26.5	26.6	26.6	26.5	26.4	26.3	26.2	26.1	26.1	26.2	26.2
19 - $\alpha$ Tau.	<i>Aldebaran</i>	0.9	+16	33.5	33.5	33.4	33.4	33.4	33.5	33.5	33.6	33.6	33.6	33.6
20 - $\beta$ Ori.	<i>Rigel</i>	0.1	-8	10.5	10.5	10.6	10.5	10.5	10.4	10.3	10.2	10.2	10.2	10.3
21 - $\alpha$ Aur.	<i>Capella</i>	0.1	+46	1.4	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.3	1.4
22 - $\gamma$ Ori.	<i>Bellatrix</i>	1.6	+6	22.3	22.2	22.2	22.2	22.3	22.3	22.4	22.4	22.5	22.5	22.4
23 - $\beta$ Tau.	<i>Elmath</i>	1.7	+28	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7
24 - $\delta$ Ori.	<i>Mintaka</i>	2.2	-0	16.9	17.0	17.0	17.0	16.9	16.9	16.8	16.7	16.7	16.7	16.8
25 - $\epsilon$ Ori.	<i>Alnilam</i>	1.7	-1	11.2	11.3	11.3	11.3	11.2	11.2	11.1	11.0	11.0	11.0	11.1
26 - $\zeta$ Ori.	<i>Alnitak</i>	2.1	-1	55.8	55.9	55.9	55.9	55.8	55.8	55.7	55.6	55.6	55.6	55.7
27 - $\kappa$ Ori.	<i>Saiph</i>	2.1	-9	39.7	39.8	39.8	39.8	39.7	39.6	39.5	39.5	39.4	39.4	39.5
28 - $\alpha$ Ori.	<i>Betelgeuse</i>	*0.9	+7	24.7	24.6	24.6	24.6	24.7	24.7	24.8	24.8	24.8	24.8	24.7
29 - $\beta$ Aur.	<i>Menkalinan</i>	1.9	+44	57.0	57.1	57.1	57.1	57.1	57.0	56.9	56.9	56.9	56.9	57.0
30 - $\beta$ CMa.	<i>Mirzam</i>	2.0	-17	58.1	58.2	58.2	58.2	58.2	58.1	58.0	57.9	57.8	57.9	58.0
31 - $\alpha$ Car.	<i>Canopus</i>	-0.7	-52	42.6	42.7	42.8	42.7	42.7	42.5	42.4	42.2	42.1	42.1	42.4
32 - $\gamma$ Gem.	<i>Alhena</i>	1.9	-16	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.8	22.7	22.7
33 - $\alpha$ CMa.	<i>Sirius</i>	-1.5	-16	45.0	45.1	45.1	45.1	45.1	45.0	44.9	44.8	44.7	44.8	44.9
34 - $\epsilon$ CMa.	<i>Adhara</i>	1.5	-29	0.3	0.4	0.5	0.5	0.4	0.3	0.2	0.1	0.0	0.1	0.2
35 - $\delta$ CMa.	<i>Wezen</i>	1.9	-26	25.9	26.0	26.1	26.1	26.0	25.9	25.8	25.7	25.6	25.6	25.8
36 - $\eta$ CMa.	<i>Aludra</i>	2.5	-29	21.0	21.1	21.2	21.2	21.2	21.1	21.0	20.8	20.8	20.8	21.0
37 - $\alpha$ Gem.	<i>Castor</i>	2.0	+31	50.1	50.1	50.2	50.2	50.2	50.2	50.1	50.1	50.1	50.0	50.0
38 - $\alpha$ CMi.	<i>Procyon</i>	0.4	+5	9.8	9.7	9.7	9.7	9.7	9.8	9.8	9.8	9.9	9.8	9.7
39 - $\beta$ Gem.	<i>Pollux</i>	1.1	+27	58.0	58.1	58.1	58.1	58.1	58.1	58.1	58.0	58.0	57.9	57.9
40 - $\zeta$ Puppis		2.3	-40	4.2	4.4	4.5	4.5	4.5	4.4	4.3	4.1	4.0	4.1	4.2
41 - $\gamma$ Vel.	<i>Regor</i>	1.8	-47	24.4	24.5	24.7	24.7	24.7	24.6	24.5	24.3	24.2	24.2	24.4
42 - $\epsilon$ Car.	<i>Avior</i>	1.8	-59	35.1	35.3	35.4	35.5	35.5	35.4	35.3	35.1	35.0	34.9	35.1
43 - $\delta$ Velorum		2.0	-54	47.7	47.9	48.0	48.1	48.1	48.0	47.9	47.8	47.6	47.6	47.7
44 - $\zeta$ Hydrae		3.1	+5	51.2	51.2	51.1	51.1	51.2	51.2	51.2	51.2	51.2	51.1	51.0
45 - $\lambda$ Vel.	<i>Suhail</i>	2.2	-43	31.7	31.8	32.0	32.1	32.1	32.0	31.9	31.8	31.7	31.6	31.8
46 - $\beta$ Car.	<i>Miaplacidus</i>	1.7	-69	48.8	49.0	49.1	49.2	49.3	49.2	49.1	49.0	48.8	48.7	48.8
47 - $\iota$ Car.	<i>Aspidiske</i>	2.5	-59	22.4	22.6	22.7	22.9	22.9	22.8	22.7	22.6	22.4	22.4	22.5
48 - $\alpha$ Lyncis		3.1	+34	17.3	17.4	17.4	17.5	17.5	17.5	17.4	17.3	17.2	17.1	17.1
49 - $\alpha$ Hya.	<i>Alphard</i>	2.0	-8	45.8	45.9	45.9	45.9	45.9	45.9	45.8	45.8	45.7	45.8	45.9
50 - $\alpha$ Leo.	<i>Regulus</i>	1.4	+11	50.9	50.9	50.9	50.9	50.9	50.9	51.0	51.0	50.9	50.9	50.7

\* Estrella de magnitud variable. Se presenta el valor promedio.



N°	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	
51 - $\mu$ Velorum		2.8	<b>198</b>	2.7	2.6	2.5	2.6	2.7	2.9	3.1	3.1	3.1	3.0	2.7	2.3
52 - $\nu$ Hydrae		3.1	<b>197</b>	17.7	17.5	17.5	17.5	17.6	17.7	17.7	17.8	17.7	17.6	17.4	17.1
53 - $\beta$ UMa. <i>Merak</i>		2.4	<b>194</b>	10.4	10.1	10.0	10.1	10.2	10.4	10.6	10.7	10.6	10.4	10.1	9.8
54 - $\alpha$ UMa. <i>Dubhe</i>		1.8	<b>193</b>	41.5	41.2	41.1	41.2	41.4	41.7	41.9	42.0	41.9	41.7	41.4	41.0
55 - $\beta$ Leo. <i>Denebola</i>		2.1	<b>182</b>	25.6	25.4	25.3	25.3	25.3	25.4	25.5	25.5	25.5	25.3	25.0	
56 - $\gamma$ Crv. <i>Gienah</i>		2.6	<b>175</b>	44.3	44.1	44.0	43.9	44.0	44.0	44.1	44.2	44.2	44.1	44.0	43.7
57 - $\alpha$ Cru. <i>Acrux</i>		1.3	<b>173</b>	0.8	0.5	0.3	0.2	0.3	0.5	0.8	1.0	1.1	1.1	0.8	0.4
58 - $\gamma$ Cru. <i>Gacrux</i>		*1.6	<b>171</b>	52.4	52.1	51.9	51.8	51.9	52.1	52.3	52.5	52.6	52.5	52.3	51.9
59 - $\gamma$ Cen. <i>Muhlifain</i>		2.4	<b>169</b>	17.3	17.0	16.8	16.8	16.8	16.9	17.1	17.2	17.3	17.3	17.1	16.7
60 - $\beta$ Cru. <i>Mimosa</i>		1.3	<b>167</b>	43.1	42.7	42.5	42.4	42.4	42.6	42.8	43.0	43.2	43.1	42.9	42.5
61 - $\epsilon$ UMa. <i>Alioth</i>		1.8	<b>166</b>	13.6	13.2	13.0	12.9	13.0	13.2	13.4	13.6	13.7	13.7	13.5	13.2
62 - $\alpha$ CVn. <i>CorCaroli</i>		2.9	<b>165</b>	42.7	42.4	42.2	42.2	42.2	42.3	42.4	42.5	42.6	42.6	42.4	42.2
63 - $\epsilon$ Vir. <i>Vindemiatrix</i>		2.8	<b>164</b>	9.4	9.2	9.0	8.9	8.9	9.0	9.1	9.1	9.2	9.2	9.1	8.8
64 - $\zeta$ UMa. <i>Mizar</i>		2.3	<b>158</b>	46.5	46.2	45.9	45.8	45.9	46.0	46.2	46.4	46.5	46.6	46.5	46.2
65 - $\alpha$ Vir. <i>Spica</i>		1.0	<b>158</b>	23.1	22.9	22.7	22.6	22.6	22.7	22.7	22.8	22.9	22.9	22.7	22.5
66 - $\eta$ UMa. <i>Alkaid</i>		1.9	<b>152</b>	52.7	52.3	52.1	52.0	52.0	52.1	52.3	52.4	52.6	52.6	52.6	52.3
67 - $\beta$ Cen. <i>Hadar</i>		0.6	<b>148</b>	37.3	36.8	36.5	36.3	36.2	36.3	36.5	36.7	36.9	37.0	36.9	36.5
68 - $\theta$ Cen. <i>Menkent</i>		2.1	<b>147</b>	58.7	58.4	58.1	58.0	57.9	57.9	58.0	58.1	58.3	58.3	58.2	58.0
69 - $\alpha$ Boo. <i>Arcturus</i>		0.0	<b>145</b>	48.7	48.5	48.3	48.1	48.1	48.1	48.2	48.3	48.4	48.4	48.4	48.2
70 - $\alpha$ Cen. <i>Rigil Kent</i>		0.0	<b>139</b>	41.8	41.3	40.9	40.7	40.6	40.6	40.8	41.0	41.3	41.4	41.3	41.0
71 - $\alpha$ Lib. <i>Zubenelgenubi</i>		2.8	<b>136</b>	57.0	56.8	56.6	56.4	56.3	56.3	56.4	56.5	56.6	56.5	56.4	
72 - $\beta$ UMi. <i>Kochab</i>		2.1	<b>137</b>	20.2	19.5	18.9	18.6	18.6	18.8	19.3	19.9	20.4	20.8	20.9	20.7
73 - $\beta$ Lib. <i>Zubeneschamali</i>		2.6	<b>130</b>	25.7	25.4	25.2	25.0	24.9	24.9	24.9	25.0	25.1	25.2	25.2	25.0
74 - $\alpha$ CrB. <i>Alphecca</i>		2.2	<b>126</b>	4.6	4.4	4.1	3.9	3.8	3.8	3.9	4.0	4.1	4.2	4.2	4.1
75 - $\alpha$ Ser. <i>Unukalhai</i>		2.7	<b>123</b>	38.4	38.2	38.0	37.8	37.7	37.6	37.7	37.7	37.9	37.9	37.9	37.8
76 - $\alpha$ Sco. <i>Antares</i>		*1.4	<b>112</b>	17.1	16.8	16.6	16.3	16.2	16.1	16.1	16.1	16.3	16.4	16.4	16.3
77 - $\alpha$ TrA. <i>Atria</i>		1.9	<b>107</b>	12.5	12.0	11.4	10.8	10.4	10.2	10.2	10.4	10.8	11.1	11.3	11.2
78 - $\epsilon$ Scorpii		2.3	<b>107</b>	4.6	4.3	4.0	3.7	3.5	3.4	3.4	3.5	3.6	3.7	3.8	3.7
79 - $\eta$ Oph. <i>Sabik</i>		2.6	<b>102</b>	4.0	3.8	3.5	3.3	3.1	3.0	3.0	3.0	3.1	3.2	3.3	3.2
80 - $\alpha$ Her. <i>Rasalgethi</i>		3.5	<b>101</b>	4.2	4.0	3.7	3.5	3.3	3.2	3.2	3.3	3.4	3.5	3.6	3.6
81 - $\lambda$ Sco. <i>Shaula</i>		1.6	<b>96</b>	11.8	11.6	11.3	11.0	10.8	10.6	10.5	10.6	10.7	10.9	10.9	10.9
82 - $\alpha$ Oph. <i>Rasalhague</i>		2.1	<b>95</b>	59.6	59.4	59.2	58.9	58.8	58.6	58.6	58.7	58.8	58.9	59.0	59.0
83 - $\theta$ Scorpii		1.9	<b>95</b>	14.8	14.5	14.2	13.9	13.6	13.5	13.4	13.4	13.6	13.7	13.8	13.8
84 - $\gamma$ Dra. <i>Eltanin</i>		2.2	<b>90</b>	43.1	42.8	42.5	42.2	42.0	41.9	41.9	42.0	42.2	42.5	42.7	42.8
85 - $\epsilon$ Sgr. <i>Kaus Australis</i>		1.9	<b>83</b>	34.0	33.8	33.5	33.2	32.9	32.7	32.6	32.7	32.8	32.9	33.0	33.0
86 - $\alpha$ Lyr. <i>Vega</i>		0.0	<b>80</b>	34.2	34.0	33.8	33.5	33.3	33.1	33.1	33.1	33.3	33.5	33.6	33.7
87 - $\sigma$ Sgr. <i>Nunki</i>		2.0	<b>75</b>	49.1	49.0	48.7	48.5	48.2	48.0	47.9	47.9	48.0	48.1	48.2	48.2
88 - $\alpha$ Aql. <i>Altair</i>		0.8	<b>62</b>	1.1	1.0	0.8	0.6	0.3	0.1	0.0	0.0	0.0	0.2	0.3	0.3
89 - $\gamma$ Cyg. <i>Sadr</i>		2.2	<b>54</b>	14.2	14.1	13.9	13.7	13.4	13.2	13.0	13.0	13.1	13.2	13.4	13.6
90 - $\alpha$ Pav. <i>Peacock</i>		1.9	<b>53</b>	7.6	7.4	7.2	6.8	6.4	6.0	5.8	5.6	5.7	5.9	6.1	6.3
91 - $\alpha$ Cyg. <i>Deneb</i>		1.3	<b>49</b>	26.8	26.8	26.6	26.4	26.1	25.8	25.6	25.6	25.7	25.8	26.0	26.2
92 - $\alpha$ Cep. <i>Alderamin</i>		2.4	<b>40</b>	13.6	13.7	13.5	13.2	12.8	12.4	12.1	12.1	12.2	12.4	12.8	13.0
93 - $\epsilon$ Peg. <i>Enif</i>		*2.1	<b>33</b>	39.9	39.9	39.8	39.6	39.3	39.1	38.9	38.8	38.8	38.8	38.9	39.0
94 - $\delta$ Cap. <i>DenebAlgedi</i>		2.9	<b>32</b>	54.9	54.8	54.7	54.5	54.3	54.1	53.8	53.7	53.7	53.7	53.9	53.9
95 - $\alpha$ Gru. <i>AlNa'ir</i>		1.7	<b>27</b>	34.3	34.3	34.2	33.9	33.6	33.3	33.0	32.8	32.8	32.9	33.0	33.2
96 - $\beta$ Gruis		*2.1	<b>18</b>	58.9	58.9	58.8	58.7	58.4	58.1	57.8	57.5	57.4	57.5	57.6	57.8
97 - $\alpha$ PsA. <i>Fomalhaut</i>		1.2	<b>15</b>	15.6	15.7	15.6	15.5	15.2	15.0	14.7	14.5	14.4	14.5	14.5	14.6
98 - $\beta$ Peg. <i>Scheat</i>		*2.4	<b>13</b>	46.2	46.3	46.2	46.1	45.9	45.6	45.4	45.2	45.1	45.1	45.2	45.3
99 - $\alpha$ Peg. <i>Markab</i>		2.5	<b>13</b>	30.9	30.9	30.9	30.8	30.6	30.3	30.1	29.9	29.8	29.9	29.9	30.0

\* Estrella de magnitud variable. Se presenta el valor promedio.

## POSICIONES APARENTES

## DECLINACIÓN

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
51 - $\mu$	Velorum	2.8	-49	32.6	32.8	33.0	33.1	33.2	33.1	33.0	32.9	32.8	32.8	32.8
52 - $\nu$	Hydrae	3.1	-16	19.1	19.2	19.3	19.4	19.4	19.3	19.3	19.2	19.2	19.2	19.3
53 - $\beta$	UMa. <i>Merak</i>	2.4	+56	15.0	15.0	15.2	15.3	15.4	15.3	15.2	15.1	14.9	14.7	14.6
54 - $\alpha$	UMa. <i>Dubhe</i>	1.8	+61	37.0	37.1	37.2	37.3	37.4	37.4	37.3	37.1	36.9	36.8	36.7
55 - $\beta$	Leo. <i>Denebola</i>	2.1	+14	26.2	26.1	26.1	26.1	26.2	26.2	26.2	26.2	26.1	26.0	25.9
56 - $\gamma$	Crv. <i>Gienah</i>	2.6	-17	40.5	40.6	40.7	40.7	40.8	40.8	40.7	40.7	40.6	40.6	40.7
57 - $\alpha$	Cru. <i>Acrux</i>	1.3	-63	13.6	13.8	14.0	14.1	14.3	14.4	14.3	14.2	14.0	13.9	13.9
58 - $\gamma$	Cru. <i>Gacrux</i>	*1.6	-57	14.6	14.7	14.9	15.1	15.2	15.3	15.2	15.1	15.0	14.9	14.9
59 - $\gamma$	Cen. <i>Muhlifain</i>	2.4	-49	5.3	5.4	5.6	5.7	5.8	5.9	5.8	5.7	5.6	5.5	5.5
60 - $\beta$	Cru. <i>Mimosa</i>	1.3	-59	48.9	49.1	49.2	49.4	49.5	49.6	49.6	49.6	49.4	49.3	49.2
61 - $\epsilon$	UMa. <i>Alioth</i>	1.8	+55	49.5	49.5	49.6	49.7	49.8	49.9	49.9	49.8	49.7	49.5	49.2
62 - $\alpha$	CVn. <i>CorCaroli</i>	2.9	+38	11.1	11.1	11.1	11.2	11.3	11.4	11.4	11.3	11.1	11.0	10.8
63 - $\epsilon$	Vir. <i>Vindemiatrix</i>	2.8	+10	49.7	49.6	49.6	49.6	49.7	49.8	49.8	49.7	49.7	49.6	49.5
64 - $\zeta$	UMa. <i>Mizar</i>	2.3	+54	47.7	47.7	47.7	47.9	48.0	48.1	48.1	48.0	47.8	47.6	47.5
65 - $\alpha$	Vir. <i>Spica</i>	1.0	-11	17.2	17.3	17.3	17.4	17.4	17.4	17.3	17.3	17.3	17.3	17.4
66 - $\eta$	UMa. <i>Alkaid</i>	1.9	+49	11.3	11.3	11.3	11.4	11.6	11.7	11.7	11.6	11.5	11.3	11.1
67 - $\beta$	Cen. <i>Hadar</i>	0.6	-60	29.0	29.1	29.3	29.4	29.6	29.7	29.7	29.7	29.6	29.5	29.4
68 - $\theta$	Cen. <i>Menkent</i>	2.1	-36	29.1	29.2	29.3	29.4	29.5	29.6	29.6	29.6	29.5	29.4	29.4
69 - $\alpha$	Boo. <i>Arcturus</i>	0.0	+19	3.3	3.2	3.2	3.2	3.3	3.4	3.4	3.4	3.3	3.2	3.1
70 - $\alpha$	Cen. <i>Rigel Kent</i>	0.0	-60	55.8	55.9	56.0	56.1	56.3	56.4	56.4	56.4	56.3	56.1	56.1
71 - $\alpha$	Lib. <i>Zubenelgenubi</i>	2.8	-16	8.5	8.5	8.6	8.6	8.7	8.7	8.6	8.6	8.6	8.6	8.7
72 - $\beta$	UMi. <i>Kochab</i>	2.1	+74	3.0	3.0	3.0	3.2	3.3	3.5	3.5	3.5	3.4	3.3	2.9
73 - $\beta$	Lib. <i>Zubeneschamali</i>	2.6	-9	28.3	28.4	28.4	28.5	28.5	28.4	28.4	28.4	28.4	28.4	28.5
74 - $\alpha$	CrB. <i>Alphecca</i>	2.2	+26	37.8	37.7	37.7	37.8	37.9	38.0	38.1	38.1	38.0	37.9	37.7
75 - $\alpha$	Ser. <i>Unukalhai</i>	2.7	+6	20.9	20.8	20.8	20.8	20.9	20.9	21.0	21.0	21.0	20.9	20.8
76 - $\alpha$	Sco. <i>Antares</i>	*1.4	-26	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
77 - $\alpha$	TrA. <i>Atria</i>	1.9	-69	4.0	4.0	4.0	4.1	4.2	4.3	4.5	4.5	4.5	4.4	4.2
78 - $\epsilon$	Scorpii	2.3	-34	20.1	20.1	20.2	20.2	20.3	20.3	20.4	20.4	20.3	20.3	20.3
79 - $\eta$	Oph. <i>Sabik</i>	2.6	-15	45.3	45.3	45.4	45.4	45.4	45.3	45.3	45.3	45.3	45.3	45.3
80 - $\alpha$	Her. <i>Rasalgethi</i>	3.5	+14	21.6	21.5	21.5	21.5	21.6	21.7	21.8	21.9	21.9	21.8	21.7
81 - $\lambda$	Sco. <i>Shaula</i>	1.6	-37	7.2	7.2	7.2	7.2	7.3	7.3	7.4	7.4	7.4	7.3	7.3
82 - $\alpha$	Oph. <i>Rasalhague</i>	2.1	+12	32.4	32.3	32.3	32.3	32.4	32.5	32.6	32.6	32.7	32.6	32.5
83 - $\theta$	Scorpii	1.9	-43	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.8
84 - $\gamma$	Dra. <i>Eltanin</i>	2.2	+51	28.9	28.8	28.7	28.8	28.9	29.0	29.2	29.3	29.4	29.3	29.1
85 - $\epsilon$	Sgr. <i>Kaus Australis</i>	1.9	-34	22.4	22.4	22.3	22.3	22.3	22.4	22.4	22.5	22.5	22.4	22.4
86 - $\alpha$	Lyr. <i>Vega</i>	0.0	+38	48.2	48.1	48.0	48.0	48.1	48.3	48.4	48.5	48.6	48.5	48.4
87 - $\sigma$	Sgr. <i>Nunki</i>	2.0	-26	16.1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
88 - $\alpha$	Aql. <i>Altair</i>	0.8	+8	55.8	55.7	55.7	55.7	55.8	55.9	56.0	56.1	56.1	56.2	56.1
89 - $\gamma$	Cyg. <i>Sadr</i>	2.2	+40	20.0	19.8	19.7	19.7	19.8	19.9	20.0	20.2	20.3	20.4	20.3
90 - $\alpha$	Pav. <i>Peacock</i>	1.9	-56	39.6	39.5	39.3	39.2	39.2	39.2	39.3	39.4	39.5	39.5	39.5
91 - $\alpha$	Cyg. <i>Deneb</i>	1.3	+45	21.9	21.8	21.7	21.6	21.7	21.8	22.0	22.2	22.3	22.4	22.3
92 - $\alpha$	Cep. <i>Alderamin</i>	2.4	+62	41.3	41.1	41.0	40.9	40.9	41.0	41.2	41.4	41.6	41.7	41.7
93 - $\epsilon$	Peg. <i>Enif</i>	*2.1	+9	59.0	59.0	58.9	59.0	59.0	59.1	59.2	59.3	59.4	59.4	59.4
94 - $\delta$	Cap. <i>DenebAlgedi</i>	2.9	-16	1.2	1.2	1.2	1.1	1.0	0.9	0.9	0.8	0.8	0.9	0.9
95 - $\alpha$	Gru. <i>AlNa'ir</i>	1.7	-46	50.9	50.8	50.7	50.5	50.4	50.4	50.4	50.5	50.6	50.6	50.6
96 - $\beta$	Gruis	*2.1	-46	45.8	45.7	45.6	45.4	45.3	45.2	45.2	45.3	45.4	45.5	45.5
97 - $\alpha$	PsA. <i>Fomalhaut</i>	1.2	-29	29.9	29.9	29.8	29.7	29.5	29.4	29.4	29.4	29.5	29.5	29.6
98 - $\beta$	Peg. <i>Scheat</i>	*2.4	+28	12.8	12.7	12.7	12.6	12.6	12.7	12.8	13.0	13.1	13.2	13.3
99 - $\alpha$	Peg. <i>Markab</i>	2.5	+15	20.1	20.0	19.9	19.9	20.0	20.1	20.2	20.3	20.4	20.5	20.5

\* Estrella de magnitud variable. Se presenta el valor promedio.

Horas UT de paso por el meridiano origen el primer día de cada mes

N°	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul
1 - $\alpha$ Andromedae	<i>Alpheratz</i>	2.1	h m 17 26	h m 15 24	h m 13 30	h m 11 28	h m 9 30	h m 7 29	h m 5 31
2 - $\beta$ Cassiopeae	<i>Caph</i>	2.3	17 27	15 25	13 31	11 29	9 31	7 29	5 31
6 - $\beta$ Ceti	<i>Diphda</i>	2.0	18 01	15 59	14 05	12 03	10 05	8 04	6 06
9 - $\alpha$ Eridani	<i>Achernar</i>	0.5	18 55	16 53	14 59	12 57	10 59	8 57	6 59
12 - $\alpha$ Arietis	<i>Hamal</i>	2.0	19 25	17 23	15 29	13 27	11 29	9 27	7 29
13 - $\theta$ Eridani	<i>Acamar</i>	3.3	20 15	18 13	16 19	14 17	12 19	10 18	8 20
16 - $\alpha$ Persei	<i>Mirfak</i>	1.8	20 42	18 40	16 46	14 44	12 46	10 44	8 46
19 - $\alpha$ Tauri	<i>Aldebaran</i>	0.9	21 53	19 51	17 57	15 55	13 57	11 55	9 58
20 - $\beta$ Orionis	<i>Rigel</i>	0.1	22 31	20 30	18 35	16 34	14 36	12 34	10 36
21 - $\alpha$ Aurigae	<i>Capella</i>	0.1	22 34	20 32	18 38	16 36	14 38	12 37	10 39
22 - $\gamma$ Orionis	<i>Bellatrix</i>	1.6	22 42	20 40	18 46	16 44	14 46	12 44	10 46
28 - $\alpha$ Orionis	<i>Betelgeuse</i>	*0.9	23 12	21 10	19 16	17 14	15 16	13 14	11 16
31 - $\alpha$ Carinae	<i>Canopus</i>	-0.7	23 40	21 38	19 44	17 42	15 44	13 42	11 44
33 - $\alpha$ Canis Majoris	<i>Sirius</i>	-1.5	0 06	22 00	20 06	18 04	16 06	14 04	12 06
34 - $\epsilon$ Canis Majoris	<i>Adhara</i>	1.5	0 19	22 13	20 19	18 17	16 19	14 17	12 19
38 - $\alpha$ Canis Minoris	<i>Procyon</i>	0.4	1 00	22 54	21 00	18 58	17 00	14 58	13 00
39 - $\beta$ Geminorum	<i>Pollux</i>	1.1	1 06	23 00	21 06	19 04	17 06	15 04	13 06
42 - $\epsilon$ Carinae	<i>Avior</i>	1.8	1 42	23 36	21 42	19 40	17 42	15 41	13 43
45 - $\lambda$ Velorum	<i>Suhail</i>	2.2	2 28	0 26	22 28	20 26	18 28	16 26	14 28
46 - $\beta$ Carinae	<i>Miaplacidus</i>	1.7	2 32	0 31	22 33	20 31	18 33	16 31	14 33
49 - $\alpha$ Hydrae	<i>Alphard</i>	2.0	2 48	0 46	22 48	20 46	18 48	16 46	14 48
50 - $\alpha$ Leonis	<i>Regulus</i>	1.4	3 28	1 27	23 29	21 27	19 29	17 27	15 29
54 - $\alpha$ Ursae Majoris	<i>Dubhe</i>	1.8	4 24	2 22	0 28	22 22	20 24	18 22	16 24
55 - $\beta$ Leonis	<i>Denebola</i>	2.1	5 09	3 07	1 13	23 07	21 09	19 07	17 09
57 - $\alpha$ Crucis	<i>Acrux</i>	1.3	5 46	3 45	1 51	23 45	21 47	19 45	17 47
58 - $\gamma$ Crucis	<i>Gacrux</i>	*1.6	5 51	3 49	1 55	23 49	21 51	19 49	17 51
60 - $\beta$ Crucis	<i>Mimosa</i>	1.3	6 08	4 06	2 12	0 10	22 08	20 06	18 08
61 - $\epsilon$ Ursae Majoris	<i>Alioth</i>	1.8	6 13	4 12	2 18	0 16	22 14	20 12	18 14
64 - $\zeta$ Ursae Majoris	<i>Mizar</i>	2.3	6 43	4 41	2 47	0 45	22 44	20 42	18 44
65 - $\alpha$ Virginis	<i>Spica</i>	1.0	6 45	4 43	2 49	0 47	22 45	20 43	18 45
68 - $\theta$ Centauri	<i>Menkent</i>	2.1	7 26	5 24	3 30	1 29	23 27	21 25	19 27
69 - $\alpha$ Bootis	<i>Arcturus</i>	0.0	7 35	5 33	3 39	1 37	23 35	21 33	19 35
70 - $\alpha$ Centauri	<i>Rigel Kent</i>	0.0	7 59	5 57	4 03	2 02	0 04	21 58	20 00
72 - $\beta$ Ursae Minoris	<i>Kochab</i>	2.1	8 09	6 07	4 13	2 11	0 13	22 07	20 09
74 - $\alpha$ Coronae Borealis	<i>Alphecca</i>	2.2	8 54	6 52	4 58	2 56	0 58	22 52	20 54
76 - $\alpha$ Scorpii	<i>Antares</i>	*1.4	9 49	7 47	5 53	3 51	1 53	23 47	21 49
77 - $\alpha$ Triangulis Aust.	<i>Atria</i>	1.9	10 09	8 07	6 13	4 11	2 13	0 11	22 10
81 - $\lambda$ Scorpii	<i>Shaula</i>	1.6	10 53	8 51	6 57	4 55	2 57	0 55	22 53
82 - $\alpha$ Ophiuci	<i>Rasalhague</i>	2.1	10 54	8 52	6 58	4 56	2 58	0 56	22 54
84 - $\gamma$ Draconis	<i>Eltanin</i>	2.2	11 15	9 13	7 19	5 17	3 19	1 17	23 15
85 - $\epsilon$ Sagittarii	<i>Kaus Australis</i>	1.9	11 43	9 41	7 47	5 45	3 48	1 46	23 44
86 - $\alpha$ Lyrae	<i>Vega</i>	0.0	11 55	9 53	7 59	5 57	3 59	1 58	23 56
87 - $\sigma$ Sagittarii	<i>Nunki</i>	2.0	12 14	10 12	8 18	6 16	4 18	2 17	0 19
88 - $\alpha$ Aquilae	<i>Altair</i>	0.8	13 09	11 07	9 13	7 11	5 13	3 12	1 14
90 - $\alpha$ Pavonis	<i>Peacock</i>	1.9	13 45	11 43	9 49	7 47	5 49	3 47	1 49
91 - $\alpha$ Cygni	<i>Deneb</i>	1.3	13 59	11 57	10 03	8 02	6 04	4 02	2 04
93 - $\epsilon$ Pegasi	<i>Enif</i>	*2.1	15 02	13 00	11 06	9 04	7 07	5 05	3 07
95 - $\alpha$ Gruis	<i>AlNa'ir</i>	1.7	15 27	13 25	11 31	9 29	7 31	5 29	3 31
97 - $\alpha$ Piscis Australis	<i>Fomalhaut</i>	1.2	16 16	14 14	12 20	10 18	8 20	6 18	4 20
99 - $\alpha$ Pegasi	<i>Markab</i>	2.5	16 23	14 21	12 27	10 25	8 27	6 25	4 27

\* Estrella de magnitud variable. Se presenta el valor promedio.

Horas UT de paso por el meridiano origen el primer día de cada mes

N°	NOMBRE	Mag	Ago	Sep	Oct	Nov	Dic
1 - $\alpha$ Andromedae	<i>Alpheratz</i>	2.1	h m 3 29	h m 1 27	h m 23 25	h m 21 23	h m 19 25
2 - $\beta$ Cassiopeae	<i>Caph</i>	2.3	3 30	1 28	23 26	21 24	19 26
6 - $\beta$ Ceti	<i>Diphda</i>	2.0	4 04	2 02	0 04	21 58	20 00
9 - $\alpha$ Eridani	<i>Achernar</i>	0.5	4 57	2 56	0 58	22 52	20 54
12 - $\alpha$ Arietis	<i>Hamal</i>	2.0	5 27	3 25	1 27	23 22	21 24
13 - $\theta$ Eridani	<i>Acamar</i>	3.3	6 18	4 16	2 18	0 16	22 14
16 - $\alpha$ Persei	<i>Mirfak</i>	1.8	6 45	4 43	2 45	0 43	22 41
19 - $\alpha$ Tauri	<i>Aldebaran</i>	0.9	7 56	5 54	3 56	1 54	23 52
20 - $\beta$ Orionis	<i>Rigel</i>	0.1	8 34	6 32	4 34	2 32	0 34
21 - $\alpha$ Aurigae	<i>Capella</i>	0.1	8 37	6 35	4 37	2 35	0 37
22 - $\gamma$ Orionis	<i>Bellatrix</i>	1.6	8 45	6 43	4 45	2 43	0 45
28 - $\alpha$ Orionis	<i>Betelgeuse</i>	*0.9	9 15	7 13	5 15	3 13	1 15
31 - $\alpha$ Carinae	<i>Canopus</i>	-0.7	9 42	7 41	5 43	3 41	1 43
33 - $\alpha$ Canis Majoris	<i>Sirius</i>	-1.5	10 04	8 02	6 04	4 02	2 05
34 - $\epsilon$ Canis Majoris	<i>Adhara</i>	1.5	10 17	8 16	6 18	4 16	2 18
38 - $\alpha$ Canis Minoris	<i>Procyon</i>	0.4	10 58	8 57	6 59	4 57	2 59
39 - $\beta$ Geminorum	<i>Pollux</i>	1.1	11 05	9 03	7 05	5 03	3 05
42 - $\epsilon$ Carinae	<i>Avior</i>	1.8	11 41	9 39	7 41	5 39	3 41
45 - $\lambda$ Velorum	<i>Shail</i>	2.2	12 26	10 25	8 27	6 25	4 27
46 - $\beta$ Carinae	<i>Miaplacidus</i>	1.7	12 31	10 29	8 31	6 29	4 31
49 - $\alpha$ Hydrae	<i>Alphard</i>	2.0	12 46	10 44	8 46	6 45	4 47
50 - $\alpha$ Leonis	<i>Regulus</i>	1.4	13 27	11 25	9 27	7 25	5 27
54 - $\alpha$ Ursae Majoris	<i>Dubhe</i>	1.8	14 22	12 21	10 23	8 21	6 23
55 - $\beta$ Leonis	<i>Denebola</i>	2.1	15 07	13 06	11 08	9 06	7 08
57 - $\alpha$ Crucis	<i>Acrux</i>	1.3	15 45	13 43	11 45	9 43	7 45
58 - $\gamma$ Crucis	<i>Gacrux</i>	*1.6	15 50	13 48	11 50	9 48	7 50
60 - $\beta$ Crucis	<i>Mimosa</i>	1.3	16 06	14 04	12 06	10 04	8 06
61 - $\epsilon$ Ursae Majoris	<i>Alioth</i>	1.8	16 12	14 10	12 12	10 10	8 12
64 - $\zeta$ Ursae Majoris	<i>Mizar</i>	2.3	16 42	14 40	12 42	10 40	8 42
65 - $\alpha$ Virginis	<i>Spica</i>	1.0	16 43	14 41	12 44	10 42	8 44
68 - $\theta$ Centauri	<i>Menkent</i>	2.1	17 25	15 23	13 25	11 23	9 25
69 - $\alpha$ Bootis	<i>Arcturus</i>	0.0	17 34	15 32	13 34	11 32	9 34
70 - $\alpha$ Centauri	<i>Rigil Kent</i>	0.0	17 58	15 56	13 58	11 56	9 58
72 - $\beta$ Ursae Minoris	<i>Kochab</i>	2.1	18 07	16 05	14 07	12 06	10 08
74 - $\alpha$ Coronae Borealis	<i>Alphecca</i>	2.2	18 52	16 50	14 52	12 51	10 53
76 - $\alpha$ Scorpii	<i>Antares</i>	*1.4	19 47	17 45	15 47	13 46	11 48
77 - $\alpha$ Triangulis Aust.	<i>Atria</i>	1.9	20 08	18 06	16 08	14 06	12 08
81 - $\lambda$ Scorpii	<i>Shaula</i>	1.6	20 51	18 50	16 52	14 50	12 52
82 - $\alpha$ Ophiuci	<i>Rasalhague</i>	2.1	20 52	18 50	16 52	14 51	12 53
84 - $\gamma$ Draconis	<i>Eltanin</i>	2.2	21 13	19 11	17 13	15 12	13 14
85 - $\epsilon$ Sagittarii	<i>Kaus Australis</i>	1.9	21 42	19 40	17 42	15 40	13 42
86 - $\alpha$ Lyrae	<i>Vega</i>	0.0	21 54	19 52	17 54	15 52	13 54
87 - $\sigma$ Sagittarii	<i>Nunki</i>	2.0	22 13	20 11	18 13	16 11	14 13
88 - $\alpha$ Aquilae	<i>Altair</i>	0.8	23 08	21 06	19 08	17 06	15 08
90 - $\alpha$ Pavonis	<i>Peacock</i>	1.9	23 43	21 41	19 43	17 42	15 44
91 - $\alpha$ Cygni	<i>Deneb</i>	1.3	0 02	21 56	19 58	17 56	15 58
93 - $\epsilon$ Pegasi	<i>Enif</i>	*2.1	1 05	22 59	21 01	18 59	17 01
95 - $\alpha$ Gruis	<i>AlNa'ir</i>	1.7	1 29	23 23	21 25	19 24	17 26
97 - $\alpha$ Piscis Australis	<i>Fomalhaut</i>	1.2	2 18	0 16	22 15	20 13	18 15
99 - $\alpha$ Pegasi	<i>Markab</i>	2.5	2 25	0 23	22 21	20 20	18 22

**1ª CORRECCIÓN**

Que se restará para obtener la hora del paso en otro día del mismo mes.

Día	Corr
	h m
1	0 00
2	0 04
3	0 08
4	0 12
5	0 16
6	0 20
7	0 24
8	0 28
9	0 31
10	0 35
11	0 39
12	0 43
13	0 47
14	0 51
15	0 55
16	0 59
17	1 03
18	1 07
19	1 11
20	1 15
21	1 19
22	1 23
23	1 27
24	1 30
25	1 34
26	1 38
27	1 42
28	1 46
29	1 50
30	1 54
31	1 58

Si esta corrección es mayor que el minuendo, aumentar éste en 23<sup>h</sup> 56<sup>m</sup> antes de aplicarla.

**2ª CORRECCIÓN**

Se aplicará a la hora así obtenida, para tener la hora civil del lugar del paso por otro meridiano.

Long	Corr
°	m
180 W	-2
136 W	-1
46 W	0
46 E	+1
136 E	+2
180 E	+2

\* Estrella de magnitud variable. Se presenta el valor promedio.

DETERMINACIÓN DE LA LATITUD  
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2024

TABLA I

h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.		
0 0'	-26.5	26 00'	-35.7	52 00'	-37.7	78 00'	-32.1	104 00'	-20.0	130 00'	- 3.8	156 00'	+13.1
0 30	-26.7	26 30	-35.8	52 30	-37.7	78 30	-31.9	104 30	-19.7	130 30	- 3.5	156 30	+13.4
1 00	-26.9	27 00	-35.9	53 00	-37.6	79 00	-31.7	105 00	-19.4	131 00	- 3.1	157 00	+13.7
1 30	-27.2	27 30	-36.0	53 30	-37.6	79 30	-31.6	105 30	-19.1	131 30	- 2.8	157 30	+14.1
2 00	-27.4	28 00	-36.1	54 00	-37.6	80 00	-31.4	106 00	-18.8	132 00	- 2.5	158 00	+14.4
2 30	-27.6	28 30	-36.2	54 30	-37.5	80 30	-31.2	106 30	-18.5	132 30	- 2.2	158 30	+14.7
3 00	-27.9	29 00	-36.3	55 00	-37.5	81 00	-31.0	107 00	-18.3	133 00	- 1.8	159 00	+15.0
3 30	-28.1	29 30	-36.4	55 30	-37.4	81 30	-30.8	107 30	-18.0	133 30	- 1.5	159 30	+15.3
4 00	-28.3	30 00	-36.5	56 00	-37.3	82 00	-30.6	108 00	-17.7	134 00	- 1.2	160 00	+15.6
4 30	-28.5	30 30	-36.6	56 30	-37.3	82 30	-30.4	108 30	-17.4	134 30	- 0.8	160 30	+15.9
5 00	-28.7	31 00	-36.7	57 00	-37.2	83 00	-30.2	109 00	-17.1	135 00	- 0.5	161 00	+16.2
5 30	-29.0	31 30	-36.8	57 30	-37.2	83 30	-30.0	109 30	-16.8	135 30	- 0.2	161 30	+16.5
6 00	-29.2	32 00	-36.9	58 00	-37.1	84 00	-29.8	110 00	-16.5	136 00	+ 0.2	162 00	+16.8
6 30	-29.4	32 30	-36.9	58 30	-37.0	84 30	-29.6	110 30	-16.2	136 30	+ 0.5	162 30	+17.1
7 00	-29.6	33 00	-37.0	59 00	-36.9	85 00	-29.4	111 00	-15.9	137 00	+ 0.8	163 00	+17.4
7 30	-29.8	33 30	-37.1	59 30	-36.9	85 30	-29.2	111 30	-15.6	137 30	+ 1.2	163 30	+17.7
8 00	-30.0	34 00	-37.2	60 00	-36.8	86 00	-29.0	112 00	-15.3	138 00	+ 1.5	164 00	+18.0
8 30	-30.2	34 30	-37.2	60 30	-36.7	86 30	-28.8	112 30	-15.0	138 30	+ 1.8	164 30	+18.2
9 00	-30.4	35 00	-37.3	61 00	-36.6	87 00	-28.5	113 00	-14.7	139 00	+ 2.1	165 00	+18.5
9 30	-30.6	35 30	-37.3	61 30	-36.5	87 30	-28.3	113 30	-14.4	139 30	+ 2.5	165 30	+18.8
10 00	-30.8	36 00	-37.4	62 00	-36.4	88 00	-28.1	114 00	-14.1	140 00	+ 2.8	166 00	+19.1
10 30	-31.0	36 30	-37.5	62 30	-36.3	88 30	-27.9	114 30	-13.8	140 30	+ 3.1	166 30	+19.4
11 00	-31.2	37 00	-37.5	63 00	-36.2	89 00	-27.6	115 00	-13.5	141 00	+ 3.5	167 00	+19.7
11 30	-31.4	37 30	-37.6	63 30	-36.1	89 30	-27.4	115 30	-13.1	141 30	+ 3.8	167 30	+20.0
12 00	-31.5	38 00	-37.6	64 00	-36.0	90 00	-27.2	116 00	-12.8	142 00	+ 4.1	168 00	+20.2
12 30	-31.7	38 30	-37.6	64 30	-35.9	90 30	-27.0	116 30	-12.5	142 30	+ 4.5	168 30	+20.5
13 00	-31.9	39 00	-37.7	65 00	-35.8	91 00	-26.7	117 00	-12.2	143 00	+ 4.8	169 00	+20.8
13 30	-32.1	39 30	-37.7	65 30	-35.7	91 30	-26.5	117 30	-11.9	143 30	+ 5.1	169 30	+21.1
14 00	-32.3	40 00	-37.8	66 00	-35.6	92 00	-26.2	118 00	-11.6	144 00	+ 5.4	170 00	+21.4
14 30	-32.4	40 30	-37.8	66 30	-35.5	92 30	-26.0	118 30	-11.3	144 30	+ 5.8	170 30	+21.6
15 00	-32.6	41 00	-37.8	67 00	-35.4	93 00	-25.8	119 00	-10.9	145 00	+ 6.1	171 00	+21.9
15 30	-32.8	41 30	-37.8	67 30	-35.2	93 30	-25.5	119 30	-10.6	145 30	+ 6.4	171 30	+22.2
16 00	-32.9	42 00	-37.9	68 00	-35.1	94 00	-25.3	120 00	-10.3	146 00	+ 6.7	172 00	+22.4
16 30	-33.1	42 30	-37.9	68 30	-35.0	94 30	-25.0	120 30	-10.0	146 30	+ 7.1	172 30	+22.7
17 00	-33.3	43 00	-37.9	69 00	-34.9	95 00	-24.8	121 00	- 9.7	147 00	+ 7.4	173 00	+23.0
17 30	-33.4	43 30	-37.9	69 30	-34.7	95 30	-24.5	121 30	- 9.3	147 30	+ 7.7	173 30	+23.2
18 00	-33.6	44 00	-37.9	70 00	-34.6	96 00	-24.3	122 00	- 9.0	148 00	+ 8.0	174 00	+23.5
18 30	-33.7	44 30	-37.9	70 30	-34.5	96 30	-24.0	122 30	- 8.7	148 30	+ 8.4	174 30	+23.7
19 00	-33.9	45 00	-37.9	71 00	-34.3	97 00	-23.8	123 00	- 8.4	149 00	+ 8.7	175 00	+24.0
19 30	-34.0	45 30	-37.9	71 30	-34.2	97 30	-23.5	123 30	- 8.1	149 30	+ 9.0	175 30	+24.3
20 00	-34.2	46 00	-37.9	72 00	-34.0	98 00	-23.2	124 00	- 7.7	150 00	+ 9.3	176 00	+24.5
20 30	-34.3	46 30	-37.9	72 30	-33.9	98 30	-23.0	124 30	- 7.4	150 30	+ 9.7	176 30	+24.8
21 00	-34.5	47 00	-37.9	73 00	-33.7	99 00	-22.7	125 00	- 7.1	151 00	+10.0	177 00	+25.0
21 30	-34.6	47 30	-37.9	73 30	-33.6	99 30	-22.4	125 30	- 6.8	151 30	+10.3	177 30	+25.3
22 00	-34.7	48 00	-37.9	74 00	-33.4	100 00	-22.2	126 00	- 6.4	152 00	+10.6	178 00	+25.5
22 30	-34.9	48 30	-37.9	74 30	-33.3	100 30	-21.9	126 30	- 6.1	152 30	+10.9	178 30	+25.8
23 00	-35.0	49 00	-37.9	75 00	-33.1	101 00	-21.6	127 00	- 5.8	153 00	+11.2	179 00	+26.0
23 30	-35.1	49 30	-37.9	75 30	-32.9	101 30	-21.4	127 30	- 5.5	153 30	+11.6	179 30	+26.2
24 00	-35.2	50 00	-37.8	76 00	-32.8	102 00	-21.1	128 00	- 5.1	154 00	+11.9	180 00	+26.5
24 30	-35.4	50 30	-37.8	76 30	-32.6	102 30	-20.8	128 30	- 4.8	154 30	+12.2	180 30	+26.7
25 00	-35.5	51 00	-37.8	77 00	-32.4	103 00	-20.5	129 00	- 4.5	155 00	+12.5	181 00	+26.9
25 30	-35.6	51 30	-37.8	77 30	-32.3	103 30	-20.3	129 30	- 4.1	155 30	+12.8	181 30	+27.2
26 00	-35.7	52 00	-37.7	78 00	-32.1	104 00	-20.0	130 00	- 3.8	156 00	+13.1	182 00	+27.4

POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2024

TABLA I

h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.	h.L. $\cap$	Corr.
182 00	+27.4	208 00	+36.1	234 00	+37.6	260 00	+31.4	286 00	+18.8	312 00	+ 2.5	338 00	-14.4
182 30	+27.6	208 30	+36.2	234 30	+37.5	260 30	+31.2	286 30	+18.5	312 30	+ 2.2	338 30	-14.7
183 00	+27.9	209 00	+36.3	235 00	+37.5	261 00	+31.0	287 00	+18.3	313 00	+ 1.8	339 00	-15.0
183 30	+28.1	209 30	+36.4	235 30	+37.4	261 30	+30.8	287 30	+18.0	313 30	+ 1.5	339 30	-15.3
184 00	+28.3	210 00	+36.5	236 00	+37.3	262 00	+30.6	288 00	+17.7	314 00	+ 1.2	340 00	-15.6
184 30	+28.5	210 30	+36.6	236 30	+37.3	262 30	+30.4	288 30	+17.4	314 30	+ 0.8	340 30	-15.9
185 00	+28.7	211 00	+36.7	237 00	+37.2	263 00	+30.2	289 00	+17.1	315 00	+ 0.5	341 00	-16.2
185 30	+29.0	211 30	+36.8	237 30	+37.2	263 30	+30.0	289 30	+16.8	315 30	+ 0.2	341 30	-16.5
186 00	+29.2	212 00	+36.9	238 00	+37.1	264 00	+29.8	290 00	+16.5	316 00	- 0.2	342 00	-16.8
186 30	+29.4	212 30	+36.9	238 30	+37.0	264 30	+29.6	290 30	+16.2	316 30	- 0.5	342 30	-17.1
187 00	+29.6	213 00	+37.0	239 00	+36.9	265 00	+29.4	291 00	+15.9	317 00	- 0.8	343 00	-17.4
187 30	+29.8	213 30	+37.1	239 30	+36.9	265 30	+29.2	291 30	+15.6	317 30	- 1.2	343 30	-17.7
188 00	+30.0	214 00	+37.2	240 00	+36.8	266 00	+29.0	292 00	+15.3	318 00	- 1.5	344 00	-18.0
188 30	+30.2	214 30	+37.2	240 30	+36.7	266 30	+28.8	292 30	+15.0	318 30	- 1.8	344 30	-18.2
189 00	+30.4	215 00	+37.3	241 00	+36.6	267 00	+28.5	293 00	+14.7	319 00	- 2.1	345 00	-18.5
189 30	+30.6	215 30	+37.3	241 30	+36.5	267 30	+28.3	293 30	+14.4	319 30	- 2.5	345 30	-18.8
190 00	+30.8	216 00	+37.4	242 00	+36.4	268 00	+28.1	294 00	+14.1	320 00	- 2.8	346 00	-19.1
190 30	+31.0	216 30	+37.5	242 30	+36.3	268 30	+27.9	294 30	+13.8	320 30	- 3.1	346 30	-19.4
191 00	+31.2	217 00	+37.5	243 00	+36.2	269 00	+27.6	295 00	+13.5	321 00	- 3.5	347 00	-19.7
191 30	+31.4	217 30	+37.6	243 30	+36.1	269 30	+27.4	295 30	+13.1	321 30	- 3.8	347 30	-20.0
192 00	+31.5	218 00	+37.6	244 00	+36.0	270 00	+27.2	296 00	+12.8	322 00	- 4.1	348 00	-20.2
192 30	+31.7	218 30	+37.6	244 30	+35.9	270 30	+27.0	296 30	+12.5	322 30	- 4.5	348 30	-20.5
193 00	+31.9	219 00	+37.7	245 00	+35.8	271 00	+26.7	297 00	+12.2	323 00	- 4.8	349 00	-20.8
193 30	+32.1	219 30	+37.7	245 30	+35.7	271 30	+26.5	297 30	+11.9	323 30	- 5.1	349 30	-21.1
194 00	+32.3	220 00	+37.8	246 00	+35.6	272 00	+26.2	298 00	+11.6	324 00	- 5.4	350 00	-21.4
194 30	+32.4	220 30	+37.8	246 30	+35.5	272 30	+26.0	298 30	+11.3	324 30	- 5.8	350 30	-21.6
195 00	+32.6	221 00	+37.8	247 00	+35.4	273 00	+25.8	299 00	+10.9	325 00	- 6.1	351 00	-21.9
195 30	+32.8	221 30	+37.8	247 30	+35.2	273 30	+25.5	299 30	+10.6	325 30	- 6.4	351 30	-22.2
196 00	+32.9	222 00	+37.9	248 00	+35.1	274 00	+25.3	300 00	+10.3	326 00	- 6.7	352 00	-22.4
196 30	+33.1	222 30	+37.9	248 30	+35.0	274 30	+25.0	300 30	+10.0	326 30	- 7.1	352 30	-22.7
197 00	+33.3	223 00	+37.9	249 00	+34.9	275 00	+24.8	301 00	+ 9.7	327 00	- 7.4	353 00	-23.0
197 30	+33.4	223 30	+37.9	249 30	+34.7	275 30	+24.5	301 30	+ 9.3	327 30	- 7.7	353 30	-23.2
198 00	+33.6	224 00	+37.9	250 00	+34.6	276 00	+24.3	302 00	+ 9.0	328 00	- 8.0	354 00	-23.5
198 30	+33.7	224 30	+37.9	250 30	+34.5	276 30	+24.0	302 30	+ 8.7	328 30	- 8.4	354 30	-23.7
199 00	+33.9	225 00	+37.9	251 00	+34.3	277 00	+23.8	303 00	+ 8.4	329 00	- 8.7	355 00	-24.0
199 30	+34.0	225 30	+37.9	251 30	+34.2	277 30	+23.5	303 30	+ 8.1	329 30	- 9.0	355 30	-24.3
200 00	+34.2	226 00	+37.9	252 00	+34.0	278 00	+23.2	304 00	+ 7.7	330 00	- 9.3	356 00	-24.5
200 30	+34.3	226 30	+37.9	252 30	+33.9	278 30	+23.0	304 30	+ 7.4	330 30	- 9.7	356 30	-24.8
201 00	+34.5	227 00	+37.9	253 00	+33.7	279 00	+22.7	305 00	+ 7.1	331 00	-10.0	357 00	-25.0
201 30	+34.6	227 30	+37.9	253 30	+33.6	279 30	+22.4	305 30	+ 6.8	331 30	-10.3	357 30	-25.3
202 00	+34.7	228 00	+37.9	254 00	+33.4	280 00	+22.2	306 00	+ 6.4	332 00	-10.6	358 00	-25.5
202 30	+34.9	228 30	+37.9	254 30	+33.3	280 30	+21.9	306 30	+ 6.1	332 30	-10.9	358 30	-25.8
203 00	+35.0	229 00	+37.9	255 00	+33.1	281 00	+21.6	307 00	+ 5.8	333 00	-11.2	359 00	-26.0
203 30	+35.1	229 30	+37.9	255 30	+32.9	281 30	+21.4	307 30	+ 5.5	333 30	-11.6	359 30	-26.2
204 00	+35.2	230 00	+37.8	256 00	+32.8	282 00	+21.1	308 00	+ 5.1	334 00	-11.9	360 00	-26.5
204 30	+35.4	230 30	+37.8	256 30	+32.6	282 30	+20.8	308 30	+ 4.8	334 30	-12.2		
205 00	+35.5	231 00	+37.8	257 00	+32.4	283 00	+20.5	309 00	+ 4.5	335 00	-12.5		
205 30	+35.6	231 30	+37.8	257 30	+32.3	283 30	+20.3	309 30	+ 4.1	335 30	-12.8		
206 00	+35.7	232 00	+37.7	258 00	+32.1	284 00	+20.0	310 00	+ 3.8	336 00	-13.1		
206 30	+35.8	232 30	+37.7	258 30	+31.9	284 30	+19.7	310 30	+ 3.5	336 30	-13.4		
207 00	+35.9	233 00	+37.6	259 00	+31.7	285 00	+19.4	311 00	+ 3.1	337 00	-13.7		
207 30	+36.0	233 30	+37.6	259 30	+31.6	285 30	+19.1	311 30	+ 2.8	337 30	-14.1		
208 00	+36.1	234 00	+37.6	260 00	+31.4	286 00	+18.8	312 00	+ 2.5	338 00	-14.4		

DETERMINACIÓN DE LA LATITUD  
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2024

TABLA II

(SIEMPRE POSITIVA)

h.L. $\Upsilon$	ALTURA											
	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°
0°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
100	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
120	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
140	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
160	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4
180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
280	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
300	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
320	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
340	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4
360	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2

TABLA III

h.L. $\Upsilon$	Ene 1	Feb 1	Mar 1	Abr 1	May 1	Jun 1	Jul 1	Ago 1	Sep 1	Oct 1	Nov 1	Dic 1	Dic 32
0°	+ 0.1	+ 0.1	0.0	- 0.2	- 0.3	- 0.4	- 0.4	- 0.2	- 0.1	+ 0.1	+ 0.3	+ 0.4	+ 0.5
20	+ 0.1	+ 0.1	+ 0.1	- 0.1	- 0.2	- 0.3	- 0.4	- 0.3	- 0.2	0.0	+ 0.2	+ 0.4	+ 0.5
40	+ 0.1	+ 0.2	+ 0.2	+ 0.1	- 0.1	- 0.2	- 0.3	- 0.3	- 0.2	- 0.1	+ 0.1	+ 0.3	+ 0.4
60	+ 0.1	+ 0.2	+ 0.2	+ 0.2	0.0	- 0.1	- 0.2	- 0.3	- 0.3	- 0.2	- 0.1	+ 0.1	+ 0.3
80	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	0.0	- 0.1	- 0.2	- 0.3	- 0.3	- 0.2	0.0	+ 0.1
100	0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3	+ 0.2	0.0	- 0.2	- 0.3	- 0.3	- 0.3	- 0.2	0.0
120	0.0	+ 0.1	+ 0.3	+ 0.4	+ 0.4	+ 0.3	+ 0.1	- 0.1	- 0.2	- 0.3	- 0.4	- 0.3	- 0.2
140	- 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.4	+ 0.4	+ 0.2	+ 0.1	- 0.1	- 0.3	- 0.4	- 0.4	- 0.4
160	- 0.1	0.0	+ 0.1	+ 0.3	+ 0.4	+ 0.4	+ 0.3	+ 0.2	0.0	- 0.2	- 0.4	- 0.5	- 0.5
180	- 0.1	- 0.1	0.0	+ 0.2	+ 0.3	+ 0.4	+ 0.4	+ 0.2	+ 0.1	- 0.1	- 0.3	- 0.4	- 0.5
200	- 0.1	- 0.1	- 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.4	+ 0.3	+ 0.2	0.0	- 0.2	- 0.4	- 0.5
220	- 0.1	- 0.2	- 0.2	- 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.1	- 0.1	- 0.3	- 0.4
240	- 0.1	- 0.2	- 0.2	- 0.2	0.0	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.1	- 0.1	- 0.3
260	- 0.1	- 0.2	- 0.3	- 0.3	- 0.2	0.0	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	0.0	- 0.1
280	0.0	- 0.2	- 0.3	- 0.3	- 0.3	- 0.2	0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3	+ 0.2	0.0
300	0.0	- 0.1	- 0.3	- 0.4	- 0.4	- 0.3	- 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.4	+ 0.3	+ 0.2
320	+ 0.1	- 0.1	- 0.2	- 0.3	- 0.4	- 0.4	- 0.2	- 0.1	+ 0.1	+ 0.3	+ 0.4	+ 0.4	+ 0.4
340	+ 0.1	0.0	- 0.1	- 0.3	- 0.4	- 0.4	- 0.3	- 0.2	0.0	+ 0.2	+ 0.4	+ 0.5	+ 0.5
360	+ 0.1	+ 0.1	0.0	- 0.2	- 0.3	- 0.4	- 0.4	- 0.2	- 0.1	+ 0.1	+ 0.3	+ 0.4	+ 0.5



h.L. $\Uparrow$	LATITUD												h.L. $\Uparrow$
	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	
0°	+0.5	+0.5	+0.5	+0.5	+0.5	+0.6	+0.6	+0.6	+0.7	+0.8	+0.9	+1.1	0°
10	+0.4	+0.4	+0.4	+0.4	+0.4	+0.5	+0.5	+0.5	+0.6	+0.6	+0.7	+0.9	10
20	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.4	+0.4	+0.4	+0.5	+0.5	+0.7	20
30	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.3	+0.3	+0.3	+0.4	30
40	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.2	40
50	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	50
60	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.4	60
70	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	70
80	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.8	80
90	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	-0.8	-0.9	-1.0	90
100	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.9	-1.0	-1.2	100
110	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.9	-1.0	-1.1	-1.3	110
120	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.9	-0.9	-1.1	-1.2	-1.4	120
130	-0.6	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.1	-1.3	-1.5	130
140	-0.6	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.1	-1.3	-1.5	140
150	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.5	150
160	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.2	-1.4	160
170	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.9	-1.0	-1.2	170
180	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7	-0.8	-0.9	-1.1	180
190	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	-0.9	190
200	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-0.7	200
210	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4	210
220	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	220
230	0.0	0.0	0.0	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	230
240	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.3	+0.3	+0.4	240
250	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.3	+0.4	+0.4	+0.5	+0.5	+0.6	250
260	+0.4	+0.4	+0.4	+0.4	+0.4	+0.4	+0.5	+0.5	+0.6	+0.6	+0.7	+0.8	260
270	+0.4	+0.5	+0.5	+0.5	+0.5	+0.5	+0.6	+0.6	+0.7	+0.8	+0.9	+1.0	270
280	+0.5	+0.5	+0.5	+0.6	+0.6	+0.6	+0.7	+0.7	+0.8	+0.9	+1.0	+1.2	280
290	+0.6	+0.6	+0.6	+0.6	+0.7	+0.7	+0.7	+0.8	+0.9	+1.0	+1.1	+1.3	290
300	+0.6	+0.6	+0.6	+0.7	+0.7	+0.7	+0.8	+0.9	+0.9	+1.1	+1.2	+1.4	300
310	+0.6	+0.7	+0.7	+0.7	+0.7	+0.8	+0.8	+0.9	+1.0	+1.1	+1.3	+1.5	310
320	+0.6	+0.7	+0.7	+0.7	+0.7	+0.8	+0.8	+0.9	+1.0	+1.1	+1.3	+1.5	320
330	+0.6	+0.6	+0.7	+0.7	+0.7	+0.7	+0.8	+0.9	+1.0	+1.1	+1.2	+1.5	330
340	+0.6	+0.6	+0.6	+0.6	+0.7	+0.7	+0.8	+0.8	+0.9	+1.0	+1.2	+1.4	340
350	+0.5	+0.5	+0.6	+0.6	+0.6	+0.6	+0.7	+0.7	+0.8	+0.9	+1.0	+1.2	350
360	+0.5	+0.5	+0.5	+0.5	+0.5	+0.6	+0.6	+0.6	+0.7	+0.8	+0.9	+1.1	360

Quando el signo es +, la Polar está al E del meridiano.

Quando el signo es -, la Polar está al W del meridiano.

Long. °	RETARDO DIARIO																		
	5 <sup>m</sup>	10 <sup>m</sup>	15 <sup>m</sup>	20 <sup>m</sup>	25 <sup>m</sup>	30 <sup>m</sup>	35 <sup>m</sup>	40 <sup>m</sup>	45 <sup>m</sup>	50 <sup>m</sup>	55 <sup>m</sup>	60 <sup>m</sup>	65 <sup>m</sup>	70 <sup>m</sup>	75 <sup>m</sup>	80 <sup>m</sup>	85 <sup>m</sup>	90 <sup>m</sup>	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	
10	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	
15	0	0	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4	
20	0	1	1	1	1	2	2	2	3	3	3	3	4	4	4	4	5	5	
25	0	1	1	1	2	2	2	3	3	3	4	4	5	5	5	6	6	6	
30	0	1	1	2	2	3	3	3	4	4	5	5	5	6	6	7	7	8	
35	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	
40	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	
45	1	1	2	3	3	4	4	5	6	6	7	8	8	9	9	10	11	11	
50	1	1	2	3	3	4	5	6	6	7	8	8	9	10	10	11	12	13	
55	1	2	2	3	4	5	5	6	7	8	8	9	10	11	11	12	13	14	
60	1	2	3	3	4	5	6	7	8	8	9	10	11	12	13	13	14	15	
65	1	2	3	4	5	5	6	7	8	9	10	11	12	13	14	14	15	16	
70	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
75	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	
80	1	2	3	4	6	7	8	9	10	11	12	13	14	16	17	18	19	20	
85	1	2	4	5	6	7	8	9	11	12	13	14	15	17	18	19	20	21	
90	1	3	4	5	6	8	9	10	11	13	14	15	16	18	19	20	21	23	
95	1	3	4	5	7	8	9	11	12	13	15	16	17	18	20	21	22	24	
100	1	3	4	6	7	8	10	11	13	14	15	17	18	19	21	22	24	25	
105	1	3	4	6	7	9	10	12	13	15	16	18	19	20	22	23	25	26	
110	2	3	5	6	8	9	11	12	14	15	17	18	20	21	23	24	26	28	
115	2	3	5	6	8	10	11	13	14	16	18	19	21	22	24	26	27	29	
120	2	3	5	7	8	10	12	13	15	17	18	20	22	23	25	27	28	30	
125	2	3	5	7	9	10	12	14	16	17	19	21	23	24	26	28	30	31	
130	2	4	5	7	9	11	13	14	16	18	20	22	23	25	27	29	31	33	
135	2	4	6	8	9	11	13	15	17	19	21	23	24	26	28	30	32	34	
140	2	4	6	8	10	12	14	16	18	19	21	23	25	27	29	31	33	35	
145	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	
150	2	4	6	8	10	13	15	17	19	21	23	25	27	29	31	33	35	38	
155	2	4	6	9	11	13	15	17	19	22	24	26	28	30	32	34	37	39	
160	2	4	7	9	11	13	16	18	20	22	24	27	29	31	33	36	38	40	
165	2	5	7	9	11	14	16	18	21	23	25	28	30	32	34	37	39	41	
170	2	5	7	9	12	14	17	19	21	24	26	28	31	33	35	38	40	43	
175	2	5	7	10	12	15	17	19	22	24	27	29	32	34	36	39	41	44	
180	3	5	8	10	13	15	18	20	23	25	28	30	33	35	38	40	43	45	

CORRECCIONES PARA OBTENER LA ALTURA VERDADERA DEL SOL (LIMBO INFERIOR), PLANETA O ESTRELLA, 2024

TABLA A				TABLA B = SOL (LIMBO INFERIOR)										Correc. adicional (2024)
DEPRESIÓN DEL HORIZONTE				SEMIDIÁMETRO, REFRACCIÓN Y PARALAJE										
Elevación observador en metros	Corrección	Elevación observador en metros	Corrección	Altura apte. $\odot$	Corrección	Altura apte. $\odot$	Corrección	Altura apte. $\odot$	Corrección	Altura apte. $\odot$	Corrección	Altura apte. $\odot$	Corrección	
1.6	-2.3	12.7	-6.4	6 15	+ 8.2	8 45	+10.2	13 23	+12.2	25 59	+14.2		Ene. 1	
1.7	-2.4	13.1	-6.5	6 21	+ 8.3	8 54	+10.3	13 44	+12.3	27 12	+14.3		Ene. 23	
1.9	-2.5	13.6	-6.6	6 27	+ 8.4	9 05	+10.4	14 06	+12.4	28 32	+14.4		Feb. 28	
2.0	-2.6	14.0	-6.7	6 33	+ 8.5	9 15	+10.5	14 29	+12.5	29 59	+14.5		Mar. 22	
2.2	-2.7	14.4	-6.8	6 40	+ 8.6	9 26	+10.6	14 53	+12.6	31 34	+14.6		Abr. 13	
2.3	-2.8	14.8	-6.9	6 46	+ 8.7	9 37	+10.7	15 18	+12.7	33 19	+14.7		May. 7	
2.5	-2.9	15.3	-7.0	6 53	+ 8.8	9 48	+10.8	15 45	+12.8	35 16	+14.8		Jun. 12	
2.7	-3.0	15.7	-7.1	7 00	+ 8.9	10 00	+10.9	16 13	+12.9	37 25	+14.9		Jul. 27	
2.9	-3.1	16.2	-7.2	7 06	+ 9.0	10 12	+11.0	16 43	+13.0	39 49	+15.0		Sep. 1	
3.1	-3.2	16.6	-7.3	7 14	+ 9.1	10 25	+11.1	17 14	+13.1	42 30	+15.1		Sep. 25	
3.3	-3.3	17.1	-7.4	7 21	+ 9.2	10 38	+11.2	17 47	+13.2	45 30	+15.2		Oct. 17	
3.5	-3.4	17.6	-7.5	7 28	+ 9.3	10 52	+11.3	18 23	+13.3	48 53	+15.3		Nov. 9	
3.7	-3.5	18.0	-7.6	7 36	+ 9.4	11 06	+11.4	19 01	+13.4	52 43	+15.4		Dic. 14	
3.9	-3.6	18.5	-7.7	7 44	+ 9.5	11 21	+11.5	19 41	+13.5	57 01	+15.5		Dic. 31	
4.2	-3.7	19.0	-7.8	7 52	+ 9.6	11 36	+11.6	20 24	+13.6	61 51	+15.6			
4.4	-3.8	19.5	-7.9	8 00	+ 9.7	11 52	+11.7	21 10	+13.7	67 16	+15.7			
4.7	-3.9	20.0	-8.0	8 08	+ 9.8	12 09	+11.8	21 59	+13.8	73 14	+15.8			
4.9	-4.0	20.5	-8.1	8 17	+ 9.9	12 26	+11.9	22 53	+13.9	79 42	+15.9			
5.2	-4.1	21.0	-8.2	8 26	+10.0	12 44	+12.0	23 50	+14.0	86 30	+16.0			
5.4	-4.2	21.5	-8.3	8 35	+10.1	13 03	+12.1	24 52	+14.1	90 00				
5.7	-4.3	22.1	-8.4	8 45		13 23		25 59						
6.0	-4.4	22.6	-8.5											
6.2	-4.5	23.1	-8.6											
6.5	-4.6	23.7	-8.7											
6.8	-4.7	24.2	-8.8											
7.1	-4.8	24.8	-8.9											
7.4	-4.9	25.4	-9.0											
7.7	-5.0	25.9	-9.1											
8.0	-5.1	26.5	-9.2											
8.4	-5.2	27.1	-9.3											
8.7	-5.3	27.7	-9.4											
9.0	-5.4	28.3	-9.5											
9.4	-5.5	28.9	-9.6											
9.7	-5.6	29.5	-9.7											
10.1	-5.7	30.1	-9.8											
10.4	-5.8	30.7	-9.9											
10.8	-5.9	31.3	-10.0											
11.2	-6.0	32.0	-10.1											
11.6	-6.1	32.6	-10.2											
11.9	-6.2	33.3	-10.3											
12.3	-6.3	33.9	-10.4											
12.7		34.6												

TABLA C = PLANETAS Y ESTRELLAS									
REFRACCIÓN					PARALAJE (2024)				
Altura aparente	Corrección	Altura aparente	Corrección	Fechas	Venus Cualquier altura	Marte Altura aparente			
$\circ$ / '	'	$\circ$ / '	'			< 30°	> 30° < 60°	> 60°	
6 30	-7.8	14 00	-3.8	Ene. 1	+0.1'	+0.1'	0.0'	0.0'	
6 40	-7.6	15 00	-3.6	Abr. 5	+0.1'	+0.1'	+0.1'	0.0'	
6 50	-7.5	16 00	-3.3	Nov. 3	+0.1'	+0.1'	+0.1'	+0.1'	
7 00	-7.3	17 00	-3.1	Nov. 14	+0.1'	+0.2'	+0.1'	+0.1'	
7 15	-7.1	18 00	-3.0	Dic. 13	+0.2'	+0.2'	+0.1'	+0.1'	
7 30	-6.9	19 00	-2.8	Dic. 21	+0.2'	+0.2'	+0.2'	+0.1'	
7 45	-6.7	20 00	-2.6	Dic. 31					
8 00	-6.5	21 00	-2.5						
8 15	-6.3	22 00	-2.4						
8 30	-6.2	24 00	-2.2						
8 45	-6.0	26 00	-2.0						
9 00	-5.9	28 00	-1.8						
9 20	-5.7	32 00	-1.6						
9 40	-5.5	36 00	-1.3						
10 00	-5.3	40 00	-1.2						
10 30	-5.1	45 00	-1.0						
11 00	-4.8	50 00	-0.8						
11 30	-4.6	60 00	-0.6						
12 00	-4.5	70 00	-0.4						
12 30	-4.3	80 00	-0.2						
13 00	-4.1	90 00	0.0						

La altura aparente es la observada corregida por depresión del horizonte. Para el uso de estas tablas, en los valores explícitos tomar el valor superior.

CORRECCIÓN POR REFRACCIÓN, PARALAJE Y SEMIDIÁMETRO  
A APLICAR A LA ALTURA APARENTE DE LA LUNA

Altura ap. °	LIMBO INFERIOR									Altura ap. °	LIMBO SUPERIOR								
	PARALAJE HORIZONTAL										PARALAJE HORIZONTAL								
	54'	55'	56'	57'	58'	59'	60'	61'		54'	55'	56'	57'	58'	59'	60'	61'		
10	62.6	63.9	65.1	66.4	67.6	68.9	70.1	71.4	10	33.2	33.9	34.6	35.3	36.0	36.7	37.4	38.2		
11	62.9	64.1	65.4	66.7	67.9	69.2	70.4	71.7	11	33.5	34.2	34.9	35.6	36.3	37.0	37.7	38.4		
12	63.1	64.3	65.6	66.8	68.1	69.3	70.6	71.9	12	33.7	34.4	35.1	35.8	36.5	37.2	37.9	38.6		
13	63.2	64.5	65.7	67.0	68.2	69.5	70.7	72.0	13	33.8	34.5	35.2	35.9	36.6	37.3	38.0	38.7		
14	63.3	64.5	65.8	67.0	68.3	69.5	70.8	72.0	14	33.9	34.6	35.3	36.0	36.7	37.4	38.1	38.8		
15	63.3	64.6	65.8	67.0	68.3	69.5	70.8	72.0	15	33.9	34.6	35.3	36.0	36.7	37.4	38.1	38.7		
16	63.3	64.5	65.8	67.0	68.2	69.5	70.7	71.9	16	33.9	34.6	35.2	35.9	36.6	37.3	38.0	38.7		
17	63.2	64.5	65.7	66.9	68.1	69.4	70.6	71.8	17	33.8	34.5	35.2	35.9	36.5	37.2	37.9	38.6		
18	63.1	64.4	65.6	66.8	68.0	69.2	70.5	71.7	18	33.7	34.4	35.1	35.7	36.4	37.1	37.8	38.4		
19	63.0	64.2	65.4	66.6	67.9	69.1	70.3	71.5	19	33.6	34.2	34.9	35.6	36.3	36.9	37.6	38.3		
20	62.8	64.0	65.3	66.5	67.7	68.9	70.1	71.3	20	33.4	34.1	34.7	35.4	36.1	36.7	37.4	38.1		
21	62.6	63.8	65.0	66.3	67.5	68.7	69.9	71.1	21	33.2	33.9	34.5	35.2	35.8	36.5	37.2	37.8		
22	62.4	63.6	64.8	66.0	67.2	68.4	69.6	70.8	22	33.0	33.6	34.3	34.9	35.6	36.3	36.9	37.6		
23	62.2	63.4	64.5	65.7	66.9	68.1	69.3	70.5	23	32.7	33.4	34.0	34.7	35.3	36.0	36.6	37.3		
24	61.9	63.1	64.3	65.4	66.6	67.8	69.0	70.2	24	32.5	33.1	33.7	34.4	35.0	35.7	36.3	36.9		
25	61.6	62.8	64.0	65.1	66.3	67.5	68.7	69.9	25	32.2	32.8	33.4	34.1	34.7	35.3	36.0	36.6		
26	61.3	62.5	63.6	64.8	66.0	67.1	68.3	69.5	26	31.8	32.5	33.1	33.7	34.4	35.0	35.6	36.2		
27	60.9	62.1	63.3	64.4	65.6	66.8	67.9	69.1	27	31.5	32.1	32.8	33.4	34.0	34.6	35.2	35.8		
28	60.6	61.7	62.9	64.1	65.2	66.4	67.5	68.7	28	31.2	31.8	32.4	33.0	33.6	34.2	34.8	35.4		
29	60.2	61.4	62.5	63.7	64.8	65.9	67.1	68.2	29	30.8	31.4	32.0	32.6	33.2	33.8	34.4	35.0		
30	59.8	61.0	62.1	63.2	64.4	65.5	66.6	67.8	30	30.4	31.0	31.6	32.2	32.8	33.4	33.9	34.5		
31	59.4	60.5	61.7	62.8	63.9	65.1	66.2	67.3	31	30.0	30.6	31.1	31.7	32.3	32.9	33.5	34.1		
32	59.0	60.1	61.2	62.3	63.5	64.6	65.7	66.8	32	29.5	30.1	30.7	31.3	31.8	32.4	33.0	33.6		
33	58.5	59.6	60.7	61.9	63.0	64.1	65.2	66.3	33	29.1	29.7	30.2	30.8	31.4	31.9	32.5	33.1		
34	58.1	59.2	60.3	61.4	62.5	63.6	64.7	65.8	34	28.6	29.2	29.7	30.3	30.9	31.4	32.0	32.5		
35	57.6	58.7	59.8	60.9	61.9	63.0	64.1	65.2	35	28.1	28.7	29.2	29.8	30.3	30.9	31.4	32.0		
36	57.1	58.2	59.2	60.3	61.4	62.5	63.6	64.7	36	27.6	28.2	28.7	29.3	29.8	30.3	30.9	31.4		
37	56.6	57.6	58.7	59.8	60.9	61.9	63.0	64.1	37	27.1	27.7	28.2	28.7	29.2	29.8	30.3	30.8		
38	56.0	57.1	58.2	59.2	60.3	61.3	62.4	63.5	38	26.6	27.1	27.6	28.2	28.7	29.2	29.7	30.2		
39	55.5	56.5	57.6	58.6	59.7	60.7	61.8	62.8	39	26.1	26.6	27.1	27.6	28.1	28.6	29.1	29.6		
40	54.9	56.0	57.0	58.1	59.1	60.1	61.2	62.2	40	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0		
41	54.4	55.4	56.4	57.4	58.5	59.5	60.5	61.6	41	24.9	25.4	25.9	26.4	26.9	27.3	27.8	28.3		
42	53.8	54.8	55.8	56.8	57.8	58.9	59.9	60.9	42	24.3	24.8	25.3	25.8	26.2	26.7	27.2	27.6		
43	53.2	54.2	55.2	56.2	57.2	58.2	59.2	60.2	43	23.7	24.2	24.7	25.1	25.6	26.0	26.5	27.0		
44	52.6	53.6	54.5	55.5	56.5	57.5	58.5	59.5	44	23.1	23.6	24.0	24.5	24.9	25.4	25.8	26.3		
45	51.9	52.9	53.9	54.9	55.9	56.8	57.8	58.8	45	22.5	22.9	23.4	23.8	24.2	24.7	25.1	25.6		
46	51.3	52.3	53.2	54.2	55.2	56.1	57.1	58.1	46	21.9	22.3	22.7	23.1	23.6	24.0	24.4	24.8		
47	50.6	51.6	52.6	53.5	54.5	55.4	56.4	57.3	47	21.2	21.6	22.0	22.4	22.9	23.3	23.7	24.1		
48	50.0	50.9	51.9	52.8	53.8	54.7	55.6	56.6	48	20.6	21.0	21.3	21.7	22.1	22.5	22.9	23.3		
49	49.3	50.2	51.2	52.1	53.0	54.0	54.9	55.8	49	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6		
50	48.6	49.5	50.5	51.4	52.3	53.2	54.1	55.0	50	19.2	19.6	19.9	20.3	20.7	21.0	21.4	21.8		
51	47.9	48.8	49.7	50.6	51.5	52.4	53.3	54.2	51	18.5	18.8	19.2	19.6	19.9	20.3	20.6	21.0		
52	47.2	48.1	49.0	49.9	50.8	51.7	52.5	53.4	52	17.8	18.1	18.5	18.8	19.2	19.5	19.8	20.2		
53	46.5	47.4	48.2	49.1	50.0	50.9	51.7	52.6	53	17.1	17.4	17.7	18.0	18.4	18.7	19.0	19.4		
54	45.8	46.6	47.5	48.3	49.2	50.1	50.9	51.8	54	16.3	16.6	17.0	17.3	17.6	17.9	18.2	18.5		
55	45.0	45.9	46.7	47.6	48.4	49.2	50.1	50.9	55	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7		

Altura ap.	LIMBO INFERIOR PARALAJE HORIZONTAL								Altura ap.	LIMBO SUPERIOR PARALAJE HORIZONTAL							
	54'	55'	56'	57'	58'	59'	60'	61'		54'	55'	56'	57'	58'	59'	60'	61'
55	45.0	45.9	46.7	47.6	48.4	49.2	50.1	50.9	55	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7
56	44.3	45.1	45.9	46.8	47.6	48.4	49.3	50.1	56	14.8	15.1	15.4	15.7	16.0	16.3	16.6	16.8
57	43.5	44.3	45.1	46.0	46.8	47.6	48.4	49.2	57	14.1	14.3	14.6	14.9	15.2	15.4	15.7	16.0
58	42.7	43.5	44.3	45.1	45.9	46.7	47.5	48.3	58	13.3	13.6	13.8	14.1	14.3	14.6	14.8	15.1
59	42.0	42.7	43.5	44.3	45.1	45.9	46.7	47.5	59	12.5	12.8	13.0	13.2	13.5	13.7	14.0	14.2
60	41.2	41.9	42.7	43.5	44.3	45.0	45.8	46.6	60	11.7	12.0	12.2	12.4	12.6	12.9	13.1	13.3
61	40.4	41.1	41.9	42.6	43.4	44.1	44.9	45.7	61	10.9	11.1	11.4	11.6	11.8	12.0	12.2	12.4
62	39.6	40.3	41.0	41.8	42.5	43.3	44.0	44.8	62	10.1	10.3	10.5	10.7	10.9	11.1	11.3	11.5
63	38.7	39.5	40.2	40.9	41.6	42.4	43.1	43.8	63	9.3	9.5	9.7	9.9	10.0	10.2	10.4	10.6
64	37.9	38.6	39.3	40.1	40.8	41.5	42.2	42.9	64	8.5	8.7	8.8	9.0	9.2	9.3	9.5	9.7
65	37.1	37.8	38.5	39.2	39.9	40.6	41.3	42.0	65	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7
66	36.3	36.9	37.6	38.3	39.0	39.6	40.3	41.0	66	6.8	7.0	7.1	7.2	7.4	7.5	7.6	7.8
67	35.4	36.1	36.7	37.4	38.1	38.7	39.4	40.0	67	6.0	6.1	6.2	6.3	6.5	6.6	6.7	6.8
68	34.6	35.2	35.8	36.5	37.1	37.8	38.4	39.1	68	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8
69	33.7	34.3	35.0	35.6	36.2	36.9	37.5	38.1	69	4.3	4.4	4.4	4.5	4.6	4.7	4.8	4.9
70	32.8	33.4	34.1	34.7	35.3	35.9	36.5	37.1	70	3.4	3.5	3.5	3.6	3.7	3.8	3.8	3.9
71	32.0	32.6	33.2	33.8	34.4	35.0	35.6	36.2	71	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.9
72	31.1	31.7	32.3	32.8	33.4	34.0	34.6	35.2	72	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9
73	30.2	30.8	31.3	31.9	32.5	33.0	33.6	34.2	73	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
74	29.3	29.9	30.4	31.0	31.5	32.1	32.6	33.2	74	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
75	28.4	29.0	29.5	30.0	30.6	31.1	31.6	32.2	75	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1
76	27.5	28.1	28.6	29.1	29.6	30.1	30.6	31.1	76	-1.9	-1.9	-2.0	-2.0	-2.0	-2.0	-2.1	-2.1
77	26.6	27.1	27.6	28.1	28.6	29.1	29.6	30.1	77	-2.8	-2.8	-2.9	-2.9	-3.0	-3.0	-3.1	-3.1
78	25.7	26.2	26.7	27.2	27.7	28.1	28.6	29.1	78	-3.7	-3.8	-3.8	-3.9	-3.9	-4.0	-4.1	-4.1
79	24.8	25.3	25.8	26.2	26.7	27.1	27.6	28.1	79	-4.6	-4.7	-4.8	-4.8	-4.9	-5.0	-5.1	-5.2
80	23.9	24.4	24.8	25.3	25.7	26.2	26.6	27.0	80	-5.5	-5.6	-5.7	-5.8	-5.9	-6.0	-6.1	-6.2

La altura aparente, argumento de entrada de estas tablas, es la observada corregida por depresión del horizonte con los datos de la tabla A de la página 387.

PARTES PROPORCIONALES

Variación tabular por grado de altura  
(corrección sustractiva, excepto para alturas < 15°, que es aditiva)

		0.0'	0.1'	0.2'	0.3'	0.4'	0.5'	0.6'	0.7'	0.8'	0.9'	1.0'	1.1'	1.2'	1.3'		
Minutos de altura	00'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	
	06'	0.0'	0.0'	0.0'	0.0'	0.0'	0.0'	0.1'	0.1'	0.1'	0.1'	0.1'	0.1'	0.1'	0.1'	0.1'	
	12'	0.0'	0.0'	0.0'	0.1'	0.1'	0.1'	0.1'	0.1'	0.2'	0.2'	0.2'	0.2'	0.2'	0.3'	0.2'	
	18'	0.0'	0.0'	0.1'	0.1'	0.1'	0.2'	0.2'	0.2'	0.2'	0.3'	0.3'	0.3'	0.4'	0.4'	0.3'	
	24'	0.0'	0.0'	0.1'	0.1'	0.2'	0.2'	0.2'	0.3'	0.3'	0.4'	0.4'	0.4'	0.5'	0.5'	0.4'	
	30'	0.0'	0.1'	0.1'	0.2'	0.2'	0.3'	0.3'	0.4'	0.4'	0.5'	0.5'	0.6'	0.6'	0.7'	0.5'	
	36'	0.0'	0.1'	0.1'	0.2'	0.2'	0.3'	0.4'	0.4'	0.5'	0.5'	0.6'	0.7'	0.7'	0.8'	0.6'	
	42'	0.0'	0.1'	0.1'	0.2'	0.3'	0.4'	0.4'	0.5'	0.6'	0.6'	0.7'	0.8'	0.8'	0.9'	0.7'	
	48'	0.0'	0.1'	0.2'	0.2'	0.3'	0.4'	0.5'	0.6'	0.6'	0.7'	0.8'	0.9'	1.0'	1.0'	0.8'	
	54'	0.0'	0.1'	0.2'	0.3'	0.4'	0.5'	0.5'	0.6'	0.7'	0.8'	0.9'	1.0'	1.1'	1.2'	0.9'	
60'	0.0'	0.1'	0.2'	0.3'	0.4'	0.5'	0.6'	0.7'	0.8'	0.9'	1.0'	1.1'	1.2'	1.3'	1.0'		
		0.0'	0.1'	0.2'	0.3'	0.4'	0.5'	0.6'	0.7'	0.8'	0.9'	1.0'	1.1'	1.2'	1.3'		
Variación tabular por minuto de paralaje (corrección aditiva)																	

CORRECCIÓN QUE DEBE RESTARSE A UN INTERVALO DE TIEMPO SIDÉREO PARA CONVERTIRLO EN MEDIO

	0 <sup>h</sup>	1 <sup>h</sup>	2 <sup>h</sup>	3 <sup>h</sup>	4 <sup>h</sup>	5 <sup>h</sup>	6 <sup>h</sup>	7 <sup>h</sup>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	0 00.0	0 09.8	0 19.7	0 29.5	0 39.3	0 49.1	0 59.0	1 08.8	<b>0</b>
<b>5</b>	0 00.8	0 10.6	0 20.5	0 30.3	0 40.1	0 50.0	0 59.8	1 09.6	<b>5</b>
<b>10</b>	0 01.6	0 11.5	0 21.3	0 31.1	0 41.0	0 50.8	1 00.6	1 10.4	<b>10</b>
<b>15</b>	0 02.5	0 12.3	0 22.1	0 31.9	0 41.8	0 51.6	1 01.4	1 11.3	<b>15</b>
<b>20</b>	0 03.3	0 13.1	0 22.9	0 32.8	0 42.6	0 52.4	1 02.3	1 12.1	<b>20</b>
<b>25</b>	0 04.1	0 13.9	0 23.8	0 33.6	0 43.4	0 53.2	1 03.1	1 12.9	<b>25</b>
<b>30</b>	0 04.9	0 14.7	0 24.6	0 34.4	0 44.2	0 54.1	1 03.9	1 13.7	<b>30</b>
<b>35</b>	0 05.7	0 15.6	0 25.4	0 35.2	0 45.1	0 54.9	1 04.7	1 14.5	<b>35</b>
<b>40</b>	0 06.6	0 16.4	0 26.2	0 36.0	0 45.9	0 55.7	1 05.5	1 15.4	<b>40</b>
<b>45</b>	0 07.4	0 17.2	0 27.0	0 36.9	0 46.7	0 56.5	1 06.3	1 16.2	<b>45</b>
<b>50</b>	0 08.2	0 18.0	0 27.9	0 37.7	0 47.5	0 57.3	1 07.2	1 17.0	<b>50</b>
<b>55</b>	0 09.0	0 18.8	0 28.7	0 38.5	0 48.3	0 58.2	1 08.0	1 17.8	<b>55</b>
	8 <sup>h</sup>	9 <sup>h</sup>	10 <sup>h</sup>	11 <sup>h</sup>	12 <sup>h</sup>	13 <sup>h</sup>	14 <sup>h</sup>	15 <sup>h</sup>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	1 18.6	1 28.5	1 38.3	1 48.1	1 58.0	2 07.8	2 17.6	2 27.4	<b>0</b>
<b>5</b>	1 19.5	1 29.3	1 39.1	1 48.9	1 58.8	2 08.6	2 18.4	2 28.3	<b>5</b>
<b>10</b>	1 20.3	1 30.1	1 39.9	1 49.8	1 59.6	2 09.4	2 19.3	2 29.1	<b>10</b>
<b>15</b>	1 21.1	1 30.9	1 40.8	1 50.6	2 00.4	2 10.2	2 20.1	2 29.9	<b>15</b>
<b>20</b>	1 21.9	1 31.7	1 41.6	1 51.4	2 01.2	2 11.1	2 20.9	2 30.7	<b>20</b>
<b>25</b>	1 22.7	1 32.6	1 42.4	1 52.2	2 02.1	2 11.9	2 21.7	2 31.5	<b>25</b>
<b>30</b>	1 23.6	1 33.4	1 43.2	1 53.0	2 02.9	2 12.7	2 22.5	2 32.4	<b>30</b>
<b>35</b>	1 24.4	1 34.2	1 44.0	1 53.9	2 03.7	2 13.5	2 23.3	2 33.2	<b>35</b>
<b>40</b>	1 25.2	1 35.0	1 44.8	1 54.7	2 04.5	2 14.3	2 24.2	2 34.0	<b>40</b>
<b>45</b>	1 26.0	1 35.8	1 45.7	1 55.5	2 05.3	2 15.2	2 25.0	2 34.8	<b>45</b>
<b>50</b>	1 26.8	1 36.7	1 46.5	1 56.3	2 06.1	2 16.0	2 25.8	2 35.6	<b>50</b>
<b>55</b>	1 27.6	1 37.5	1 47.3	1 57.1	2 07.0	2 16.8	2 26.6	2 36.5	<b>55</b>
	16 <sup>h</sup>	17 <sup>h</sup>	18 <sup>h</sup>	19 <sup>h</sup>	20 <sup>h</sup>	21 <sup>h</sup>	22 <sup>h</sup>	23 <sup>h</sup>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	2 37.3	2 47.1	2 56.9	3 06.8	3 16.6	3 26.4	3 36.3	3 46.1	<b>0</b>
<b>5</b>	2 38.1	2 47.9	2 57.8	3 07.6	3 17.4	3 27.2	3 37.1	3 46.9	<b>5</b>
<b>10</b>	2 38.9	2 48.7	2 58.6	3 08.4	3 18.2	3 28.1	3 37.9	3 47.7	<b>10</b>
<b>15</b>	2 39.7	2 49.6	2 59.4	3 09.2	3 19.0	3 28.9	3 38.7	3 48.5	<b>15</b>
<b>20</b>	2 40.5	2 50.4	3 00.2	3 10.0	3 19.9	3 29.7	3 39.5	3 49.4	<b>20</b>
<b>25</b>	2 41.4	2 51.2	3 01.0	3 10.9	3 20.7	3 30.5	3 40.3	3 50.2	<b>25</b>
<b>30</b>	2 42.2	2 52.0	3 01.8	3 11.7	3 21.5	3 31.3	3 41.2	3 51.0	<b>30</b>
<b>35</b>	2 43.0	2 52.8	3 02.7	3 12.5	3 22.3	3 32.2	3 42.0	3 51.8	<b>35</b>
<b>40</b>	2 43.8	2 53.7	3 03.5	3 13.3	3 23.1	3 33.0	3 42.8	3 52.6	<b>40</b>
<b>45</b>	2 44.6	2 54.5	3 04.3	3 14.1	3 24.0	3 33.8	3 43.6	3 53.5	<b>45</b>
<b>50</b>	2 45.5	2 55.3	3 05.1	3 15.0	3 24.8	3 34.6	3 44.4	3 54.3	<b>50</b>
<b>55</b>	2 46.3	2 56.1	3 05.9	3 15.8	3 25.6	3 35.4	3 45.3	3 55.1	<b>55</b>

m s  
**0** 00.0  
**1** 00.2  
**2** 00.3  
**3** 00.5  
**4** 00.7

**CORRECCIÓN QUE DEBE SUMARSE A UN INTERVALO DE  
TIEMPO MEDIO PARA CONVERTIRLO EN SIDÉREO**

	<b>0<sup>h</sup></b>	<b>1<sup>h</sup></b>	<b>2<sup>h</sup></b>	<b>3<sup>h</sup></b>	<b>4<sup>h</sup></b>	<b>5<sup>h</sup></b>	<b>6<sup>h</sup></b>	<b>7<sup>h</sup></b>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	0 00.0	0 09.9	0 19.7	0 29.6	0 39.4	0 49.3	0 59.1	1 09.0	<b>0</b>
<b>5</b>	0 00.8	0 10.7	0 20.5	0 30.4	0 40.2	0 50.1	1 00.0	1 09.8	<b>5</b>
<b>10</b>	0 01.6	0 11.5	0 21.4	0 31.2	0 41.1	0 50.9	1 00.8	1 10.6	<b>10</b>
<b>15</b>	0 02.5	0 12.3	0 22.2	0 32.0	0 41.9	0 51.7	1 01.6	1 11.5	<b>15</b>
<b>20</b>	0 03.3	0 13.1	0 23.0	0 32.9	0 42.7	0 52.6	1 02.4	1 12.3	<b>20</b>
<b>25</b>	0 04.1	0 14.0	0 23.8	0 33.7	0 43.5	0 53.4	1 03.2	1 13.1	<b>25</b>
<b>30</b>	0 04.9	0 14.8	0 24.6	0 34.5	0 44.4	0 54.2	1 04.1	1 13.9	<b>30</b>
<b>35</b>	0 05.7	0 15.6	0 25.5	0 35.3	0 45.2	0 55.0	1 04.9	1 14.7	<b>35</b>
<b>40</b>	0 06.6	0 16.4	0 26.3	0 36.1	0 46.0	0 55.9	1 05.7	1 15.6	<b>40</b>
<b>45</b>	0 07.4	0 17.2	0 27.1	0 37.0	0 46.8	0 56.7	1 06.5	1 16.4	<b>45</b>
<b>50</b>	0 08.2	0 18.1	0 27.9	0 37.8	0 47.6	0 57.5	1 07.4	1 17.2	<b>50</b>
<b>55</b>	0 09.0	0 18.9	0 28.7	0 38.6	0 48.5	0 58.3	1 08.2	1 18.0	<b>55</b>
	<b>8<sup>h</sup></b>	<b>9<sup>h</sup></b>	<b>10<sup>h</sup></b>	<b>11<sup>h</sup></b>	<b>12<sup>h</sup></b>	<b>13<sup>h</sup></b>	<b>14<sup>h</sup></b>	<b>15<sup>h</sup></b>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	1 18.9	1 28.7	1 38.6	1 48.4	1 58.3	2 08.1	2 18.0	2 27.8	<b>0</b>
<b>5</b>	1 19.7	1 29.5	1 39.4	1 49.2	1 59.1	2 09.0	2 18.8	2 28.7	<b>5</b>
<b>10</b>	1 20.5	1 30.4	1 40.2	1 50.1	1 59.9	2 09.8	2 19.6	2 29.5	<b>10</b>
<b>15</b>	1 21.3	1 31.2	1 41.0	1 50.9	2 00.7	2 10.6	2 20.5	2 30.3	<b>15</b>
<b>20</b>	1 22.1	1 32.0	1 41.9	1 51.7	2 01.6	2 11.4	2 21.3	2 31.1	<b>20</b>
<b>25</b>	1 23.0	1 32.8	1 42.7	1 52.5	2 02.4	2 12.2	2 22.1	2 32.0	<b>25</b>
<b>30</b>	1 23.8	1 33.6	1 43.5	1 53.3	2 03.2	2 13.1	2 22.9	2 32.8	<b>30</b>
<b>35</b>	1 24.6	1 34.5	1 44.3	1 54.2	2 04.0	2 13.9	2 23.7	2 33.6	<b>35</b>
<b>40</b>	1 25.4	1 35.3	1 45.1	1 55.0	2 04.8	2 14.7	2 24.6	2 34.4	<b>40</b>
<b>45</b>	1 26.2	1 36.1	1 46.0	1 55.8	2 05.7	2 15.5	2 25.4	2 35.2	<b>45</b>
<b>50</b>	1 27.1	1 36.9	1 46.8	1 56.6	2 06.5	2 16.3	2 26.2	2 36.1	<b>50</b>
<b>55</b>	1 27.9	1 37.7	1 47.6	1 57.5	2 07.3	2 17.2	2 27.0	2 36.9	<b>55</b>
	<b>16<sup>h</sup></b>	<b>17<sup>h</sup></b>	<b>18<sup>h</sup></b>	<b>19<sup>h</sup></b>	<b>20<sup>h</sup></b>	<b>21<sup>h</sup></b>	<b>22<sup>h</sup></b>	<b>23<sup>h</sup></b>	
m	m s	m s	m s	m s	m s	m s	m s	m s	m
<b>0</b>	2 37.7	2 47.6	2 57.4	3 07.3	3 17.1	3 27.0	3 36.8	3 46.7	<b>0</b>
<b>5</b>	2 38.5	2 48.4	2 58.2	3 08.1	3 18.0	3 27.8	3 37.7	3 47.5	<b>5</b>
<b>10</b>	2 39.3	2 49.2	2 59.1	3 08.9	3 18.8	3 28.6	3 38.5	3 48.3	<b>10</b>
<b>15</b>	2 40.2	2 50.0	2 59.9	3 09.7	3 19.6	3 29.5	3 39.3	3 49.2	<b>15</b>
<b>20</b>	2 41.0	2 50.8	3 00.7	3 10.6	3 20.4	3 30.3	3 40.1	3 50.0	<b>20</b>
<b>25</b>	2 41.8	2 51.7	3 01.5	3 11.4	3 21.2	3 31.1	3 40.9	3 50.8	<b>25</b>
<b>30</b>	2 42.6	2 52.5	3 02.3	3 12.2	3 22.1	3 31.9	3 41.8	3 51.6	<b>30</b>
<b>35</b>	2 43.5	2 53.3	3 03.2	3 13.0	3 22.9	3 32.7	3 42.6	3 52.4	<b>35</b>
<b>40</b>	2 44.3	2 54.1	3 04.0	3 13.8	3 23.7	3 33.6	3 43.4	3 53.3	<b>40</b>
<b>45</b>	2 45.1	2 55.0	3 04.8	3 14.7	3 24.5	3 34.4	3 44.2	3 54.1	<b>45</b>
<b>50</b>	2 45.9	2 55.8	3 05.6	3 15.5	3 25.3	3 35.2	3 45.1	3 54.9	<b>50</b>
<b>55</b>	2 46.7	2 56.6	3 06.5	3 16.3	3 26.2	3 36.0	3 45.9	3 55.7	<b>55</b>

m s  
**0** 00.0  
**1** 00.2  
**2** 00.3  
**3** 00.5  
**4** 00.7



GRADOS												MINUTOS								
°	h	m	°	h	m	°	h	m	°	h	m	'	m	s						
1	0	04	061	4	04	121	8	04	181	12	04	241	16	04	301	20	04	1	0	04
2	0	08	062	4	08	122	8	08	182	12	08	242	16	08	302	20	08	2	0	08
3	0	12	063	4	12	123	8	12	183	12	12	243	16	12	303	20	12	3	0	12
4	0	16	064	4	16	124	8	16	184	12	16	244	16	16	304	20	16	4	0	16
5	0	20	065	4	20	125	8	20	185	12	20	245	16	20	305	20	20	5	0	20
6	0	24	066	4	24	126	8	24	186	12	24	246	16	24	306	20	24	6	0	24
7	0	28	067	4	28	127	8	28	187	12	28	247	16	28	307	20	28	7	0	28
8	0	32	068	4	32	128	8	32	188	12	32	248	16	32	308	20	32	8	0	32
9	0	36	069	4	36	129	8	36	189	12	36	249	16	36	309	20	36	9	0	36
10	0	40	070	4	40	130	8	40	190	12	40	250	16	40	310	20	40	10	0	40
11	0	44	071	4	44	131	8	44	191	12	44	251	16	44	311	20	44	11	0	44
12	0	48	072	4	48	132	8	48	192	12	48	252	16	48	312	20	48	12	0	48
13	0	52	073	4	52	133	8	52	193	12	52	253	16	52	313	20	52	13	0	52
14	0	56	074	4	56	134	8	56	194	12	56	254	16	56	314	20	56	14	0	56
15	1	00	075	5	00	135	9	00	195	13	00	255	17	00	315	21	00	15	1	00
16	1	04	076	5	04	136	9	04	196	13	04	256	17	04	316	21	04	16	1	04
17	1	08	077	5	08	137	9	08	197	13	08	257	17	08	317	21	08	17	1	08
18	1	12	078	5	12	138	9	12	198	13	12	258	17	12	318	21	12	18	1	12
19	1	16	079	5	16	139	9	16	199	13	16	259	17	16	319	21	16	19	1	16
20	1	20	080	5	20	140	9	20	200	13	20	260	17	20	320	21	20	20	1	20
21	1	24	081	5	24	141	9	24	201	13	24	261	17	24	321	21	24	21	1	24
22	1	28	082	5	28	142	9	28	202	13	28	262	17	28	322	21	28	22	1	28
23	1	32	083	5	32	143	9	32	203	13	32	263	17	32	323	21	32	23	1	32
24	1	36	084	5	36	144	9	36	204	13	36	264	17	36	324	21	36	24	1	36
25	1	40	085	5	40	145	9	40	205	13	40	265	17	40	325	21	40	25	1	40
26	1	44	086	5	44	146	9	44	206	13	44	266	17	44	326	21	44	26	1	44
27	1	48	087	5	48	147	9	48	207	13	48	267	17	48	327	21	48	27	1	48
28	1	52	088	5	52	148	9	52	208	13	52	268	17	52	328	21	52	28	1	52
29	1	56	089	5	56	149	9	56	209	13	56	269	17	56	329	21	56	29	1	56
30	2	00	090	6	00	150	10	00	210	14	00	270	18	00	330	22	00	30	2	00
31	2	04	091	6	04	151	10	04	211	14	04	271	18	04	331	22	04	31	2	04
32	2	08	092	6	08	152	10	08	212	14	08	272	18	08	332	22	08	32	2	08
33	2	12	093	6	12	153	10	12	213	14	12	273	18	12	333	22	12	33	2	12
34	2	16	094	6	16	154	10	16	214	14	16	274	18	16	334	22	16	34	2	16
35	2	20	095	6	20	155	10	20	215	14	20	275	18	20	335	22	20	35	2	20
36	2	24	096	6	24	156	10	24	216	14	24	276	18	24	336	22	24	36	2	24
37	2	28	097	6	28	157	10	28	217	14	28	277	18	28	337	22	28	37	2	28
38	2	32	098	6	32	158	10	32	218	14	32	278	18	32	338	22	32	38	2	32
39	2	36	099	6	36	159	10	36	219	14	36	279	18	36	339	22	36	39	2	36
40	2	40	100	6	40	160	10	40	220	14	40	280	18	40	340	22	40	40	2	40
41	2	44	101	6	44	161	10	44	221	14	44	281	18	44	341	22	44	41	2	44
42	2	48	102	6	48	162	10	48	222	14	48	282	18	48	342	22	48	42	2	48
43	2	52	103	6	52	163	10	52	223	14	52	283	18	52	343	22	52	43	2	52
44	2	56	104	6	56	164	10	56	224	14	56	284	18	56	344	22	56	44	2	56
45	3	00	105	7	00	165	11	00	225	15	00	285	19	00	345	23	00	45	3	00
46	3	04	106	7	04	166	11	04	226	15	04	286	19	04	346	23	04	46	3	04
47	3	08	107	7	08	167	11	08	227	15	08	287	19	08	347	23	08	47	3	08
48	3	12	108	7	12	168	11	12	228	15	12	288	19	12	348	23	12	48	3	12
49	3	16	109	7	16	169	11	16	229	15	16	289	19	16	349	23	16	49	3	16
50	3	20	110	7	20	170	11	20	230	15	20	290	19	20	350	23	20	50	3	20
51	3	24	111	7	24	171	11	24	231	15	24	291	19	24	351	23	24	51	3	24
52	3	28	112	7	28	172	11	28	232	15	28	292	19	28	352	23	28	52	3	28
53	3	32	113	7	32	173	11	32	233	15	32	293	19	32	353	23	32	53	3	32
54	3	36	114	7	36	174	11	36	234	15	36	294	19	36	354	23	36	54	3	36
55	3	40	115	7	40	175	11	40	235	15	40	295	19	40	355	23	40	55	3	40
56	3	44	116	7	44	176	11	44	236	15	44	296	19	44	356	23	44	56	3	44
57	3	48	117	7	48	177	11	48	237	15	48	297	19	48	357	23	48	57	3	48
58	3	52	118	7	52	178	11	52	238	15	52	298	19	52	358	23	52	58	3	52
59	3	56	119	7	56	179	11	56	239	15	56	299	19	56	359	23	56	59	3	56
60	4	00	120	8	00	180	12	00	240	16	00	300	20	00	360	24	00	60	4	00

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Afganistán . . . . .	- 4 <sup>h</sup> 30 <sup>m</sup>	Brasil†	
Albania† . . . . .	- 1 <sup>h</sup>	Occidental (Amazonas) . . . . .	+ 4 <sup>h</sup>
Alemania† . . . . .	- 1 <sup>h</sup>	Oriental (Brasilía) . . . . .	+ 3 <sup>h</sup>
Andamán, I. . . . .	- 5 <sup>h</sup> 30 <sup>m</sup>	Territorios de Acre . . . . .	+ 5 <sup>h</sup>
Andorra† . . . . .	- 1 <sup>h</sup>	Brunéi . . . . .	- 8 <sup>h</sup>
Angola . . . . .	- 1 <sup>h</sup>	Bulgaria† . . . . .	- 2 <sup>h</sup>
Anguila . . . . .	+ 4 <sup>h</sup>	Burkina Faso . . . . .	0 <sup>h</sup>
Antigua y Barbuda . . . . .	+ 4 <sup>h</sup>	Burundi . . . . .	- 2 <sup>h</sup>
Antillas Francesas . . . . .	+ 4 <sup>h</sup>	Bután . . . . .	- 6 <sup>h</sup>
Antillas Holandesas . . . . .	+ 4 <sup>h</sup>	Cabo Verde, I. . . . .	+ 1 <sup>h</sup>
Arabia Saudita . . . . .	- 3 <sup>h</sup>	Caimán I. (Reino Unido) . . . . .	+ 5 <sup>h</sup>
Argelia . . . . .	- 1 <sup>h</sup>	Camboya . . . . .	- 7 <sup>h</sup>
Argentina . . . . .	+ 3 <sup>h</sup>	Camerún . . . . .	- 1 <sup>h</sup>
Armenia . . . . .	- 4 <sup>h</sup>	Canadá†‡	
Aruba . . . . .	+ 4 <sup>h</sup>	Alberta† . . . . .	+ 7 <sup>h</sup>
Ascensión, I. . . . .	0 <sup>h</sup>	Columbia Británica† . . . . .	+ 8 <sup>h</sup>
Australia†		Labrador† . . . . .	+ 4 <sup>h</sup>
Meridional† . . . . .	- 9 <sup>h</sup> 30 <sup>m</sup>	Manitoba† . . . . .	+ 6 <sup>h</sup>
Nueva Gales del Sur† . . . . .	- 10 <sup>h</sup>	Nuevo Brunswick† . . . . .	+ 4 <sup>h</sup>
Occidental . . . . .	- 8 <sup>h</sup>	Nueva Escocia† . . . . .	+ 4 <sup>h</sup>
Queensland . . . . .	- 10 <sup>h</sup>	Ontario†‡	
Territorio del Norte . . . . .	- 9 <sup>h</sup> 30 <sup>m</sup>	al E. del m° 90° W. . . . .	+ 5 <sup>h</sup>
Tasmania† . . . . .	- 10 <sup>h</sup>	al W. del m° 90° W. . . . .	+ 6 <sup>h</sup>
Victoria† . . . . .	- 10 <sup>h</sup>	Príncipe Eduardo†, I. . . . .	+ 4 <sup>h</sup>
Austria† . . . . .	- 1 <sup>h</sup>	Quebec†	
Azerbaiyán . . . . .	- 4 <sup>h</sup>	al E. del m° 63° W. . . . .	+ 4 <sup>h</sup>
Azores, I. (Portugal)† . . . . .	+ 1 <sup>h</sup>	al W. del m° 63° W. . . . .	+ 5 <sup>h</sup>
Bahamas† . . . . .	+ 5 <sup>h</sup>	Saskatchewan† . . . . .	+ 6 <sup>h</sup>
Baréin . . . . .	- 3 <sup>h</sup>	Terranova† . . . . .	+ 3 <sup>h</sup> 30 <sup>m</sup>
Bangladesh . . . . .	- 6 <sup>h</sup>	Territorios del NW.†	
Barbados . . . . .	+ 4 <sup>h</sup>	al E. del m° 68° W. . . . .	+ 4 <sup>h</sup>
Belarús . . . . .	- 3 <sup>h</sup>	del m° 68° W. al m° 85° W. . . . .	+ 5 <sup>h</sup>
Bélgica† . . . . .	- 1 <sup>h</sup>	del m° 85° W. al m° 102° W. . . . .	+ 6 <sup>h</sup>
Belize . . . . .	+ 6 <sup>h</sup>	al W. del m° 102° W. . . . .	+ 7 <sup>h</sup>
Benín . . . . .	- 1 <sup>h</sup>	Yukón† . . . . .	+ 8 <sup>h</sup>
Bermudas†(Reino Unido) . . . . .	+ 4 <sup>h</sup>	Canarias†, I. (España) . . . . .	0 <sup>h</sup>
Bolivia . . . . .	+ 4 <sup>h</sup>	R. Centrafricana . . . . .	- 1 <sup>h</sup>
Bonin, I. (Japón) . . . . .	- 9 <sup>h</sup>	Cocos, I. (Australia) . . . . .	- 6 <sup>h</sup> 30 <sup>m</sup>
Bosnia y Herzegovina† . . . . .	- 1 <sup>h</sup>	Colombia . . . . .	+ 5 <sup>h</sup>
Botsuana . . . . .	- 2 <sup>h</sup>	Comoras, I. . . . .	- 3 <sup>h</sup>

\* La diferencia entre UTC y UT no difiere en más de 0.9 segundos.

† Suele modificarse los meses de verano.

‡ Los límites entre las zonas son irregulares. Los meridianos dados están próximos a esos límites.

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Congo . . . . .	- 1 <sup>h</sup>	Finlandia† . . . . .	- 2 <sup>h</sup>
Congo, República Democrática . . . . .		Fiyi, I.† . . . . .	- 12 <sup>h</sup>
Oriental . . . . .	- 2 <sup>h</sup>	Francia† . . . . .	- 1 <sup>h</sup>
Occidental . . . . .	- 1 <sup>h</sup>	Gabón . . . . .	- 1 <sup>h</sup>
Cook, I. (Excepto Niue) . . . . .	+ 10 <sup>h</sup>	Galápagos, I. (Ecuador) . . . . .	+ 6 <sup>h</sup>
Corea del Norte . . . . .	- 9 <sup>h</sup>	Gambia . . . . .	0 <sup>h</sup>
Corea del Sur . . . . .	- 9 <sup>h</sup>	Georgia . . . . .	- 3 <sup>h</sup>
Costa de Marfil . . . . .	0 <sup>h</sup>	Ghana . . . . .	0 <sup>h</sup>
Costa Rica . . . . .	+ 6 <sup>h</sup>	Granada . . . . .	+ 4 <sup>h</sup>
Croacia† . . . . .	- 1 <sup>h</sup>	Grecia† . . . . .	- 2 <sup>h</sup>
Creta (Grecia)† . . . . .	- 1 <sup>h</sup>	Groenlandia†	
Cuba† . . . . .	+ 5 <sup>h</sup>	Danmarkshavn y Mestersvig† . . . . .	0 <sup>h</sup>
Chad . . . . .	- 1 <sup>h</sup>	Scoresby Sund† . . . . .	+ 1 <sup>h</sup>
Chatham†, I. (Nueva Zelanda) . . . . .	- 12 <sup>h</sup> 45 <sup>m</sup>	Ammassalik y costa W.† . . . . .	+ 3 <sup>h</sup>
Chequia† . . . . .	- 1 <sup>h</sup>	Qaanaaq† . . . . .	+ 4 <sup>h</sup>
Chile† . . . . .	+ 4 <sup>h</sup>	Guadalupe (Francia) . . . . .	+ 4 <sup>h</sup>
China . . . . .	- 8 <sup>h</sup>	Guam, I. . . . .	- 10 <sup>h</sup>
Chipre† . . . . .	- 2 <sup>h</sup>	Guatemala . . . . .	+ 6 <sup>h</sup>
Dinamarca† . . . . .	- 1 <sup>h</sup>	Guyana . . . . .	+ 4 <sup>h</sup>
R. Dominicana . . . . .	+ 4 <sup>h</sup>	Guayana Francesa . . . . .	+ 3 <sup>h</sup>
Dominica . . . . .	+ 4 <sup>h</sup>	Guinea-Bissau . . . . .	0 <sup>h</sup>
Ecuador . . . . .	+ 5 <sup>h</sup>	Guinea Ecuatorial . . . . .	- 1 <sup>h</sup>
Egipto . . . . .	- 2 <sup>h</sup>	Guinea, República de . . . . .	0 <sup>h</sup>
Emiratos Arabes Unidos . . . . .	- 4 <sup>h</sup>	Haití† . . . . .	+ 5 <sup>h</sup>
Eritrea . . . . .	- 3 <sup>h</sup>	Hawái, I. (EEUU) . . . . .	+ 10 <sup>h</sup>
Eslovaquia† . . . . .	- 1 <sup>h</sup>	Honduras . . . . .	+ 6 <sup>h</sup>
Eslovenia† . . . . .	- 1 <sup>h</sup>	Hong-Kong (China) . . . . .	- 8 <sup>h</sup>
España†(excepto Canarias) . . . . .	- 1 <sup>h</sup>	Hungría† . . . . .	- 1 <sup>h</sup>
Estados Unidos de América†		India . . . . .	- 5 <sup>h</sup> 30 <sup>m</sup>
Alaska† . . . . .	+ 9 <sup>h</sup>	Indonesia	
Aleutianas, I.†‡		Bali . . . . .	- 8 <sup>h</sup>
Al E. del m° 169°5 W. . . . .	+ 9 <sup>h</sup>	Borneo . . . . .	- 8 <sup>h</sup>
Al W. del m° 169°5 W. . . . .	+ 10 <sup>h</sup>	Célebes . . . . .	- 8 <sup>h</sup>
Estados al W. de 115W. . . . .	+ 8 <sup>h</sup>	Flores . . . . .	- 8 <sup>h</sup>
Estados entre 115° W. y 102W. . . . .	+ 7 <sup>h</sup>	Irian Jaya . . . . .	- 9 <sup>h</sup>
Estados entre 102° W. y 86° W. . . . .	+ 6 <sup>h</sup>	Java . . . . .	- 7 <sup>h</sup>
Estados al E. de 86° W. . . . .	+ 5 <sup>h</sup>	Madura . . . . .	- 7 <sup>h</sup>
Estonia† . . . . .	- 3 <sup>h</sup>	Molucas, I. . . . .	- 9 <sup>h</sup>
Esuatini . . . . .	- 2 <sup>h</sup>	Sumatra . . . . .	- 7 <sup>h</sup>
Etiopía . . . . .	- 3 <sup>h</sup>	Sumba . . . . .	- 8 <sup>h</sup>
Fernando de Noronha, I. (Brasil) . . . . .	+ 2 <sup>h</sup>	Sumbawa, I. . . . .	- 8 <sup>h</sup>
Feroe†, I. (Dinamarca) . . . . .	0 <sup>h</sup>	Timor . . . . .	- 8 <sup>h</sup>
Filipinas . . . . .	- 8 <sup>h</sup>	Irak . . . . .	- 3 <sup>h</sup>

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Irán†	− 3 <sup>h</sup> 30 <sup>m</sup>	Mauricio	− 4 <sup>h</sup>
Irlanda†	0 <sup>h</sup>	Mauritania	0 <sup>h</sup>
Islandia	0 <sup>h</sup>	México†	
Israel†	− 2 <sup>h</sup>	Tijuana	+ 8 <sup>h</sup>
Italia†	− 1 <sup>h</sup>	Hermosillo†	+ 7 <sup>h</sup>
Jamaica	+ 5 <sup>h</sup>	Ciudad de Mexico	+ 6 <sup>h</sup>
Japón	− 9 <sup>h</sup>	Cancún	+ 5 <sup>h</sup>
Jordania†	− 2 <sup>h</sup>	Midway, I. (EEUU)	+ 11 <sup>h</sup>
Kazajistán	− 5 <sup>h</sup>	Micronesia‡	
Kenia	− 3 <sup>h</sup>	al W. del m° 157° E	− 10 <sup>h</sup>
Kirguizistán	− 6 <sup>h</sup>	al E. del m° 157° E	− 11 <sup>h</sup>
Kiribati		Moldavia†	− 2 <sup>h</sup>
Tarawa	− 12 <sup>h</sup>	Mónaco†	− 1 <sup>h</sup>
Isla Fénix	− 13 <sup>h</sup>	Mongolia	− 8 <sup>h</sup>
Islas de la Línea	− 14 <sup>h</sup>	Ulán Bator	− 8 <sup>h</sup>
Kuwait	− 3 <sup>h</sup>	Hort	− 7 <sup>h</sup>
Laos	− 7 <sup>h</sup>	Montenegro	− 1 <sup>h</sup>
Lesoto	− 2 <sup>h</sup>	Mozambique	− 2 <sup>h</sup>
Letonia†	− 2 <sup>h</sup>	Myanmar (Birmania)	− 6 <sup>h</sup> 30 <sup>m</sup>
Líbano†	− 2 <sup>h</sup>	Namibia	− 2 <sup>h</sup>
Liberia	0 <sup>h</sup>	Nauru	− 12 <sup>h</sup>
Libia†	− 1 <sup>h</sup>	Navidad, I. (Australia)	− 7 <sup>h</sup>
Liechtenstein†	− 1 <sup>h</sup>	Nepal	− 5 <sup>h</sup> 45 <sup>m</sup>
Lituania†	− 2 <sup>h</sup>	Nicaragua	− 6 <sup>h</sup>
Lord Howe†, I. (Australia)	− 10 <sup>h</sup> 30 <sup>m</sup>	Níger	− 1 <sup>h</sup>
Luxemburgo†	− 1 <sup>h</sup>	Nigeria	− 1 <sup>h</sup>
Macao (China)	− 8 <sup>h</sup>	Niue, I.	+ 11 <sup>h</sup>
Macedonia del Norte†	− 1 <sup>h</sup>	Norfolk, I. (Australia)	− 11 <sup>h</sup> 30 <sup>m</sup>
Madagascar	− 3 <sup>h</sup>	Noruega†	− 1 <sup>h</sup>
Madeira†, I. (Portugal)	0 <sup>h</sup>	Nueva Caledonia (Francia)	− 11 <sup>h</sup>
Malasia	− 8 <sup>h</sup>	Nueva Zelanda†	− 12 <sup>h</sup>
Malawi	− 2 <sup>h</sup>	Omán	− 4 <sup>h</sup>
Maldivas	− 5 <sup>h</sup>	Países Bajos†	− 1 <sup>h</sup>
Mali	0 <sup>h</sup>	Pakistán	− 5 <sup>h</sup>
Malta†	− 1 <sup>h</sup>	Palaos	− 9 <sup>h</sup>
Malvinas†, I. (Reino Unido)	+ 4 <sup>h</sup>	Panamá	+ 5 <sup>h</sup>
Marianas, I.	− 10 <sup>h</sup>	Papúa Nueva Guinea	− 10 <sup>h</sup>
Marquesas, I. (Francia)	+ 9 <sup>h</sup> 30 <sup>m</sup>	Paraguay†	+ 4 <sup>h</sup>
Marruecos	− 1 <sup>h</sup>	Pascua†, I. (Chile)	+ 6 <sup>h</sup>
Marshall, I. (EEUU)	− 12 <sup>h</sup>	Perú	+ 5 <sup>h</sup>
Martinica (Francia)	+ 4 <sup>h</sup>	Polonia†	− 1 <sup>h</sup>

\* La diferencia entre UTC y UT no difiere en más de 0.9 segundos.

† Suele modificarse los meses de verano.

‡ Los límites entre las zonas son irregulares. Los meridianos dados están próximos a esos límites.

HORA OFICIAL EN DIFERENTES LUGARES  
DIFERENCIA UTC MENOS HORA OFICIAL\*

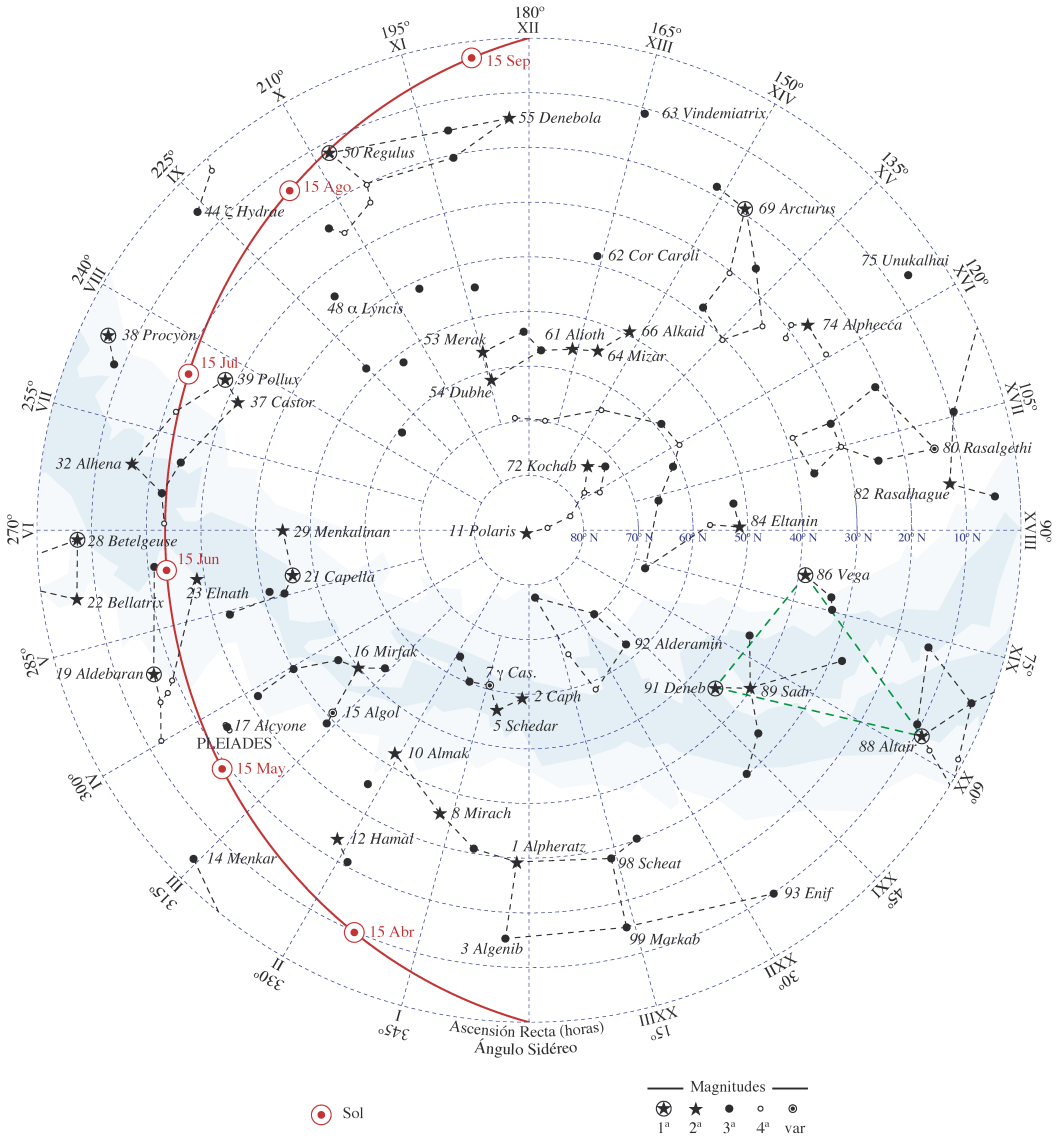
Portugal†	0 <sup>h</sup>	Sudáfrica	- 2 <sup>h</sup>
Puerto Rico	+ 4 <sup>h</sup>	Sudán	- 2 <sup>h</sup>
Reino Unido†	0 <sup>h</sup>	Sudán del Sur	- 3 <sup>h</sup>
Reunión, I. (Francia)	- 4 <sup>h</sup>	Suecia†	- 1 <sup>h</sup>
Ruanda	- 2 <sup>h</sup>	Suiza†	- 1 <sup>h</sup>
Rumanía†	- 2 <sup>h</sup>	Surinam	+ 3 <sup>h</sup>
Rusia†‡		Taiwán (China)	- 8 <sup>h</sup>
Kaliningrado	- 2 <sup>h</sup>	Tahití (Francia)	+10 <sup>h</sup>
al W del m° 40° E	- 3 <sup>h</sup>	Tanzania	- 3 <sup>h</sup>
del m° 40° E al m° 52° E	- 4 <sup>h</sup>	Tayikistán	- 5 <sup>h</sup>
del m° 52° E al m° 68° E	- 5 <sup>h</sup>	Tailandia	- 7 <sup>h</sup>
del m° 68° E al m° 82° E	- 6 <sup>h</sup>	Timor Oriental	- 9 <sup>h</sup>
del m° 82° E al m° 98° E	- 7 <sup>h</sup>	Togo	0 <sup>h</sup>
del m° 98° E al m° 112° E	- 8 <sup>h</sup>	Tonga, I.	-13 <sup>h</sup>
del m° 112° E al m° 127° E	- 9 <sup>h</sup>	Trinidad y Tobago	+ 4 <sup>h</sup>
del m° 127° E al m° 142° E	-10 <sup>h</sup>	Tuamotu, I. (Francia)	+10 <sup>h</sup>
del m° 142° E al m° 157° E	-11 <sup>h</sup>	Tubuai, I. (Francia)	+10 <sup>h</sup>
al E del m° 157° E	-12 <sup>h</sup>	Túnez	- 1 <sup>h</sup>
Salomón, I.	-11 <sup>h</sup>	Turcas y Caicos†, I.	+ 5 <sup>h</sup>
El Salvador	+ 6 <sup>h</sup>	Turkmenistán	- 5 <sup>h</sup>
Samoa†	-13 <sup>h</sup>	Turquía	- 3 <sup>h</sup>
San Cristóbal y Nieves	+ 4 <sup>h</sup>	Tuvalu, I.	-12 <sup>h</sup>
San Marino†	- 1 <sup>h</sup>	Ucrania†	- 2 <sup>h</sup>
San Pedro y Miquelón†, I. (Francia)	+ 3 <sup>h</sup>	Uganda	- 3 <sup>h</sup>
San Vicente y las Granadinas	- 4 <sup>h</sup>	Uruguay	+ 3 <sup>h</sup>
Santa Elena, I. (Reino Unido)	0 <sup>h</sup>	Uzbekistán	- 5 <sup>h</sup>
Santa Lucía	+ 4 <sup>h</sup>	Vanuatu	-11 <sup>h</sup>
Santo Tomé y Príncipe	0 <sup>h</sup>	Venezuela	+ 4 <sup>h</sup>
Senegal	0 <sup>h</sup>	Vietnam	- 7 <sup>h</sup>
Serbia†	- 1 <sup>h</sup>	Vírgenes, I. (EEUU, Reino Unido)	+ 4 <sup>h</sup>
Seychelles	- 4 <sup>h</sup>	Wallis y Futuna, I. (Francia)	-12 <sup>h</sup>
Sierra Leona	0 <sup>h</sup>	Wake I. (EEUU)	-12 <sup>h</sup>
Singapur	- 8 <sup>h</sup>	Whitsunday†, I. (Australia)	-10 <sup>h</sup>
Siria†	- 2 <sup>h</sup>	Yemen	- 3 <sup>h</sup>
Somalia	- 3 <sup>h</sup> 30 <sup>m</sup>	Yibuti	- 3 <sup>h</sup>
Sri Lanka	- 5 <sup>h</sup>	Zambia	- 2 <sup>h</sup>
Svalbard	- 1 <sup>h</sup>	Zimbabue	- 2 <sup>h</sup>

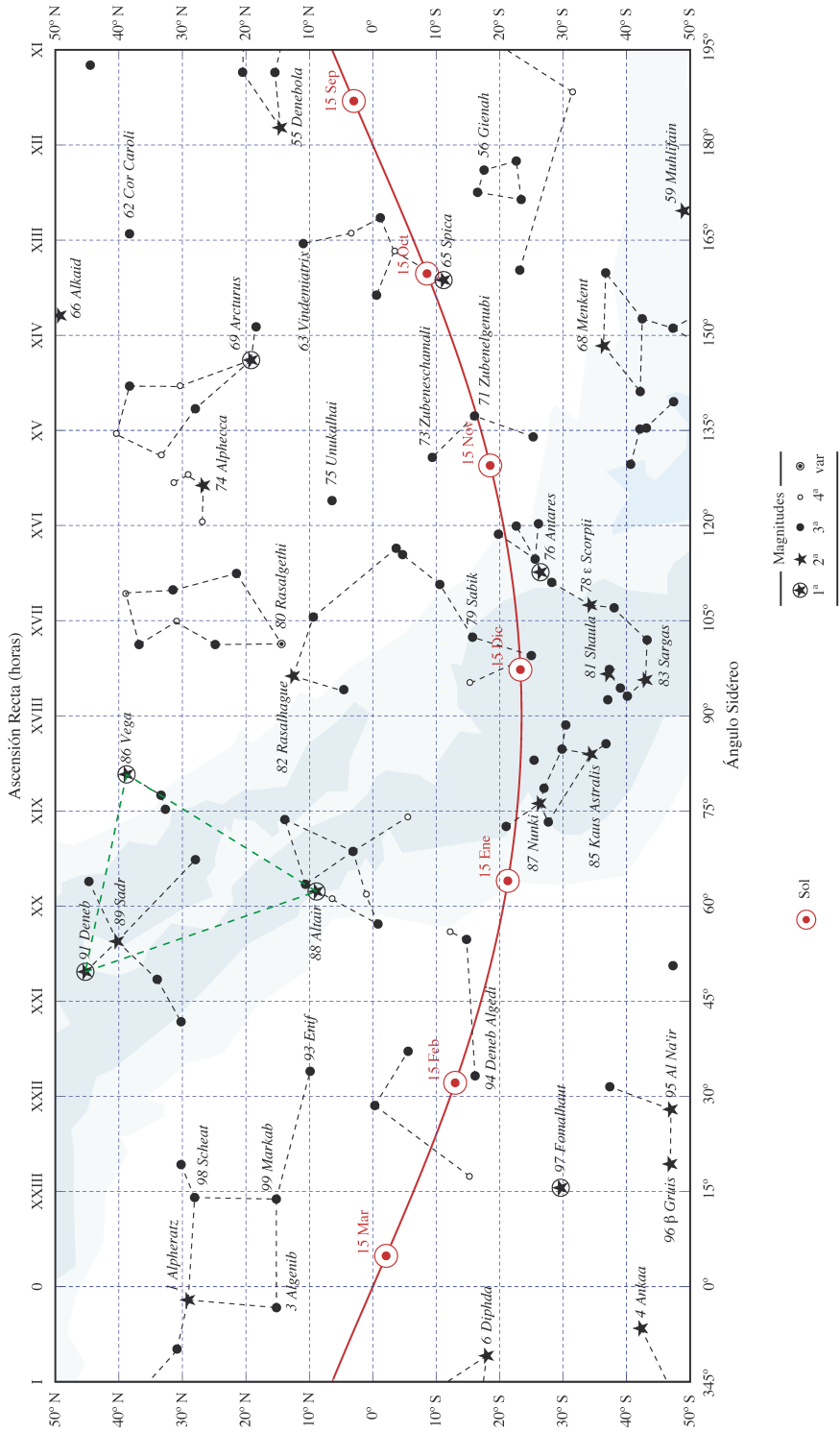
\* La diferencia entre UTC y UT no difiere en más de 0.9 segundos.

† Suele modificarse los meses de verano.

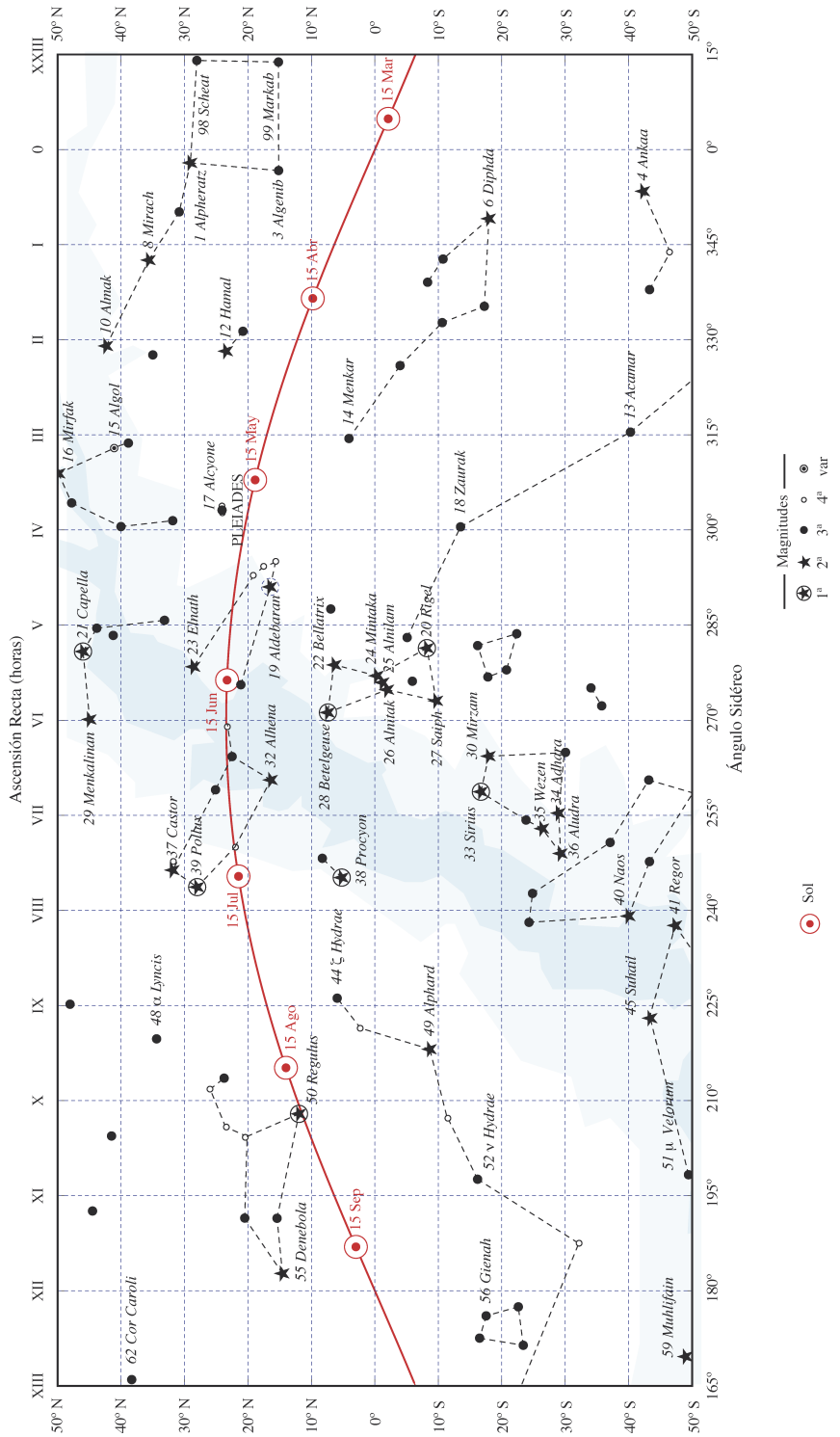
‡ Los límites entre las zonas son irregulares. Los meridianos dados están próximos a esos límites.

### Hemisferio Boreal

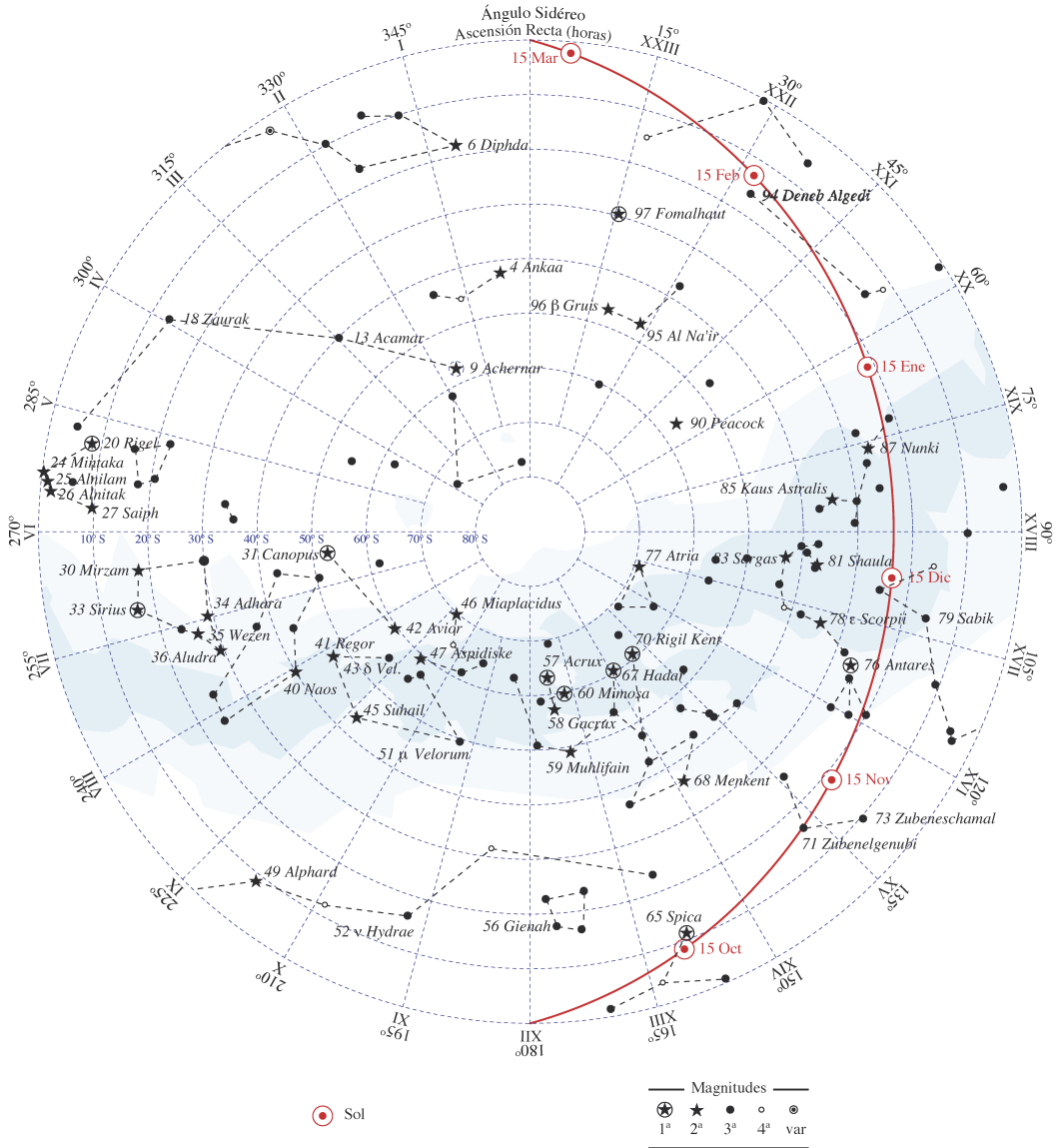








### Hemisferio Austral



### Constelaciones que aparecen en el Almanaque

Abreviatura	Nombre latino		Nombre español
	Nominativo	Genitivo	
And.	Andromeda	Andromedae	Andrómeda
Aql.	Aquila	Aquilae	Águila
Ari.	Aries	Arietis	Carnero
Aur.	Auriga	Aurigae	Cochero
Boo.	Bootes	Bootis	Boyero
Cap.	Capricornus	Capricorni	Capricornio
Car.	Carina	Carinae	Quilla (del Navío Argos)
Cas.	Cassiopeia	Cassiopeiae	Cassiopea
Cen.	Centaurus	Centauri	Centaurio
Cep.	Cepheus	Cephei	Cefeo
Cet.	Cetus	Ceti	Ballena
CMA.	Canis Major	Canis Majoris	Can Mayor
CMi.	Canis Minor	Canis Minoris	Can Menor
CrB.	Corona Borealis	Coronae Borealis	Corona Boreal
Cru.	Cruce	Crucis	Cruz (del Sur)
Crv.	Corvus	Corvi	Cuervo
CVn.	Canes Venatici	Canum Venaticorum	Perros de caza o Lebreles
Cyg.	Cygnus	Cygni	Cisne
Dra.	Draco	Draconis	Dragón
Eri.	Eridanus	Eridani	(Río) Eridano
Gem.	Gemini	Geminorum	Gemelos
Gru.	Grus	Gruis	Grulla
Her.	Hercules	Herculis	Hércules
Hya.	Hydra	Hydrae	Hidra
Leo.	Leo	Leonis	León
Lib.	Libra	Librae	Balanza
Lyn.	Lynx	Lyncis	Lince
Lyr.	Lyra	Lyrae	Lira
Oph.	Ophiuchus	Ophiuchi	Ofiuco o Serpentario
Ori.	Orion	Orionis	Orión
Pav.	Pavo	Pavonis	Pavo
Peg.	Pegasus	Pegasi	Pegaso
Per.	Perseus	Persei	Perseo
Phe.	Phoenix	Phoenicis	Fénix
PsA.	Piscis Austrinus	Piscis Austrini	Pez Austral
Pup.	Puppis	Puppis	Popa (del Navío Argos)
Sco.	Scorpius	Scorpii	Escorpión
Ser.	Serpens	Serpentis	Serpiente
Sgr.	Sagittarius	Sagitarii	Sagitario o Saetero
Tau.	Taurus	Tauri	Toro
TrA.	Triangulum Australe	Trianguli Australis	Triángulo Austral
UMa.	Ursa Major	Ursae Majoris	Osa Mayor
UMi.	Ursa Minor	Ursae Minoris	Osa Menor
Vel.	Vela	Velorum	Velas (del Navío Argos)
Vir.	Virgo	Virginis	Virgen



# EXPLICACIÓN

## 1 Objeto

El objeto de este ALMANAQUE es facilitar a los navegantes los elementos astronómicos necesarios para la reducción de sus observaciones, así como proporcionar otros datos útiles para la navegación.

## 2 Descripción del ALMANAQUE

La exactitud de los datos presentados en el ALMANAQUE está proporcionada a la precisión de los instrumentos de a bordo. El argumento de estas efemérides es el Tiempo Universal (UT).

El ALMANAQUE se estructura en cuatro partes más un suplemento para la navegación aérea. En la primera parte se facilitan datos astronómicos e información sobre el calendario, fases de la Luna y eclipses. El cuerpo principal del ALMANAQUE lo constituyen las páginas diarias (10 a 375) donde se presenta información relativa a los astros observables del sistema solar y Aries. La tercera parte la constituyen las páginas 376 a 385 con los datos correspondientes a las estrellas observables. Por último se incluyen un conjunto de tablas necesarias para la reducción de las observaciones y para facilitar la interpolación de los datos presentados.

En la Tabla 1, incluida en esta explicación (pág. 404), se presentan los símbolos empleados en el ALMANAQUE.

### 2.1 Datos generales

Las primeras hojas de este ALMANAQUE incluyen una serie de constantes astronómicas, establecidas por la Unión Astronómica Internacional (UAI), relativas a unidades y dimensiones de la Tierra y otros cuerpos celestes. También se presentan el principio de las estaciones, las fases de la Luna e información de los eclipses de Sol y Luna.

Los eclipses de Luna son visibles para cualquier observador que tenga la Luna sobre el horizonte durante el período del fenómeno. No ocurre lo mismo, sin embargo, con los eclipses de Sol, observándose el fenómeno solamente en ciertas zonas de la superficie terrestre. Dichas zonas de visibilidad se muestran en los mapas correspondientes. Debe notarse que las horas indicadas en los gráficos de estos mapas son una primera aproximación, tanto menos exacta cuanto más cerca se está de los bordes de dichos gráficos. Sin embargo, tal aproximación es suficiente como punto de partida en el cálculo de mejores aproximaciones.

### 2.2 Páginas diarias: sistema solar

El ALMANAQUE presenta en cada una de estas páginas los elementos correspondientes a Aries, Sol, Luna y los cuatro planetas principales (Venus, Marte, Júpiter y Saturno), para cada día civil.

Como elementos de primera importancia para fijar la posición de estos astros se emplean el ángulo horario, referido al meridiano de Greenwich, y la declinación, con una precisión de la décima

Sol .....	☉	Aries .....	♈
Limbo inferior Sol ...	☉	Venus .....	♀
Limbo superior Sol ...	☉	Marte .....	♂
Luna .....	☾	Júpiter .....	♃
Limbo inferior Luna ..	☾	Saturno .....	♄
Limbo superior Luna .	☾	Estrellas .....	★

Tabla 1: Símbolos empleados en el ALMANAQUE

de minuto de arco. Ambos se tabulan para cada hora UT, al igual que el horario en Greenwich de Aries. Para horas intermedias es suficiente efectuar una interpolación lineal. Esta interpolación puede efectuarse con la ayuda de las tablas descritas en la sección 2.4. Para el uso de estas tablas en el caso de la Luna y los planetas, se facilitan, en las páginas diarias, las cantidades “Dif.” cuyos empleo y significado se detallan en dicha sección.

También se presentan, a la décima de minuto, los semidiámetros (SD) del Sol y de la Luna y la Paralaje Horizontal Ecuatorial (PHE) de la Luna, datos necesarios para corregir las alturas observadas. Dada su poca variación se dan los valores de los semidiámetros a 0<sup>h</sup> de cada día, mientras que la paralaje se tabula a 4<sup>h</sup>, 12<sup>h</sup> y 20<sup>h</sup>; de estos valores siempre será posible deducir con facilidad el correspondiente a cualquier momento.

Para todos los astros se presenta la hora UT de paso por el meridiano de Greenwich. Para la Luna también se facilita el retardo diario en dicho paso. Cuando se producen dos pasos de Aries o de un planeta en la misma fecha, solo se presenta el primero de ellos. La hora de paso de Aries puede utilizarse para pasar de tiempo sidéreo a UT y viceversa, como se detalla en la sección 3.5.

Se completan los datos de esta parte con la edad de la Luna, las magnitudes estelares de los planetas y, para diversas latitudes, las horas UT de principio y fin de los crepúsculos civil y náutico y las de salida y puesta del Sol y de la Luna. La pequeña variación diaria que tienen las horas de salida y puesta del Sol y la duración de los crepúsculos, permite que estos datos se tabulen de dos en dos días, siendo una interpolación lineal suficiente para calcular los datos de los días no tabulados.

### 2.3 Estrellas

En esta parte se presenta un catálogo con los datos relativos a 99 estrellas seleccionadas entre las más brillantes. Se incluyen todas las de primera y segunda magnitud y algunas de tercera. Se identifican por el número dentro de dicho catálogo (del 1 al 99), asignado por orden decreciente de Ángulo Sidéreo (AS\*). A la derecha del número de catálogo figura el nombre de la estrella con referencia a la constelación a la que pertenece y, en su caso, el nombre propio en cursiva. Las abreviaturas empleadas para las constelaciones son las presentadas en la tabla de la página 401.

En las páginas 376 a 379 se tabulan el ángulo sidéreo y la declinación de estas estrellas. Estos datos corresponden al día 15 de cada mes a 0<sup>h</sup> UT, lo que resulta suficiente dado que la variación de las posiciones de las estrellas, debida a su movimiento propio y a la precesión y nutación del polo terrestre, es muy pequeña. Una simple interpolación lineal es suficiente para deducir el valor del elemento que debe usarse en otro día distinto del tabulado.

Otro dato de interés es la hora de paso por el meridiano origen, que se presenta para 50 estrellas en las páginas 380 y 381. Este dato se ha calculado para el primer día de cada mes. Estas estrellas se han seleccionado entre las más brillantes, procurando que estén uniformemente distribuidas en la esfera celeste.

En la hoja volante de cartulina que acompaña al ALMANAQUE figuran el ángulo sidéreo y la declinación de 36 estrellas escogidas, igualmente, entre las más brillantes.

El ALMANAQUE contiene también las tablas necesarias para la determinación directa de la latitud mediante la observación de la altura de la Polar y para deducir el azimut de esta estrella en cualquier instante. Este último dato se puede utilizar para calcular con gran exactitud la corrección total de la giroscópica.

#### 2.4 Tablas

La corrección por retardo y longitud a las horas de orto, ocaso y paso por el meridiano superior de Luna se obtiene de la tabla de la página 386.

Las correcciones a aplicar a las alturas observadas de los astros para obtener las verdaderas se encuentran en las tablas de la página 387 para el Sol, los Planetas y las estrellas y en las tablas de las páginas 388 y 389 para la Luna. Estas tablas contienen las correcciones por depresión del horizonte, semidiámetro, refracción y paralaje.

El ALMANAQUE incorpora en las páginas 390 y 391 las tablas necesarias para la conversión de intervalos de tiempo sidéreo en UT y viceversa. En la página 392 se incluye una tabla para la conversión de arco en tiempo.

Las páginas 425 a 454 del ALMANAQUE contienen las tablas apropiadas para facilitar la interpolación de los datos de Aries, Sol, Luna y Planetas. Entrando en la página y columna relativa al minuto UT y buscando en dicha columna el segundo correspondiente se obtiene el incremento que debe sufrir por interpolación el ángulo horario del astro correspondiente. Estas tablas se han calculado suponiendo que los ángulos horarios varían uniformemente en una hora de la siguiente manera:

15° 00.0'	para el Sol y los planetas
15° 02.5'	para Aries
14° 19.0'	para la Luna

La columna "Correc." de estas tablas facilita la corrección complementaria a aquellos horarios cuya variación real difiera de la señalada anteriormente. Esta corrección se obtiene en la tabla correspondiente al minuto UT, entrando en la columna "Dif." con el valor que con este nombre se tabula en las páginas diarias. Esta diferencia representa el exceso en décimas de minuto de la variación real del horario del astro sobre la arriba indicada. En el caso de la Luna los 14° 19.0' corresponden a la mínima variación horaria que se puede dar.

Esta columna también puede utilizarse para interpolar declinaciones. Como argumento de entrada hay que utilizar el minuto UT y en la columna "Dif." buscar el valor tabulado con este mismo nombre en la página diaria correspondiente. En la columna "Correc." se obtiene la corrección que hay que añadir a la declinación, con el signo correspondiente.

Por último, en las páginas 393 a 396 se facilita la hora oficial en diferentes lugares. Estas horas son orientativas, pudiendo diferir en la práctica de las fijadas por los respectivos gobiernos.



### 3 Empleo del ALMANAQUE

#### 3.1 Convenio de signos

Las latitudes y declinaciones se considerarán positivas al Norte y negativas al Sur. En cuanto a las longitudes, siguiendo lo recomendado en la Resolución 4 (1982) de las Comisiones 4, 19 y 31 de la UAI, se considerarán positivas al Este y negativas al Oeste. Es decir:

$$\begin{matrix} \text{latitud } (\varphi) \\ \text{declinación } (\delta) \end{matrix} \left\{ \begin{matrix} + \text{ al N} \\ - \text{ al S} \end{matrix} \right. \quad \text{longitud } (\lambda) \left\{ \begin{matrix} + \text{ al E} \\ - \text{ al W} \end{matrix} \right.$$

#### 3.2 Ángulo horario y declinación del Sol, de la Luna y de los planetas

El ángulo horario  $h_L$  de un astro en un lugar de longitud  $\lambda$  se obtiene sumándole dicha longitud, con su signo, al ángulo horario  $h_G$  en Greenwich, proporcionado por el ALMANAQUE. Esto es

$$h_L = h_G + \lambda.$$

El horario en Greenwich del Sol, de la Luna y de los planetas está tabulado en el ALMANAQUE para cada hora de UT, pudiéndose calcular el valor para cualquier instante por una simple interpolación lineal. Si esta interpolación se realiza con las tablas de las páginas 425 a 454, para la Luna y los planetas es necesario añadir la corrección complementaria por diferencia. Esta corrección siempre será positiva excepto para Venus que, al ser un planeta interior, en unas ocasiones su variación horaria será mayor que  $15^\circ$  y en otras será menor.

**Ejemplo 1.**— Calcular los horarios del Sol, de la Luna y de Marte en un lugar de longitud  $25^\circ 37.2' E$  a  $15^h 45^m 25^s$  UT del 13 de abril del presente año.

	Sol	Luna	Dif.	Marte	Dif.
$h_G$ a $15^h$ (pág. 113)	$44^\circ 54.5'$	$339^\circ 00.0'$	+61	$19^\circ 22.8'$	+19
C.ón por $45^m 25^s$ (pág. 447)	$11^\circ 21.3'$	$10^\circ 50.2'$		$11^\circ 21.3'$	
C.ón por "Dif." (pág. 447)		+4.7'		+1.5'	
Longitud	+ $25^\circ 37.2'$	+ $25^\circ 37.2'$		+ $25^\circ 37.2'$	
$h_L$ a $15^h 45^m 25^s$	$81^\circ 53.0'$	$15^\circ 32.1'$		$56^\circ 22.8'$	

La declinación del Sol, de la Luna y de los planetas se deduce de la que tabula el ALMANAQUE para cada hora UT mediante la interpolación correspondiente, pudiéndose utilizar, a este efecto, la tabla de correcciones por "Dif." Esta corrección se aplicará con el signo correspondiente que resulte del sentido de variación de la declinación entre la hora entera considerada y la siguiente.

**Ejemplo 2.**— Calcular las declinaciones de los mismos astros y para el mismo instante, indicados en el ejemplo anterior.

	Sol	Dif.	Luna	Dif.	Marte	Dif.
Declinación a $15^h$ (pág. 113)	+ $9^\circ 22.4'$	+9	+ $28^\circ 29.1'$	+12	- $6^\circ 21.4'$	+8
C.ón por "Dif." (pág. 447)	+ 0.7'		+ 0.9'		+ 0.6'	
Declinación a $15^h 45^m 25^s$	+ $9^\circ 23.1'$		+ $28^\circ 30.0'$		- $6^\circ 20.8'$	

### 3.3 Ortos, Ocasos y Crepúsculos

En las páginas diarias del ALMANAQUE se facilitan para cualquier latitud entre  $60^\circ\text{N}$  y  $60^\circ\text{S}$ , los datos necesarios para el cálculo de las horas del principio y fin de los crepúsculos civil y náutico y las de salida y puesta del Sol y de la Luna. Las horas UT tabuladas para las latitudes seleccionadas corresponden a la ocurrencia del fenómeno para un observador situado en el meridiano de Greenwich. Para calcular la hora del fenómeno en latitudes distintas de las tabuladas se interpolará linealmente.

La distancia cenital utilizada para calcular los instantes de salida y de puesta es tal que, en condiciones normales, un observador situado al nivel del mar verá el limbo superior del Sol y de la Luna tangente al horizonte. Esto es,

$$90^\circ + R + SD - PHE,$$

donde  $R$  es la corrección por refracción, para la cual se ha adoptado un valor estándar de  $34'$ . Es posible que las horas tabuladas difieran de las observadas debido a la elevación del observador sobre el nivel del mar y a que la corrección por refracción difiera del valor adoptado. En el caso del Sol, debido a que las horas de los fenómenos se presentan al minuto de tiempo, se ha tomado un valor constante  $SD = 16'$  para el semidiámetro y se desprecia el efecto de la paralaje (del orden de la décima de minuto de arco).

El crepúsculo civil es el intervalo de tiempo que precede (matutino) o sigue (vespertino) respectivamente a la salida o puesta del Sol. El principio del crepúsculo matutino y el fin del vespertino vienen determinados por una depresión del Sol de  $6^\circ$ . Al principio del crepúsculo matutino empiezan a dejar de verse las estrellas de primera magnitud y al final del vespertino se ven todas ellas. Durante estos períodos el cielo está parcialmente iluminado y se distinguen fácilmente los objetos terrestres, así como el horizonte de la mar.

El crepúsculo náutico es el intervalo durante el cual el Sol tiene una depresión comprendida entre  $6^\circ$  y  $12^\circ$ . En condiciones normales, en este intervalo se ven todas las estrellas observables con el sextante. La claridad permite distinguir vagamente las siluetas. En él se dan las condiciones más favorables para las observaciones del navegante.

En resumen, las horas presentadas en el ALMANAQUE corresponden al instante en el que la distancia cenital verdadera  $z$  del centro del disco del Sol o de la Luna toma los valores indicados en la tabla siguiente.

	Fenómeno	Distancia cenital $z$
SOL:	Salida y Puesta	$90^\circ 50'$
	Crepúsculo Civil	$96^\circ$
	Crepúsculo Náutico	$102^\circ$
LUNA:	Salida y Puesta	$90^\circ 34' + SD - PHE$

Para las latitudes presentadas en el ALMANAQUE siempre habrá salida y puesta del Sol y principio y fin del crepúsculo civil. Ahora bien, podría ocurrir que entre la puesta y la salida la distancia cenital del Sol sea siempre menor que  $102^\circ$ , con lo que el crepúsculo náutico sería continuado. Este hecho se refleja en el ALMANAQUE mediante la notación \*\* y ocurrirá cuando se verifique la relación

$$\begin{aligned} \varphi > 0, \quad \delta &\geq -\varphi + (180 - z) = -\varphi + 78^\circ, \\ \varphi < 0, \quad \delta &\leq -\varphi - (180 - z) = -\varphi - 78^\circ, \end{aligned} \quad (1)$$

donde  $\varphi$  y  $\delta$  llevarán sus signos de acuerdo con el convenio establecido en la sección 3.1. Esto sucederá en los solsticios para latitudes extremas.

Las horas de los fenómenos del Sol se tabulan para días alternos. En los días para los que no se hayan tabulado, dichas horas pueden calcularse mediante una interpolación lineal entre las horas de los días anterior y siguiente, ya que varían muy lentamente.

Para calcular el UT del fenómeno en otros meridianos, a la hora del fenómeno en Greenwich se le restará la longitud con su signo correspondiente, de acuerdo con el convenio establecido en la sección 3.1:

$$\text{UT del fenómeno en el meridiano del lugar} = \text{UT del fenómeno en Greenwich} - \lambda.$$

Debe prestarse especial atención a los cambios de fecha que se producen al obtener resultados negativos o mayores que 24<sup>h</sup>.

**Ejemplo 3.**— Calcular las horas UT de salida y puesta del Sol y de principio y fin del crepúsculo civil el día 13 de mayo del presente año en un lugar de latitud 40° 20' N y longitud 40° 10.5' E.

Las horas de la salida y del principio del crepúsculo se obtienen directamente interpolando para la latitud. Para la puesta y el fin del crepúsculo es necesario interpolar los valores dados para los días anterior y siguiente.

	Principio	Salida	Puesta	Fin
UT en G. (pág. 142–144)	04 <sup>h</sup> 17 <sup>m</sup>	04 <sup>h</sup> 47 <sup>m</sup>	19 <sup>h</sup> 08 <sup>m</sup>	19 <sup>h</sup> 39 <sup>m</sup>
–λ en horas (pág. 392)	–2 <sup>h</sup> 41 <sup>m</sup>	–2 <sup>h</sup> 41 <sup>m</sup>	–2 <sup>h</sup> 41 <sup>m</sup>	–2 <sup>h</sup> 41 <sup>m</sup>
UT	01 <sup>h</sup> 36 <sup>m</sup>	02 <sup>h</sup> 06 <sup>m</sup>	16 <sup>h</sup> 27 <sup>m</sup>	16 <sup>h</sup> 58 <sup>m</sup>

En cuanto a la Luna, además será preciso corregir por el retardo R.<sup>o</sup>. Dicho retardo es la diferencia en minutos entre dos fenómenos consecutivos en el meridiano origen y se tabula a la derecha de las horas correspondientes. El valor de la corrección por retardo se obtiene directamente de la tabla de la página 386 y es una mera interpolación lineal, que obedece a la fórmula

$$\left| \frac{R.^{\circ} \times \lambda \text{ (en horas)}}{24} \right|,$$

tomándose con signo contrario al de λ. Para longitudes al Oeste debe calcularse con el retardo del día de la fecha y para longitudes al Este con el del día anterior.

El día lunar es mayor que el solar, esto es, el movimiento aparente del Sol es más rápido que el de la Luna. Por tanto, en cada lunación habrá un día en el cual no habrá salida o puesta de Luna en el meridiano de Greenwich. Este hecho se indica en la tabla correspondiente mediante la notación \*\*. Sin embargo el fenómeno sí se producirá en otros meridianos. Supongamos que queremos calcular el fenómeno el día D. En el cálculo hay que considerar dos casos:

*No hay fenómeno para el día de la fecha.* Se tomará como base de cálculo la hora dada en el ALMANAQUE para el día D + 1. Para el retardo se procederá de forma diferente dependiendo de la longitud λ:

λ al E: se tomará el retardo correspondiente al fenómeno anterior tabulado para el día D – 1;

λ al W: se tomará el retardo correspondiente al día D + 1. Para estas longitudes siempre se obtendrá una hora UT del fenómeno correspondiente al día siguiente al de la fecha. Dependiendo del problema en cuestión, podría proceder volver a resolverlo para el día anterior como se ilustra en el ejemplo 6.

No hay fenómeno para el día anterior. El problema para longitudes al W se resuelve normalmente. Para longitudes al E debemos utilizar el valor de  $R.^\circ$  correspondiente al fenómeno anterior, que será el tabulado para el día  $D - 2$ .

**Ejemplo 4.**— Calcular las horas UT de salida y puesta de la Luna el día 29 de abril del presente año en un lugar de latitud  $45^\circ 28' N$  y longitud  $40^\circ 37.2' W$ .

	Salida	Puesta
UT en G. (pág. 129)	29 <sup>d</sup> 00 <sup>h</sup> 22 <sup>m</sup>	29 <sup>d</sup> 08 <sup>h</sup> 12 <sup>m</sup>
R. <sup>o</sup> (pág. 129)	48 <sup>m</sup>	72 <sup>m</sup>
−λ en horas (pág. 392)	+2 <sup>h</sup> 42 <sup>m</sup>	+2 <sup>h</sup> 42 <sup>m</sup>
C. <sup>ón</sup> por R. <sup>o</sup> y Longitud (pág. 386)	+6 <sup>m</sup>	+8 <sup>m</sup>
UT	29 <sup>d</sup> 03 <sup>h</sup> 10 <sup>m</sup>	29 <sup>d</sup> 11 <sup>h</sup> 02 <sup>m</sup>

**Ejemplo 5.**— Repetir el ejemplo anterior considerando la longitud al E.

	Salida	Puesta
UT en G. (pág. 129)	29 <sup>d</sup> 00 <sup>h</sup> 22 <sup>m</sup>	29 <sup>d</sup> 08 <sup>h</sup> 12 <sup>m</sup>
R. <sup>o</sup> (pág. 127 / 128)	60 <sup>m</sup>	60 <sup>m</sup>
−λ en horas (pág. 392)	−2 <sup>h</sup> 42 <sup>m</sup>	−2 <sup>h</sup> 42 <sup>m</sup>
C. <sup>ón</sup> por R. <sup>o</sup> y Longitud (pág. 386)	−7 <sup>m</sup>	−7 <sup>m</sup>
UT	28 <sup>d</sup> 21 <sup>h</sup> 33 <sup>m</sup>	29 <sup>d</sup> 05 <sup>h</sup> 23 <sup>m</sup>

Nótese que la hora de la salida corresponde a las 21<sup>h</sup>33<sup>m</sup>UT del día 28 de abril, por lo que podría proceder repetir el cálculo con los datos del día 30 de abril.

**Ejemplo 6.**— Calcular las horas UT de salida y puesta de la Luna el día 28 de abril del presente año en un lugar de latitud  $40^\circ 18' N$  y longitud  $40^\circ 37.2' W$ .

	Salida	Puesta
UT en G. (pág. 130 / 129)	30 <sup>d</sup> 00 <sup>h</sup> 47 <sup>m</sup>	29 <sup>d</sup> 08 <sup>h</sup> 37 <sup>m</sup>
R. <sup>o</sup> (pág. 129 / 128)	42 <sup>m</sup>	66 <sup>m</sup>
−λ en horas (pág. 392)	+2 <sup>h</sup> 42 <sup>m</sup>	+2 <sup>h</sup> 42 <sup>m</sup>
C. <sup>ón</sup> por R. <sup>o</sup> y Longitud (pág. 386)	+5 <sup>m</sup>	+7 <sup>m</sup>
UT	30 <sup>d</sup> 03 <sup>h</sup> 34 <sup>m</sup>	29 <sup>d</sup> 11 <sup>h</sup> 26 <sup>m</sup>

Nótese que la hora obtenida para la salida corresponde al día 30 de abril, por lo que podría proceder repetir el cálculo con los datos del día 28 de abril. Sin embargo, si la hora oficial en el lugar tuviera, por ejemplo, una diferencia con el UT de  $-4^h$  la fecha sería la correcta.

### 3.4 Ángulo horario y Declinación de las Estrellas

El horario del lugar  $h_L$  de una estrella está relacionado con su Ángulo Sidéreo  $AS^*$  y el horario del lugar de Aries  $h_L \frown$  mediante la sencilla fórmula

$$h_L = AS^* + h_L \frown.$$

El  $AS^*$  de las estrellas observables se presenta en las páginas 376 y 378 del ALMANAQUE, o bien en la hoja volante para algunas de ellas. Este dato, al igual que la declinación de las páginas 377 y 379, se ha calculado para el día 15 de cada mes a  $0^h$ . Para cualquier otro día es suficiente interpolar linealmente estos datos.

En la páginas diarias, el ALMANAQUE proporciona el horario en Greenwich de Aries para cada hora. Para cualquier instante este dato puede calcularse mediante una interpolación lineal, la cual puede realizarse con ayuda de las tablas de las páginas 425 a 454, sin que sea necesario efectuar ninguna corrección por “Dif.” Para calcular el horario de Aries en un lugar de longitud  $\lambda$  basta con sumarle a su horario en Greenwich dicha longitud con su signo, de acuerdo con el convenio establecido en la sección 3.1.

**Ejemplo 7.**— Calcular el horario y la declinación de *Capella* en un lugar de longitud  $25^\circ 10.5' E$  a las  $15^h 45^m 25^s$  UT del 13 de abril del presente año.

De las páginas 376 y 377 del ALMANAQUE se obtiene:

$AS^* = 280^\circ 23.1'$ ,	declinación = $+46^\circ 01.4'$
$h_G^\Uparrow$ a $15^h$ (pág. 113)	$67^\circ 17.3'$
$C.^{6n}$ por $45^m 25^s$ (pág. 447)	$11^\circ 23.1'$
$\lambda$	$+25^\circ 10.5'$
$h_L^\Uparrow$	$103^\circ 50.9'$
$AS^*$	$280^\circ 24.3'$
$h_L^*$	$24^\circ 15.2'$

### 3.5 Horas de paso por el meridiano

Conocida la declinación de un astro, la observación de su altura al paso por el meridiano superior permite calcular fácilmente la latitud del observador mediante la relación

$$\phi = \delta - z,$$

debiéndose tomar la distancia cenital  $z$  positiva cuando el astro se observa con azimut norte y negativa en caso contrario. El ALMANAQUE posibilita el cálculo de la hora de paso de los astros observables de la forma que se describe a continuación.

En las páginas diarias se presenta la hora de paso del Sol y de los planetas por el meridiano de Greenwich. Para calcular la hora de paso para otros meridianos basta con restarle la longitud  $\lambda$  con su signo:

$$\text{Hora Paso meridiano} = \text{Hora Paso Greenwich} - \lambda.$$

**Ejemplo 8.**— Calcular las horas UT de paso del Sol y de Júpiter por el meridiano de longitud  $15^\circ 30' E$  el 13 de abril del año en curso.

	Sol	Júpiter
P.M.G. (pág. 113)	$12^h 00.4^m$	$13^h 43^m$
$-\lambda$ en horas (pág. 392)	$-1^h 02.0^m$	$-1^h 02^m$
UT	$10^h 58.4^m$	$12^h 41^m$

En cuanto a la Luna, y siempre dentro de la aproximación necesaria al navegante, habrá que tener en cuenta, también, el efecto del retardo. En cada lunación habrá un día en el que no hay paso de la Luna por el meridiano de Greenwich, como ocurría con las salidas y puestas. Esta circunstancia se indica en el ALMANAQUE poniendo \*\* en el lugar correspondiente. En tal caso, para deducir la hora de paso por otro meridiano habrá que hacer el cálculo de acuerdo con los criterios establecidos en la sección 3.3.

**Ejemplo 9.**— Calcular la hora UT de paso de la Luna por el meridiano de  $15^{\circ} 10.5' E$  el 24 de febrero del año en curso.

P.M.G. (pág. 65)	25 <sup>d</sup> 00 <sup>h</sup> 38 <sup>m</sup>
R.° (pág. 63)	41 <sup>m</sup>
−λ en horas (pág. 392)	−1 <sup>h</sup> 1 <sup>m</sup>
C.ón por R.° y Longitud (pág. 386)	−2 <sup>m</sup>
UT	24 <sup>d</sup> 23 <sup>h</sup> 35 <sup>m</sup>

Nótese que la hora obtenida corresponde al día solicitado.

En las páginas 380 y 381 se presentan las horas de paso de las estrellas por el meridiano de Greenwich calculadas para el primer día de cada mes. Para obtener la hora de paso por el meridiano de Greenwich para un día cualquiera, restaremos la 1<sup>a</sup> Corrección obtenida de la tabla de la página 381 a la hora de paso que se presenta para el mes en cuestión. Esta corrección se debe al adelanto diario del paso de Aries por el meridiano, por ser el día sidéreo casi 4 minutos más corto que el día solar medio.

La hora de paso de una estrella por el meridiano de longitud λ será la calculada para el meridiano de Greenwich más (λ al W) o menos (λ al E) el tiempo que invierte la estrella en recorrer dicha longitud. Este tiempo se obtiene restando a la longitud (con su signo) la 2<sup>a</sup> corrección tabulada en la página 381, corrección que, al igual que la anterior, es debida a la diferente duración de los días solar y sidéreo. Por tanto:

$$\begin{aligned} \text{Hora Paso meridiano} &= \text{Hora Paso Greenwich} - 1^a C.ón - (\lambda - 2^a C.ón) \\ &= \text{Hora Paso Greenwich} - 1^a C.ón + 2^a C.ón - \lambda. \end{aligned}$$

**Ejemplo 10.**— Calcular la hora UT de paso de *Canopus* por el meridiano de  $55^{\circ} 10.5' E$  el día 11 de abril del presente año.

P.M.G. el día 1 de abril (pág. 380)	17 <sup>h</sup> 42 <sup>m</sup>
−1 <sup>a</sup> C.ón (pág. 381)	−39 <sup>m</sup>
2 <sup>a</sup> C.ón (pág. 381)	+ 1 <sup>m</sup>
−λ en horas (pág. 392)	−3 <sup>h</sup> 41 <sup>m</sup>
UT	13 <sup>h</sup> 23 <sup>m</sup>

La hora de paso de Aries, tabulada en las páginas diarias, puede utilizarse para efectuar los

cambios de tiempo sidéreo a UT y viceversa, ya que aquella corresponde a las 0<sup>h</sup> sidéreas en el meridiano de Greenwich.

**Ejemplo 11.**— Calcular el UT en un lugar de longitud 10° 33.4' W cuando sean en éste las 6<sup>h</sup> 05<sup>m</sup> sidéreas del 13 de abril del presente año.

El tiempo sidéreo en Greenwich es el tiempo sidéreo local menos la longitud:

tiempo sidéreo local	6 <sup>h</sup> 05 <sup>m</sup>		
−λ en horas (pág. 392)	+0 <sup>h</sup> 42 <sup>m</sup> 14 <sup>s</sup>		
tiempo sidéreo en Greenwich	6 <sup>h</sup> 47 <sup>m</sup> 14 <sup>s</sup>	intervalo sidéreo	6 <sup>h</sup> 47 <sup>m</sup> 14 <sup>s</sup>
		corrección (pág. 390)	− 1 <sup>m</sup> 07 <sup>s</sup>
		intervalo UT	6 <sup>h</sup> 46 <sup>m</sup> 07 <sup>s</sup>
		P.M.G.∟ (pág. 113)	10 <sup>h</sup> 31 <sup>m</sup> 36 <sup>s</sup>
		UT	17 <sup>h</sup> 17 <sup>m</sup> 43 <sup>s</sup>

### 3.6 Correcciones a las alturas observadas

La altura verdadera de un astro se obtiene sumando a la altura observada una serie de correcciones que se describen a continuación:

#### *Depresión del horizonte D.*

Esta corrección, motivada por la elevación del observador sobre el nivel del mar y la refracción, es siempre negativa y refiere al horizonte verdadero la altura observada desde el horizonte de la mar. El valor medio de la corrección por depresión del horizonte es aproximadamente

$$D = 1.7757\sqrt{e} \text{ minutos de arco,}$$

donde  $e$  es la elevación del observador sobre el nivel del mar en metros. Esta fórmula está tabulada en la Tabla A de la página 387, la cual se ha calculado considerando unas condiciones medias de la atmósfera<sup>2</sup>.

La altura observada corregida por depresión del horizonte se conoce como altura aparente.

#### *Refracción R.*

La refracción hace que, aparentemente, veamos los astros más elevados de lo que están en realidad. La corrección por refracción será, por tanto, negativa y dependerá de las condiciones atmosféricas y de la altura del astro. Para la precisión requerida en los problemas de navegación astronómica el valor de la corrección por refracción, expresada en segundos de arco, se obtiene de la fórmula

$$R = -(58.32'' \cot a - 0.0668'' \cot^3 a),$$

donde  $a$  es la altura aparente del astro. En la parte izquierda de la Tabla C de la página 387 se presentan tabulados los valores de la corrección por refracción para las estrellas y los planetas. Para el Sol esta corrección está incluida en la obtenida de la Tabla B de la página 387 y para la Luna en la obtenida de las tablas de las páginas 388 y 389.

<sup>2</sup>La influencia de las condiciones atmosféricas sobre la corrección por depresión del horizonte es considerable. Unas condiciones extremas pueden suponer una gran variación con respecto a los valores tabulados, aunque esto ocurre raramente. Los valores anormales se dan principalmente en condiciones de calma absoluta, cuando la línea del horizonte aparece poco definida y cuando el disco del Sol al orto y ocaso se ve muy deformado.



*Paralaje.*

Para resolver el triángulo de posición es necesario referir las alturas al centro de la Tierra. Debido a que la observación se hace desde la superficie terrestre, será necesario efectuar una corrección debida a la paralaje del astro, que es el ángulo que desde éste subtende el radio terrestre correspondiente a la posición del observador.

La corrección por paralaje siempre es positiva y depende de la distancia del astro y de su altura aparente. Se obtiene multiplicando la paralaje horizontal por el coseno de la altura. A los efectos de este ALMANAQUE, es suficiente considerar la Tierra esférica y utilizar la paralaje horizontal ecuatorial (PHE) como la paralaje horizontal para cualquier punto de la superficie terrestre.

La PHE del Sol es aproximadamente  $8.8''$ , con lo que la corrección por paralaje en este caso es muy pequeña. No obstante, ésta se halla englobada en la corrección que se obtiene de la Tabla B de la página 387.

Esta corrección es más importante en las observaciones de Luna, en cuyo caso está incluida en la corrección facilitada por las tablas de las páginas 388 y 389. Los argumentos de entrada en estas tablas son la altura aparente y la PHE, que se debe obtener previamente de las páginas diarias.

La paralaje es nula para las estrellas, dada la gran distancia a que se encuentran. A efectos de navegación, lo mismo sucede con Júpiter y Saturno.

En la parte derecha de la Tabla C se tabulan para Venus y Marte los valores de la paralaje en distintas épocas del año, dependiendo de su distancia a la Tierra. Para Marte se presentan tres columnas, que dan la paralaje en función de la altura. En el caso de Venus se da una columna válida para cualquier altura, ya que, al ser un planeta interior, estará siempre relativamente cerca del Sol y las alturas observables en los crepúsculos no serán muy grandes (solo en ocasiones excepcionales pueden llegar a observarse alturas de Venus de unos  $45^\circ$  desde lugares situados entre los trópicos).

*Semidiámetro SD.*

Es el ángulo que subtende el radio del disco del astro visto desde el observador. Depende de las dimensiones físicas del astro y de la distancia que lo separa de la Tierra. Esta corrección hay que efectuarla cuando se observa uno de los limbos del astro, por lo que solo será de aplicación para las observaciones de Sol y Luna. Es positiva si se observa el limbo inferior y negativa si se observa el superior.

En el caso del limbo inferior del Sol, la corrección obtenida de la Tabla B (página 387) se ha calculado para un valor estándar del semidiámetro de  $16'$ . La corrección adicional de esta tabla, cuyo argumento de entrada es la fecha de observación, compensa por la diferencia entre el semidiámetro del Sol presentado en las páginas diarias y los  $16'$  mencionados. Las alturas del limbo superior del Sol se corrigen como si fueran del limbo inferior, restando del resultado el doble del valor del semidiámetro del Sol que proporciona el ALMANAQUE para cada día.

La corrección por semidiámetro para la Luna ya está incluida en la corrección que se obtiene de las tablas<sup>3</sup> de las páginas 388 y 389.

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<sup>3</sup>Nótese que el semidiámetro de la Luna no aparece de forma explícita en estas tablas. Sin embargo, esta corrección está incluida en los valores facilitados, habiéndose deducido en los cálculos de la relación existente entre el semidiámetro y la paralaje horizontal. El semidiámetro en radianes es, muy aproximadamente, el radio lunar dividido por la distancia Tierra-Luna; igualmente, la paralaje es el radio terrestre dividido por esta misma distancia.

Las tablas de las páginas 387 a 389 facilitan las correcciones arriba descritas. A modo de resumen, se recogen en el siguiente cuadro las correcciones que afectan a cada uno de los astros observables y la tabla del ALMANAQUE que las facilita.

	Depresión	Refracción	Paralaje	Semidiámetro
SOL	Tabla A	Tabla B		
LUNA	Tabla A	Tablas de las páginas 388 y 389		
VENUS MARTE	Tabla A	Tabla C parte izquierda	Tabla C parte derecha	—
JÚPITER, SATURNO y ESTRELLAS	Tabla A	Tabla C parte izquierda	—	—

En las tablas de las páginas 388 y 389 se presentan las correcciones por refracción, semidiámetro y paralaje a la altura aparente de la Luna. Los datos se facilitan de grado en grado de altura y de minuto en minuto de paralaje horizontal, para que la interpolación en esta tabla sea lo más exacta posible. Dicha interpolación podría hacerse mentalmente, pero se calcula con mayor facilidad con la tablilla de PARTES PROPORCIONALES, que se presenta en la parte inferior de la página 389. Los argumentos de esta tablilla son: para la primera corrección la variación tabular por grado de altura y los minutos de ésta; y para la segunda corrección la variación por minuto de paralaje y las décimas de minuto de ésta. Se entiende por variación tabular la diferencia entre dos términos consecutivos de la tabla.

**Ejemplo 12.**— Corregir las siguientes alturas, observadas desde una altitud de 12 metros el 11 de febrero del presente año a 4<sup>h</sup> 25<sup>m</sup> UT.

	Sol☉	Sol☿	Luna☾	Venus	★ Polar
Altura observada	40° 25.5'	40° 12.8'	25° 11.7'	41° 13.6'	15° 49.3'
Tabla A (pág. 387)	—6.2'	—6.2'	—6.2'	—6.2'	—6.2'
Altura aparente	40° 19.3'	40° 06.6'	25° 05.5'	41° 07.4'	15° 43.1'
Tabla B (pág. 387)	{ 15.0'	{ 15.0'			
2 × SD (pág. 51)	{ +0.2'	{ +0.2'			
PHE (pág. 51)					61.2'
Tabla pág. 388				1° 09.9'	
PARTES PROP. (pág. 389)				{ 0.0'	
				{ + 0.2'	
Tabla C (pág. 387)				{ -1.2'	-3.6'
				{ +0.1'	
Altura verdadera	40° 34.5'	39° 49.4'	26° 15.6'	41° 06.3'	15° 39.5'

### 3.7 Determinación de la latitud por la Polar

Si la declinación de la estrella Polar fuese  $90^\circ$  exactamente, su altura verdadera sería igual a la latitud del observador. Dado que esto no ocurre, es necesario sumar a la altura verdadera  $a_v$  una pequeña corrección  $c$  para obtener directamente la latitud buscada.

$$\phi = a_v + c$$

Esta corrección, en minutos, se obtiene sumando las correcciones tabuladas en las tablas I, II y III de las páginas 382 a 384. En ellas el argumento de entrada es el horario del lugar de Aries. En las tablas II y III hay que entrar además respectivamente con la altura verdadera y la fecha.

El azimut de la Polar lo da la tabla de la página 385 del ALMANAQUE contado desde el N hacia el E o el W, según se expresa. Los argumentos de entrada son el horario del lugar de Aries y la latitud.

**Ejemplo 13.**— Determinar la latitud a partir de la observación de la Polar del ejemplo 12, en un lugar de longitud  $40^\circ 25' W$ .

$h_G \curvearrowright$ a $4^h$ (pág. 51)	200° 43.7'		
$C.^{6n}$ por $25^m$ (pág. 437)	6° 16.0'		
Longitud	<u>-40° 25.0'</u>		
$h_L \curvearrowright$	166° 34.7'	Altura verdadera $\star$	15° 39.5'
		Tabla I (pág.382)	+ 19.4'
		Tabla II (pág.384)	0.0'
		Tabla III (pág.384)	<u>0.0'</u>
		Latitud	15° 58.9'

Con la latitud y el  $h_L \curvearrowright$  se obtiene de la tabla de la página 385 el azimut de la Polar  $N0.6^\circ W$ .

### 3.8 Uso de este Almanaque para el Sol y las estrellas en 2025

Dada la precisión de los datos presentados, para el uso de este ALMANAQUE en 2025 solo tendremos en cuenta:

- el movimiento retrógrado de Aries, que en un año se desplaza un ángulo  $\psi = -50.29''$  sobre la eclíptica;
- la duración del año trópico (dos pasos consecutivos del Sol por Aries), que no es un número exacto de días; un año trópico son 365 días y  $5^h 48^m 46^s$  de UT.

La combinación de estos dos efectos provoca que el horario de las estrellas no se repita exactamente cada 365 días, sino que experimente la variación que se indica a continuación:

$$\begin{aligned}
 \Delta h\star &= h_{365}\star - h_0\star \\
 &= (AS_{365}\star + h_{365}\curvearrowright) - (AS_0\star + h_0\curvearrowright) \\
 &= (AS_{365}\star - AS_0\star) + (h_{365}\curvearrowright - h_0\curvearrowright) \\
 &= \Delta AS\star + \Delta h\curvearrowright
 \end{aligned}$$

donde el subíndice 0 indica el argumento correspondiente a una fecha dada y el subíndice 365, el mismo argumento, 365 días después.

La variación del ángulo sidéreo  $\Delta AS_{\star}$  es, muy aproximadamente, la proyección sobre el ecuador de  $\psi$ , es decir,

$$\Delta AS_{\star} = \psi \cos \varepsilon \simeq -0.8',$$

siendo  $\varepsilon$  la oblicuidad de la eclíptica.

Por otro lado, la variación del horario de Aries después de 365 días,  $\Delta h_{\Upsilon}$ , puede considerarse constante, teniendo en cuenta la precisión del ALMANAQUE, e igual a  $-14.3'$ . Este valor se obtiene de la proporción

$$\frac{360^{\circ} - \psi \cos \varepsilon}{365 \text{ días}, 5^{\text{h}} 48^{\text{m}} 46^{\text{s}}} = \frac{\Delta h_{\Upsilon}}{365 \text{ días}}.$$

Por tanto, el ángulo horario de una estrella varía  $\Delta h_{\star} = -0.8' - 14.3' = -15.1'$  en 365 días. De aquí, teniendo en cuenta que el presente año es bisiesto, se aplicará la siguiente regla:

- Del 1 de enero al 28 de febrero de 2025: se podrá obtener el ángulo horario de una estrella a partir del horario calculado para la misma hora de la fecha siguiente de 2024 y restando  $15.1'$  al resultado.
- Del 1 de marzo de 2025 en adelante: el horario se calculará para el día de la fecha de 2024 y se restarán  $15.1'$  al resultado.

Para el AS y la declinación de las estrellas resulta suficiente tomar para el año 2025 los valores tabulados en este ALMANAQUE para 2024, restando  $0.8'$  al AS obtenido. Con todo, el error cometido para las estrellas no excederá de  $0.4'$ .

En lo que al Sol se refiere, hay que tener en cuenta además que su movimiento no es uniforme a lo largo del año, por lo que no es de aplicación lo dicho para las estrellas. Si obviamos las perturbaciones planetarias, el Ángulo Sidéreo y la declinación del Sol se repetirán exactamente cada año trópico. Por tanto:

- Del 1 de enero al 28 de febrero de 2025: se tomará la fecha siguiente de 2024,
- Del 1 de marzo de 2025 en adelante: se tomará la misma fecha de 2024,

Una vez en la fecha adecuada, los datos se calcularán para  $5^{\text{h}} 48^{\text{m}} 46^{\text{s}}$  de UT antes de la hora de observación; la declinación obtenida será la correcta, mientras que al horario habrá que sumarle  $87^{\circ} 11.5'$ , que es lo que gira la Tierra en esas  $5^{\text{h}} 48^{\text{m}} 46^{\text{s}}$ . A efectos prácticos bastará con calcular los datos  $5^{\text{h}} 48^{\text{m}}$  antes de la hora de observación y sumar  $87^{\circ}$  al horario. El error cometido no excede de  $0.4'$ .

No obstante lo anterior, para mayor facilidad en el cálculo del horario en Greenwich del Sol en una fecha de 2025, en la Tabla 2 de la página 418 se presenta la corrección aditiva a aplicar al horario obtenido para la hora de observación de la misma fecha de 2024.

**Ejemplo 14.**— Determinar a las  $14^{\text{h}} 15^{\text{m}}$  UT del 8 de febrero de 2025 los siguientes elementos: horario en Greenwich y declinación del  $\odot$ , horario en Greenwich de *Rigel* y AS y declinación de *Procyon*.

$h_G \odot$ el 8-2-2024 a $14^{\text{h}}$ (pág. 48)	$26^{\circ} 28.2'$
Por $15^{\text{m}}$ (pág. 432)	$3^{\circ} 45.0'$
C. <sup>6n</sup> Tabla 2 (pág. 418)	$- 0.6'$
$h_G \odot$ el 8-2-2025 a $14^{\text{h}} 15^{\text{m}}$ UT	$30^{\circ} 12.6'$

$$14^{\text{h}} 15^{\text{m}} - 5^{\text{h}} 48^{\text{m}} = 8^{\text{h}} 27^{\text{m}}$$

Dec. $\odot$ el 9-2-2024 a $8^{\text{h}}$ (pág. 49)	$-14^{\circ} 47.9'$
Por $27^{\text{m}}$	$+ 0.4'$
Dec. $\odot$ , 8-2-2025 a $14^{\text{h}} 15^{\text{m}}$ UT	$-14^{\circ} 47.5'$

$h_G \Upsilon$ el 9-2-2024 a $14^{\text{h}}$ (pág. 49)	$349^{\circ} 10.0'$
Por $15^{\text{m}}$ (pág. 432)	$3^{\circ} 45.6'$
$h_G \Upsilon$	$352^{\circ} 55.6'$
A.S. <i>Rigel</i> el 9-2-2024 (pág. 376)	$281^{\circ} 04.4'$
$h_G \text{ Rigel}$ , 9-2-2024 a $14^{\text{h}} 15^{\text{m}}$ UT	$274^{\circ} 0.0'$
	$- 15.1'$
$h_G \text{ Rigel}$ , 8-2-2025 a $14^{\text{h}} 15^{\text{m}}$ UT	$273^{\circ} 44.9'$

A.S. <i>Procyon</i> el 8-2-2024 (pág. 376)	$244^{\circ} 51.3'$
	$- 0.8'$
A.S. <i>Procyon</i> el 8-2-2025	$244^{\circ} 50.5'$
Dec. <i>Procyon</i> (pág. 377)	$+5^{\circ} 09.7'$

Tabla 2: Corrección aditiva a aplicar al horario del Sol para uso de este ALMANAQUE en 2025

	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
1	-5.4	-1.7	-0.7	-1.1	-0.4	+0.5	+0.5	-0.6	-1.6	-1.6	-0.5	+1.1
2	-5.4	-1.6	-0.8	-1.1	-0.4	+0.5	+0.5	-0.6	-1.5	-1.6	-0.4	+1.2
3	-5.4	-1.4	-0.8	-1.1	-0.4	+0.6	+0.5	-0.6	-1.5	-1.5	-0.3	+1.3
4	-5.3	-1.3	-0.9	-1.1	-0.3	+0.6	+0.5	-0.6	-1.5	-1.5	-0.2	+1.4
5	-5.3	-1.1	-0.9	-1.0	-0.3	+0.6	+0.5	-0.6	-1.5	-1.4	-0.1	+1.4
6	-5.2	-0.9	-0.9	-1.0	-0.2	+0.7	+0.5	-0.6	-1.5	-1.3	0.0	+1.5
7	-5.1	-0.8	-0.9	-1.0	-0.2	+0.7	+0.5	-0.6	-1.5	-1.3	+0.1	+1.6
8	-5.0	-0.6	-0.9	-0.9	-0.1	+0.8	+0.5	-0.6	-1.4	-1.2	+0.2	+1.7
9	-4.8	-0.4	-0.9	-0.9	0.0	+0.8	+0.5	-0.6	-1.4	-1.2	+0.2	+1.7
10	-4.7	-0.2	-0.9	-0.8	+0.1	+0.9	+0.5	-0.6	-1.4	-1.1	+0.3	+1.8
11	-4.6	0.0	-0.9	-0.8	+0.1	+0.9	+0.6	-0.6	-1.4	-1.1	+0.4	+1.8
12	-4.4	+0.2	-0.9	-0.7	+0.2	+1.0	+0.6	-0.7	-1.4	-1.0	+0.4	+1.8
13	-4.2	+0.4	-0.8	-0.7	+0.3	+1.0	+0.5	-0.7	-1.4	-1.0	+0.5	+1.8
14	-4.1	+0.5	-0.8	-0.6	+0.3	+1.1	+0.5	-0.7	-1.4	-1.0	+0.5	+1.8
15	-3.9	+0.7	-0.8	-0.6	+0.4	+1.1	+0.5	-0.7	-1.4	-1.0	+0.5	+1.8
16	-3.7	+0.9	-0.8	-0.5	+0.4	+1.1	+0.5	-0.8	-1.5	-1.0	+0.5	+1.8
17	-3.6	+1.0	-0.8	-0.5	+0.5	+1.1	+0.4	-0.8	-1.5	-0.9	+0.5	+1.7
18	-3.4	+1.2	-0.8	-0.4	+0.5	+1.1	+0.4	-0.9	-1.5	-0.9	+0.6	+1.7
19	-3.3	+1.3	-0.8	-0.4	+0.6	+1.1	+0.3	-1.0	-1.6	-0.9	+0.6	+1.7
20	-3.1	+1.4	-0.8	-0.4	+0.6	+1.0	+0.2	-1.0	-1.6	-0.9	+0.6	+1.6
21	-3.0	+1.5	-0.8	-0.4	+0.6	+1.0	+0.2	-1.1	-1.6	-0.9	+0.6	+1.6
22	-2.9	+1.6	-0.8	-0.4	+0.6	+0.9	+0.1	-1.2	-1.7	-0.9	+0.6	+1.6
23	-2.7	+1.7	-0.8	-0.4	+0.6	+0.9	0.0	-1.3	-1.7	-0.9	+0.6	+1.6
24	-2.6	+1.8	-0.8	-0.4	+0.6	+0.8	-0.1	-1.3	-1.7	-0.9	+0.7	+1.6
25	-2.5	+1.9	-0.9	-0.4	+0.6	+0.8	-0.2	-1.4	-1.7	-0.9	+0.7	+1.6
26	-2.4	+2.0	-0.9	-0.4	+0.5	+0.7	-0.2	-1.4	-1.7	-0.8	+0.8	+1.6
27	-2.3	+2.0	-0.9	-0.4	+0.5	+0.7	-0.3	-1.5	-1.7	-0.8	+0.8	+1.6
28	-2.2	+2.1	-1.0	-0.4	+0.5	+0.6	-0.4	-1.5	-1.7	-0.7	+0.9	+1.6
29	-2.1		-1.0	-0.4	+0.5	+0.6	-0.4	-1.5	-1.7	-0.7	+0.9	+1.6
30	-1.9		-1.0	-0.4	+0.5	+0.5	-0.5	-1.5	-1.6	-0.6	+1.0	+1.6
31	-1.8		-1.0		+0.5		-0.5	-1.5		-0.6		+1.6

## Glosario

**altura:** distancia esférica del **horizonte** al astro. Se mide sobre el **vertical** del astro y es positiva cuando el astro está por encima del horizonte y negativa en caso contrario. Su valor absoluto es menor o igual que  $90^\circ$ . La altura es el complemento de la **distancia cenital**.

**altura aparente:** es la **altura observada** corregida por **depresión del horizonte** para referirla al horizonte verdadero.

**altura observada:** es la altura resultante de la observación, medida desde el **horizonte de la mar** y una vez aplicadas las correcciones instrumentales.

**altura verdadera:** es la altura del centro del astro medida desde el centro de la Tierra y considerando que no existe atmósfera. Se obtiene a partir de la **altura aparente** corrigiendo por **semidiámetro, refracción y paralaje**.

**ángulo horario:** distancia angular medida hacia el W sobre el **ecuador celeste**, desde el **meridiano superior del lugar** hasta el **círculo horario** del astro.

**ángulo sidéreo:** distancia angular medida hacia el W sobre el **ecuador celeste**, desde **Aries** hasta el **círculo horario** del astro.

**año:** período de tiempo basado en la revolución de la Tierra alrededor del Sol. El **calendario** es una aproximación del **año trópico**.

**año sidéreo:** intervalo de tiempo transcurrido entre dos pasos consecutivos del Sol por un punto fijo de la **eclíptica**.

**año trópico:** intervalo de tiempo transcurrido entre dos pasos consecutivos del Sol por **Aries**. Debido al movimiento retrógrado de Aries el año trópico es más corto que **año sidéreo**.

**Aries:** es el **equinoccio** en el cual el Sol pasa del hemisferio celeste sur al hemisferio celeste norte. Debido a la **precesión**, Aries retrograda sobre la eclíptica  $50.29''$  por año.

**áureo número:** número que corresponde en el **ciclo de Metón** al año considerado. Al primer año de nuestra era le corresponde el áureo número 2.

**azimut:** distancia angular medida sobre el **horizonte** desde un punto de referencia (generalmente el norte o el sur) hasta el **vertical** del astro.

**calendario:** sistema de medida del tiempo en el cual los **días** se enumeran de acuerdo con su posición en ciertas estructuras que se repiten periódicamente.

**cenit:** corte de la prolongación de la línea de la plomada con el hemisferio visible de la **esfera celeste**.



**ciclo de Metón:** período de 19 años en el que las **fases de la Luna** vuelven a sucederse en los mismos días del año, con diferencia de hora y media aproximadamente. Equivale a 235 **lunaciones**.

**círculo horario:** círculo máximo de la **esfera celeste** que pasa por los **polos celestes**.

**constelación:** grupo de estrellas que sirve para identificar una zona de la **esfera celeste**. Las constelaciones suelen distinguirse con nombres mitológicos de animales u objetos.

**crepúsculo:** intervalo de tiempo que precede a la **salida** de Sol (matutino) y sigue a la **puesta** (vespertino). El crepúsculo civil comprende el intervalo en el cual la **distancia cenital** del centro del disco solar varía entre  $90^{\circ} 50'$  y  $96^{\circ}$ . El crepúsculo náutico comprende el intervalo desde  $96^{\circ}$  hasta  $102^{\circ}$ .

**día:** intervalo de 86400 **segundos**.

**declinación:** distancia esférica del **ecuador celeste** al astro. Se mide sobre un **círculo horario** y es positiva cuando el astro está al norte del ecuador y negativa en caso contrario. Su valor absoluto es menor o igual que  $90^{\circ}$ .

**depresión del horizonte:** ángulo formado por el **horizonte verdadero** y el **horizonte de la mar**.

**distancia cenital:** distancia esférica del **cenit** al astro. Se mide sobre el **vertical** del astro y es el complemento de la **altura**.

**eclipse:** paso de un cuerpo frente a otro, ocultando su luz.

**eclipse anular:** un **eclipse solar** en el cual el disco solar nunca se oculta completamente y, en el máximo del eclipse, el disco solar se ve como un anillo.

**eclipse lunar:** aquél que se produce cuando la Luna pasa a través de la sombra que proyecta la Tierra. Puede ser total, parcial y penumbral.

**eclipse solar:** aquél que se produce cuando la Luna se sitúa entre el Sol y la Tierra, tapando la luz del primero. Puede ser total, parcial y **anular**.

**eclíptica:** trayectoria aparente del Sol sobre la **esfera celeste**.

**ecuador celeste:** círculo máximo de la **esfera celeste** perpendicular a la línea que une los **polos celestes**.

**edad:** número de días y fracción de día transcurridos desde la última luna nueva (ver **fases de la Luna**). Varía de 0 a 29.5, que es la duración de una **lunación**.

**efemérides:** secuencia ordenada para un número de fechas de las posiciones de los objetos celestes. Normalmente se presentan en tablas.

**epacta:** un día menos que la **edad** de la Luna el 1 de enero de un año en cuestión.

**equinoccio:** cada uno de los puntos de corte de la **eclíptica** con el **ecuador celeste**.

**esfera celeste:** esfera imaginaria de radio arbitrario y centro en el observador, sobre la que se proyectan los astros para estudiar sus posiciones relativas.

**factor de aplanamiento:** parámetro de un planeta dado por la relación  $(a - b)/a$ , donde  $a$  es el radio ecuatorial y  $b$  el radio polar. Indica el grado de aproximación entre una esfera y la figura del planeta.

**fases de la Luna:** diversos aspectos de la Luna que se suceden cíclicamente.

**geocéntrico:** con referencia al centro de la Tierra.

**horizonte (verdadero):** plano que contiene al observador y es ortogonal a la línea **cenit-nadir**. La intersección de dicho plano con la **esfera celeste** es un círculo máximo también denominado horizonte.

**horizonte de la mar:** círculo menor determinado por el corte de la **esfera celeste** con las visuales desde el observador a la superficie de la Tierra. Divide la esfera celeste en los hemisferios visible e invisible y depende de la elevación del observador y de la **refracción**.

**limbo:** borde aparente del Sol, la Luna o un planeta con disco apreciable.

**lunación:** período entre dos lunas nuevas consecutivas (ver **fases de la Luna**). Su duración es aproximadamente 29.5 días.

**magnitud estelar:** medida del brillo de un objeto celeste considerado como un foco puntual. Se utiliza una escala logarítmica donde los menores valores corresponden a los astros más brillantes. Comúnmente se conocen como astros de *primera magnitud* aquellos cuya magnitud estelar es menor que 1.5, de *segunda magnitud* entre 1.6 y 2.5, de *tercera magnitud* entre 2.6 y 3.5, y así sucesivamente.

**meridiano del lugar:** círculo máximo que pasa por los **polos celestes** y contiene al **cenit** y **nadir**. El meridiano del lugar también es un **vertical**.

**meridiano superior del lugar:** semicírculo en que la línea de los polos divide al **meridiano del lugar** y que contiene el **cenit**.

**movimiento propio:** proyección sobre la **esfera celeste** del movimiento espacial de una estrella con respecto al sistema solar.

**nadir:** punto de la **esfera celeste** diametralmente opuesto al **cenit**.

**nutación:** oscilaciones de corto período en el movimiento del polo debidas al par producido por fuerzas gravitacionales externas. Este efecto se debe principalmente a la influencia de la Luna y el Sol.

**oblicuidad de la eclíptica:** ángulo que forma el plano que contiene a la **eclíptica** con el plano que contiene al **ecuador celeste**.

**ocaso:** instante en el que un astro corta al **horizonte** pasando del hemisferio visible al invisible.

**orto:** instante en el que un astro corta al **horizonte** pasando del hemisferio invisible al visible.

**paralaje:** diferencia entre las posiciones **topocéntrica** y **geocéntrica** de un objeto, es decir, el ángulo subtendido desde el objeto por el radio terrestre del observador.

**paralaje horizontal:** es la **paralaje** de un objeto que se encuentra en el **horizonte**. En el ALMANAQUE se presenta la Paralaje Horizontal Ecuatorial (PHE), que es la paralaje horizontal de un observador situado en el ecuador. Dentro de la precisión de los datos del ALMANAQUE se puede considerar la Tierra esférica y utilizar la PHE como la paralaje horizontal para cualquier punto de la superficie terrestre.

**período juliano:** intervalo de tiempo en **días** y fracción de día transcurrido desde el mediodía en Greenwich del día 1 de enero del año 4713 antes de Cristo.

**polos celestes:** puntos de corte con la **esfera celeste** de la prolongación del eje de rotación de la Tierra.

**precesión:** movimiento uniforme de largo período a que está sometido el eje de rotación terrestre debido a la atracción gravitacional del Sol, la Luna y los planetas sobre la Tierra.

**puesta:** instante en el cual se oculta tras el **horizonte** un astro con **limbo** observable. En el caso del Sol, la puesta ocurre cuando el punto central del disco tiene **distancia cenital** de  $90^\circ 50'$ . Esta cantidad se obtiene suponiendo unos valores estándar para la **refracción** en el horizonte de  $34'$  y para el **semidiámetro** de  $16'$ . En el caso de la Luna la **distancia cenital** correspondiente es de  $90^\circ 34' + s - \pi$ , donde  $s$  es el **semidiámetro** de la Luna y  $\pi$  es la **paralaje horizontal**.

**refracción:** ángulo que forman las direcciones verdadera y observada de un objeto celeste debido al cambio de dirección en la trayectoria que sigue un rayo de luz al pasar oblicuamente a través de la atmósfera.

**salida:** instante en el cual comienza a aparecer sobre el **horizonte** un astro con limbo observable. En el caso del Sol, la salida ocurre cuando el punto central del disco tiene **distancia cenital** de  $90^\circ 50'$ . Esta cantidad se obtiene de suponer unos valores estándar para la **refracción** en el horizonte de  $34'$  y para el **semidiámetro** de  $16'$ . En el caso de la Luna la **distancia cenital** correspondiente es de  $90^\circ 34' + s - \pi$ , donde  $s$  es el **semidiámetro** de la Luna y  $\pi$  es la **paralaje horizontal**.

**segundo del Sistema Internacional:** duración de 9 192 631 770 períodos de la radiación correspondiente a la transición entre los dos niveles hiperfinos del estado fundamental del átomo de cesio 133.

**segundo intercalar:** un segundo que en ocasiones es necesario añadir al **Tiempo Universal Coordinado** para que la diferencia con el **Tiempo Universal** se mantenga inferior a 0.9 segundos. Convencionalmente, de ser necesaria esta corrección se efectuará a finales de junio o diciembre.

**semidiámetro:** ángulo desde el observador subtendido por el radio ecuatorial de un astro con disco observable.

**solsticio:** cada uno de los puntos de la **eclíptica** apartados  $90^\circ$  de los **equinoccios**.

**Tiempo Atómico Internacional (TAI):** escala internacional de referencia proporcionada por la Oficina Internacional de Pesas y Medidas a partir de los relojes atómicos que mantienen los laboratorios de tiempo de varios países. La unidad fundamental del TAI es el **segundo del Sistema Internacional**.

**tiempo de luz:** tiempo necesario para que la luz viaje desde un objeto celeste hasta la Tierra.

**tiempo sidéreo: ángulo horario de Aries.** Es una medida de la rotación de la Tierra con respecto a las estrellas.

**Tiempo Universal (UT):** medida del tiempo que se ajusta al movimiento diurno medio del Sol y cuyo valor se deduce del **tiempo sidéreo** mediante una fórmula matemática. Es el argumento de estas efemérides y se deduce de la observación de las estrellas. La escala obtenida directamente de tales observaciones corregida de las pequeñas desigualdades que introduce el desplazamiento del polo terrestre y que dependen de las coordenadas del observador se designa UT1. El empleo en este ALMANAQUE del UT debe entenderse referido a la escala UT1. Debido a la irregularidad de la velocidad de rotación de la Tierra no es una escala uniforme, por lo que para datar acontecimientos científicos se utiliza el **Tiempo Atómico Internacional**.

**Tiempo Universal Coordinado (UTC):** escala de tiempo que se emite por radiodifusión a través de las señales horarias. Se basa en el **Tiempo Atómico Internacional**. La vida diaria está regulada por el movimiento del Sol, al cual se ajusta el **Tiempo Universal (UT)**. Mediante la introducción, cuando corresponda, de un **segundo intercalar** en el UTC, la diferencia con la escala UT se mantiene inferior a 0.9 segundos.

**topocéntrico:** con referencia a un punto de la superficie de la Tierra.

**unidad astronómica de distancia:** constante definida por la Unión Astronómica Internacional y que corresponde a  $1.49597870700 \times 10^{11}$  metros. Aproximadamente coincide con un valor promediado de la distancia de la Tierra al Sol.

**vertical:** círculo máximo de la **esfera celeste** que pasa por el **cenit** y el **nadir**.



0 <sup>m</sup>	Sol y planetas			Dif.	Correc.	1 <sup>m</sup>	Sol y planetas			Dif.	Correc.		
	°	'	''				°	'	''				
0	0	0.0	0	0.0	0	0	0	15.0	0	14.3	0	0.0	
1	0	0.3	0	0.3	0	0.2	1	0	15.3	0	14.6	0	0.0
2	0	0.5	0	0.5	0	0.5	2	0	15.5	0	14.8	0	0.0
3	0	0.8	0	0.8	0	0.7	3	0	15.8	0	15.0	0	0.0
4	0	1.0	0	1.0	0	1.0	4	0	16.0	0	15.3	0	0.0
5	0	1.3	0	1.3	0	1.2	5	0	16.3	0	15.5	0	0.0
6	0	1.5	0	1.5	0	1.4	6	0	16.5	0	15.7	0	0.0
7	0	1.8	0	1.8	0	1.7	7	0	16.8	0	16.0	0	0.1
8	0	2.0	0	2.0	0	1.9	8	0	17.0	0	16.2	0	0.1
9	0	2.3	0	2.3	0	2.1	9	0	17.3	0	16.5	0	0.1
10	0	2.5	0	2.5	0	2.4	10	0	17.5	0	16.7	0	0.1
11	0	2.8	0	2.8	0	2.6	11	0	17.8	0	16.9	0	0.1
12	0	3.0	0	3.0	0	2.9	12	0	18.0	0	17.2	0	0.1
13	0	3.3	0	3.3	0	3.1	13	0	18.3	0	17.4	0	0.1
14	0	3.5	0	3.5	0	3.3	14	0	18.5	0	17.7	0	0.1
15	0	3.8	0	3.8	0	3.6	15	0	18.8	0	17.9	0	0.1
16	0	4.0	0	4.0	0	3.8	16	0	19.0	0	18.1	0	0.1
17	0	4.3	0	4.3	0	4.1	17	0	19.3	0	18.4	0	0.1
18	0	4.5	0	4.5	0	4.3	18	0	19.5	0	18.6	0	0.1
19	0	4.8	0	4.8	0	4.5	19	0	19.8	0	18.9	0	0.1
20	0	5.0	0	5.0	0	4.8	20	0	20.0	0	19.1	0	0.2
21	0	5.3	0	5.3	0	5.0	21	0	20.3	0	19.3	0	0.2
22	0	5.5	0	5.5	0	5.2	22	0	20.5	0	19.6	0	0.2
23	0	5.8	0	5.8	0	5.5	23	0	20.8	0	19.8	0	0.2
24	0	6.0	0	6.0	0	5.7	24	0	21.0	0	20.0	0	0.2
25	0	6.3	0	6.3	0	6.0	25	0	21.3	0	20.3	0	0.2
26	0	6.5	0	6.5	0	6.2	26	0	21.5	0	20.5	0	0.2
27	0	6.8	0	6.8	0	6.4	27	0	21.8	0	20.8	0	0.2
28	0	7.0	0	7.0	0	6.7	28	0	22.0	0	21.0	0	0.2
29	0	7.3	0	7.3	0	6.9	29	0	22.3	0	21.2	0	0.2
30	0	7.5	0	7.5	0	7.2	30	0	22.5	0	21.5	0	0.2
31	0	7.8	0	7.8	0	7.4	31	0	22.8	0	21.7	0	0.2
32	0	8.0	0	8.0	0	7.6	32	0	23.0	0	22.0	0	0.2
33	0	8.3	0	8.3	0	7.9	33	0	23.3	0	22.2	0	0.2
34	0	8.5	0	8.5	0	8.1	34	0	23.5	0	22.4	0	0.3
35	0	8.8	0	8.8	0	8.4	35	0	23.8	0	22.7	0	0.3
36	0	9.0	0	9.0	0	8.6	36	0	24.0	0	22.9	0	0.3
37	0	9.3	0	9.3	0	8.8	37	0	24.3	0	23.1	0	0.3
38	0	9.5	0	9.5	0	9.1	38	0	24.5	0	23.4	0	0.3
39	0	9.8	0	9.8	0	9.3	39	0	24.8	0	23.6	0	0.3
40	0	10.0	0	10.0	0	9.5	40	0	25.0	0	23.9	0	0.3
41	0	10.3	0	10.3	0	9.8	41	0	25.3	0	24.1	0	0.3
42	0	10.5	0	10.5	0	10.0	42	0	25.5	0	24.3	0	0.3
43	0	10.8	0	10.8	0	10.3	43	0	25.8	0	24.6	0	0.3
44	0	11.0	0	11.0	0	10.5	44	0	26.0	0	24.8	0	0.3
45	0	11.3	0	11.3	0	10.7	45	0	26.3	0	25.1	0	0.3
46	0	11.5	0	11.5	0	11.0	46	0	26.5	0	25.3	0	0.3
47	0	11.8	0	11.8	0	11.2	47	0	26.8	0	25.5	0	0.4
48	0	12.0	0	12.0	0	11.5	48	0	27.0	0	25.8	0	0.4
49	0	12.3	0	12.3	0	11.7	49	0	27.3	0	26.0	0	0.4
50	0	12.5	0	12.5	0	11.9	50	0	27.5	0	26.2	0	0.4
51	0	12.8	0	12.8	0	12.2	51	0	27.8	0	26.5	0	0.4
52	0	13.0	0	13.0	0	12.4	52	0	28.0	0	26.7	0	0.4
53	0	13.3	0	13.3	0	12.6	53	0	28.3	0	27.0	0	0.4
54	0	13.5	0	13.5	0	12.9	54	0	28.5	0	27.2	0	0.4
55	0	13.8	0	13.8	0	13.1	55	0	28.8	0	27.4	0	0.4
56	0	14.0	0	14.0	0	13.4	56	0	29.0	0	27.7	0	0.4
57	0	14.3	0	14.3	0	13.6	57	0	29.3	0	27.9	0	0.4
58	0	14.5	0	14.5	0	13.8	58	0	29.5	0	28.2	0	0.4
59	0	14.8	0	14.8	0	14.1	59	0	29.8	0	28.4	0	0.4
60	0	15.0	0	15.0	0	14.3	60	0	30.0	0	28.6	0	0.5

2 <sup>m</sup> Sol y planetas				Dif. Correc.		3 <sup>m</sup> Sol y planetas				Dif. Correc.							
	°	'	°	'			°	'	°	'							
0	0	30.0	0	30.1	0	28.6	0	0	0	45.0	0	45.1	0	43.0	0	0	0.0
1	0	30.3	0	30.3	0	28.9	3	0.0	1	0	45.3	0	45.4	0	43.2	3	0.0
2	0	30.5	0	30.6	0	29.1	6	0.0	2	0	45.5	0	45.6	0	43.4	6	0.0
3	0	30.8	0	30.8	0	29.3	9	0.0	3	0	45.8	0	45.9	0	43.7	9	0.1
4	0	31.0	0	31.1	0	29.6	12	0.1	4	0	46.0	0	46.1	0	43.9	12	0.1
5	0	31.3	0	31.3	0	29.8	15	0.1	5	0	46.3	0	46.4	0	44.1	15	0.1
6	0	31.5	0	31.6	0	30.1	18	0.1	6	0	46.5	0	46.6	0	44.4	18	0.1
7	0	31.8	0	31.8	0	30.3	21	0.1	7	0	46.8	0	46.9	0	44.6	21	0.1
8	0	32.0	0	32.1	0	30.5	24	0.1	8	0	47.0	0	47.1	0	44.9	24	0.1
9	0	32.3	0	32.3	0	30.8	27	0.1	9	0	47.3	0	47.4	0	45.1	27	0.2
10	0	32.5	0	32.6	0	31.0	30	0.1	10	0	47.5	0	47.6	0	45.3	30	0.2
11	0	32.8	0	32.8	0	31.3	33	0.1	11	0	47.8	0	47.9	0	45.6	33	0.2
12	0	33.0	0	33.1	0	31.5	36	0.2	12	0	48.0	0	48.1	0	45.8	36	0.2
13	0	33.3	0	33.3	0	31.7	39	0.2	13	0	48.3	0	48.4	0	46.1	39	0.2
14	0	33.5	0	33.6	0	32.0	42	0.2	14	0	48.5	0	48.6	0	46.3	42	0.2
15	0	33.8	0	33.8	0	32.2	45	0.2	15	0	48.8	0	48.9	0	46.5	45	0.3
16	0	34.0	0	34.1	0	32.5	48	0.2	16	0	49.0	0	49.1	0	46.8	48	0.3
17	0	34.3	0	34.3	0	32.7	51	0.2	17	0	49.3	0	49.4	0	47.0	51	0.3
18	0	34.5	0	34.6	0	32.9	54	0.2	18	0	49.5	0	49.6	0	47.2	54	0.3
19	0	34.8	0	34.8	0	33.2	57	0.2	19	0	49.8	0	49.9	0	47.5	57	0.3
20	0	35.0	0	35.1	0	33.4	60	0.3	20	0	50.0	0	50.1	0	47.7	60	0.4
21	0	35.3	0	35.3	0	33.6	63	0.3	21	0	50.3	0	50.4	0	48.0	63	0.4
22	0	35.5	0	35.6	0	33.9	66	0.3	22	0	50.5	0	50.6	0	48.2	66	0.4
23	0	35.8	0	35.8	0	34.1	69	0.3	23	0	50.8	0	50.9	0	48.4	69	0.4
24	0	36.0	0	36.1	0	34.4	72	0.3	24	0	51.0	0	51.1	0	48.7	72	0.4
25	0	36.3	0	36.3	0	34.6	75	0.3	25	0	51.3	0	51.4	0	48.9	75	0.4
26	0	36.5	0	36.6	0	34.8	78	0.3	26	0	51.5	0	51.6	0	49.2	78	0.5
27	0	36.8	0	36.9	0	35.1	81	0.3	27	0	51.8	0	51.9	0	49.4	81	0.5
28	0	37.0	0	37.1	0	35.3	84	0.4	28	0	52.0	0	52.1	0	49.6	84	0.5
29	0	37.3	0	37.4	0	35.6	87	0.4	29	0	52.3	0	52.4	0	49.9	87	0.5
30	0	37.5	0	37.6	0	35.8	90	0.4	30	0	52.5	0	52.6	0	50.1	90	0.5
31	0	37.8	0	37.9	0	36.0	93	0.4	31	0	52.8	0	52.9	0	50.3	93	0.5
32	0	38.0	0	38.1	0	36.3	96	0.4	32	0	53.0	0	53.1	0	50.6	96	0.6
33	0	38.3	0	38.4	0	36.5	99	0.4	33	0	53.3	0	53.4	0	50.8	99	0.6
34	0	38.5	0	38.6	0	36.7	102	0.4	34	0	53.5	0	53.6	0	51.1	102	0.6
35	0	38.8	0	38.9	0	37.0	105	0.4	35	0	53.8	0	53.9	0	51.3	105	0.6
36	0	39.0	0	39.1	0	37.2	108	0.5	36	0	54.0	0	54.1	0	51.5	108	0.6
37	0	39.3	0	39.4	0	37.5	111	0.5	37	0	54.3	0	54.4	0	51.8	111	0.6
38	0	39.5	0	39.6	0	37.7	114	0.5	38	0	54.5	0	54.6	0	52.0	114	0.7
39	0	39.8	0	39.9	0	37.9	117	0.5	39	0	54.8	0	54.9	0	52.3	117	0.7
40	0	40.0	0	40.1	0	38.2	120	0.5	40	0	55.0	0	55.2	0	52.5	120	0.7
41	0	40.3	0	40.4	0	38.4	123	0.5	41	0	55.3	0	55.4	0	52.7	123	0.7
42	0	40.5	0	40.6	0	38.7	126	0.5	42	0	55.5	0	55.7	0	53.0	126	0.7
43	0	40.8	0	40.9	0	38.9	129	0.5	43	0	55.8	0	55.9	0	53.2	129	0.8
44	0	41.0	0	41.1	0	39.1	132	0.6	44	0	56.0	0	56.2	0	53.4	132	0.8
45	0	41.3	0	41.4	0	39.4	135	0.6	45	0	56.3	0	56.4	0	53.7	135	0.8
46	0	41.5	0	41.6	0	39.6	138	0.6	46	0	56.5	0	56.7	0	53.9	138	0.8
47	0	41.8	0	41.9	0	39.8	141	0.6	47	0	56.8	0	56.9	0	54.2	141	0.8
48	0	42.0	0	42.1	0	40.1	144	0.6	48	0	57.0	0	57.2	0	54.4	144	0.8
49	0	42.3	0	42.4	0	40.3	147	0.6	49	0	57.3	0	57.4	0	54.6	147	0.9
50	0	42.5	0	42.6	0	40.6	150	0.6	50	0	57.5	0	57.7	0	54.9	150	0.9
51	0	42.8	0	42.9	0	40.8	153	0.6	51	0	57.8	0	57.9	0	55.1	153	0.9
52	0	43.0	0	43.1	0	41.0	156	0.7	52	0	58.0	0	58.2	0	55.4	156	0.9
53	0	43.3	0	43.4	0	41.3	159	0.7	53	0	58.3	0	58.4	0	55.6	159	0.9
54	0	43.5	0	43.6	0	41.5	162	0.7	54	0	58.5	0	58.7	0	55.8	162	0.9
55	0	43.8	0	43.9	0	41.8	165	0.7	55	0	58.8	0	58.9	0	56.1	165	1.0
56	0	44.0	0	44.1	0	42.0	168	0.7	56	0	59.0	0	59.2	0	56.3	168	1.0
57	0	44.3	0	44.4	0	42.2	171	0.7	57	0	59.3	0	59.4	0	56.6	171	1.0
58	0	44.5	0	44.6	0	42.5	174	0.7	58	0	59.5	0	59.7	0	56.8	174	1.0
59	0	44.8	0	44.9	0	42.7	177	0.7	59	0	59.8	0	59.9	0	57.0	177	1.0
60	0	45.0	0	45.1	0	43.0	180	0.8	60	1	0.0	1	0.2	0	57.3	180	1.1



4 <sup>m</sup>				Sol y planetas		Aries	Luna	Dif.	Correc.	5 <sup>m</sup>				Sol y planetas		Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	°	'		s	°	'	°	'	°	'	°	'	
0	1	0.0	1	0.2	0	57.3	0	0.0	0	1	15.0	1	15.2	1	11.6	0	0.0	0	0.0
1	1	0.3	1	0.4	0	57.5	3	0.0	1	1	15.3	1	15.5	1	11.8	3	0.0	1	0.0
2	1	0.5	1	0.7	0	57.7	6	0.0	2	1	15.5	1	15.7	1	12.1	6	0.1	2	0.1
3	1	0.8	1	0.9	0	58.0	9	0.1	3	1	15.8	1	16.0	1	12.3	9	0.1	3	0.1
4	1	1.0	1	1.2	0	58.2	12	0.1	4	1	16.0	1	16.2	1	12.5	12	0.1	4	0.1
5	1	1.3	1	1.4	0	58.5	15	0.1	5	1	16.3	1	16.5	1	12.8	15	0.1	5	0.1
6	1	1.5	1	1.7	0	58.7	18	0.1	6	1	16.5	1	16.7	1	13.0	18	0.2	6	0.2
7	1	1.8	1	1.9	0	58.9	21	0.2	7	1	16.8	1	17.0	1	13.3	21	0.2	7	0.2
8	1	2.0	1	2.2	0	59.2	24	0.2	8	1	17.0	1	17.2	1	13.5	24	0.2	8	0.2
9	1	2.3	1	2.4	0	59.4	27	0.2	9	1	17.3	1	17.5	1	13.7	27	0.2	9	0.2
10	1	2.5	1	2.7	0	59.7	30	0.2	10	1	17.5	1	17.7	1	14.0	30	0.3	10	0.3
11	1	2.8	1	2.9	0	59.9	33	0.2	11	1	17.8	1	18.0	1	14.2	33	0.3	11	0.3
12	1	3.0	1	3.2	1	0.1	36	0.3	12	1	18.0	1	18.2	1	14.4	36	0.3	12	0.3
13	1	3.3	1	3.4	1	0.4	39	0.3	13	1	18.3	1	18.5	1	14.7	39	0.4	13	0.4
14	1	3.5	1	3.7	1	0.6	42	0.3	14	1	18.5	1	18.7	1	14.9	42	0.4	14	0.4
15	1	3.8	1	3.9	1	0.8	45	0.3	15	1	18.8	1	19.0	1	15.2	45	0.4	15	0.4
16	1	4.0	1	4.2	1	1.1	48	0.4	16	1	19.0	1	19.2	1	15.4	48	0.4	16	0.4
17	1	4.3	1	4.4	1	1.3	51	0.4	17	1	19.3	1	19.5	1	15.6	51	0.5	17	0.5
18	1	4.5	1	4.7	1	1.6	54	0.4	18	1	19.5	1	19.7	1	15.9	54	0.5	18	0.5
19	1	4.8	1	4.9	1	1.8	57	0.4	19	1	19.8	1	20.0	1	16.1	57	0.5	19	0.5
20	1	5.0	1	5.2	1	2.0	60	0.5	20	1	20.0	1	20.2	1	16.4	60	0.6	20	0.6
21	1	5.3	1	5.4	1	2.3	63	0.5	21	1	20.3	1	20.5	1	16.6	63	0.6	21	0.6
22	1	5.5	1	5.7	1	2.5	66	0.5	22	1	20.5	1	20.7	1	16.8	66	0.6	22	0.6
23	1	5.8	1	5.9	1	2.8	69	0.5	23	1	20.8	1	21.0	1	17.1	69	0.6	23	0.6
24	1	6.0	1	6.2	1	3.0	72	0.5	24	1	21.0	1	21.2	1	17.3	72	0.7	24	0.7
25	1	6.3	1	6.4	1	3.2	75	0.6	25	1	21.3	1	21.5	1	17.5	75	0.7	25	0.7
26	1	6.5	1	6.7	1	3.5	78	0.6	26	1	21.5	1	21.7	1	17.8	78	0.7	26	0.7
27	1	6.8	1	6.9	1	3.7	81	0.6	27	1	21.8	1	22.0	1	18.0	81	0.7	27	0.7
28	1	7.0	1	7.2	1	3.9	84	0.6	28	1	22.0	1	22.2	1	18.3	84	0.8	28	0.8
29	1	7.3	1	7.4	1	4.2	87	0.7	29	1	22.3	1	22.5	1	18.5	87	0.8	29	0.8
30	1	7.5	1	7.7	1	4.4	90	0.7	30	1	22.5	1	22.7	1	18.7	90	0.8	30	0.8
31	1	7.8	1	7.9	1	4.7	93	0.7	31	1	22.8	1	23.0	1	19.0	93	0.9	31	0.9
32	1	8.0	1	8.2	1	4.9	96	0.7	32	1	23.0	1	23.2	1	19.2	96	0.9	32	0.9
33	1	8.3	1	8.4	1	5.1	99	0.7	33	1	23.3	1	23.5	1	19.5	99	0.9	33	0.9
34	1	8.5	1	8.7	1	5.4	102	0.8	34	1	23.5	1	23.7	1	19.7	102	0.9	34	0.9
35	1	8.8	1	8.9	1	5.6	105	0.8	35	1	23.8	1	24.0	1	19.9	105	1.0	35	1.0
36	1	9.0	1	9.2	1	5.9	108	0.8	36	1	24.0	1	24.2	1	20.2	108	1.0	36	1.0
37	1	9.3	1	9.4	1	6.1	111	0.8	37	1	24.3	1	24.5	1	20.4	111	1.0	37	1.0
38	1	9.5	1	9.7	1	6.3	114	0.9	38	1	24.5	1	24.7	1	20.7	114	1.0	38	1.0
39	1	9.8	1	9.9	1	6.6	117	0.9	39	1	24.8	1	25.0	1	20.9	117	1.1	39	1.1
40	1	10.0	1	10.2	1	6.8	120	0.9	40	1	25.0	1	25.2	1	21.1	120	1.1	40	1.1
41	1	10.3	1	10.4	1	7.0	123	0.9	41	1	25.3	1	25.5	1	21.4	123	1.1	41	1.1
42	1	10.5	1	10.7	1	7.3	126	0.9	42	1	25.5	1	25.7	1	21.6	126	1.2	42	1.2
43	1	10.8	1	10.9	1	7.5	129	1.0	43	1	25.8	1	26.0	1	21.8	129	1.2	43	1.2
44	1	11.0	1	11.2	1	7.8	132	1.0	44	1	26.0	1	26.2	1	22.1	132	1.2	44	1.2
45	1	11.3	1	11.4	1	8.0	135	1.0	45	1	26.3	1	26.5	1	22.3	135	1.2	45	1.2
46	1	11.5	1	11.7	1	8.2	138	1.0	46	1	26.5	1	26.7	1	22.6	138	1.3	46	1.3
47	1	11.8	1	11.9	1	8.5	141	1.1	47	1	26.8	1	27.0	1	22.8	141	1.3	47	1.3
48	1	12.0	1	12.2	1	8.7	144	1.1	48	1	27.0	1	27.2	1	23.0	144	1.3	48	1.3
49	1	12.3	1	12.4	1	9.0	147	1.1	49	1	27.3	1	27.5	1	23.3	147	1.3	49	1.3
50	1	12.5	1	12.7	1	9.2	150	1.1	50	1	27.5	1	27.7	1	23.5	150	1.4	50	1.4
51	1	12.8	1	12.9	1	9.4	153	1.1	51	1	27.8	1	28.0	1	23.8	153	1.4	51	1.4
52	1	13.0	1	13.2	1	9.7	156	1.2	52	1	28.0	1	28.2	1	24.0	156	1.4	52	1.4
53	1	13.3	1	13.5	1	9.9	159	1.2	53	1	28.3	1	28.5	1	24.2	159	1.5	53	1.5
54	1	13.5	1	13.7	1	10.2	162	1.2	54	1	28.5	1	28.7	1	24.5	162	1.5	54	1.5
55	1	13.8	1	14.0	1	10.4	165	1.2	55	1	28.8	1	29.0	1	24.7	165	1.5	55	1.5
56	1	14.0	1	14.2	1	10.6	168	1.3	56	1	29.0	1	29.2	1	24.9	168	1.5	56	1.5
57	1	14.3	1	14.5	1	10.9	171	1.3	57	1	29.3	1	29.5	1	25.2	171	1.6	57	1.6
58	1	14.5	1	14.7	1	11.1	174	1.3	58	1	29.5	1	29.7	1	25.4	174	1.6	58	1.6
59	1	14.8	1	15.0	1	11.3	177	1.3	59	1	29.8	1	30.0	1	25.7	177	1.6	59	1.6
60	1	15.0	1	15.2	1	11.6	180	1.4	60	1	30.0	1	30.2	1	25.9	180	1.7	60	1.7

6 <sup>m</sup> Sol y planetas				Dif.	Correc.	7 <sup>m</sup> Sol y planetas				Dif.	Correc.
Aries	Luna					Aries	Luna				
0	1 30.0	1 30.2	1 25.9	0	0.0	0	1 45.0	1 45.3	1 40.2	0	0.0
1	1 30.3	1 30.5	1 26.1	3	0.0	1	1 45.3	1 45.5	1 40.5	3	0.0
2	1 30.5	1 30.7	1 26.4	6	0.1	2	1 45.5	1 45.8	1 40.7	6	0.1
3	1 30.8	1 31.0	1 26.6	9	0.1	3	1 45.8	1 46.0	1 40.9	9	0.1
4	1 31.0	1 31.2	1 26.9	12	0.1	4	1 46.0	1 46.3	1 41.2	12	0.2
5	1 31.3	1 31.5	1 27.1	15	0.2	5	1 46.3	1 46.5	1 41.4	15	0.2
6	1 31.5	1 31.8	1 27.3	18	0.2	6	1 46.5	1 46.8	1 41.6	18	0.2
7	1 31.8	1 32.0	1 27.6	21	0.2	7	1 46.8	1 47.0	1 41.9	21	0.3
8	1 32.0	1 32.3	1 27.8	24	0.3	8	1 47.0	1 47.3	1 42.1	24	0.3
9	1 32.3	1 32.5	1 28.0	27	0.3	9	1 47.3	1 47.5	1 42.4	27	0.3
10	1 32.5	1 32.8	1 28.3	30	0.3	10	1 47.5	1 47.8	1 42.6	30	0.4
11	1 32.8	1 33.0	1 28.5	33	0.4	11	1 47.8	1 48.0	1 42.8	33	0.4
12	1 33.0	1 33.3	1 28.8	36	0.4	12	1 48.0	1 48.3	1 43.1	36	0.5
13	1 33.3	1 33.5	1 29.0	39	0.4	13	1 48.3	1 48.5	1 43.3	39	0.5
14	1 33.5	1 33.8	1 29.2	42	0.5	14	1 48.5	1 48.8	1 43.6	42	0.5
15	1 33.8	1 34.0	1 29.5	45	0.5	15	1 48.8	1 49.0	1 43.8	45	0.6
16	1 34.0	1 34.3	1 29.7	48	0.5	16	1 49.0	1 49.3	1 44.0	48	0.6
17	1 34.3	1 34.5	1 30.0	51	0.6	17	1 49.3	1 49.5	1 44.3	51	0.6
18	1 34.5	1 34.8	1 30.2	54	0.6	18	1 49.5	1 49.8	1 44.5	54	0.7
19	1 34.8	1 35.0	1 30.4	57	0.6	19	1 49.8	1 50.1	1 44.8	57	0.7
20	1 35.0	1 35.3	1 30.7	60	0.7	20	1 50.0	1 50.3	1 45.0	60	0.8
21	1 35.3	1 35.5	1 30.9	63	0.7	21	1 50.3	1 50.6	1 45.2	63	0.8
22	1 35.5	1 35.8	1 31.1	66	0.7	22	1 50.5	1 50.8	1 45.5	66	0.8
23	1 35.8	1 36.0	1 31.4	69	0.7	23	1 50.8	1 51.1	1 45.7	69	0.9
24	1 36.0	1 36.3	1 31.6	72	0.8	24	1 51.0	1 51.3	1 45.9	72	0.9
25	1 36.3	1 36.5	1 31.9	75	0.8	25	1 51.3	1 51.6	1 46.2	75	0.9
26	1 36.5	1 36.8	1 32.1	78	0.8	26	1 51.5	1 51.8	1 46.4	78	1.0
27	1 36.8	1 37.0	1 32.3	81	0.9	27	1 51.8	1 52.1	1 46.7	81	1.0
28	1 37.0	1 37.3	1 32.6	84	0.9	28	1 52.0	1 52.3	1 46.9	84	1.1
29	1 37.3	1 37.5	1 32.8	87	0.9	29	1 52.3	1 52.6	1 47.1	87	1.1
30	1 37.5	1 37.8	1 33.1	90	1.0	30	1 52.5	1 52.8	1 47.4	90	1.1
31	1 37.8	1 38.0	1 33.3	93	1.0	31	1 52.8	1 53.1	1 47.6	93	1.2
32	1 38.0	1 38.3	1 33.5	96	1.0	32	1 53.0	1 53.3	1 47.9	96	1.2
33	1 38.3	1 38.5	1 33.8	99	1.1	33	1 53.3	1 53.6	1 48.1	99	1.2
34	1 38.5	1 38.8	1 34.0	102	1.1	34	1 53.5	1 53.8	1 48.3	102	1.3
35	1 38.8	1 39.0	1 34.3	105	1.1	35	1 53.8	1 54.1	1 48.6	105	1.3
36	1 39.0	1 39.3	1 34.5	108	1.2	36	1 54.0	1 54.3	1 48.8	108	1.4
37	1 39.3	1 39.5	1 34.7	111	1.2	37	1 54.3	1 54.6	1 49.0	111	1.4
38	1 39.5	1 39.8	1 35.0	114	1.2	38	1 54.5	1 54.8	1 49.3	114	1.4
39	1 39.8	1 40.0	1 35.2	117	1.3	39	1 54.8	1 55.1	1 49.5	117	1.5
40	1 40.0	1 40.3	1 35.4	120	1.3	40	1 55.0	1 55.3	1 49.8	120	1.5
41	1 40.3	1 40.5	1 35.7	123	1.3	41	1 55.3	1 55.6	1 50.0	123	1.5
42	1 40.5	1 40.8	1 35.9	126	1.4	42	1 55.5	1 55.8	1 50.2	126	1.6
43	1 40.8	1 41.0	1 36.2	129	1.4	43	1 55.8	1 56.1	1 50.5	129	1.6
44	1 41.0	1 41.3	1 36.4	132	1.4	44	1 56.0	1 56.3	1 50.7	132	1.7
45	1 41.3	1 41.5	1 36.6	135	1.5	45	1 56.3	1 56.6	1 51.0	135	1.7
46	1 41.5	1 41.8	1 36.9	138	1.5	46	1 56.5	1 56.8	1 51.2	138	1.7
47	1 41.8	1 42.0	1 37.1	141	1.5	47	1 56.8	1 57.1	1 51.4	141	1.8
48	1 42.0	1 42.3	1 37.4	144	1.6	48	1 57.0	1 57.3	1 51.7	144	1.8
49	1 42.3	1 42.5	1 37.6	147	1.6	49	1 57.3	1 57.6	1 51.9	147	1.8
50	1 42.5	1 42.8	1 37.8	150	1.6	50	1 57.5	1 57.8	1 52.1	150	1.9
51	1 42.8	1 43.0	1 38.1	153	1.7	51	1 57.8	1 58.1	1 52.4	153	1.9
52	1 43.0	1 43.3	1 38.3	156	1.7	52	1 58.0	1 58.3	1 52.6	156	2.0
53	1 43.3	1 43.5	1 38.5	159	1.7	53	1 58.3	1 58.6	1 52.9	159	2.0
54	1 43.5	1 43.8	1 38.8	162	1.8	54	1 58.5	1 58.8	1 53.1	162	2.0
55	1 43.8	1 44.0	1 39.0	165	1.8	55	1 58.8	1 59.1	1 53.3	165	2.1
56	1 44.0	1 44.3	1 39.3	168	1.8	56	1 59.0	1 59.3	1 53.6	168	2.1
57	1 44.3	1 44.5	1 39.5	171	1.9	57	1 59.3	1 59.6	1 53.8	171	2.1
58	1 44.5	1 44.8	1 39.7	174	1.9	58	1 59.5	1 59.8	1 54.1	174	2.2
59	1 44.8	1 45.0	1 40.0	177	1.9	59	1 59.8	2 0.1	1 54.3	177	2.2
60	1 45.0	1 45.3	1 40.2	180	2.0	60	2 0.0	2 0.3	1 54.5	180	2.3

<b>8<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.	<b>9<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'
0	2	0.0	2	0.3	1	54.5	0	0.0	0	2	15.0	2	8.9	0	0.0
1	2	0.3	2	0.6	1	54.8	3	0.0	1	2	15.3	2	9.1	3	0.0
2	2	0.5	2	0.8	1	55.0	6	0.1	2	2	15.5	2	9.3	6	0.1
3	2	0.8	2	1.1	1	55.2	9	0.1	3	2	15.8	2	9.6	9	0.1
4	2	1.0	2	1.3	1	55.5	12	0.2	4	2	16.0	2	9.8	12	0.2
5	2	1.3	2	1.6	1	55.7	15	0.2	5	2	16.3	2	10.0	15	0.2
6	2	1.5	2	1.8	1	56.0	18	0.3	6	2	16.5	2	10.3	18	0.3
7	2	1.8	2	2.1	1	56.2	21	0.3	7	2	16.8	2	10.5	21	0.3
8	2	2.0	2	2.3	1	56.4	24	0.3	8	2	17.0	2	10.8	24	0.4
9	2	2.3	2	2.6	1	56.7	27	0.4	9	2	17.3	2	11.0	27	0.4
10	2	2.5	2	2.8	1	56.9	30	0.4	10	2	17.5	2	11.2	30	0.5
11	2	2.8	2	3.1	1	57.2	33	0.5	11	2	17.8	2	11.5	33	0.5
12	2	3.0	2	3.3	1	57.4	36	0.5	12	2	18.0	2	11.7	36	0.6
13	2	3.3	2	3.6	1	57.6	39	0.6	13	2	18.3	2	12.0	39	0.6
14	2	3.5	2	3.8	1	57.9	42	0.6	14	2	18.5	2	12.2	42	0.7
15	2	3.8	2	4.1	1	58.1	45	0.6	15	2	18.8	2	12.4	45	0.7
16	2	4.0	2	4.3	1	58.4	48	0.7	16	2	19.0	2	12.7	48	0.8
17	2	4.3	2	4.6	1	58.6	51	0.7	17	2	19.3	2	12.9	51	0.8
18	2	4.5	2	4.8	1	58.8	54	0.8	18	2	19.5	2	13.1	54	0.9
19	2	4.8	2	5.1	1	59.1	57	0.8	19	2	19.8	2	13.4	57	0.9
20	2	5.0	2	5.3	1	59.3	60	0.9	20	2	20.0	2	13.6	60	1.0
21	2	5.3	2	5.6	1	59.5	63	0.9	21	2	20.3	2	13.9	63	1.0
22	2	5.5	2	5.8	1	59.8	66	0.9	22	2	20.5	2	14.1	66	1.0
23	2	5.8	2	6.1	2	0.0	69	1.0	23	2	20.8	2	14.3	69	1.1
24	2	6.0	2	6.3	2	0.3	72	1.0	24	2	21.0	2	14.6	72	1.1
25	2	6.3	2	6.6	2	0.5	75	1.1	25	2	21.3	2	14.8	75	1.2
26	2	6.5	2	6.8	2	0.7	78	1.1	26	2	21.5	2	15.1	78	1.2
27	2	6.8	2	7.1	2	1.0	81	1.1	27	2	21.8	2	15.3	81	1.3
28	2	7.0	2	7.3	2	1.2	84	1.2	28	2	22.0	2	15.5	84	1.3
29	2	7.3	2	7.6	2	1.5	87	1.2	29	2	22.3	2	15.8	87	1.4
30	2	7.5	2	7.8	2	1.7	90	1.3	30	2	22.5	2	16.0	90	1.4
31	2	7.8	2	8.1	2	1.9	93	1.3	31	2	22.8	2	16.2	93	1.5
32	2	8.0	2	8.4	2	2.2	96	1.4	32	2	23.0	2	16.5	96	1.5
33	2	8.3	2	8.6	2	2.4	99	1.4	33	2	23.3	2	16.7	99	1.6
34	2	8.5	2	8.9	2	2.6	102	1.4	34	2	23.5	2	17.0	102	1.6
35	2	8.8	2	9.1	2	2.9	105	1.5	35	2	23.8	2	17.2	105	1.7
36	2	9.0	2	9.4	2	3.1	108	1.5	36	2	24.0	2	17.4	108	1.7
37	2	9.3	2	9.6	2	3.4	111	1.6	37	2	24.3	2	17.7	111	1.8
38	2	9.5	2	9.9	2	3.6	114	1.6	38	2	24.5	2	17.9	114	1.8
39	2	9.8	2	10.1	2	3.8	117	1.7	39	2	24.8	2	18.2	117	1.9
40	2	10.0	2	10.4	2	4.1	120	1.7	40	2	25.0	2	18.4	120	1.9
41	2	10.3	2	10.6	2	4.3	123	1.7	41	2	25.3	2	18.6	123	1.9
42	2	10.5	2	10.9	2	4.6	126	1.8	42	2	25.5	2	18.9	126	2.0
43	2	10.8	2	11.1	2	4.8	129	1.8	43	2	25.8	2	19.1	129	2.0
44	2	11.0	2	11.4	2	5.0	132	1.9	44	2	26.0	2	19.3	132	2.1
45	2	11.3	2	11.6	2	5.3	135	1.9	45	2	26.3	2	19.6	135	2.1
46	2	11.5	2	11.9	2	5.5	138	2.0	46	2	26.5	2	19.8	138	2.2
47	2	11.8	2	12.1	2	5.7	141	2.0	47	2	26.8	2	20.1	141	2.2
48	2	12.0	2	12.4	2	6.0	144	2.0	48	2	27.0	2	20.3	144	2.3
49	2	12.3	2	12.6	2	6.2	147	2.1	49	2	27.3	2	20.5	147	2.3
50	2	12.5	2	12.9	2	6.5	150	2.1	50	2	27.5	2	20.8	150	2.4
51	2	12.8	2	13.1	2	6.7	153	2.2	51	2	27.8	2	21.0	153	2.4
52	2	13.0	2	13.4	2	6.9	156	2.2	52	2	28.0	2	21.3	156	2.5
53	2	13.3	2	13.6	2	7.2	159	2.3	53	2	28.3	2	21.5	159	2.5
54	2	13.5	2	13.9	2	7.4	162	2.3	54	2	28.5	2	21.7	162	2.6
55	2	13.8	2	14.1	2	7.7	165	2.3	55	2	28.8	2	22.0	165	2.6
56	2	14.0	2	14.4	2	7.9	168	2.4	56	2	29.0	2	22.2	168	2.7
57	2	14.3	2	14.6	2	8.1	171	2.4	57	2	29.3	2	22.5	171	2.7
58	2	14.5	2	14.9	2	8.4	174	2.5	58	2	29.5	2	22.7	174	2.8
59	2	14.8	2	15.1	2	8.6	177	2.5	59	2	29.8	2	22.9	177	2.8
60	2	15.0	2	15.4	2	8.9	180	2.6	60	2	30.0	2	23.2	180	2.9

10 <sup>m</sup>				Dif. Correc.		11 <sup>m</sup>				Dif. Correc.	
Sol y planetas		Aries	Luna			Sol y planetas		Aries	Luna		
s	° / ' / "	° / ' / "	° / ' / "	0	' / "	s	° / ' / "	° / ' / "	° / ' / "	0	' / "
0	2 30.0	2 30.4	2 23.2	0	0.0	0	2 45.0	2 45.5	2 37.5	0	0.0
1	2 30.3	2 30.7	2 23.4	3	0.1	1	2 45.3	2 45.7	2 37.7	3	0.1
2	2 30.5	2 30.9	2 23.6	6	0.1	2	2 45.5	2 46.0	2 38.0	6	0.1
3	2 30.8	2 31.2	2 23.9	9	0.2	3	2 45.8	2 46.2	2 38.2	9	0.2
4	2 31.0	2 31.4	2 24.1	12	0.2	4	2 46.0	2 46.5	2 38.4	12	0.2
5	2 31.3	2 31.7	2 24.4	15	0.3	5	2 46.3	2 46.7	2 38.7	15	0.3
6	2 31.5	2 31.9	2 24.6	18	0.3	6	2 46.5	2 47.0	2 38.9	18	0.3
7	2 31.8	2 32.2	2 24.8	21	0.4	7	2 46.8	2 47.2	2 39.2	21	0.4
8	2 32.0	2 32.4	2 25.1	24	0.4	8	2 47.0	2 47.5	2 39.4	24	0.5
9	2 32.3	2 32.7	2 25.3	27	0.5	9	2 47.3	2 47.7	2 39.6	27	0.5
10	2 32.5	2 32.9	2 25.6	30	0.5	10	2 47.5	2 48.0	2 39.9	30	0.6
11	2 32.8	2 33.2	2 25.8	33	0.6	11	2 47.8	2 48.2	2 40.1	33	0.6
12	2 33.0	2 33.4	2 26.0	36	0.6	12	2 48.0	2 48.5	2 40.3	36	0.7
13	2 33.3	2 33.7	2 26.3	39	0.7	13	2 48.3	2 48.7	2 40.6	39	0.7
14	2 33.5	2 33.9	2 26.5	42	0.7	14	2 48.5	2 49.0	2 40.8	42	0.8
15	2 33.8	2 34.2	2 26.7	45	0.8	15	2 48.8	2 49.2	2 41.1	45	0.9
16	2 34.0	2 34.4	2 27.0	48	0.8	16	2 49.0	2 49.5	2 41.3	48	0.9
17	2 34.3	2 34.7	2 27.2	51	0.9	17	2 49.3	2 49.7	2 41.5	51	1.0
18	2 34.5	2 34.9	2 27.5	54	0.9	18	2 49.5	2 50.0	2 41.8	54	1.0
19	2 34.8	2 35.2	2 27.7	57	1.0	19	2 49.8	2 50.2	2 42.0	57	1.1
20	2 35.0	2 35.4	2 27.9	60	1.1	20	2 50.0	2 50.5	2 42.3	60	1.2
21	2 35.3	2 35.7	2 28.2	63	1.1	21	2 50.3	2 50.7	2 42.5	63	1.2
22	2 35.5	2 35.9	2 28.4	66	1.2	22	2 50.5	2 51.0	2 42.7	66	1.3
23	2 35.8	2 36.2	2 28.7	69	1.2	23	2 50.8	2 51.2	2 43.0	69	1.3
24	2 36.0	2 36.4	2 28.9	72	1.3	24	2 51.0	2 51.5	2 43.2	72	1.4
25	2 36.3	2 36.7	2 29.1	75	1.3	25	2 51.3	2 51.7	2 43.4	75	1.4
26	2 36.5	2 36.9	2 29.4	78	1.4	26	2 51.5	2 52.0	2 43.7	78	1.5
27	2 36.8	2 37.2	2 29.6	81	1.4	27	2 51.8	2 52.2	2 43.9	81	1.6
28	2 37.0	2 37.4	2 29.8	84	1.5	28	2 52.0	2 52.5	2 44.2	84	1.6
29	2 37.3	2 37.7	2 30.1	87	1.5	29	2 52.3	2 52.7	2 44.4	87	1.7
30	2 37.5	2 37.9	2 30.3	90	1.6	30	2 52.5	2 53.0	2 44.6	90	1.7
31	2 37.8	2 38.2	2 30.6	93	1.6	31	2 52.8	2 53.2	2 44.9	93	1.8
32	2 38.0	2 38.4	2 30.8	96	1.7	32	2 53.0	2 53.5	2 45.1	96	1.8
33	2 38.3	2 38.7	2 31.0	99	1.7	33	2 53.3	2 53.7	2 45.4	99	1.9
34	2 38.5	2 38.9	2 31.3	102	1.8	34	2 53.5	2 54.0	2 45.6	102	2.0
35	2 38.8	2 39.2	2 31.5	105	1.8	35	2 53.8	2 54.2	2 45.8	105	2.0
36	2 39.0	2 39.4	2 31.8	108	1.9	36	2 54.0	2 54.5	2 46.1	108	2.1
37	2 39.3	2 39.7	2 32.0	111	1.9	37	2 54.3	2 54.7	2 46.3	111	2.1
38	2 39.5	2 39.9	2 32.2	114	2.0	38	2 54.5	2 55.0	2 46.6	114	2.2
39	2 39.8	2 40.2	2 32.5	117	2.0	39	2 54.8	2 55.2	2 46.8	117	2.2
40	2 40.0	2 40.4	2 32.7	120	2.1	40	2 55.0	2 55.5	2 47.0	120	2.3
41	2 40.3	2 40.7	2 32.9	123	2.2	41	2 55.3	2 55.7	2 47.3	123	2.4
42	2 40.5	2 40.9	2 33.2	126	2.2	42	2 55.5	2 56.0	2 47.5	126	2.4
43	2 40.8	2 41.2	2 33.4	129	2.3	43	2 55.8	2 56.2	2 47.7	129	2.5
44	2 41.0	2 41.4	2 33.7	132	2.3	44	2 56.0	2 56.5	2 48.0	132	2.5
45	2 41.3	2 41.7	2 33.9	135	2.4	45	2 56.3	2 56.7	2 48.2	135	2.6
46	2 41.5	2 41.9	2 34.1	138	2.4	46	2 56.5	2 57.0	2 48.5	138	2.6
47	2 41.8	2 42.2	2 34.4	141	2.5	47	2 56.8	2 57.2	2 48.7	141	2.7
48	2 42.0	2 42.4	2 34.6	144	2.5	48	2 57.0	2 57.5	2 48.9	144	2.8
49	2 42.3	2 42.7	2 34.9	147	2.6	49	2 57.3	2 57.7	2 49.2	147	2.8
50	2 42.5	2 42.9	2 35.1	150	2.6	50	2 57.5	2 58.0	2 49.4	150	2.9
51	2 42.8	2 43.2	2 35.3	153	2.7	51	2 57.8	2 58.2	2 49.7	153	2.9
52	2 43.0	2 43.4	2 35.6	156	2.7	52	2 58.0	2 58.5	2 49.9	156	3.0
53	2 43.3	2 43.7	2 35.8	159	2.8	53	2 58.3	2 58.7	2 50.1	159	3.0
54	2 43.5	2 43.9	2 36.1	162	2.8	54	2 58.5	2 59.0	2 50.4	162	3.1
55	2 43.8	2 44.2	2 36.3	165	2.9	55	2 58.8	2 59.2	2 50.6	165	3.2
56	2 44.0	2 44.4	2 36.5	168	2.9	56	2 59.0	2 59.5	2 50.8	168	3.2
57	2 44.3	2 44.7	2 36.8	171	3.0	57	2 59.3	2 59.7	2 51.1	171	3.3
58	2 44.5	2 45.0	2 37.0	174	3.0	58	2 59.5	3 0.0	2 51.3	174	3.3
59	2 44.8	2 45.2	2 37.2	177	3.1	59	2 59.8	3 0.2	2 51.6	177	3.4
60	2 45.0	2 45.5	2 37.5	180	3.2	60	3 0.0	3 0.5	2 51.8	180	3.5

12 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.		13 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.											
s	°	'	°	'	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	3	0.0	3	0.5	2	51.8	0	0.0	0	3	15.0	3	15.5	3	6.1	0	0.0																
1	3	0.3	3	0.7	2	52.0	3	0.1	1	3	15.3	3	15.8	3	6.4	3	0.1																
2	3	0.5	3	1.0	2	52.3	6	0.1	2	3	15.5	3	16.0	3	6.6	6	0.1																
3	3	0.8	3	1.2	2	52.5	9	0.2	3	3	15.8	3	16.3	3	6.8	9	0.2																
4	3	1.0	3	1.5	2	52.8	12	0.3	4	3	16.0	3	16.5	3	7.1	12	0.3																
5	3	1.3	3	1.7	2	53.0	15	0.3	5	3	16.3	3	16.8	3	7.3	15	0.3																
6	3	1.5	3	2.0	2	53.2	18	0.4	6	3	16.5	3	17.0	3	7.5	18	0.4																
7	3	1.8	3	2.2	2	53.5	21	0.4	7	3	16.8	3	17.3	3	7.8	21	0.5																
8	3	2.0	3	2.5	2	53.7	24	0.5	8	3	17.0	3	17.5	3	8.0	24	0.5																
9	3	2.3	3	2.7	2	53.9	27	0.6	9	3	17.3	3	17.8	3	8.3	27	0.6																
10	3	2.5	3	3.0	2	54.2	30	0.6	10	3	17.5	3	18.0	3	8.5	30	0.7																
11	3	2.8	3	3.3	2	54.4	33	0.7	11	3	17.8	3	18.3	3	8.7	33	0.7																
12	3	3.0	3	3.5	2	54.7	36	0.8	12	3	18.0	3	18.5	3	9.0	36	0.8																
13	3	3.3	3	3.8	2	54.9	39	0.8	13	3	18.3	3	18.8	3	9.2	39	0.9																
14	3	3.5	3	4.0	2	55.1	42	0.9	14	3	18.5	3	19.0	3	9.5	42	0.9																
15	3	3.8	3	4.3	2	55.4	45	0.9	15	3	18.8	3	19.3	3	9.7	45	1.0																
16	3	4.0	3	4.5	2	55.6	48	1.0	16	3	19.0	3	19.5	3	9.9	48	1.1																
17	3	4.3	3	4.8	2	55.9	51	1.1	17	3	19.3	3	19.8	3	10.2	51	1.1																
18	3	4.5	3	5.0	2	56.1	54	1.1	18	3	19.5	3	20.0	3	10.4	54	1.2																
19	3	4.8	3	5.3	2	56.3	57	1.2	19	3	19.8	3	20.3	3	10.7	57	1.3																
20	3	5.0	3	5.5	2	56.6	60	1.3	20	3	20.0	3	20.5	3	10.9	60	1.4																
21	3	5.3	3	5.8	2	56.8	63	1.3	21	3	20.3	3	20.8	3	11.1	63	1.4																
22	3	5.5	3	6.0	2	57.0	66	1.4	22	3	20.5	3	21.0	3	11.4	66	1.5																
23	3	5.8	3	6.3	2	57.3	69	1.4	23	3	20.8	3	21.3	3	11.6	69	1.6																
24	3	6.0	3	6.5	2	57.5	72	1.5	24	3	21.0	3	21.6	3	11.8	72	1.6																
25	3	6.3	3	6.8	2	57.8	75	1.6	25	3	21.3	3	21.8	3	12.1	75	1.7																
26	3	6.5	3	7.0	2	58.0	78	1.6	26	3	21.5	3	22.1	3	12.3	78	1.8																
27	3	6.8	3	7.3	2	58.2	81	1.7	27	3	21.8	3	22.3	3	12.6	81	1.8																
28	3	7.0	3	7.5	2	58.5	84	1.8	28	3	22.0	3	22.6	3	12.8	84	1.9																
29	3	7.3	3	7.8	2	58.7	87	1.8	29	3	22.3	3	22.8	3	13.0	87	2.0																
30	3	7.5	3	8.0	2	59.0	90	1.9	30	3	22.5	3	23.1	3	13.3	90	2.0																
31	3	7.8	3	8.3	2	59.2	93	1.9	31	3	22.8	3	23.3	3	13.5	93	2.1																
32	3	8.0	3	8.5	2	59.4	96	2.0	32	3	23.0	3	23.6	3	13.8	96	2.2																
33	3	8.3	3	8.8	2	59.7	99	2.1	33	3	23.3	3	23.8	3	14.0	99	2.2																
34	3	8.5	3	9.0	2	59.9	102	2.1	34	3	23.5	3	24.1	3	14.2	102	2.3																
35	3	8.8	3	9.3	3	0.2	105	2.2	35	3	23.8	3	24.3	3	14.5	105	2.4																
36	3	9.0	3	9.5	3	0.4	108	2.3	36	3	24.0	3	24.6	3	14.7	108	2.4																
37	3	9.3	3	9.8	3	0.6	111	2.3	37	3	24.3	3	24.8	3	14.9	111	2.5																
38	3	9.5	3	10.0	3	0.9	114	2.4	38	3	24.5	3	25.1	3	15.2	114	2.6																
39	3	9.8	3	10.3	3	1.1	117	2.4	39	3	24.8	3	25.3	3	15.4	117	2.6																
40	3	10.0	3	10.5	3	1.3	120	2.5	40	3	25.0	3	25.6	3	15.7	120	2.7																
41	3	10.3	3	10.8	3	1.6	123	2.6	41	3	25.3	3	25.8	3	15.9	123	2.8																
42	3	10.5	3	11.0	3	1.8	126	2.6	42	3	25.5	3	26.1	3	16.1	126	2.8																
43	3	10.8	3	11.3	3	2.1	129	2.7	43	3	25.8	3	26.3	3	16.4	129	2.9																
44	3	11.0	3	11.5	3	2.3	132	2.8	44	3	26.0	3	26.6	3	16.6	132	3.0																
45	3	11.3	3	11.8	3	2.5	135	2.8	45	3	26.3	3	26.8	3	16.9	135	3.0																
46	3	11.5	3	12.0	3	2.8	138	2.9	46	3	26.5	3	27.1	3	17.1	138	3.1																
47	3	11.8	3	12.3	3	3.0	141	2.9	47	3	26.8	3	27.3	3	17.3	141	3.2																
48	3	12.0	3	12.5	3	3.3	144	3.0	48	3	27.0	3	27.6	3	17.6	144	3.2																
49	3	12.3	3	12.8	3	3.5	147	3.1	49	3	27.3	3	27.8	3	17.8	147	3.3																
50	3	12.5	3	13.0	3	3.7	150	3.1	50	3	27.5	3	28.1	3	18.0	150	3.4																
51	3	12.8	3	13.3	3	4.0	153	3.2	51	3	27.8	3	28.3	3	18.3	153	3.4																
52	3	13.0	3	13.5	3	4.2	156	3.3	52	3	28.0	3	28.6	3	18.5	156	3.5																
53	3	13.3	3	13.8	3	4.4	159	3.3	53	3	28.3	3	28.8	3	18.8	159	3.6																
54	3	13.5	3	14.0	3	4.7	162	3.4	54	3	28.5	3	29.1	3	19.0	162	3.6																
55	3	13.8	3	14.3	3	4.9	165	3.4	55	3	28.8	3	29.3	3	19.2	165	3.7																
56	3	14.0	3	14.5	3	5.2	168	3.5	56	3	29.0	3	29.6	3	19.5	168	3.8																
57	3	14.3	3	14.8	3	5.4	171	3.6	57	3	29.3	3	29.8	3	19.7	171	3.8																
58	3	14.5	3	15.0	3	5.6	174	3.6	58	3	29.5	3	30.1	3	20.0	174	3.9																
59	3	14.8	3	15.3	3	5.9	177	3.7	59	3	29.8	3	0.3	3	20.2	177	4.0																
60	3	15.0	3	15.5	3	6.1	180	3.8	60	3	30.0	3	30.6	3	20.4	180	4.1																

14 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.		15 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.											
s	°	'	°	'	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	3	30.0	3	30.6	3	20.4	0	0.0	0	3	45.0	3	45.6	3	34.8	0	0.0																
1	3	30.3	3	30.8	3	20.7	3	0.1	1	3	45.3	3	45.9	3	35.0	3	0.1																
2	3	30.5	3	31.1	3	20.9	6	0.1	2	3	45.5	3	46.1	3	35.2	6	0.2																
3	3	30.8	3	31.3	3	21.1	9	0.2	3	3	45.8	3	46.4	3	35.5	9	0.2																
4	3	31.0	3	31.6	3	21.4	12	0.3	4	3	46.0	3	46.6	3	35.7	12	0.3																
5	3	31.3	3	31.8	3	21.6	15	0.4	5	3	46.3	3	46.9	3	35.9	15	0.4																
6	3	31.5	3	32.1	3	21.9	18	0.4	6	3	46.5	3	47.1	3	36.2	18	0.5																
7	3	31.8	3	32.3	3	22.1	21	0.5	7	3	46.8	3	47.4	3	36.4	21	0.5																
8	3	32.0	3	32.6	3	22.3	24	0.6	8	3	47.0	3	47.6	3	36.7	24	0.6																
9	3	32.3	3	32.8	3	22.6	27	0.7	9	3	47.3	3	47.9	3	36.9	27	0.7																
10	3	32.5	3	33.1	3	22.8	30	0.7	10	3	47.5	3	48.1	3	37.1	30	0.8																
11	3	32.8	3	33.3	3	23.1	33	0.8	11	3	47.8	3	48.4	3	37.4	33	0.9																
12	3	33.0	3	33.6	3	23.3	36	0.9	12	3	48.0	3	48.6	3	37.6	36	0.9																
13	3	33.3	3	33.8	3	23.5	39	0.9	13	3	48.3	3	48.9	3	37.9	39	1.0																
14	3	33.5	3	34.1	3	23.8	42	1.0	14	3	48.5	3	49.1	3	38.1	42	1.1																
15	3	33.8	3	34.3	3	24.0	45	1.1	15	3	48.8	3	49.4	3	38.3	45	1.2																
16	3	34.0	3	34.6	3	24.3	48	1.2	16	3	49.0	3	49.6	3	38.6	48	1.2																
17	3	34.3	3	34.8	3	24.5	51	1.2	17	3	49.3	3	49.9	3	38.8	51	1.3																
18	3	34.5	3	35.1	3	24.7	54	1.3	18	3	49.5	3	50.1	3	39.0	54	1.4																
19	3	34.8	3	35.3	3	25.0	57	1.4	19	3	49.8	3	50.4	3	39.3	57	1.5																
20	3	35.0	3	35.6	3	25.2	60	1.5	20	3	50.0	3	50.6	3	39.5	60	1.6																
21	3	35.3	3	35.8	3	25.4	63	1.5	21	3	50.3	3	50.9	3	39.8	63	1.6																
22	3	35.5	3	36.1	3	25.7	66	1.6	22	3	50.5	3	51.1	3	40.0	66	1.7																
23	3	35.8	3	36.3	3	25.9	69	1.7	23	3	50.8	3	51.4	3	40.2	69	1.8																
24	3	36.0	3	36.6	3	26.2	72	1.7	24	3	51.0	3	51.6	3	40.5	72	1.9																
25	3	36.3	3	36.8	3	26.4	75	1.8	25	3	51.3	3	51.9	3	40.7	75	1.9																
26	3	36.5	3	37.1	3	26.6	78	1.9	26	3	51.5	3	52.1	3	41.0	78	2.0																
27	3	36.8	3	37.3	3	26.9	81	2.0	27	3	51.8	3	52.4	3	41.2	81	2.1																
28	3	37.0	3	37.6	3	27.1	84	2.0	28	3	52.0	3	52.6	3	41.4	84	2.2																
29	3	37.3	3	37.8	3	27.4	87	2.1	29	3	52.3	3	52.9	3	41.7	87	2.2																
30	3	37.5	3	38.1	3	27.6	90	2.2	30	3	52.5	3	53.1	3	41.9	90	2.3																
31	3	37.8	3	38.3	3	27.8	93	2.2	31	3	52.8	3	53.4	3	42.1	93	2.4																
32	3	38.0	3	38.6	3	28.1	96	2.3	32	3	53.0	3	53.6	3	42.4	96	2.5																
33	3	38.3	3	38.8	3	28.3	99	2.4	33	3	53.3	3	53.9	3	42.6	99	2.6																
34	3	38.5	3	39.1	3	28.5	102	2.5	34	3	53.5	3	54.1	3	42.9	102	2.6																
35	3	38.8	3	39.3	3	28.8	105	2.5	35	3	53.8	3	54.4	3	43.1	105	2.7																
36	3	39.0	3	39.6	3	29.0	108	2.6	36	3	54.0	3	54.6	3	43.3	108	2.8																
37	3	39.3	3	39.9	3	29.3	111	2.7	37	3	54.3	3	54.9	3	43.6	111	2.9																
38	3	39.5	3	40.1	3	29.5	114	2.8	38	3	54.5	3	55.1	3	43.8	114	2.9																
39	3	39.8	3	40.4	3	29.7	117	2.8	39	3	54.8	3	55.4	3	44.1	117	3.0																
40	3	40.0	3	40.6	3	30.0	120	2.9	40	3	55.0	3	55.6	3	44.3	120	3.1																
41	3	40.3	3	40.9	3	30.2	123	3.0	41	3	55.3	3	55.9	3	44.5	123	3.2																
42	3	40.5	3	41.1	3	30.5	126	3.0	42	3	55.5	3	56.1	3	44.8	126	3.3																
43	3	40.8	3	41.4	3	30.7	129	3.1	43	3	55.8	3	56.4	3	45.0	129	3.3																
44	3	41.0	3	41.6	3	30.9	132	3.2	44	3	56.0	3	56.6	3	45.2	132	3.4																
45	3	41.3	3	41.9	3	31.2	135	3.3	45	3	56.3	3	56.9	3	45.5	135	3.5																
46	3	41.5	3	42.1	3	31.4	138	3.3	46	3	56.5	3	57.1	3	45.7	138	3.6																
47	3	41.8	3	42.4	3	31.6	141	3.4	47	3	56.8	3	57.4	3	46.0	141	3.6																
48	3	42.0	3	42.6	3	31.9	144	3.5	48	3	57.0	3	57.6	3	46.2	144	3.7																
49	3	42.3	3	42.9	3	32.1	147	3.6	49	3	57.3	3	57.9	3	46.4	147	3.8																
50	3	42.5	3	43.1	3	32.4	150	3.6	50	3	57.5	3	58.2	3	46.7	150	3.9																
51	3	42.8	3	43.4	3	32.6	153	3.7	51	3	57.8	3	58.4	3	46.9	153	4.0																
52	3	43.0	3	43.6	3	32.8	156	3.8	52	3	58.0	3	58.7	3	47.2	156	4.0																
53	3	43.3	3	43.9	3	33.1	159	3.8	53	3	58.3	3	58.9	3	47.4	159	4.1																
54	3	43.5	3	44.1	3	33.3	162	3.9	54	3	58.5	3	59.2	3	47.6	162	4.2																
55	3	43.8	3	44.4	3	33.6	165	4.0	55	3	58.8	3	59.4	3	47.9	165	4.3																
56	3	44.0	3	44.6	3	33.8	168	4.1	56	3	59.0	3	59.7	3	48.1	168	4.3																
57	3	44.3	3	44.9	3	34.0	171	4.1	57	3	59.3	3	59.9	3	48.4	171	4.4																
58	3	44.5	3	45.1	3	34.3	174	4.2	58	3	59.5	4	0.2	3	48.6	174	4.5																
59	3	44.8	3	45.4	3	34.5	177	4.3	59	3	59.8	4	0.4	3	48.8	177	4.6																
60	3	45.0	3	45.6	3	34.8	180	4.4	60	4	0.0	4	0.7	3	49.1	180	4.7																

16 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	17 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° /	° /	° /	° /	° /	0	/	s	° /	° /	° /	° /	0	/	
0	4 0.0	4 0.7	3 49.1	0	0.0	0	0.0	0	4 15.0	4 15.7	4 3.4	0	0.0		
1	4 0.3	4 0.9	3 49.3	3	0.1	1	0.1	1	4 15.3	4 15.9	4 3.6	3	0.1		
2	4 0.5	4 1.2	3 49.5	6	0.2	2	0.2	2	4 15.5	4 16.2	4 3.9	6	0.2		
3	4 0.8	4 1.4	3 49.8	9	0.2	3	0.2	3	4 15.8	4 16.5	4 4.1	9	0.3		
4	4 1.0	4 1.7	3 50.0	12	0.3	4	0.3	4	4 16.0	4 16.7	4 4.3	12	0.4		
5	4 1.3	4 1.9	3 50.3	15	0.4	5	0.4	5	4 16.3	4 17.0	4 4.6	15	0.4		
6	4 1.5	4 2.2	3 50.5	18	0.5	6	0.5	6	4 16.5	4 17.2	4 4.8	18	0.5		
7	4 1.8	4 2.4	3 50.7	21	0.6	7	0.6	7	4 16.8	4 17.5	4 5.1	21	0.6		
8	4 2.0	4 2.7	3 51.0	24	0.7	8	0.7	8	4 17.0	4 17.7	4 5.3	24	0.7		
9	4 2.3	4 2.9	3 51.2	27	0.7	9	0.7	9	4 17.3	4 18.0	4 5.5	27	0.8		
10	4 2.5	4 3.2	3 51.5	30	0.8	10	0.8	10	4 17.5	4 18.2	4 5.8	30	0.9		
11	4 2.8	4 3.4	3 51.7	33	0.9	11	0.9	11	4 17.8	4 18.5	4 6.0	33	1.0		
12	4 3.0	4 3.7	3 51.9	36	1.0	12	1.0	12	4 18.0	4 18.7	4 6.2	36	1.1		
13	4 3.3	4 3.9	3 52.2	39	1.1	13	1.1	13	4 18.3	4 19.0	4 6.5	39	1.1		
14	4 3.5	4 4.2	3 52.4	42	1.2	14	1.2	14	4 18.5	4 19.2	4 6.7	42	1.2		
15	4 3.8	4 4.4	3 52.6	45	1.2	15	1.2	15	4 18.8	4 19.5	4 7.0	45	1.3		
16	4 4.0	4 4.7	3 52.9	48	1.3	16	1.3	16	4 19.0	4 19.7	4 7.2	48	1.4		
17	4 4.3	4 4.9	3 53.1	51	1.4	17	1.4	17	4 19.3	4 20.0	4 7.4	51	1.5		
18	4 4.5	4 5.2	3 53.4	54	1.5	18	1.5	18	4 19.5	4 20.2	4 7.7	54	1.6		
19	4 4.8	4 5.4	3 53.6	57	1.6	19	1.6	19	4 19.8	4 20.5	4 7.9	57	1.7		
20	4 5.0	4 5.7	3 53.8	60	1.7	20	1.7	20	4 20.0	4 20.7	4 8.2	60	1.8		
21	4 5.3	4 5.9	3 54.1	63	1.7	21	1.7	21	4 20.3	4 21.0	4 8.4	63	1.8		
22	4 5.5	4 6.2	3 54.3	66	1.8	22	1.8	22	4 20.5	4 21.2	4 8.6	66	1.9		
23	4 5.8	4 6.4	3 54.6	69	1.9	23	1.9	23	4 20.8	4 21.5	4 8.9	69	2.0		
24	4 6.0	4 6.7	3 54.8	72	2.0	24	2.0	24	4 21.0	4 21.7	4 9.1	72	2.1		
25	4 6.3	4 6.9	3 55.0	75	2.1	25	2.1	25	4 21.3	4 22.0	4 9.3	75	2.2		
26	4 6.5	4 7.2	3 55.3	78	2.1	26	2.1	26	4 21.5	4 22.2	4 9.6	78	2.3		
27	4 6.8	4 7.4	3 55.5	81	2.2	27	2.2	27	4 21.8	4 22.5	4 9.8	81	2.4		
28	4 7.0	4 7.7	3 55.7	84	2.3	28	2.3	28	4 22.0	4 22.7	4 10.1	84	2.5		
29	4 7.3	4 7.9	3 56.0	87	2.4	29	2.4	29	4 22.3	4 23.0	4 10.3	87	2.5		
30	4 7.5	4 8.2	3 56.2	90	2.5	30	2.5	30	4 22.5	4 23.2	4 10.5	90	2.6		
31	4 7.8	4 8.4	3 56.5	93	2.6	31	2.6	31	4 22.8	4 23.5	4 10.8	93	2.7		
32	4 8.0	4 8.7	3 56.7	96	2.6	32	2.6	32	4 23.0	4 23.7	4 11.0	96	2.8		
33	4 8.3	4 8.9	3 56.9	99	2.7	33	2.7	33	4 23.3	4 24.0	4 11.3	99	2.9		
34	4 8.5	4 9.2	3 57.2	102	2.8	34	2.8	34	4 23.5	4 24.2	4 11.5	102	3.0		
35	4 8.8	4 9.4	3 57.4	105	2.9	35	2.9	35	4 23.8	4 24.5	4 11.7	105	3.1		
36	4 9.0	4 9.7	3 57.7	108	3.0	36	3.0	36	4 24.0	4 24.7	4 12.0	108	3.2		
37	4 9.3	4 9.9	3 57.9	111	3.1	37	3.1	37	4 24.3	4 25.0	4 12.2	111	3.2		
38	4 9.5	4 10.2	3 58.1	114	3.1	38	3.1	38	4 24.5	4 25.2	4 12.5	114	3.3		
39	4 9.8	4 10.4	3 58.4	117	3.2	39	3.2	39	4 24.8	4 25.5	4 12.7	117	3.4		
40	4 10.0	4 10.7	3 58.6	120	3.3	40	3.3	40	4 25.0	4 25.7	4 12.9	120	3.5		
41	4 10.3	4 10.9	3 58.8	123	3.4	41	3.4	41	4 25.3	4 26.0	4 13.2	123	3.6		
42	4 10.5	4 11.2	3 59.1	126	3.5	42	3.5	42	4 25.5	4 26.2	4 13.4	126	3.7		
43	4 10.8	4 11.4	3 59.3	129	3.5	43	3.5	43	4 25.8	4 26.5	4 13.6	129	3.8		
44	4 11.0	4 11.7	3 59.6	132	3.6	44	3.6	44	4 26.0	4 26.7	4 13.9	132	3.9		
45	4 11.3	4 11.9	3 59.8	135	3.7	45	3.7	45	4 26.3	4 27.0	4 14.1	135	3.9		
46	4 11.5	4 12.2	4 0.0	138	3.8	46	3.8	46	4 26.5	4 27.2	4 14.4	138	4.0		
47	4 11.8	4 12.4	4 0.3	141	3.9	47	3.9	47	4 26.8	4 27.5	4 14.6	141	4.1		
48	4 12.0	4 12.7	4 0.5	144	4.0	48	4.0	48	4 27.0	4 27.7	4 14.8	144	4.2		
49	4 12.3	4 12.9	4 0.8	147	4.0	49	4.0	49	4 27.3	4 28.0	4 15.1	147	4.3		
50	4 12.5	4 13.2	4 1.0	150	4.1	50	4.1	50	4 27.5	4 28.2	4 15.3	150	4.4		
51	4 12.8	4 13.4	4 1.2	153	4.2	51	4.2	51	4 27.8	4 28.5	4 15.6	153	4.5		
52	4 13.0	4 13.7	4 1.5	156	4.3	52	4.3	52	4 28.0	4 28.7	4 15.8	156	4.6		
53	4 13.3	4 13.9	4 1.7	159	4.4	53	4.4	53	4 28.3	4 29.0	4 16.0	159	4.6		
54	4 13.5	4 14.2	4 2.0	162	4.5	54	4.5	54	4 28.5	4 29.2	4 16.3	162	4.7		
55	4 13.8	4 14.4	4 2.2	165	4.5	55	4.5	55	4 28.8	4 29.5	4 16.5	165	4.8		
56	4 14.0	4 14.7	4 2.4	168	4.6	56	4.6	56	4 29.0	4 29.7	4 16.7	168	4.9		
57	4 14.3	4 14.9	4 2.7	171	4.7	57	4.7	57	4 29.3	4 30.0	4 17.0	171	5.0		
58	4 14.5	4 15.2	4 2.9	174	4.8	58	4.8	58	4 29.5	4 30.2	4 17.2	174	5.1		
59	4 14.8	4 15.4	4 3.1	177	4.9	59	4.9	59	4 29.8	4 30.5	4 17.5	177	5.2		
60	4 15.0	4 15.7	4 3.4	180	5.0	60	5.0	60	4 30.0	4 30.7	4 17.7	180	5.3		



18 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.		19 <sup>m</sup>				Sol y planetas		Aries		Luna		Dif. Correc.											
s	°	'	°	'	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	4	30.0	4	30.7	4	17.7	0	0.0	0	4	45.0	4	45.8	4	32.0	0	0.0																
1	4	30.3	4	31.0	4	17.9	3	0.1	1	4	45.3	4	46.0	4	32.3	3	0.1																
2	4	30.5	4	31.2	4	18.2	6	0.2	2	4	45.5	4	46.3	4	32.5	6	0.2																
3	4	30.8	4	31.5	4	18.4	9	0.3	3	4	45.8	4	46.5	4	32.7	9	0.3																
4	4	31.0	4	31.7	4	18.7	12	0.4	4	4	46.0	4	46.8	4	33.0	12	0.4																
5	4	31.3	4	32.0	4	18.9	15	0.5	5	4	46.3	4	47.0	4	33.2	15	0.5																
6	4	31.5	4	32.2	4	19.1	18	0.6	6	4	46.5	4	47.3	4	33.4	18	0.6																
7	4	31.8	4	32.5	4	19.4	21	0.6	7	4	46.8	4	47.5	4	33.7	21	0.7																
8	4	32.0	4	32.7	4	19.6	24	0.7	8	4	47.0	4	47.8	4	33.9	24	0.8																
9	4	32.3	4	33.0	4	19.8	27	0.8	9	4	47.3	4	48.0	4	34.2	27	0.9																
10	4	32.5	4	33.2	4	20.1	30	0.9	10	4	47.5	4	48.3	4	34.4	30	1.0																
11	4	32.8	4	33.5	4	20.3	33	1.0	11	4	47.8	4	48.5	4	34.6	33	1.1																
12	4	33.0	4	33.7	4	20.6	36	1.1	12	4	48.0	4	48.8	4	34.9	36	1.2																
13	4	33.3	4	34.0	4	20.8	39	1.2	13	4	48.3	4	49.0	4	35.1	39	1.3																
14	4	33.5	4	34.2	4	21.0	42	1.3	14	4	48.5	4	49.3	4	35.4	42	1.4																
15	4	33.8	4	34.5	4	21.3	45	1.4	15	4	48.8	4	49.5	4	35.6	45	1.5																
16	4	34.0	4	34.8	4	21.5	48	1.5	16	4	49.0	4	49.8	4	35.8	48	1.6																
17	4	34.3	4	35.0	4	21.8	51	1.6	17	4	49.3	4	50.0	4	36.1	51	1.7																
18	4	34.5	4	35.3	4	22.0	54	1.7	18	4	49.5	4	50.3	4	36.3	54	1.8																
19	4	34.8	4	35.5	4	22.2	57	1.8	19	4	49.8	4	50.5	4	36.6	57	1.9																
20	4	35.0	4	35.8	4	22.5	60	1.9	20	4	50.0	4	50.8	4	36.8	60	2.0																
21	4	35.3	4	36.0	4	22.7	63	1.9	21	4	50.3	4	51.0	4	37.0	63	2.0																
22	4	35.5	4	36.3	4	22.9	66	2.0	22	4	50.5	4	51.3	4	37.3	66	2.1																
23	4	35.8	4	36.5	4	23.2	69	2.1	23	4	50.8	4	51.5	4	37.5	69	2.2																
24	4	36.0	4	36.8	4	23.4	72	2.2	24	4	51.0	4	51.8	4	37.7	72	2.3																
25	4	36.3	4	37.0	4	23.7	75	2.3	25	4	51.3	4	52.0	4	38.0	75	2.4																
26	4	36.5	4	37.3	4	23.9	78	2.4	26	4	51.5	4	52.3	4	38.2	78	2.5																
27	4	36.8	4	37.5	4	24.1	81	2.5	27	4	51.8	4	52.5	4	38.5	81	2.6																
28	4	37.0	4	37.8	4	24.4	84	2.6	28	4	52.0	4	52.8	4	38.7	84	2.7																
29	4	37.3	4	38.0	4	24.6	87	2.7	29	4	52.3	4	53.1	4	38.9	87	2.8																
30	4	37.5	4	38.3	4	24.9	90	2.8	30	4	52.5	4	53.3	4	39.2	90	2.9																
31	4	37.8	4	38.5	4	25.1	93	2.9	31	4	52.8	4	53.6	4	39.4	93	3.0																
32	4	38.0	4	38.8	4	25.3	96	3.0	32	4	53.0	4	53.8	4	39.7	96	3.1																
33	4	38.3	4	39.0	4	25.6	99	3.1	33	4	53.3	4	54.1	4	39.9	99	3.2																
34	4	38.5	4	39.3	4	25.8	102	3.1	34	4	53.5	4	54.3	4	40.1	102	3.3																
35	4	38.8	4	39.5	4	26.1	105	3.2	35	4	53.8	4	54.6	4	40.4	105	3.4																
36	4	39.0	4	39.8	4	26.3	108	3.3	36	4	54.0	4	54.8	4	40.6	108	3.5																
37	4	39.3	4	40.0	4	26.5	111	3.4	37	4	54.3	4	55.1	4	40.8	111	3.6																
38	4	39.5	4	40.3	4	26.8	114	3.5	38	4	54.5	4	55.3	4	41.1	114	3.7																
39	4	39.8	4	40.5	4	27.0	117	3.6	39	4	54.8	4	55.6	4	41.3	117	3.8																
40	4	40.0	4	40.8	4	27.2	120	3.7	40	4	55.0	4	55.8	4	41.6	120	3.9																
41	4	40.3	4	41.0	4	27.5	123	3.8	41	4	55.3	4	56.1	4	41.8	123	4.0																
42	4	40.5	4	41.3	4	27.7	126	3.9	42	4	55.5	4	56.3	4	42.0	126	4.1																
43	4	40.8	4	41.5	4	28.0	129	4.0	43	4	55.8	4	56.6	4	42.3	129	4.2																
44	4	41.0	4	41.8	4	28.2	132	4.1	44	4	56.0	4	56.8	4	42.5	132	4.3																
45	4	41.3	4	42.0	4	28.4	135	4.2	45	4	56.3	4	57.1	4	42.8	135	4.4																
46	4	41.5	4	42.3	4	28.7	138	4.3	46	4	56.5	4	57.3	4	43.0	138	4.5																
47	4	41.8	4	42.5	4	28.9	141	4.3	47	4	56.8	4	57.6	4	43.2	141	4.6																
48	4	42.0	4	42.8	4	29.2	144	4.4	48	4	57.0	4	57.8	4	43.5	144	4.7																
49	4	42.3	4	43.0	4	29.4	147	4.5	49	4	57.3	4	58.1	4	43.7	147	4.8																
50	4	42.5	4	43.3	4	29.6	150	4.6	50	4	57.5	4	58.3	4	43.9	150	4.9																
51	4	42.8	4	43.5	4	29.9	153	4.7	51	4	57.8	4	58.6	4	44.2	153	5.0																
52	4	43.0	4	43.8	4	30.1	156	4.8	52	4	58.0	4	58.8	4	44.4	156	5.1																
53	4	43.3	4	44.0	4	30.3	159	4.9	53	4	58.3	4	59.1	4	44.7	159	5.2																
54	4	43.5	4	44.3	4	30.6	162	5.0	54	4	58.5	4	59.3	4	44.9	162	5.3																
55	4	43.8	4	44.5	4	30.8	165	5.1	55	4	58.8	4	59.6	4	45.1	165	5.4																
56	4	44.0	4	44.8	4	31.1	168	5.2	56	4	59.0	4	59.8	4	45.4	168	5.5																
57	4	44.3	4	45.0	4	31.3	171	5.3	57	4	59.3	5	0.1	4	45.6	171	5.6																
58	4	44.5	4	45.3	4	31.5	174	5.4	58	4	59.5	5	0.3	4	45.9	174	5.7																
59	4	44.8	4	45.5	4	31.8	177	5.5	59	4	59.8	5	0.6	4	46.1	177	5.8																
60	4	45.0	4	45.8	4	32.0	180	5.6	60	5	0.0	5	0.8	4	46.3	180	5.9																

20 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	21 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	°	°	'	°	'		'	s	°	°	'	°	'		'
0	5 0.0	5 0.8	4 46.3	0	0.0	0	0.0	0	5 15.0	5 15.9	5 0.7	0	0.0	0	0.0
1	5 0.3	5 1.1	4 46.6	3	0.1	1	0.1	1	5 15.3	5 16.1	5 0.9	3	0.1	3	0.1
2	5 0.5	5 1.3	4 46.8	6	0.2	2	0.2	2	5 15.5	5 16.4	5 1.1	6	0.2	6	0.2
3	5 0.8	5 1.6	4 47.0	9	0.3	3	0.3	3	5 15.8	5 16.6	5 1.4	9	0.3	9	0.3
4	5 1.0	5 1.8	4 47.3	12	0.4	4	0.4	4	5 16.0	5 16.9	5 1.6	12	0.4	12	0.4
5	5 1.3	5 2.1	4 47.5	15	0.5	5	0.5	5	5 16.3	5 17.1	5 1.8	15	0.5	15	0.5
6	5 1.5	5 2.3	4 47.8	18	0.6	6	0.6	6	5 16.5	5 17.4	5 2.1	18	0.6	18	0.6
7	5 1.8	5 2.6	4 48.0	21	0.7	7	0.7	7	5 16.8	5 17.6	5 2.3	21	0.8	21	0.8
8	5 2.0	5 2.8	4 48.2	24	0.8	8	0.8	8	5 17.0	5 17.9	5 2.6	24	0.9	24	0.9
9	5 2.3	5 3.1	4 48.5	27	0.9	9	0.9	9	5 17.3	5 18.1	5 2.8	27	1.0	27	1.0
10	5 2.5	5 3.3	4 48.7	30	1.0	10	1.0	10	5 17.5	5 18.4	5 3.0	30	1.1	30	1.1
11	5 2.8	5 3.6	4 49.0	33	1.1	11	1.1	11	5 17.8	5 18.6	5 3.3	33	1.2	33	1.2
12	5 3.0	5 3.8	4 49.2	36	1.2	12	1.2	12	5 18.0	5 18.9	5 3.5	36	1.3	36	1.3
13	5 3.3	5 4.1	4 49.4	39	1.3	13	1.3	13	5 18.3	5 19.1	5 3.8	39	1.4	39	1.4
14	5 3.5	5 4.3	4 49.7	42	1.4	14	1.4	14	5 18.5	5 19.4	5 4.0	42	1.5	42	1.5
15	5 3.8	5 4.6	4 49.9	45	1.5	15	1.5	15	5 18.8	5 19.6	5 4.2	45	1.6	45	1.6
16	5 4.0	5 4.8	4 50.2	48	1.6	16	1.6	16	5 19.0	5 19.9	5 4.5	48	1.7	48	1.7
17	5 4.3	5 5.1	4 50.4	51	1.7	17	1.7	17	5 19.3	5 20.1	5 4.7	51	1.8	51	1.8
18	5 4.5	5 5.3	4 50.6	54	1.8	18	1.8	18	5 19.5	5 20.4	5 4.9	54	1.9	54	1.9
19	5 4.8	5 5.6	4 50.9	57	1.9	19	1.9	19	5 19.8	5 20.6	5 5.2	57	2.0	57	2.0
20	5 5.0	5 5.8	4 51.1	60	2.1	20	2.1	20	5 20.0	5 20.9	5 5.4	60	2.2	60	2.2
21	5 5.3	5 6.1	4 51.3	63	2.2	21	2.2	21	5 20.3	5 21.1	5 5.7	63	2.3	63	2.3
22	5 5.5	5 6.3	4 51.6	66	2.3	22	2.3	22	5 20.5	5 21.4	5 5.9	66	2.4	66	2.4
23	5 5.8	5 6.6	4 51.8	69	2.4	23	2.4	23	5 20.8	5 21.6	5 6.1	69	2.5	69	2.5
24	5 6.0	5 6.8	4 52.1	72	2.5	24	2.5	24	5 21.0	5 21.9	5 6.4	72	2.6	72	2.6
25	5 6.3	5 7.1	4 52.3	75	2.6	25	2.6	25	5 21.3	5 22.1	5 6.6	75	2.7	75	2.7
26	5 6.5	5 7.3	4 52.5	78	2.7	26	2.7	26	5 21.5	5 22.4	5 6.9	78	2.8	78	2.8
27	5 6.8	5 7.6	4 52.8	81	2.8	27	2.8	27	5 21.8	5 22.6	5 7.1	81	2.9	81	2.9
28	5 7.0	5 7.8	4 53.0	84	2.9	28	2.9	28	5 22.0	5 22.9	5 7.3	84	3.0	84	3.0
29	5 7.3	5 8.1	4 53.3	87	3.0	29	3.0	29	5 22.3	5 23.1	5 7.6	87	3.1	87	3.1
30	5 7.5	5 8.3	4 53.5	90	3.1	30	3.1	30	5 22.5	5 23.4	5 7.8	90	3.2	90	3.2
31	5 7.8	5 8.6	4 53.7	93	3.2	31	3.2	31	5 22.8	5 23.6	5 8.0	93	3.3	93	3.3
32	5 8.0	5 8.8	4 54.0	96	3.3	32	3.3	32	5 23.0	5 23.9	5 8.3	96	3.4	96	3.4
33	5 8.3	5 9.1	4 54.2	99	3.4	33	3.4	33	5 23.3	5 24.1	5 8.5	99	3.5	99	3.5
34	5 8.5	5 9.3	4 54.4	102	3.5	34	3.5	34	5 23.5	5 24.4	5 8.8	102	3.7	102	3.7
35	5 8.8	5 9.6	4 54.7	105	3.6	35	3.6	35	5 23.8	5 24.6	5 9.0	105	3.8	105	3.8
36	5 9.0	5 9.8	4 54.9	108	3.7	36	3.7	36	5 24.0	5 24.9	5 9.2	108	3.9	108	3.9
37	5 9.3	5 10.1	4 55.2	111	3.8	37	3.8	37	5 24.3	5 25.1	5 9.5	111	4.0	111	4.0
38	5 9.5	5 10.3	4 55.4	114	3.9	38	3.9	38	5 24.5	5 25.4	5 9.7	114	4.1	114	4.1
39	5 9.8	5 10.6	4 55.6	117	4.0	39	4.0	39	5 24.8	5 25.6	5 10.0	117	4.2	117	4.2
40	5 10.0	5 10.8	4 55.9	120	4.1	40	4.1	40	5 25.0	5 25.9	5 10.2	120	4.3	120	4.3
41	5 10.3	5 11.1	4 56.1	123	4.2	41	4.2	41	5 25.3	5 26.1	5 10.4	123	4.4	123	4.4
42	5 10.5	5 11.4	4 56.4	126	4.3	42	4.3	42	5 25.5	5 26.4	5 10.7	126	4.5	126	4.5
43	5 10.8	5 11.6	4 56.6	129	4.4	43	4.4	43	5 25.8	5 26.6	5 10.9	129	4.6	129	4.6
44	5 11.0	5 11.9	4 56.8	132	4.5	44	4.5	44	5 26.0	5 26.9	5 11.1	132	4.7	132	4.7
45	5 11.3	5 12.1	4 57.1	135	4.6	45	4.6	45	5 26.3	5 27.1	5 11.4	135	4.8	135	4.8
46	5 11.5	5 12.4	4 57.3	138	4.7	46	4.7	46	5 26.5	5 27.4	5 11.6	138	4.9	138	4.9
47	5 11.8	5 12.6	4 57.5	141	4.8	47	4.8	47	5 26.8	5 27.6	5 11.9	141	5.1	141	5.1
48	5 12.0	5 12.9	4 57.8	144	4.9	48	4.9	48	5 27.0	5 27.9	5 12.1	144	5.2	144	5.2
49	5 12.3	5 13.1	4 58.0	147	5.0	49	5.0	49	5 27.3	5 28.1	5 12.3	147	5.3	147	5.3
50	5 12.5	5 13.4	4 58.3	150	5.1	50	5.1	50	5 27.5	5 28.4	5 12.6	150	5.4	150	5.4
51	5 12.8	5 13.6	4 58.5	153	5.2	51	5.2	51	5 27.8	5 28.6	5 12.8	153	5.5	153	5.5
52	5 13.0	5 13.9	4 58.7	156	5.3	52	5.3	52	5 28.0	5 28.9	5 13.1	156	5.6	156	5.6
53	5 13.3	5 14.1	4 59.0	159	5.4	53	5.4	53	5 28.3	5 29.1	5 13.3	159	5.7	159	5.7
54	5 13.5	5 14.4	4 59.2	162	5.5	54	5.5	54	5 28.5	5 29.4	5 13.5	162	5.8	162	5.8
55	5 13.8	5 14.6	4 59.5	165	5.6	55	5.6	55	5 28.8	5 29.7	5 13.8	165	5.9	165	5.9
56	5 14.0	5 14.9	4 59.7	168	5.7	56	5.7	56	5 29.0	5 29.9	5 14.0	168	6.0	168	6.0
57	5 14.3	5 15.1	4 59.9	171	5.8	57	5.8	57	5 29.3	5 30.2	5 14.3	171	6.1	171	6.1
58	5 14.5	5 15.4	5 0.2	174	5.9	58	5.9	58	5 29.5	5 30.4	5 14.5	174	6.2	174	6.2
59	5 14.8	5 15.6	5 0.4	177	6.0	59	6.0	59	5 29.8	5 30.7	5 14.7	177	6.3	177	6.3
60	5 15.0	5 15.9	5 0.7	180	6.2	60	6.2	60	5 30.0	5 30.9	5 15.0	180	6.5	180	6.5

22 <sup>m</sup>				Dif. Correc.		23 <sup>m</sup>				Dif. Correc.	
Sol y planetas		Aries	Luna			Sol y planetas		Aries	Luna		
s	° / '	° / '	° / '	0	'	s	° / '	° / '	° / '	0	'
0	5 30.0	5 30.9	5 15.0	0	0.0	0	5 45.0	5 45.9	5 29.3	0	0.0
1	5 30.3	5 31.2	5 15.2	3	0.1	1	5 45.3	5 46.2	5 29.5	3	0.1
2	5 30.5	5 31.4	5 15.4	6	0.2	2	5 45.5	5 46.4	5 29.8	6	0.2
3	5 30.8	5 31.7	5 15.7	9	0.3	3	5 45.8	5 46.7	5 30.0	9	0.4
4	5 31.0	5 31.9	5 15.9	12	0.5	4	5 46.0	5 46.9	5 30.2	12	0.5
5	5 31.3	5 32.2	5 16.2	15	0.6	5	5 46.3	5 47.2	5 30.5	15	0.6
6	5 31.5	5 32.4	5 16.4	18	0.7	6	5 46.5	5 47.4	5 30.7	18	0.7
7	5 31.8	5 32.7	5 16.6	21	0.8	7	5 46.8	5 47.7	5 31.0	21	0.8
8	5 32.0	5 32.9	5 16.9	24	0.9	8	5 47.0	5 48.0	5 31.2	24	0.9
9	5 32.3	5 33.2	5 17.1	27	1.0	9	5 47.3	5 48.2	5 31.4	27	1.1
10	5 32.5	5 33.4	5 17.4	30	1.1	10	5 47.5	5 48.5	5 31.7	30	1.2
11	5 32.8	5 33.7	5 17.6	33	1.2	11	5 47.8	5 48.7	5 31.9	33	1.3
12	5 33.0	5 33.9	5 17.8	36	1.4	12	5 48.0	5 49.0	5 32.1	36	1.4
13	5 33.3	5 34.2	5 18.1	39	1.5	13	5 48.3	5 49.2	5 32.4	39	1.5
14	5 33.5	5 34.4	5 18.3	42	1.6	14	5 48.5	5 49.5	5 32.6	42	1.6
15	5 33.8	5 34.7	5 18.5	45	1.7	15	5 48.8	5 49.7	5 32.9	45	1.8
16	5 34.0	5 34.9	5 18.8	48	1.8	16	5 49.0	5 50.0	5 33.1	48	1.9
17	5 34.3	5 35.2	5 19.0	51	1.9	17	5 49.3	5 50.2	5 33.3	51	2.0
18	5 34.5	5 35.4	5 19.3	54	2.0	18	5 49.5	5 50.5	5 33.6	54	2.1
19	5 34.8	5 35.7	5 19.5	57	2.1	19	5 49.8	5 50.7	5 33.8	57	2.2
20	5 35.0	5 35.9	5 19.7	60	2.3	20	5 50.0	5 51.0	5 34.1	60	2.4
21	5 35.3	5 36.2	5 20.0	63	2.4	21	5 50.3	5 51.2	5 34.3	63	2.5
22	5 35.5	5 36.4	5 20.2	66	2.5	22	5 50.5	5 51.5	5 34.5	66	2.6
23	5 35.8	5 36.7	5 20.5	69	2.6	23	5 50.8	5 51.7	5 34.8	69	2.7
24	5 36.0	5 36.9	5 20.7	72	2.7	24	5 51.0	5 52.0	5 35.0	72	2.8
25	5 36.3	5 37.2	5 20.9	75	2.8	25	5 51.3	5 52.2	5 35.2	75	2.9
26	5 36.5	5 37.4	5 21.2	78	2.9	26	5 51.5	5 52.5	5 35.5	78	3.1
27	5 36.8	5 37.7	5 21.4	81	3.0	27	5 51.8	5 52.7	5 35.7	81	3.2
28	5 37.0	5 37.9	5 21.6	84	3.2	28	5 52.0	5 53.0	5 36.0	84	3.3
29	5 37.3	5 38.2	5 21.9	87	3.3	29	5 52.3	5 53.2	5 36.2	87	3.4
30	5 37.5	5 38.4	5 22.1	90	3.4	30	5 52.5	5 53.5	5 36.4	90	3.5
31	5 37.8	5 38.7	5 22.4	93	3.5	31	5 52.8	5 53.7	5 36.7	93	3.6
32	5 38.0	5 38.9	5 22.6	96	3.6	32	5 53.0	5 54.0	5 36.9	96	3.8
33	5 38.3	5 39.2	5 22.8	99	3.7	33	5 53.3	5 54.2	5 37.2	99	3.9
34	5 38.5	5 39.4	5 23.1	102	3.8	34	5 53.5	5 54.5	5 37.4	102	4.0
35	5 38.8	5 39.7	5 23.3	105	3.9	35	5 53.8	5 54.7	5 37.6	105	4.1
36	5 39.0	5 39.9	5 23.6	108	4.1	36	5 54.0	5 55.0	5 37.9	108	4.2
37	5 39.3	5 40.2	5 23.8	111	4.2	37	5 54.3	5 55.2	5 38.1	111	4.3
38	5 39.5	5 40.4	5 24.0	114	4.3	38	5 54.5	5 55.5	5 38.4	114	4.5
39	5 39.8	5 40.7	5 24.3	117	4.4	39	5 54.8	5 55.7	5 38.6	117	4.6
40	5 40.0	5 40.9	5 24.5	120	4.5	40	5 55.0	5 56.0	5 38.8	120	4.7
41	5 40.3	5 41.2	5 24.7	123	4.6	41	5 55.3	5 56.2	5 39.1	123	4.8
42	5 40.5	5 41.4	5 25.0	126	4.7	42	5 55.5	5 56.5	5 39.3	126	4.9
43	5 40.8	5 41.7	5 25.2	129	4.8	43	5 55.8	5 56.7	5 39.5	129	5.1
44	5 41.0	5 41.9	5 25.5	132	5.0	44	5 56.0	5 57.0	5 39.8	132	5.2
45	5 41.3	5 42.2	5 25.7	135	5.1	45	5 56.3	5 57.2	5 40.0	135	5.3
46	5 41.5	5 42.4	5 25.9	138	5.2	46	5 56.5	5 57.5	5 40.3	138	5.4
47	5 41.8	5 42.7	5 26.2	141	5.3	47	5 56.8	5 57.7	5 40.5	141	5.5
48	5 42.0	5 42.9	5 26.4	144	5.4	48	5 57.0	5 58.0	5 40.7	144	5.6
49	5 42.3	5 43.2	5 26.7	147	5.5	49	5 57.3	5 58.2	5 41.0	147	5.8
50	5 42.5	5 43.4	5 26.9	150	5.6	50	5 57.5	5 58.5	5 41.2	150	5.9
51	5 42.8	5 43.7	5 27.1	153	5.7	51	5 57.8	5 58.7	5 41.5	153	6.0
52	5 43.0	5 43.9	5 27.4	156	5.9	52	5 58.0	5 59.0	5 41.7	156	6.1
53	5 43.3	5 44.2	5 27.6	159	6.0	53	5 58.3	5 59.2	5 41.9	159	6.2
54	5 43.5	5 44.4	5 27.9	162	6.1	54	5 58.5	5 59.5	5 42.2	162	6.3
55	5 43.8	5 44.7	5 28.1	165	6.2	55	5 58.8	5 59.7	5 42.4	165	6.5
56	5 44.0	5 44.9	5 28.3	168	6.3	56	5 59.0	6 0.0	5 42.6	168	6.6
57	5 44.3	5 45.2	5 28.6	171	6.4	57	5 59.3	6 0.2	5 42.9	171	6.7
58	5 44.5	5 45.4	5 28.8	174	6.5	58	5 59.5	6 0.5	5 43.1	174	6.8
59	5 44.8	5 45.7	5 29.0	177	6.6	59	5 59.8	6 0.7	5 43.4	177	6.9
60	5 45.0	5 45.9	5 29.3	180	6.8	60	6 0.0	6 1.0	5 43.6	180	7.1

24 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	25 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'
0	6	0.0	6	1.0	5	43.6	0	0.0	0	6	15.0	6	16.0	5	57.9
1	6	0.3	6	1.2	5	43.8	3	0.1	1	6	15.3	6	16.3	5	58.2
2	6	0.5	6	1.5	5	44.1	6	0.2	2	6	15.5	6	16.5	5	58.4
3	6	0.8	6	1.7	5	44.3	9	0.4	3	6	15.8	6	16.8	5	58.6
4	6	1.0	6	2.0	5	44.6	12	0.5	4	6	16.0	6	17.0	5	58.9
5	6	1.3	6	2.2	5	44.8	15	0.6	5	6	16.3	6	17.3	5	59.1
6	6	1.5	6	2.5	5	45.0	18	0.7	6	6	16.5	6	17.5	5	59.3
7	6	1.8	6	2.7	5	45.3	21	0.9	7	6	16.8	6	17.8	5	59.6
8	6	2.0	6	3.0	5	45.5	24	1.0	8	6	17.0	6	18.0	5	59.8
9	6	2.3	6	3.2	5	45.7	27	1.1	9	6	17.3	6	18.3	6	0.1
10	6	2.5	6	3.5	5	46.0	30	1.2	10	6	17.5	6	18.5	6	0.3
11	6	2.8	6	3.7	5	46.2	33	1.3	11	6	17.8	6	18.8	6	0.5
12	6	3.0	6	4.0	5	46.5	36	1.5	12	6	18.0	6	19.0	6	0.8
13	6	3.3	6	4.2	5	46.7	39	1.6	13	6	18.3	6	19.3	6	1.0
14	6	3.5	6	4.5	5	46.9	42	1.7	14	6	18.5	6	19.5	6	1.3
15	6	3.8	6	4.7	5	47.2	45	1.8	15	6	18.8	6	19.8	6	1.5
16	6	4.0	6	5.0	5	47.4	48	2.0	16	6	19.0	6	20.0	6	1.7
17	6	4.3	6	5.2	5	47.7	51	2.1	17	6	19.3	6	20.3	6	2.0
18	6	4.5	6	5.5	5	47.9	54	2.2	18	6	19.5	6	20.5	6	2.2
19	6	4.8	6	5.7	5	48.1	57	2.3	19	6	19.8	6	20.8	6	2.5
20	6	5.0	6	6.0	5	48.4	60	2.5	20	6	20.0	6	21.0	6	2.7
21	6	5.3	6	6.3	5	48.6	63	2.6	21	6	20.3	6	21.3	6	2.9
22	6	5.5	6	6.5	5	48.8	66	2.7	22	6	20.5	6	21.5	6	3.2
23	6	5.8	6	6.8	5	49.1	69	2.8	23	6	20.8	6	21.8	6	3.4
24	6	6.0	6	7.0	5	49.3	72	2.9	24	6	21.0	6	22.0	6	3.6
25	6	6.3	6	7.3	5	49.6	75	3.1	25	6	21.3	6	22.3	6	3.9
26	6	6.5	6	7.5	5	49.8	78	3.2	26	6	21.5	6	22.5	6	4.1
27	6	6.8	6	7.8	5	50.0	81	3.3	27	6	21.8	6	22.8	6	4.4
28	6	7.0	6	8.0	5	50.3	84	3.4	28	6	22.0	6	23.0	6	4.6
29	6	7.3	6	8.3	5	50.5	87	3.6	29	6	22.3	6	23.3	6	4.8
30	6	7.5	6	8.5	5	50.8	90	3.7	30	6	22.5	6	23.5	6	5.1
31	6	7.8	6	8.8	5	51.0	93	3.8	31	6	22.8	6	23.8	6	5.3
32	6	8.0	6	9.0	5	51.2	96	3.9	32	6	23.0	6	24.0	6	5.6
33	6	8.3	6	9.3	5	51.5	99	4.0	33	6	23.3	6	24.3	6	5.8
34	6	8.5	6	9.5	5	51.7	102	4.2	34	6	23.5	6	24.5	6	6.0
35	6	8.8	6	9.8	5	52.0	105	4.3	35	6	23.8	6	24.8	6	6.3
36	6	9.0	6	10.0	5	52.2	108	4.4	36	6	24.0	6	25.1	6	6.5
37	6	9.3	6	10.3	5	52.4	111	4.5	37	6	24.3	6	25.3	6	6.7
38	6	9.5	6	10.5	5	52.7	114	4.7	38	6	24.5	6	25.6	6	7.0
39	6	9.8	6	10.8	5	52.9	117	4.8	39	6	24.8	6	25.8	6	7.2
40	6	0.0	6	11.0	5	53.1	120	4.9	40	6	25.0	6	26.1	6	7.5
41	6	10.3	6	11.3	5	53.4	123	5.0	41	6	25.3	6	26.3	6	7.7
42	6	10.5	6	11.5	5	53.6	126	5.1	42	6	25.5	6	26.6	6	7.9
43	6	10.8	6	11.8	5	53.9	129	5.3	43	6	25.8	6	26.8	6	8.2
44	6	11.0	6	12.0	5	54.1	132	5.4	44	6	26.0	6	27.1	6	8.4
45	6	11.3	6	12.3	5	54.3	135	5.5	45	6	26.3	6	27.3	6	8.7
46	6	11.5	6	12.5	5	54.6	138	5.6	46	6	26.5	6	27.6	6	8.9
47	6	11.8	6	12.8	5	54.8	141	5.8	47	6	26.8	6	27.8	6	9.1
48	6	12.0	6	13.0	5	55.1	144	5.9	48	6	27.0	6	28.1	6	9.4
49	6	12.3	6	13.3	5	55.3	147	6.0	49	6	27.3	6	28.3	6	9.6
50	6	12.5	6	13.5	5	55.5	150	6.1	50	6	27.5	6	28.6	6	9.8
51	6	12.8	6	13.8	5	55.8	153	6.2	51	6	27.8	6	28.8	6	10.1
52	6	13.0	6	14.0	5	56.0	156	6.4	52	6	28.0	6	29.1	6	10.3
53	6	13.3	6	14.3	5	56.2	159	6.5	53	6	28.3	6	29.3	6	10.6
54	6	13.5	6	14.5	5	56.5	162	6.6	54	6	28.5	6	29.6	6	10.8
55	6	13.8	6	14.8	5	56.7	165	6.7	55	6	28.8	6	29.8	6	11.0
56	6	14.0	6	15.0	5	57.0	168	6.9	56	6	29.0	6	30.1	6	11.3
57	6	14.3	6	15.3	5	57.2	171	7.0	57	6	29.3	6	30.3	6	11.5
58	6	14.5	6	15.5	5	57.4	174	7.1	58	6	29.5	6	30.6	6	11.8
59	6	14.8	6	15.8	5	57.7	177	7.2	59	6	29.8	6	30.8	6	12.0
60	6	15.0	6	16.0	5	57.9	180	7.4	60	6	30.0	6	31.1	6	12.2

26 <sup>m</sup>				Sol y planetas		27 <sup>m</sup>				Sol y planetas		Dif. Correc.		
	Aries	Luna	Dif.	Correc.		Aries	Luna	Dif.	Correc.		Aries	Luna	Dif.	Correc.
0	6 30.0	6 31.1	6 12.2	0	0.0	6 45.0	6 46.1	6 26.6	0	0.0	6 46.1	6 26.6	0	0.0
1	6 30.3	6 31.3	6 12.5	3	0.1	6 45.3	6 46.4	6 26.8	3	0.1	6 46.4	6 26.8	3	0.1
2	6 30.5	6 31.6	6 12.7	6	0.3	6 45.5	6 46.6	6 27.0	6	0.3	6 46.6	6 27.0	6	0.3
3	6 30.8	6 31.8	6 12.9	9	0.4	6 45.8	6 46.9	6 27.3	9	0.4	6 46.9	6 27.3	9	0.4
4	6 31.0	6 32.1	6 13.2	12	0.5	6 46.0	6 47.1	6 27.5	12	0.6	6 47.1	6 27.5	12	0.6
5	6 31.3	6 32.3	6 13.4	15	0.7	6 46.3	6 47.4	6 27.7	15	0.7	6 47.4	6 27.7	15	0.7
6	6 31.5	6 32.6	6 13.7	18	0.8	6 46.5	6 47.6	6 28.0	18	0.8	6 47.6	6 28.0	18	0.8
7	6 31.8	6 32.8	6 13.9	21	0.9	6 46.8	6 47.9	6 28.2	21	1.0	6 47.9	6 28.2	21	1.0
8	6 32.0	6 33.1	6 14.1	24	1.1	6 47.0	6 48.1	6 28.5	24	1.1	6 48.1	6 28.5	24	1.1
9	6 32.3	6 33.3	6 14.4	27	1.2	6 47.3	6 48.4	6 28.7	27	1.2	6 48.4	6 28.7	27	1.2
10	6 32.5	6 33.6	6 14.6	30	1.3	6 47.5	6 48.6	6 28.9	30	1.4	6 48.6	6 28.9	30	1.4
11	6 32.8	6 33.8	6 14.9	33	1.5	6 47.8	6 48.9	6 29.2	33	1.5	6 48.9	6 29.2	33	1.5
12	6 33.0	6 34.1	6 15.1	36	1.6	6 48.0	6 49.1	6 29.4	36	1.7	6 49.1	6 29.4	36	1.7
13	6 33.3	6 34.3	6 15.3	39	1.7	6 48.3	6 49.4	6 29.7	39	1.8	6 49.4	6 29.7	39	1.8
14	6 33.5	6 34.6	6 15.6	42	1.9	6 48.5	6 49.6	6 29.9	42	1.9	6 49.6	6 29.9	42	1.9
15	6 33.8	6 34.8	6 15.8	45	2.0	6 48.8	6 49.9	6 30.1	45	2.1	6 49.9	6 30.1	45	2.1
16	6 34.0	6 35.1	6 16.1	48	2.1	6 49.0	6 50.1	6 30.4	48	2.2	6 50.1	6 30.4	48	2.2
17	6 34.3	6 35.3	6 16.3	51	2.3	6 49.3	6 50.4	6 30.6	51	2.3	6 50.4	6 30.6	51	2.3
18	6 34.5	6 35.6	6 16.5	54	2.4	6 49.5	6 50.6	6 30.8	54	2.5	6 50.6	6 30.8	54	2.5
19	6 34.8	6 35.8	6 16.8	57	2.5	6 49.8	6 50.9	6 31.1	57	2.6	6 50.9	6 31.1	57	2.6
20	6 35.0	6 36.1	6 17.0	60	2.7	6 50.0	6 51.1	6 31.3	60	2.8	6 51.1	6 31.3	60	2.8
21	6 35.3	6 36.3	6 17.2	63	2.8	6 50.3	6 51.4	6 31.6	63	2.9	6 51.4	6 31.6	63	2.9
22	6 35.5	6 36.6	6 17.5	66	2.9	6 50.5	6 51.6	6 31.8	66	3.0	6 51.6	6 31.8	66	3.0
23	6 35.8	6 36.8	6 17.7	69	3.0	6 50.8	6 51.9	6 32.0	69	3.2	6 51.9	6 32.0	69	3.2
24	6 36.0	6 37.1	6 18.0	72	3.2	6 51.0	6 52.1	6 32.3	72	3.3	6 52.1	6 32.3	72	3.3
25	6 36.3	6 37.3	6 18.2	75	3.3	6 51.3	6 52.4	6 32.5	75	3.4	6 52.4	6 32.5	75	3.4
26	6 36.5	6 37.6	6 18.4	78	3.4	6 51.5	6 52.6	6 32.8	78	3.6	6 52.6	6 32.8	78	3.6
27	6 36.8	6 37.8	6 18.7	81	3.6	6 51.8	6 52.9	6 33.0	81	3.7	6 52.9	6 33.0	81	3.7
28	6 37.0	6 38.1	6 18.9	84	3.7	6 52.0	6 53.1	6 33.2	84	3.9	6 53.1	6 33.2	84	3.9
29	6 37.3	6 38.3	6 19.2	87	3.8	6 52.3	6 53.4	6 33.5	87	4.0	6 53.4	6 33.5	87	4.0
30	6 37.5	6 38.6	6 19.4	90	4.0	6 52.5	6 53.6	6 33.7	90	4.1	6 53.6	6 33.7	90	4.1
31	6 37.8	6 38.8	6 19.6	93	4.1	6 52.8	6 53.9	6 33.9	93	4.3	6 53.9	6 33.9	93	4.3
32	6 38.0	6 39.1	6 19.9	96	4.2	6 53.0	6 54.1	6 34.2	96	4.4	6 54.1	6 34.2	96	4.4
33	6 38.3	6 39.3	6 20.1	99	4.4	6 53.3	6 54.4	6 34.4	99	4.5	6 54.4	6 34.4	99	4.5
34	6 38.5	6 39.6	6 20.3	102	4.5	6 53.5	6 54.6	6 34.7	102	4.7	6 54.6	6 34.7	102	4.7
35	6 38.8	6 39.8	6 20.6	105	4.6	6 53.8	6 54.9	6 34.9	105	4.8	6 54.9	6 34.9	105	4.8
36	6 39.0	6 40.1	6 20.8	108	4.8	6 54.0	6 55.1	6 35.1	108	5.0	6 55.1	6 35.1	108	5.0
37	6 39.3	6 40.3	6 21.1	111	4.9	6 54.3	6 55.4	6 35.4	111	5.1	6 55.4	6 35.4	111	5.1
38	6 39.5	6 40.6	6 21.3	114	5.0	6 54.5	6 55.6	6 35.6	114	5.2	6 55.6	6 35.6	114	5.2
39	6 39.8	6 40.8	6 21.5	117	5.2	6 54.8	6 55.9	6 35.9	117	5.4	6 55.9	6 35.9	117	5.4
40	6 40.0	6 41.1	6 21.8	120	5.3	6 55.0	6 56.1	6 36.1	120	5.5	6 56.1	6 36.1	120	5.5
41	6 40.3	6 41.3	6 22.0	123	5.4	6 55.3	6 56.4	6 36.3	123	5.6	6 56.4	6 36.3	123	5.6
42	6 40.5	6 41.6	6 22.3	126	5.6	6 55.5	6 56.6	6 36.6	126	5.8	6 56.6	6 36.6	126	5.8
43	6 40.8	6 41.8	6 22.5	129	5.7	6 55.8	6 56.9	6 36.8	129	5.9	6 56.9	6 36.8	129	5.9
44	6 41.0	6 42.1	6 22.7	132	5.8	6 56.0	6 57.1	6 37.0	132	6.1	6 57.1	6 37.0	132	6.1
45	6 41.3	6 42.3	6 23.0	135	6.0	6 56.3	6 57.4	6 37.3	135	6.2	6 57.4	6 37.3	135	6.2
46	6 41.5	6 42.6	6 23.2	138	6.1	6 56.5	6 57.6	6 37.5	138	6.3	6 57.6	6 37.5	138	6.3
47	6 41.8	6 42.8	6 23.4	141	6.2	6 56.8	6 57.9	6 37.8	141	6.5	6 57.9	6 37.8	141	6.5
48	6 42.0	6 43.1	6 23.7	144	6.4	6 57.0	6 58.1	6 38.0	144	6.6	6 58.1	6 38.0	144	6.6
49	6 42.3	6 43.4	6 23.9	147	6.5	6 57.3	6 58.4	6 38.2	147	6.7	6 58.4	6 38.2	147	6.7
50	6 42.5	6 43.6	6 24.2	150	6.6	6 57.5	6 58.6	6 38.5	150	6.9	6 58.6	6 38.5	150	6.9
51	6 42.8	6 43.9	6 24.4	153	6.8	6 57.8	6 58.9	6 38.7	153	7.0	6 58.9	6 38.7	153	7.0
52	6 43.0	6 44.1	6 24.6	156	6.9	6 58.0	6 59.1	6 39.0	156	7.2	6 59.1	6 39.0	156	7.2
53	6 43.3	6 44.4	6 24.9	159	7.0	6 58.3	6 59.4	6 39.2	159	7.3	6 59.4	6 39.2	159	7.3
54	6 43.5	6 44.6	6 25.1	162	7.2	6 58.5	6 59.6	6 39.4	162	7.4	6 59.6	6 39.4	162	7.4
55	6 43.8	6 44.9	6 25.4	165	7.3	6 58.8	6 59.9	6 39.7	165	7.6	6 59.9	6 39.7	165	7.6
56	6 44.0	6 45.1	6 25.6	168	7.4	6 59.0	7 0.1	6 39.9	168	7.7	7 0.1	6 39.9	168	7.7
57	6 44.3	6 45.4	6 25.8	171	7.6	6 59.3	7 0.4	6 40.2	171	7.8	7 0.4	6 40.2	171	7.8
58	6 44.5	6 45.6	6 26.1	174	7.7	6 59.5	7 0.6	6 40.4	174	8.0	7 0.6	6 40.4	174	8.0
59	6 44.8	6 45.9	6 26.3	177	7.8	6 59.8	7 0.9	6 40.6	177	8.1	7 0.9	6 40.6	177	8.1
60	6 45.0	6 46.1	6 26.6	180	8.0	7 0.0	7 1.1	6 40.9	180	8.3	7 1.1	6 40.9	180	8.3

28 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	29 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° / '	° / '	° / '	° / '	° / '			s	° / '	° / '	° / '	° / '	° / '		
0	7 0.0	7 1.1	6 40.9	0	0.0	0	0.0	0	7 15.0	7 16.2	6 55.2	0	0.0		
1	7 0.3	7 1.4	6 41.1	3	0.1	1	0.1	1	7 15.3	7 16.4	6 55.4	3	0.1		
2	7 0.5	7 1.7	6 41.3	6	0.3	2	0.3	2	7 15.5	7 16.7	6 55.7	6	0.3		
3	7 0.8	7 1.9	6 41.6	9	0.4	3	0.4	3	7 15.8	7 16.9	6 55.9	9	0.4		
4	7 1.0	7 2.2	6 41.8	12	0.6	4	0.6	4	7 16.0	7 17.2	6 56.1	12	0.6		
5	7 1.3	7 2.4	6 42.1	15	0.7	5	0.7	5	7 16.3	7 17.4	6 56.4	15	0.7		
6	7 1.5	7 2.7	6 42.3	18	0.9	6	0.9	6	7 16.5	7 17.7	6 56.6	18	0.9		
7	7 1.8	7 2.9	6 42.5	21	1.0	7	1.0	7	7 16.8	7 17.9	6 56.9	21	1.0		
8	7 2.0	7 3.2	6 42.8	24	1.1	8	1.1	8	7 17.0	7 18.2	6 57.1	24	1.2		
9	7 2.3	7 3.4	6 43.0	27	1.3	9	1.3	9	7 17.3	7 18.4	6 57.3	27	1.3		
10	7 2.5	7 3.7	6 43.3	30	1.4	10	1.4	10	7 17.5	7 18.7	6 57.6	30	1.5		
11	7 2.8	7 3.9	6 43.5	33	1.6	11	1.6	11	7 17.8	7 18.9	6 57.8	33	1.6		
12	7 3.0	7 4.2	6 43.7	36	1.7	12	1.7	12	7 18.0	7 19.2	6 58.0	36	1.8		
13	7 3.3	7 4.4	6 44.0	39	1.9	13	1.9	13	7 18.3	7 19.4	6 58.3	39	1.9		
14	7 3.5	7 4.7	6 44.2	42	2.0	14	2.0	14	7 18.5	7 19.7	6 58.5	42	2.1		
15	7 3.8	7 4.9	6 44.4	45	2.1	15	2.1	15	7 18.8	7 20.0	6 58.8	45	2.2		
16	7 4.0	7 5.2	6 44.7	48	2.3	16	2.3	16	7 19.0	7 20.2	6 59.0	48	2.4		
17	7 4.3	7 5.4	6 44.9	51	2.4	17	2.4	17	7 19.3	7 20.5	6 59.2	51	2.5		
18	7 4.5	7 5.7	6 45.2	54	2.6	18	2.6	18	7 19.5	7 20.7	6 59.5	54	2.7		
19	7 4.8	7 5.9	6 45.4	57	2.7	19	2.7	19	7 19.8	7 21.0	6 59.7	57	2.8		
20	7 5.0	7 6.2	6 45.6	60	2.9	20	2.9	20	7 20.0	7 21.2	7 0.0	60	3.0		
21	7 5.3	7 6.4	6 45.9	63	3.0	21	3.0	21	7 20.3	7 21.5	7 0.2	63	3.1		
22	7 5.5	7 6.7	6 46.1	66	3.1	22	3.1	22	7 20.5	7 21.7	7 0.4	66	3.2		
23	7 5.8	7 6.9	6 46.4	69	3.3	23	3.3	23	7 20.8	7 22.0	7 0.7	69	3.4		
24	7 6.0	7 7.2	6 46.6	72	3.4	24	3.4	24	7 21.0	7 22.2	7 0.9	72	3.5		
25	7 6.3	7 7.4	6 46.8	75	3.6	25	3.6	25	7 21.3	7 22.5	7 1.1	75	3.7		
26	7 6.5	7 7.7	6 47.1	78	3.7	26	3.7	26	7 21.5	7 22.7	7 1.4	78	3.8		
27	7 6.8	7 7.9	6 47.3	81	3.8	27	3.8	27	7 21.8	7 23.0	7 1.6	81	4.0		
28	7 7.0	7 8.2	6 47.5	84	4.0	28	4.0	28	7 22.0	7 23.2	7 1.9	84	4.1		
29	7 7.3	7 8.4	6 47.8	87	4.1	29	4.1	29	7 22.3	7 23.5	7 2.1	87	4.3		
30	7 7.5	7 8.7	6 48.0	90	4.3	30	4.3	30	7 22.5	7 23.7	7 2.3	90	4.4		
31	7 7.8	7 8.9	6 48.3	93	4.4	31	4.4	31	7 22.8	7 24.0	7 2.6	93	4.6		
32	7 8.0	7 9.2	6 48.5	96	4.6	32	4.6	32	7 23.0	7 24.2	7 2.8	96	4.7		
33	7 8.3	7 9.4	6 48.7	99	4.7	33	4.7	33	7 23.3	7 24.5	7 3.1	99	4.9		
34	7 8.5	7 9.7	6 49.0	102	4.8	34	4.8	34	7 23.5	7 24.7	7 3.3	102	5.0		
35	7 8.8	7 9.9	6 49.2	105	5.0	35	5.0	35	7 23.8	7 25.0	7 3.5	105	5.2		
36	7 9.0	7 10.2	6 49.5	108	5.1	36	5.1	36	7 24.0	7 25.2	7 3.8	108	5.3		
37	7 9.3	7 10.4	6 49.7	111	5.3	37	5.3	37	7 24.3	7 25.5	7 4.0	111	5.5		
38	7 9.5	7 10.7	6 49.9	114	5.4	38	5.4	38	7 24.5	7 25.7	7 4.3	114	5.6		
39	7 9.8	7 10.9	6 50.2	117	5.6	39	5.6	39	7 24.8	7 26.0	7 4.5	117	5.8		
40	7 10.0	7 11.2	6 50.4	120	5.7	40	5.7	40	7 25.0	7 26.2	7 4.7	120	5.9		
41	7 10.3	7 11.4	6 50.6	123	5.8	41	5.8	41	7 25.3	7 26.5	7 5.0	123	6.0		
42	7 10.5	7 11.7	6 50.9	126	6.0	42	6.0	42	7 25.5	7 26.7	7 5.2	126	6.2		
43	7 10.8	7 11.9	6 51.1	129	6.1	43	6.1	43	7 25.8	7 27.0	7 5.4	129	6.3		
44	7 11.0	7 12.2	6 51.4	132	6.3	44	6.3	44	7 26.0	7 27.2	7 5.7	132	6.5		
45	7 11.3	7 12.4	6 51.6	135	6.4	45	6.4	45	7 26.3	7 27.5	7 5.9	135	6.6		
46	7 11.5	7 12.7	6 51.8	138	6.6	46	6.6	46	7 26.5	7 27.7	7 6.2	138	6.8		
47	7 11.8	7 12.9	6 52.1	141	6.7	47	6.7	47	7 26.8	7 28.0	7 6.4	141	6.9		
48	7 12.0	7 13.2	6 52.3	144	6.8	48	6.8	48	7 27.0	7 28.2	7 6.6	144	7.1		
49	7 12.3	7 13.4	6 52.6	147	7.0	49	7.0	49	7 27.3	7 28.5	7 6.9	147	7.2		
50	7 12.5	7 13.7	6 52.8	150	7.1	50	7.1	50	7 27.5	7 28.7	7 7.1	150	7.4		
51	7 12.8	7 13.9	6 53.0	153	7.3	51	7.3	51	7 27.8	7 29.0	7 7.4	153	7.5		
52	7 13.0	7 14.2	6 53.3	156	7.4	52	7.4	52	7 28.0	7 29.2	7 7.6	156	7.7		
53	7 13.3	7 14.4	6 53.5	159	7.6	53	7.6	53	7 28.3	7 29.5	7 7.8	159	7.8		
54	7 13.5	7 14.7	6 53.8	162	7.7	54	7.7	54	7 28.5	7 29.7	7 8.1	162	8.0		
55	7 13.8	7 14.9	6 54.0	165	7.8	55	7.8	55	7 28.8	7 30.0	7 8.3	165	8.1		
56	7 14.0	7 15.2	6 54.2	168	8.0	56	8.0	56	7 29.0	7 30.2	7 8.5	168	8.3		
57	7 14.3	7 15.4	6 54.5	171	8.1	57	8.1	57	7 29.3	7 30.5	7 8.8	171	8.4		
58	7 14.5	7 15.7	6 54.7	174	8.3	58	8.3	58	7 29.5	7 30.7	7 9.0	174	8.6		
59	7 14.8	7 15.9	6 54.9	177	8.4	59	8.4	59	7 29.8	7 31.0	7 9.3	177	8.7		
60	7 15.0	7 16.2	6 55.2	180	8.6	60	8.6	60	7 30.0	7 31.2	7 9.5	180	8.9		

30 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	31 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
0	7 30.0	7 31.2	7 9.5	0	0.0	0	0.0	0	7 45.0	7 46.3	7 23.8	0	0.0	0	0.0
1	7 30.3	7 31.5	7 9.7	3	0.2	1	7 45.3	7 46.5	7 24.1	3	0.2	1	7 45.3	7 46.5	7 24.1
2	7 30.5	7 31.7	7 10.0	6	0.3	2	7 45.5	7 46.8	7 24.3	6	0.3	2	7 45.5	7 46.8	7 24.3
3	7 30.8	7 32.0	7 10.2	9	0.5	3	7 45.8	7 47.0	7 24.5	9	0.5	3	7 45.8	7 47.0	7 24.5
4	7 31.0	7 32.2	7 10.5	12	0.6	4	7 46.0	7 47.3	7 24.8	12	0.6	4	7 46.0	7 47.3	7 24.8
5	7 31.3	7 32.5	7 10.7	15	0.8	5	7 46.3	7 47.5	7 25.0	15	0.8	5	7 46.3	7 47.5	7 25.0
6	7 31.5	7 32.7	7 10.9	18	0.9	6	7 46.5	7 47.8	7 25.2	18	0.9	6	7 46.5	7 47.8	7 25.2
7	7 31.8	7 33.0	7 11.2	21	1.1	7	7 46.8	7 48.0	7 25.5	21	1.1	7	7 46.8	7 48.0	7 25.5
8	7 32.0	7 33.2	7 11.4	24	1.2	8	7 47.0	7 48.3	7 25.7	24	1.3	8	7 47.0	7 48.3	7 25.7
9	7 32.3	7 33.5	7 11.6	27	1.4	9	7 47.3	7 48.5	7 26.0	27	1.4	9	7 47.3	7 48.5	7 26.0
10	7 32.5	7 33.7	7 11.9	30	1.5	10	7 47.5	7 48.8	7 26.2	30	1.6	10	7 47.5	7 48.8	7 26.2
11	7 32.8	7 34.0	7 12.1	33	1.7	11	7 47.8	7 49.0	7 26.4	33	1.7	11	7 47.8	7 49.0	7 26.4
12	7 33.0	7 34.2	7 12.4	36	1.8	12	7 48.0	7 49.3	7 26.7	36	1.9	12	7 48.0	7 49.3	7 26.7
13	7 33.3	7 34.5	7 12.6	39	2.0	13	7 48.3	7 49.5	7 26.9	39	2.0	13	7 48.3	7 49.5	7 26.9
14	7 33.5	7 34.7	7 12.8	42	2.1	14	7 48.5	7 49.8	7 27.2	42	2.2	14	7 48.5	7 49.8	7 27.2
15	7 33.8	7 35.0	7 13.1	45	2.3	15	7 48.8	7 50.0	7 27.4	45	2.4	15	7 48.8	7 50.0	7 27.4
16	7 34.0	7 35.2	7 13.3	48	2.4	16	7 49.0	7 50.3	7 27.6	48	2.5	16	7 49.0	7 50.3	7 27.6
17	7 34.3	7 35.5	7 13.6	51	2.6	17	7 49.3	7 50.5	7 27.9	51	2.7	17	7 49.3	7 50.5	7 27.9
18	7 34.5	7 35.7	7 13.8	54	2.7	18	7 49.5	7 50.8	7 28.1	54	2.8	18	7 49.5	7 50.8	7 28.1
19	7 34.8	7 36.0	7 14.0	57	2.9	19	7 49.8	7 51.0	7 28.4	57	3.0	19	7 49.8	7 51.0	7 28.4
20	7 35.0	7 36.2	7 14.3	60	3.1	20	7 50.0	7 51.3	7 28.6	60	3.2	20	7 50.0	7 51.3	7 28.6
21	7 35.3	7 36.5	7 14.5	63	3.2	21	7 50.3	7 51.5	7 28.8	63	3.3	21	7 50.3	7 51.5	7 28.8
22	7 35.5	7 36.7	7 14.7	66	3.4	22	7 50.5	7 51.8	7 29.1	66	3.5	22	7 50.5	7 51.8	7 29.1
23	7 35.8	7 37.0	7 15.0	69	3.5	23	7 50.8	7 52.0	7 29.3	69	3.6	23	7 50.8	7 52.0	7 29.3
24	7 36.0	7 37.2	7 15.2	72	3.7	24	7 51.0	7 52.3	7 29.5	72	3.8	24	7 51.0	7 52.3	7 29.5
25	7 36.3	7 37.5	7 15.5	75	3.8	25	7 51.3	7 52.5	7 29.8	75	3.9	25	7 51.3	7 52.5	7 29.8
26	7 36.5	7 37.7	7 15.7	78	4.0	26	7 51.5	7 52.8	7 30.0	78	4.1	26	7 51.5	7 52.8	7 30.0
27	7 36.8	7 38.0	7 15.9	81	4.1	27	7 51.8	7 53.0	7 30.3	81	4.3	27	7 51.8	7 53.0	7 30.3
28	7 37.0	7 38.3	7 16.2	84	4.3	28	7 52.0	7 53.3	7 30.5	84	4.4	28	7 52.0	7 53.3	7 30.5
29	7 37.3	7 38.5	7 16.4	87	4.4	29	7 52.3	7 53.5	7 30.7	87	4.6	29	7 52.3	7 53.5	7 30.7
30	7 37.5	7 38.8	7 16.7	90	4.6	30	7 52.5	7 53.8	7 31.0	90	4.7	30	7 52.5	7 53.8	7 31.0
31	7 37.8	7 39.0	7 16.9	93	4.7	31	7 52.8	7 54.0	7 31.2	93	4.9	31	7 52.8	7 54.0	7 31.2
32	7 38.0	7 39.3	7 17.1	96	4.9	32	7 53.0	7 54.3	7 31.5	96	5.0	32	7 53.0	7 54.3	7 31.5
33	7 38.3	7 39.5	7 17.4	99	5.0	33	7 53.3	7 54.5	7 31.7	99	5.2	33	7 53.3	7 54.5	7 31.7
34	7 38.5	7 39.8	7 17.6	102	5.2	34	7 53.5	7 54.8	7 31.9	102	5.4	34	7 53.5	7 54.8	7 31.9
35	7 38.8	7 40.0	7 17.9	105	5.3	35	7 53.8	7 55.0	7 32.2	105	5.5	35	7 53.8	7 55.0	7 32.2
36	7 39.0	7 40.3	7 18.1	108	5.5	36	7 54.0	7 55.3	7 32.4	108	5.7	36	7 54.0	7 55.3	7 32.4
37	7 39.3	7 40.5	7 18.3	111	5.6	37	7 54.3	7 55.5	7 32.6	111	5.8	37	7 54.3	7 55.5	7 32.6
38	7 39.5	7 40.8	7 18.6	114	5.8	38	7 54.5	7 55.8	7 32.9	114	6.0	38	7 54.5	7 55.8	7 32.9
39	7 39.8	7 41.0	7 18.8	117	5.9	39	7 54.8	7 56.0	7 33.1	117	6.1	39	7 54.8	7 56.0	7 33.1
40	7 40.0	7 41.3	7 19.0	120	6.1	40	7 55.0	7 56.3	7 33.4	120	6.3	40	7 55.0	7 56.3	7 33.4
41	7 40.3	7 41.5	7 19.3	123	6.3	41	7 55.3	7 56.6	7 33.6	123	6.5	41	7 55.3	7 56.6	7 33.6
42	7 40.5	7 41.8	7 19.5	126	6.4	42	7 55.5	7 56.8	7 33.8	126	6.6	42	7 55.5	7 56.8	7 33.8
43	7 40.8	7 42.0	7 19.8	129	6.6	43	7 55.8	7 57.1	7 34.1	129	6.8	43	7 55.8	7 57.1	7 34.1
44	7 41.0	7 42.3	7 20.0	132	6.7	44	7 56.0	7 57.3	7 34.3	132	6.9	44	7 56.0	7 57.3	7 34.3
45	7 41.3	7 42.5	7 20.2	135	6.9	45	7 56.3	7 57.6	7 34.6	135	7.1	45	7 56.3	7 57.6	7 34.6
46	7 41.5	7 42.8	7 20.5	138	7.0	46	7 56.5	7 57.8	7 34.8	138	7.2	46	7 56.5	7 57.8	7 34.8
47	7 41.8	7 43.0	7 20.7	141	7.2	47	7 56.8	7 58.1	7 35.0	141	7.4	47	7 56.8	7 58.1	7 35.0
48	7 42.0	7 43.3	7 21.0	144	7.3	48	7 57.0	7 58.3	7 35.3	144	7.6	48	7 57.0	7 58.3	7 35.3
49	7 42.3	7 43.5	7 21.2	147	7.5	49	7 57.3	7 58.6	7 35.5	147	7.7	49	7 57.3	7 58.6	7 35.5
50	7 42.5	7 43.8	7 21.4	150	7.6	50	7 57.5	7 58.8	7 35.7	150	7.9	50	7 57.5	7 58.8	7 35.7
51	7 42.8	7 44.0	7 21.7	153	7.8	51	7 57.8	7 59.1	7 36.0	153	8.0	51	7 57.8	7 59.1	7 36.0
52	7 43.0	7 44.3	7 21.9	156	7.9	52	7 58.0	7 59.3	7 36.2	156	8.2	52	7 58.0	7 59.3	7 36.2
53	7 43.3	7 44.5	7 22.1	159	8.1	53	7 58.3	7 59.6	7 36.5	159	8.3	53	7 58.3	7 59.6	7 36.5
54	7 43.5	7 44.8	7 22.4	162	8.2	54	7 58.5	7 59.8	7 36.7	162	8.5	54	7 58.5	7 59.8	7 36.7
55	7 43.8	7 45.0	7 22.6	165	8.4	55	7 58.8	8 0.1	7 36.9	165	8.7	55	7 58.8	8 0.1	7 36.9
56	7 44.0	7 45.3	7 22.9	168	8.5	56	7 59.0	8 0.3	7 37.2	168	8.8	56	7 59.0	8 0.3	7 37.2
57	7 44.3	7 45.5	7 23.1	171	8.7	57	7 59.3	8 0.6	7 37.4	171	9.0	57	7 59.3	8 0.6	7 37.4
58	7 44.5	7 45.8	7 23.3	174	8.8	58	7 59.5	8 0.8	7 37.7	174	9.1	58	7 59.5	8 0.8	7 37.7
59	7 44.8	7 46.0	7 23.6	177	9.0	59	7 59.8	8 1.1	7 37.9	177	9.3	59	7 59.8	8 1.1	7 37.9
60	7 45.0	7 46.3	7 23.8	180	9.2	60	8 0.0	8 1.3	7 38.1	180	9.5	60	8 0.0	8 1.3	7 38.1

32 <sup>m</sup>				Sol y planetas		Aries	Luna	Dif.	Correc.	33 <sup>m</sup>				Sol y planetas		Aries	Luna	Dif.	Correc.
s	°	'	''	s	°	'	''	0	'	s	°	'	''	s	°	'	''	0	'
0	8	0.0		8	1.3	7	38.1	0	0.0	0	8	15.0	8	16.4	7	52.5	0	0.0	
1	8	0.3		8	1.6	7	38.4	3	0.2	1	8	15.3	8	16.6	7	52.7	3	0.2	
2	8	0.5		8	1.8	7	38.6	6	0.3	2	8	15.5	8	16.9	7	52.9	6	0.3	
3	8	0.8		8	2.1	7	38.8	9	0.5	3	8	15.8	8	17.1	7	53.2	9	0.5	
4	8	1.0		8	2.3	7	39.1	12	0.7	4	8	16.0	8	17.4	7	53.4	12	0.7	
5	8	1.3		8	2.6	7	39.3	15	0.8	5	8	16.3	8	17.6	7	53.6	15	0.8	
6	8	1.5		8	2.8	7	39.6	18	1.0	6	8	16.5	8	17.9	7	53.9	18	1.0	
7	8	1.8		8	3.1	7	39.8	21	1.1	7	8	16.8	8	18.1	7	54.1	21	1.2	
8	8	2.0		8	3.3	7	40.0	24	1.3	8	8	17.0	8	18.4	7	54.4	24	1.3	
9	8	2.3		8	3.6	7	40.3	27	1.5	9	8	17.3	8	18.6	7	54.6	27	1.5	
10	8	2.5		8	3.8	7	40.5	30	1.6	10	8	17.5	8	18.9	7	54.8	30	1.7	
11	8	2.8		8	4.1	7	40.8	33	1.8	11	8	17.8	8	19.1	7	55.1	33	1.8	
12	8	3.0		8	4.3	7	41.0	36	2.0	12	8	18.0	8	19.4	7	55.3	36	2.0	
13	8	3.3		8	4.6	7	41.2	39	2.1	13	8	18.3	8	19.6	7	55.6	39	2.2	
14	8	3.5		8	4.8	7	41.5	42	2.3	14	8	18.5	8	19.9	7	55.8	42	2.3	
15	8	3.8		8	5.1	7	41.7	45	2.4	15	8	18.8	8	20.1	7	56.0	45	2.5	
16	8	4.0		8	5.3	7	42.0	48	2.6	16	8	19.0	8	20.4	7	56.3	48	2.7	
17	8	4.3		8	5.6	7	42.2	51	2.8	17	8	19.3	8	20.6	7	56.5	51	2.8	
18	8	4.5		8	5.8	7	42.4	54	2.9	18	8	19.5	8	20.9	7	56.7	54	3.0	
19	8	4.8		8	6.1	7	42.7	57	3.1	19	8	19.8	8	21.1	7	57.0	57	3.2	
20	8	5.0		8	6.3	7	42.9	60	3.3	20	8	20.0	8	21.4	7	57.2	60	3.4	
21	8	5.3		8	6.6	7	43.1	63	3.4	21	8	20.3	8	21.6	7	57.5	63	3.5	
22	8	5.5		8	6.8	7	43.4	66	3.6	22	8	20.5	8	21.9	7	57.7	66	3.7	
23	8	5.8		8	7.1	7	43.6	69	3.7	23	8	20.8	8	22.1	7	57.9	69	3.9	
24	8	6.0		8	7.3	7	43.9	72	3.9	24	8	21.0	8	22.4	7	58.2	72	4.0	
25	8	6.3		8	7.6	7	44.1	75	4.1	25	8	21.3	8	22.6	7	58.4	75	4.2	
26	8	6.5		8	7.8	7	44.3	78	4.2	26	8	21.5	8	22.9	7	58.7	78	4.4	
27	8	6.8		8	8.1	7	44.6	81	4.4	27	8	21.8	8	23.1	7	58.9	81	4.5	
28	8	7.0		8	8.3	7	44.8	84	4.6	28	8	22.0	8	23.4	7	59.1	84	4.7	
29	8	7.3		8	8.6	7	45.1	87	4.7	29	8	22.3	8	23.6	7	59.4	87	4.9	
30	8	7.5		8	8.8	7	45.3	90	4.9	30	8	22.5	8	23.9	7	59.6	90	5.0	
31	8	7.8		8	9.1	7	45.5	93	5.0	31	8	22.8	8	24.1	7	59.8	93	5.2	
32	8	8.0		8	9.3	7	45.8	96	5.2	32	8	23.0	8	24.4	8	0.1	96	5.4	
33	8	8.3		8	9.6	7	46.0	99	5.4	33	8	23.3	8	24.6	8	0.3	99	5.5	
34	8	8.5		8	9.8	7	46.2	102	5.5	34	8	23.5	8	24.9	8	0.6	102	5.7	
35	8	8.8		8	10.1	7	46.5	105	5.7	35	8	23.8	8	25.1	8	0.8	105	5.9	
36	8	9.0		8	10.3	7	46.7	108	5.9	36	8	24.0	8	25.4	8	1.0	108	6.0	
37	8	9.3		8	10.6	7	47.0	111	6.0	37	8	24.3	8	25.6	8	1.3	111	6.2	
38	8	9.5		8	10.8	7	47.2	114	6.2	38	8	24.5	8	25.9	8	1.5	114	6.4	
39	8	9.8		8	11.1	7	47.4	117	6.3	39	8	24.8	8	26.1	8	1.8	117	6.5	
40	8	10.0		8	11.3	7	47.7	120	6.5	40	8	25.0	8	26.4	8	2.0	120	6.7	
41	8	10.3		8	11.6	7	47.9	123	6.7	41	8	25.3	8	26.6	8	2.2	123	6.9	
42	8	10.5		8	11.8	7	48.2	126	6.8	42	8	25.5	8	26.9	8	2.5	126	7.0	
43	8	10.8		8	12.1	7	48.4	129	7.0	43	8	25.8	8	27.1	8	2.7	129	7.2	
44	8	11.0		8	12.3	7	48.6	132	7.2	44	8	26.0	8	27.4	8	2.9	132	7.4	
45	8	11.3		8	12.6	7	48.9	135	7.3	45	8	26.3	8	27.6	8	3.2	135	7.5	
46	8	11.5		8	12.8	7	49.1	138	7.5	46	8	26.5	8	27.9	8	3.4	138	7.7	
47	8	11.8		8	13.1	7	49.3	141	7.6	47	8	26.8	8	28.1	8	3.7	141	7.9	
48	8	12.0		8	13.3	7	49.6	144	7.8	48	8	27.0	8	28.4	8	3.9	144	8.0	
49	8	12.3		8	13.6	7	49.8	147	8.0	49	8	27.3	8	28.6	8	4.1	147	8.2	
50	8	12.5		8	13.8	7	50.1	150	8.1	50	8	27.5	8	28.9	8	4.4	150	8.4	
51	8	12.8		8	14.1	7	50.3	153	8.3	51	8	27.8	8	29.1	8	4.6	153	8.5	
52	8	13.0		8	14.3	7	50.5	156	8.5	52	8	28.0	8	29.4	8	4.9	156	8.7	
53	8	13.3		8	14.6	7	50.8	159	8.6	53	8	28.3	8	29.6	8	5.1	159	8.9	
54	8	13.5		8	14.9	7	51.0	162	8.8	54	8	28.5	8	29.9	8	5.3	162	9.0	
55	8	13.8		8	15.1	7	51.3	165	8.9	55	8	28.8	8	30.1	8	5.6	165	9.2	
56	8	14.0		8	15.4	7	51.5	168	9.1	56	8	29.0	8	30.4	8	5.8	168	9.4	
57	8	14.3		8	15.6	7	51.7	171	9.3	57	8	29.3	8	30.6	8	6.1	171	9.5	
58	8	14.5		8	15.9	7	52.0	174	9.4	58	8	29.5	8	30.9	8	6.3	174	9.7	
59	8	14.8		8	16.1	7	52.2	177	9.6	59	8	29.8	8	31.1	8	6.5	177	9.9	
60	8	15.0		8	16.4	7	52.5	180	9.8	60	8	30.0	8	31.4	8	6.8	180	10.1	



34 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	35 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° / '	° / '	° / '	° / '	° / '			s	° / '	° / '	° / '	° / '	° / '		
0	8 30.0	8 31.4	8 6.8	0	0.0	0	0.0	0	8 45.0	8 46.4	8 21.1	0	0.0	0	0.0
1	8 30.3	8 31.6	8 7.0	3	0.2	1	8 45.3	8 46.7	8 21.3	3	0.2	1	8 45.3	8 46.7	8 21.3
2	8 30.5	8 31.9	8 7.2	6	0.3	2	8 45.5	8 46.9	8 21.6	6	0.4	2	8 45.5	8 46.9	8 21.6
3	8 30.8	8 32.1	8 7.5	9	0.5	3	8 45.8	8 47.2	8 21.8	9	0.5	3	8 45.8	8 47.2	8 21.8
4	8 31.0	8 32.4	8 7.7	12	0.7	4	8 46.0	8 47.4	8 22.0	12	0.7	4	8 46.0	8 47.4	8 22.0
5	8 31.3	8 32.6	8 8.0	15	0.9	5	8 46.3	8 47.7	8 22.3	15	0.9	5	8 46.3	8 47.7	8 22.3
6	8 31.5	8 32.9	8 8.2	18	1.0	6	8 46.5	8 47.9	8 22.5	18	1.1	6	8 46.5	8 47.9	8 22.5
7	8 31.8	8 33.2	8 8.4	21	1.2	7	8 46.8	8 48.2	8 22.8	21	1.2	7	8 46.8	8 48.2	8 22.8
8	8 32.0	8 33.4	8 8.7	24	1.4	8	8 47.0	8 48.4	8 23.0	24	1.4	8	8 47.0	8 48.4	8 23.0
9	8 32.3	8 33.7	8 8.9	27	1.6	9	8 47.3	8 48.7	8 23.2	27	1.6	9	8 47.3	8 48.7	8 23.2
10	8 32.5	8 33.9	8 9.2	30	1.7	10	8 47.5	8 48.9	8 23.5	30	1.8	10	8 47.5	8 48.9	8 23.5
11	8 32.8	8 34.2	8 9.4	33	1.9	11	8 47.8	8 49.2	8 23.7	33	2.0	11	8 47.8	8 49.2	8 23.7
12	8 33.0	8 34.4	8 9.6	36	2.1	12	8 48.0	8 49.4	8 23.9	36	2.1	12	8 48.0	8 49.4	8 23.9
13	8 33.3	8 34.7	8 9.9	39	2.2	13	8 48.3	8 49.7	8 24.2	39	2.3	13	8 48.3	8 49.7	8 24.2
14	8 33.5	8 34.9	8 10.1	42	2.4	14	8 48.5	8 49.9	8 24.4	42	2.5	14	8 48.5	8 49.9	8 24.4
15	8 33.8	8 35.2	8 10.3	45	2.6	15	8 48.8	8 50.2	8 24.7	45	2.7	15	8 48.8	8 50.2	8 24.7
16	8 34.0	8 35.4	8 10.6	48	2.8	16	8 49.0	8 50.4	8 24.9	48	2.8	16	8 49.0	8 50.4	8 24.9
17	8 34.3	8 35.7	8 10.8	51	2.9	17	8 49.3	8 50.7	8 25.1	51	3.0	17	8 49.3	8 50.7	8 25.1
18	8 34.5	8 35.9	8 11.1	54	3.1	18	8 49.5	8 50.9	8 25.4	54	3.2	18	8 49.5	8 50.9	8 25.4
19	8 34.8	8 36.2	8 11.3	57	3.3	19	8 49.8	8 51.2	8 25.6	57	3.4	19	8 49.8	8 51.2	8 25.6
20	8 35.0	8 36.4	8 11.5	60	3.5	20	8 50.0	8 51.5	8 25.9	60	3.6	20	8 50.0	8 51.5	8 25.9
21	8 35.3	8 36.7	8 11.8	63	3.6	21	8 50.3	8 51.7	8 26.1	63	3.7	21	8 50.3	8 51.7	8 26.1
22	8 35.5	8 36.9	8 12.0	66	3.8	22	8 50.5	8 52.0	8 26.3	66	3.9	22	8 50.5	8 52.0	8 26.3
23	8 35.8	8 37.2	8 12.3	69	4.0	23	8 50.8	8 52.2	8 26.6	69	4.1	23	8 50.8	8 52.2	8 26.6
24	8 36.0	8 37.4	8 12.5	72	4.1	24	8 51.0	8 52.5	8 26.8	72	4.3	24	8 51.0	8 52.5	8 26.8
25	8 36.3	8 37.7	8 12.7	75	4.3	25	8 51.3	8 52.7	8 27.0	75	4.4	25	8 51.3	8 52.7	8 27.0
26	8 36.5	8 37.9	8 13.0	78	4.5	26	8 51.5	8 53.0	8 27.3	78	4.6	26	8 51.5	8 53.0	8 27.3
27	8 36.8	8 38.2	8 13.2	81	4.7	27	8 51.8	8 53.2	8 27.5	81	4.8	27	8 51.8	8 53.2	8 27.5
28	8 37.0	8 38.4	8 13.4	84	4.8	28	8 52.0	8 53.5	8 27.8	84	5.0	28	8 52.0	8 53.5	8 27.8
29	8 37.3	8 38.7	8 13.7	87	5.0	29	8 52.3	8 53.7	8 28.0	87	5.1	29	8 52.3	8 53.7	8 28.0
30	8 37.5	8 38.9	8 13.9	90	5.2	30	8 52.5	8 54.0	8 28.2	90	5.3	30	8 52.5	8 54.0	8 28.2
31	8 37.8	8 39.2	8 14.2	93	5.3	31	8 52.8	8 54.2	8 28.5	93	5.5	31	8 52.8	8 54.2	8 28.5
32	8 38.0	8 39.4	8 14.4	96	5.5	32	8 53.0	8 54.5	8 28.7	96	5.7	32	8 53.0	8 54.5	8 28.7
33	8 38.3	8 39.7	8 14.6	99	5.7	33	8 53.3	8 54.7	8 29.0	99	5.9	33	8 53.3	8 54.7	8 29.0
34	8 38.5	8 39.9	8 14.9	102	5.9	34	8 53.5	8 55.0	8 29.2	102	6.0	34	8 53.5	8 55.0	8 29.2
35	8 38.8	8 40.2	8 15.1	105	6.0	35	8 53.8	8 55.2	8 29.4	105	6.2	35	8 53.8	8 55.2	8 29.4
36	8 39.0	8 40.4	8 15.4	108	6.2	36	8 54.0	8 55.5	8 29.7	108	6.4	36	8 54.0	8 55.5	8 29.7
37	8 39.3	8 40.7	8 15.6	111	6.4	37	8 54.3	8 55.7	8 29.9	111	6.6	37	8 54.3	8 55.7	8 29.9
38	8 39.5	8 40.9	8 15.8	114	6.6	38	8 54.5	8 56.0	8 30.2	114	6.7	38	8 54.5	8 56.0	8 30.2
39	8 39.8	8 41.2	8 16.1	117	6.7	39	8 54.8	8 56.2	8 30.4	117	6.9	39	8 54.8	8 56.2	8 30.4
40	8 40.0	8 41.4	8 16.3	120	6.9	40	8 55.0	8 56.5	8 30.6	120	7.1	40	8 55.0	8 56.5	8 30.6
41	8 40.3	8 41.7	8 16.5	123	7.1	41	8 55.3	8 56.7	8 30.9	123	7.3	41	8 55.3	8 56.7	8 30.9
42	8 40.5	8 41.9	8 16.8	126	7.2	42	8 55.5	8 57.0	8 31.1	126	7.5	42	8 55.5	8 57.0	8 31.1
43	8 40.8	8 42.2	8 17.0	129	7.4	43	8 55.8	8 57.2	8 31.3	129	7.6	43	8 55.8	8 57.2	8 31.3
44	8 41.0	8 42.4	8 17.3	132	7.6	44	8 56.0	8 57.5	8 31.6	132	7.8	44	8 56.0	8 57.5	8 31.6
45	8 41.3	8 42.7	8 17.5	135	7.8	45	8 56.3	8 57.7	8 31.8	135	8.0	45	8 56.3	8 57.7	8 31.8
46	8 41.5	8 42.9	8 17.7	138	7.9	46	8 56.5	8 58.0	8 32.1	138	8.2	46	8 56.5	8 58.0	8 32.1
47	8 41.8	8 43.2	8 18.0	141	8.1	47	8 56.8	8 58.2	8 32.3	141	8.3	47	8 56.8	8 58.2	8 32.3
48	8 42.0	8 43.4	8 18.2	144	8.3	48	8 57.0	8 58.5	8 32.5	144	8.5	48	8 57.0	8 58.5	8 32.5
49	8 42.3	8 43.7	8 18.5	147	8.5	49	8 57.3	8 58.7	8 32.8	147	8.7	49	8 57.3	8 58.7	8 32.8
50	8 42.5	8 43.9	8 18.7	150	8.6	50	8 57.5	8 59.0	8 33.0	150	8.9	50	8 57.5	8 59.0	8 33.0
51	8 42.8	8 44.2	8 18.9	153	8.8	51	8 57.8	8 59.2	8 33.3	153	9.1	51	8 57.8	8 59.2	8 33.3
52	8 43.0	8 44.4	8 19.2	156	9.0	52	8 58.0	8 59.5	8 33.5	156	9.2	52	8 58.0	8 59.5	8 33.5
53	8 43.3	8 44.7	8 19.4	159	9.1	53	8 58.3	8 59.7	8 33.7	159	9.4	53	8 58.3	8 59.7	8 33.7
54	8 43.5	8 44.9	8 19.7	162	9.3	54	8 58.5	9 0.0	8 34.0	162	9.6	54	8 58.5	9 0.0	8 34.0
55	8 43.8	8 45.2	8 19.9	165	9.5	55	8 58.8	9 0.2	8 34.2	165	9.8	55	8 58.8	9 0.2	8 34.2
56	8 44.0	8 45.4	8 20.1	168	9.7	56	8 59.0	9 0.5	8 34.4	168	9.9	56	8 59.0	9 0.5	8 34.4
57	8 44.3	8 45.7	8 20.4	171	9.8	57	8 59.3	9 0.7	8 34.7	171	10.1	57	8 59.3	9 0.7	8 34.7
58	8 44.5	8 45.9	8 20.6	174	10.0	58	8 59.5	9 1.0	8 34.9	174	10.3	58	8 59.5	9 1.0	8 34.9
59	8 44.8	8 46.2	8 20.8	177	10.2	59	8 59.8	9 1.2	8 35.2	177	10.5	59	8 59.8	9 1.2	8 35.2
60	8 45.0	8 46.4	8 21.1	180	10.4	60	9 0.0	9 1.5	8 35.4	180	10.7	60	9 0.0	9 1.5	8 35.4

36 <sup>m</sup>						37 <sup>m</sup>					
Sol y planetas		Aries	Luna	Dif.	Correc.	Sol y planetas		Aries	Luna	Dif.	Correc.
s	° / '	° / '	° / '			s	° / '	° / '	° / '		
0	9 0.0	9 1.5	8 35.4	0	0.0	0	9 15.0	9 16.5	8 49.7	0	0.0
1	9 0.3	9 1.7	8 35.6	3	0.2	1	9 15.3	9 16.8	8 50.0	3	0.2
2	9 0.5	9 2.0	8 35.9	6	0.4	2	9 15.5	9 17.0	8 50.2	6	0.4
3	9 0.8	9 2.2	8 36.1	9	0.5	3	9 15.8	9 17.3	8 50.4	9	0.6
4	9 1.0	9 2.5	8 36.4	12	0.7	4	9 16.0	9 17.5	8 50.7	12	0.8
5	9 1.3	9 2.7	8 36.6	15	0.9	5	9 16.3	9 17.8	8 50.9	15	0.9
6	9 1.5	9 3.0	8 36.8	18	1.1	6	9 16.5	9 18.0	8 51.1	18	1.1
7	9 1.8	9 3.2	8 37.1	21	1.3	7	9 16.8	9 18.3	8 51.4	21	1.3
8	9 2.0	9 3.5	8 37.3	24	1.5	8	9 17.0	9 18.5	8 51.6	24	1.5
9	9 2.3	9 3.7	8 37.5	27	1.6	9	9 17.3	9 18.8	8 51.9	27	1.7
10	9 2.5	9 4.0	8 37.8	30	1.8	10	9 17.5	9 19.0	8 52.1	30	1.9
11	9 2.8	9 4.2	8 38.0	33	2.0	11	9 17.8	9 19.3	8 52.3	33	2.1
12	9 3.0	9 4.5	8 38.3	36	2.2	12	9 18.0	9 19.5	8 52.6	36	2.3
13	9 3.3	9 4.7	8 38.5	39	2.4	13	9 18.3	9 19.8	8 52.8	39	2.4
14	9 3.5	9 5.0	8 38.7	42	2.6	14	9 18.5	9 20.0	8 53.1	42	2.6
15	9 3.8	9 5.2	8 39.0	45	2.7	15	9 18.8	9 20.3	8 53.3	45	2.8
16	9 4.0	9 5.5	8 39.2	48	2.9	16	9 19.0	9 20.5	8 53.5	48	3.0
17	9 4.3	9 5.7	8 39.5	51	3.1	17	9 19.3	9 20.8	8 53.8	51	3.2
18	9 4.5	9 6.0	8 39.7	54	3.3	18	9 19.5	9 21.0	8 54.0	54	3.4
19	9 4.8	9 6.2	8 39.9	57	3.5	19	9 19.8	9 21.3	8 54.3	57	3.6
20	9 5.0	9 6.5	8 40.2	60	3.7	20	9 20.0	9 21.5	8 54.5	60	3.8
21	9 5.3	9 6.7	8 40.4	63	3.8	21	9 20.3	9 21.8	8 54.7	63	3.9
22	9 5.5	9 7.0	8 40.6	66	4.0	22	9 20.5	9 22.0	8 55.0	66	4.1
23	9 5.8	9 7.2	8 40.9	69	4.2	23	9 20.8	9 22.3	8 55.2	69	4.3
24	9 6.0	9 7.5	8 41.1	72	4.4	24	9 21.0	9 22.5	8 55.4	72	4.5
25	9 6.3	9 7.7	8 41.4	75	4.6	25	9 21.3	9 22.8	8 55.7	75	4.7
26	9 6.5	9 8.0	8 41.6	78	4.7	26	9 21.5	9 23.0	8 55.9	78	4.9
27	9 6.8	9 8.2	8 41.8	81	4.9	27	9 21.8	9 23.3	8 56.2	81	5.1
28	9 7.0	9 8.5	8 42.1	84	5.1	28	9 22.0	9 23.5	8 56.4	84	5.3
29	9 7.3	9 8.7	8 42.3	87	5.3	29	9 22.3	9 23.8	8 56.6	87	5.4
30	9 7.5	9 9.0	8 42.6	90	5.5	30	9 22.5	9 24.0	8 56.9	90	5.6
31	9 7.8	9 9.2	8 42.8	93	5.7	31	9 22.8	9 24.3	8 57.1	93	5.8
32	9 8.0	9 9.5	8 43.0	96	5.8	32	9 23.0	9 24.5	8 57.4	96	6.0
33	9 8.3	9 9.8	8 43.3	99	6.0	33	9 23.3	9 24.8	8 57.6	99	6.2
34	9 8.5	9 10.0	8 43.5	102	6.2	34	9 23.5	9 25.0	8 57.8	102	6.4
35	9 8.8	9 10.3	8 43.8	105	6.4	35	9 23.8	9 25.3	8 58.1	105	6.6
36	9 9.0	9 10.5	8 44.0	108	6.6	36	9 24.0	9 25.5	8 58.3	108	6.8
37	9 9.3	9 10.8	8 44.2	111	6.8	37	9 24.3	9 25.8	8 58.5	111	6.9
38	9 9.5	9 11.0	8 44.5	114	6.9	38	9 24.5	9 26.0	8 58.8	114	7.1
39	9 9.8	9 11.3	8 44.7	117	7.1	39	9 24.8	9 26.3	8 59.0	117	7.3
40	9 10.0	9 11.5	8 44.9	120	7.3	40	9 25.0	9 26.5	8 59.3	120	7.5
41	9 10.3	9 11.8	8 45.2	123	7.5	41	9 25.3	9 26.8	8 59.5	123	7.7
42	9 10.5	9 12.0	8 45.4	126	7.7	42	9 25.5	9 27.0	8 59.7	126	7.9
43	9 10.8	9 12.3	8 45.7	129	7.8	43	9 25.8	9 27.3	9 0.0	129	8.1
44	9 11.0	9 12.5	8 45.9	132	8.0	44	9 26.0	9 27.5	9 0.2	132	8.3
45	9 11.3	9 12.8	8 46.1	135	8.2	45	9 26.3	9 27.8	9 0.5	135	8.4
46	9 11.5	9 13.0	8 46.4	138	8.4	46	9 26.5	9 28.1	9 0.7	138	8.6
47	9 11.8	9 13.3	8 46.6	141	8.6	47	9 26.8	9 28.3	9 0.9	141	8.8
48	9 12.0	9 13.5	8 46.9	144	8.8	48	9 27.0	9 28.6	9 1.2	144	9.0
49	9 12.3	9 13.8	8 47.1	147	8.9	49	9 27.3	9 28.8	9 1.4	147	9.2
50	9 12.5	9 14.0	8 47.3	150	9.1	50	9 27.5	9 29.1	9 1.6	150	9.4
51	9 12.8	9 14.3	8 47.6	153	9.3	51	9 27.8	9 29.3	9 1.9	153	9.6
52	9 13.0	9 14.5	8 47.8	156	9.5	52	9 28.0	9 29.6	9 2.1	156	9.8
53	9 13.3	9 14.8	8 48.0	159	9.7	53	9 28.3	9 29.8	9 2.4	159	9.9
54	9 13.5	9 15.0	8 48.3	162	9.9	54	9 28.5	9 30.1	9 2.6	162	10.1
55	9 13.8	9 15.3	8 48.5	165	10.0	55	9 28.8	9 30.3	9 2.8	165	10.3
56	9 14.0	9 15.5	8 48.8	168	10.2	56	9 29.0	9 30.6	9 3.1	168	10.5
57	9 14.3	9 15.8	8 49.0	171	10.4	57	9 29.3	9 30.8	9 3.3	171	10.7
58	9 14.5	9 16.0	8 49.2	174	10.6	58	9 29.5	9 31.1	9 3.6	174	10.9
59	9 14.8	9 16.3	8 49.5	177	10.8	59	9 29.8	9 31.3	9 3.8	177	11.1
60	9 15.0	9 16.5	8 49.7	180	11.0	60	9 30.0	9 31.6	9 4.0	180	11.3

38 <sup>m</sup>				Dif. Correc.		39 <sup>m</sup>				Dif. Correc.	
Sol y planetas	Aries	Luna				Sol y planetas	Aries	Luna			
0	9 30.0	9 31.6	9 4.0	0	0.0	0	9 45.0	9 46.6	9 18.4	0	0.0
1	9 30.3	9 31.8	9 4.3	3	0.2	1	9 45.3	9 46.9	9 18.6	3	0.2
2	9 30.5	9 32.1	9 4.5	6	0.4	2	9 45.5	9 47.1	9 18.8	6	0.4
3	9 30.8	9 32.3	9 4.7	9	0.6	3	9 45.8	9 47.4	9 19.1	9	0.6
4	9 31.0	9 32.6	9 5.0	12	0.8	4	9 46.0	9 47.6	9 19.3	12	0.8
5	9 31.3	9 32.8	9 5.2	15	1.0	5	9 46.3	9 47.9	9 19.5	15	1.0
6	9 31.5	9 33.1	9 5.5	18	1.2	6	9 46.5	9 48.1	9 19.8	18	1.2
7	9 31.8	9 33.3	9 5.7	21	1.3	7	9 46.8	9 48.4	9 20.0	21	1.4
8	9 32.0	9 33.6	9 5.9	24	1.5	8	9 47.0	9 48.6	9 20.3	24	1.6
9	9 32.3	9 33.8	9 6.2	27	1.7	9	9 47.3	9 48.9	9 20.5	27	1.8
10	9 32.5	9 34.1	9 6.4	30	1.9	10	9 47.5	9 49.1	9 20.7	30	2.0
11	9 32.8	9 34.3	9 6.7	33	2.1	11	9 47.8	9 49.4	9 21.0	33	2.2
12	9 33.0	9 34.6	9 6.9	36	2.3	12	9 48.0	9 49.6	9 21.2	36	2.4
13	9 33.3	9 34.8	9 7.1	39	2.5	13	9 48.3	9 49.9	9 21.5	39	2.6
14	9 33.5	9 35.1	9 7.4	42	2.7	14	9 48.5	9 50.1	9 21.7	42	2.8
15	9 33.8	9 35.3	9 7.6	45	2.9	15	9 48.8	9 50.4	9 21.9	45	3.0
16	9 34.0	9 35.6	9 7.9	48	3.1	16	9 49.0	9 50.6	9 22.2	48	3.2
17	9 34.3	9 35.8	9 8.1	51	3.3	17	9 49.3	9 50.9	9 22.4	51	3.4
18	9 34.5	9 36.1	9 8.3	54	3.5	18	9 49.5	9 51.1	9 22.6	54	3.6
19	9 34.8	9 36.3	9 8.6	57	3.7	19	9 49.8	9 51.4	9 22.9	57	3.8
20	9 35.0	9 36.6	9 8.8	60	3.9	20	9 50.0	9 51.6	9 23.1	60	4.0
21	9 35.3	9 36.8	9 9.0	63	4.0	21	9 50.3	9 51.9	9 23.4	63	4.1
22	9 35.5	9 37.1	9 9.3	66	4.2	22	9 50.5	9 52.1	9 23.6	66	4.3
23	9 35.8	9 37.3	9 9.5	69	4.4	23	9 50.8	9 52.4	9 23.8	69	4.5
24	9 36.0	9 37.6	9 9.8	72	4.6	24	9 51.0	9 52.6	9 24.1	72	4.7
25	9 36.3	9 37.8	9 10.0	75	4.8	25	9 51.3	9 52.9	9 24.3	75	4.9
26	9 36.5	9 38.1	9 10.2	78	5.0	26	9 51.5	9 53.1	9 24.6	78	5.1
27	9 36.8	9 38.3	9 10.5	81	5.2	27	9 51.8	9 53.4	9 24.8	81	5.3
28	9 37.0	9 38.6	9 10.7	84	5.4	28	9 52.0	9 53.6	9 25.0	84	5.5
29	9 37.3	9 38.8	9 11.0	87	5.6	29	9 52.3	9 53.9	9 25.3	87	5.7
30	9 37.5	9 39.1	9 11.2	90	5.8	30	9 52.5	9 54.1	9 25.5	90	5.9
31	9 37.8	9 39.3	9 11.4	93	6.0	31	9 52.8	9 54.4	9 25.7	93	6.1
32	9 38.0	9 39.6	9 11.7	96	6.2	32	9 53.0	9 54.6	9 26.0	96	6.3
33	9 38.3	9 39.8	9 11.9	99	6.4	33	9 53.3	9 54.9	9 26.2	99	6.5
34	9 38.5	9 40.1	9 12.1	102	6.5	34	9 53.5	9 55.1	9 26.5	102	6.7
35	9 38.8	9 40.3	9 12.4	105	6.7	35	9 53.8	9 55.4	9 26.7	105	6.9
36	9 39.0	9 40.6	9 12.6	108	6.9	36	9 54.0	9 55.6	9 26.9	108	7.1
37	9 39.3	9 40.8	9 12.9	111	7.1	37	9 54.3	9 55.9	9 27.2	111	7.3
38	9 39.5	9 41.1	9 13.1	114	7.3	38	9 54.5	9 56.1	9 27.4	114	7.5
39	9 39.8	9 41.3	9 13.3	117	7.5	39	9 54.8	9 56.4	9 27.7	117	7.7
40	9 40.0	9 41.6	9 13.6	120	7.7	40	9 55.0	9 56.6	9 27.9	120	7.9
41	9 40.3	9 41.8	9 13.8	123	7.9	41	9 55.3	9 56.9	9 28.1	123	8.1
42	9 40.5	9 42.1	9 14.1	126	8.1	42	9 55.5	9 57.1	9 28.4	126	8.3
43	9 40.8	9 42.3	9 14.3	129	8.3	43	9 55.8	9 57.4	9 28.6	129	8.5
44	9 41.0	9 42.6	9 14.5	132	8.5	44	9 56.0	9 57.6	9 28.8	132	8.7
45	9 41.3	9 42.8	9 14.8	135	8.7	45	9 56.3	9 57.9	9 29.1	135	8.9
46	9 41.5	9 43.1	9 15.0	138	8.9	46	9 56.5	9 58.1	9 29.3	138	9.1
47	9 41.8	9 43.3	9 15.2	141	9.0	47	9 56.8	9 58.4	9 29.6	141	9.3
48	9 42.0	9 43.6	9 15.5	144	9.2	48	9 57.0	9 58.6	9 29.8	144	9.5
49	9 42.3	9 43.8	9 15.7	147	9.4	49	9 57.3	9 58.9	9 30.0	147	9.7
50	9 42.5	9 44.1	9 16.0	150	9.6	50	9 57.5	9 59.1	9 30.3	150	9.9
51	9 42.8	9 44.3	9 16.2	153	9.8	51	9 57.8	9 59.4	9 30.5	153	10.1
52	9 43.0	9 44.6	9 16.4	156	10.0	52	9 58.0	9 59.6	9 30.8	156	10.3
53	9 43.3	9 44.8	9 16.7	159	10.2	53	9 58.3	9 59.9	9 31.0	159	10.5
54	9 43.5	9 45.1	9 16.9	162	10.4	54	9 58.5	10 0.1	9 31.2	162	10.7
55	9 43.8	9 45.3	9 17.2	165	10.6	55	9 58.8	10 0.4	9 31.5	165	10.9
56	9 44.0	9 45.6	9 17.4	168	10.8	56	9 59.0	10 0.6	9 31.7	168	11.1
57	9 44.3	9 45.8	9 17.6	171	11.0	57	9 59.3	10 0.9	9 32.0	171	11.3
58	9 44.5	9 46.1	9 17.9	174	11.2	58	9 59.5	10 1.1	9 32.2	174	11.5
59	9 44.8	9 46.4	9 18.1	177	11.4	59	9 59.8	10 1.4	9 32.4	177	11.7
60	9 45.0	9 46.6	9 18.4	180	11.6	60	10 0.0	10 1.6	9 32.7	180	11.9

40 <sup>m</sup>						41 <sup>m</sup>							
Sol y planetas			Aries	Luna	Dif.	Correc.	Sol y planetas			Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	s	°	'	°	'	°	'
0	10	0.0	10	1.6	9	32.7	0	10	15.0	10	16.7	9	47.0
1	10	0.3	10	1.9	9	32.9	3	10	15.3	10	16.9	9	47.2
2	10	0.5	10	2.1	9	33.1	6	10	15.5	10	17.2	9	47.5
3	10	0.8	10	2.4	9	33.4	9	10	15.8	10	17.4	9	47.7
4	10	1.0	10	2.6	9	33.6	12	10	16.0	10	17.7	9	47.9
5	10	1.3	10	2.9	9	33.9	15	10	16.3	10	17.9	9	48.2
6	10	1.5	10	3.1	9	34.1	18	10	16.5	10	18.2	9	48.4
7	10	1.8	10	3.4	9	34.3	21	10	16.8	10	18.4	9	48.7
8	10	2.0	10	3.6	9	34.6	24	10	17.0	10	18.7	9	48.9
9	10	2.3	10	3.9	9	34.8	27	10	17.3	10	18.9	9	49.1
10	10	2.5	10	4.1	9	35.1	30	10	17.5	10	19.2	9	49.4
11	10	2.8	10	4.4	9	35.3	33	10	17.8	10	19.4	9	49.6
12	10	3.0	10	4.7	9	35.5	36	10	18.0	10	19.7	9	49.8
13	10	3.3	10	4.9	9	35.8	39	10	18.3	10	19.9	9	50.1
14	10	3.5	10	5.2	9	36.0	42	10	18.5	10	20.2	9	50.3
15	10	3.8	10	5.4	9	36.2	45	10	18.8	10	20.4	9	50.6
16	10	4.0	10	5.7	9	36.5	48	10	19.0	10	20.7	9	50.8
17	10	4.3	10	5.9	9	36.7	51	10	19.3	10	20.9	9	51.0
18	10	4.5	10	6.2	9	37.0	54	10	19.5	10	21.2	9	51.3
19	10	4.8	10	6.4	9	37.2	57	10	19.8	10	21.4	9	51.5
20	10	5.0	10	6.7	9	37.4	60	10	20.0	10	21.7	9	51.8
21	10	5.3	10	6.9	9	37.7	63	10	20.3	10	21.9	9	52.0
22	10	5.5	10	7.2	9	37.9	66	10	20.5	10	22.2	9	52.2
23	10	5.8	10	7.4	9	38.2	69	10	20.8	10	22.4	9	52.5
24	10	6.0	10	7.7	9	38.4	72	10	21.0	10	22.7	9	52.7
25	10	6.3	10	7.9	9	38.6	75	10	21.3	10	23.0	9	52.9
26	10	6.5	10	8.2	9	38.9	78	10	21.5	10	23.2	9	53.2
27	10	6.8	10	8.4	9	39.1	81	10	21.8	10	23.5	9	53.4
28	10	7.0	10	8.7	9	39.3	84	10	22.0	10	23.7	9	53.7
29	10	7.3	10	8.9	9	39.6	87	10	22.3	10	24.0	9	53.9
30	10	7.5	10	9.2	9	39.8	90	10	22.5	10	24.2	9	54.1
31	10	7.8	10	9.4	9	40.1	93	10	22.8	10	24.5	9	54.4
32	10	8.0	10	9.7	9	40.3	96	10	23.0	10	24.7	9	54.6
33	10	8.3	10	9.9	9	40.5	99	10	23.3	10	25.0	9	54.9
34	10	8.5	10	10.2	9	40.8	102	10	23.5	10	25.2	9	55.1
35	10	8.8	10	10.4	9	41.0	105	10	23.8	10	25.5	9	55.3
36	10	9.0	10	10.7	9	41.3	108	10	24.0	10	25.7	9	55.6
37	10	9.3	10	10.9	9	41.5	111	10	24.3	10	26.0	9	55.8
38	10	9.5	10	11.2	9	41.7	114	10	24.5	10	26.2	9	56.1
39	10	9.8	10	11.4	9	42.0	117	10	24.8	10	26.5	9	56.3
40	10	10.0	10	11.7	9	42.2	120	10	25.0	10	26.7	9	56.5
41	10	10.3	10	11.9	9	42.4	123	10	25.3	10	27.0	9	56.8
42	10	10.5	10	12.2	9	42.7	126	10	25.5	10	27.2	9	57.0
43	10	10.8	10	12.4	9	42.9	129	10	25.8	10	27.5	9	57.2
44	10	11.0	10	12.7	9	43.2	132	10	26.0	10	27.7	9	57.5
45	10	11.3	10	12.9	9	43.4	135	10	26.3	10	28.0	9	57.7
46	10	11.5	10	13.2	9	43.6	138	10	26.5	10	28.2	9	58.0
47	10	11.8	10	13.4	9	43.9	141	10	26.8	10	28.5	9	58.2
48	10	12.0	10	13.7	9	44.1	144	10	27.0	10	28.7	9	58.4
49	10	12.3	10	13.9	9	44.4	147	10	27.3	10	29.0	9	58.7
50	10	12.5	10	14.2	9	44.6	150	10	27.5	10	29.2	9	58.9
51	10	12.8	10	14.4	9	44.8	153	10	27.8	10	29.5	9	59.2
52	10	13.0	10	14.7	9	45.1	156	10	28.0	10	29.7	9	59.4
53	10	13.3	10	14.9	9	45.3	159	10	28.3	10	30.0	9	59.6
54	10	13.5	10	15.2	9	45.6	162	10	28.5	10	30.2	9	59.9
55	10	13.8	10	15.4	9	45.8	165	10	28.8	10	30.5	10	0.1
56	10	14.0	10	15.7	9	46.0	168	10	29.0	10	30.7	10	0.3
57	10	14.3	10	15.9	9	46.3	171	10	29.3	10	31.0	10	0.6
58	10	14.5	10	16.2	9	46.5	174	10	29.5	10	31.2	10	0.8
59	10	14.8	10	16.4	9	46.7	177	10	29.8	10	31.5	10	1.1
60	10	15.0	10	16.7	9	47.0	180	10	30.0	10	31.7	10	1.3

42 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	43 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° /	° /	° /	° /	° /	0	/	s	° /	° /	° /	° /	° /	0	/
0	10 30.0	10 31.7	10 1.3	0	0.0	0	0.0	0	10 45.0	10 46.8	10 15.6	0	0.0	0	0.0
1	10 30.3	10 32.0	10 1.5	3	0.2	3	0.2	1	10 45.3	10 47.0	10 15.9	3	0.2	3	0.2
2	10 30.5	10 32.2	10 1.8	6	0.4	6	0.4	2	10 45.5	10 47.3	10 16.1	6	0.4	6	0.4
3	10 30.8	10 32.5	10 2.0	9	0.6	9	0.6	3	10 45.8	10 47.5	10 16.3	9	0.7	9	0.7
4	10 31.0	10 32.7	10 2.3	12	0.9	12	0.9	4	10 46.0	10 47.8	10 16.6	12	0.9	12	0.9
5	10 31.3	10 33.0	10 2.5	15	1.1	15	1.1	5	10 46.3	10 48.0	10 16.8	15	1.1	15	1.1
6	10 31.5	10 33.2	10 2.7	18	1.3	18	1.3	6	10 46.5	10 48.3	10 17.0	18	1.3	18	1.3
7	10 31.8	10 33.5	10 3.0	21	1.5	21	1.5	7	10 46.8	10 48.5	10 17.3	21	1.5	21	1.5
8	10 32.0	10 33.7	10 3.2	24	1.7	24	1.7	8	10 47.0	10 48.8	10 17.5	24	1.7	24	1.7
9	10 32.3	10 34.0	10 3.4	27	1.9	27	1.9	9	10 47.3	10 49.0	10 17.8	27	2.0	27	2.0
10	10 32.5	10 34.2	10 3.7	30	2.1	30	2.1	10	10 47.5	10 49.3	10 18.0	30	2.2	30	2.2
11	10 32.8	10 34.5	10 3.9	33	2.3	33	2.3	11	10 47.8	10 49.5	10 18.2	33	2.4	33	2.4
12	10 33.0	10 34.7	10 4.2	36	2.6	36	2.6	12	10 48.0	10 49.8	10 18.5	36	2.6	36	2.6
13	10 33.3	10 35.0	10 4.4	39	2.8	39	2.8	13	10 48.3	10 50.0	10 18.7	39	2.8	39	2.8
14	10 33.5	10 35.2	10 4.6	42	3.0	42	3.0	14	10 48.5	10 50.3	10 19.0	42	3.0	42	3.0
15	10 33.8	10 35.5	10 4.9	45	3.2	45	3.2	15	10 48.8	10 50.5	10 19.2	45	3.3	45	3.3
16	10 34.0	10 35.7	10 5.1	48	3.4	48	3.4	16	10 49.0	10 50.8	10 19.4	48	3.5	48	3.5
17	10 34.3	10 36.0	10 5.4	51	3.6	51	3.6	17	10 49.3	10 51.0	10 19.7	51	3.7	51	3.7
18	10 34.5	10 36.2	10 5.6	54	3.8	54	3.8	18	10 49.5	10 51.3	10 19.9	54	3.9	54	3.9
19	10 34.8	10 36.5	10 5.8	57	4.0	57	4.0	19	10 49.8	10 51.5	10 20.2	57	4.1	57	4.1
20	10 35.0	10 36.7	10 6.1	60	4.3	60	4.3	20	10 50.0	10 51.8	10 20.4	60	4.4	60	4.4
21	10 35.3	10 37.0	10 6.3	63	4.5	63	4.5	21	10 50.3	10 52.0	10 20.6	63	4.6	63	4.6
22	10 35.5	10 37.2	10 6.5	66	4.7	66	4.7	22	10 50.5	10 52.3	10 20.9	66	4.8	66	4.8
23	10 35.8	10 37.5	10 6.8	69	4.9	69	4.9	23	10 50.8	10 52.5	10 21.1	69	5.0	69	5.0
24	10 36.0	10 37.7	10 7.0	72	5.1	72	5.1	24	10 51.0	10 52.8	10 21.3	72	5.2	72	5.2
25	10 36.3	10 38.0	10 7.3	75	5.3	75	5.3	25	10 51.3	10 53.0	10 21.6	75	5.4	75	5.4
26	10 36.5	10 38.2	10 7.5	78	5.5	78	5.5	26	10 51.5	10 53.3	10 21.8	78	5.7	78	5.7
27	10 36.8	10 38.5	10 7.7	81	5.7	81	5.7	27	10 51.8	10 53.5	10 22.1	81	5.9	81	5.9
28	10 37.0	10 38.7	10 8.0	84	6.0	84	6.0	28	10 52.0	10 53.8	10 22.3	84	6.1	84	6.1
29	10 37.3	10 39.0	10 8.2	87	6.2	87	6.2	29	10 52.3	10 54.0	10 22.5	87	6.3	87	6.3
30	10 37.5	10 39.2	10 8.5	90	6.4	90	6.4	30	10 52.5	10 54.3	10 22.8	90	6.5	90	6.5
31	10 37.8	10 39.5	10 8.7	93	6.6	93	6.6	31	10 52.8	10 54.5	10 23.0	93	6.7	93	6.7
32	10 38.0	10 39.7	10 8.9	96	6.8	96	6.8	32	10 53.0	10 54.8	10 23.3	96	7.0	96	7.0
33	10 38.3	10 40.0	10 9.2	99	7.0	99	7.0	33	10 53.3	10 55.0	10 23.5	99	7.2	99	7.2
34	10 38.5	10 40.2	10 9.4	102	7.2	102	7.2	34	10 53.5	10 55.3	10 23.7	102	7.4	102	7.4
35	10 38.8	10 40.5	10 9.7	105	7.4	105	7.4	35	10 53.8	10 55.5	10 24.0	105	7.6	105	7.6
36	10 39.0	10 40.7	10 9.9	108	7.7	108	7.7	36	10 54.0	10 55.8	10 24.2	108	7.8	108	7.8
37	10 39.3	10 41.0	10 10.1	111	7.9	111	7.9	37	10 54.3	10 56.0	10 24.4	111	8.0	111	8.0
38	10 39.5	10 41.3	10 10.4	114	8.1	114	8.1	38	10 54.5	10 56.3	10 24.7	114	8.3	114	8.3
39	10 39.8	10 41.5	10 10.6	117	8.3	117	8.3	39	10 54.8	10 56.5	10 24.9	117	8.5	117	8.5
40	10 40.0	10 41.8	10 10.8	120	8.5	120	8.5	40	10 55.0	10 56.8	10 25.2	120	8.7	120	8.7
41	10 40.3	10 42.0	10 11.1	123	8.7	123	8.7	41	10 55.3	10 57.0	10 25.4	123	8.9	123	8.9
42	10 40.5	10 42.3	10 11.3	126	8.9	126	8.9	42	10 55.5	10 57.3	10 25.6	126	9.1	126	9.1
43	10 40.8	10 42.5	10 11.6	129	9.1	129	9.1	43	10 55.8	10 57.5	10 25.9	129	9.4	129	9.4
44	10 41.0	10 42.8	10 11.8	132	9.4	132	9.4	44	10 56.0	10 57.8	10 26.1	132	9.6	132	9.6
45	10 41.3	10 43.0	10 12.0	135	9.6	135	9.6	45	10 56.3	10 58.0	10 26.4	135	9.8	135	9.8
46	10 41.5	10 43.3	10 12.3	138	9.8	138	9.8	46	10 56.5	10 58.3	10 26.6	138	10.0	138	10.0
47	10 41.8	10 43.5	10 12.5	141	10.0	141	10.0	47	10 56.8	10 58.5	10 26.8	141	10.2	141	10.2
48	10 42.0	10 43.8	10 12.8	144	10.2	144	10.2	48	10 57.0	10 58.8	10 27.1	144	10.4	144	10.4
49	10 42.3	10 44.0	10 13.0	147	10.4	147	10.4	49	10 57.3	10 59.0	10 27.3	147	10.7	147	10.7
50	10 42.5	10 44.3	10 13.2	150	10.6	150	10.6	50	10 57.5	10 59.3	10 27.5	150	10.9	150	10.9
51	10 42.8	10 44.5	10 13.5	153	10.8	153	10.8	51	10 57.8	10 59.6	10 27.8	153	11.1	153	11.1
52	10 43.0	10 44.8	10 13.7	156	11.1	156	11.1	52	10 58.0	10 59.8	10 28.0	156	11.3	156	11.3
53	10 43.3	10 45.0	10 13.9	159	11.3	159	11.3	53	10 58.3	11 0.1	10 28.3	159	11.5	159	11.5
54	10 43.5	10 45.3	10 14.2	162	11.5	162	11.5	54	10 58.5	11 0.3	10 28.5	162	11.7	162	11.7
55	10 43.8	10 45.5	10 14.4	165	11.7	165	11.7	55	10 58.8	11 0.6	10 28.7	165	12.0	165	12.0
56	10 44.0	10 45.8	10 14.7	168	11.9	168	11.9	56	10 59.0	11 0.8	10 29.0	168	12.2	168	12.2
57	10 44.3	10 46.0	10 14.9	171	12.1	171	12.1	57	10 59.3	11 1.1	10 29.2	171	12.4	171	12.4
58	10 44.5	10 46.3	10 15.1	174	12.3	174	12.3	58	10 59.5	11 1.3	10 29.5	174	12.6	174	12.6
59	10 44.8	10 46.5	10 15.4	177	12.5	177	12.5	59	10 59.8	11 1.6	10 29.7	177	12.8	177	12.8
60	10 45.0	10 46.8	10 15.6	180	12.8	180	12.8	60	11 0.0	11 1.8	10 29.9	180	13.1	180	13.1

44 <sup>m</sup>			Sol y planetas			Aries			Luna			Dif. Correc.			45 <sup>m</sup>			Sol y planetas			Aries			Luna			Dif. Correc.														
s	°	'	s	°	'	s	°	'	s	°	'	0	'	0	s	°	'	s	°	'	s	°	'	s	°	'	0	'	0	s	°	'	s	°	'	s	°	'	0	'	0
0	11	0.0	11	1.8	10	29.9	0	0.0	0	11	15.0	11	16.8	10	44.3	0	0.0																								
1	11	0.3	11	2.1	10	30.2	3	0.2	3	11	15.3	11	17.1	10	44.5	3	0.2																								
2	11	0.5	11	2.3	10	30.4	6	0.4	6	11	15.5	11	17.3	10	44.7	6	0.5																								
3	11	0.8	11	2.6	10	30.6	9	0.7	9	11	15.8	11	17.6	10	45.0	9	0.7																								
4	11	1.0	11	2.8	10	30.9	12	0.9	12	11	16.0	11	17.9	10	45.2	12	0.9																								
5	11	1.3	11	3.1	10	31.1	15	1.1	15	11	16.3	11	18.1	10	45.4	15	1.1																								
6	11	1.5	11	3.3	10	31.4	18	1.3	18	11	16.5	11	18.4	10	45.7	18	1.4																								
7	11	1.8	11	3.6	10	31.6	21	1.6	21	11	16.8	11	18.6	10	45.9	21	1.6																								
8	11	2.0	11	3.8	10	31.8	24	1.8	24	11	17.0	11	18.9	10	46.2	24	1.8																								
9	11	2.3	11	4.1	10	32.1	27	2.0	27	11	17.3	11	19.1	10	46.4	27	2.0																								
10	11	2.5	11	4.3	10	32.3	30	2.2	30	11	17.5	11	19.4	10	46.6	30	2.3																								
11	11	2.8	11	4.6	10	32.6	33	2.4	33	11	17.8	11	19.6	10	46.9	33	2.5																								
12	11	3.0	11	4.8	10	32.8	36	2.7	36	11	18.0	11	19.9	10	47.1	36	2.7																								
13	11	3.3	11	5.1	10	33.0	39	2.9	39	11	18.3	11	20.1	10	47.4	39	3.0																								
14	11	3.5	11	5.3	10	33.3	42	3.1	42	11	18.5	11	20.4	10	47.6	42	3.2																								
15	11	3.8	11	5.6	10	33.5	45	3.3	45	11	18.8	11	20.6	10	47.8	45	3.4																								
16	11	4.0	11	5.8	10	33.8	48	3.6	48	11	19.0	11	20.9	10	48.1	48	3.6																								
17	11	4.3	11	6.1	10	34.0	51	3.8	51	11	19.3	11	21.1	10	48.3	51	3.9																								
18	11	4.5	11	6.3	10	34.2	54	4.0	54	11	19.5	11	21.4	10	48.5	54	4.1																								
19	11	4.8	11	6.6	10	34.5	57	4.2	57	11	19.8	11	21.6	10	48.8	57	4.3																								
20	11	5.0	11	6.8	10	34.7	60	4.5	60	11	20.0	11	21.9	10	49.0	60	4.6																								
21	11	5.3	11	7.1	10	34.9	63	4.7	63	11	20.3	11	22.1	10	49.3	63	4.8																								
22	11	5.5	11	7.3	10	35.2	66	4.9	66	11	20.5	11	22.4	10	49.5	66	5.0																								
23	11	5.8	11	7.6	10	35.4	69	5.1	69	11	20.8	11	22.6	10	49.7	69	5.2																								
24	11	6.0	11	7.8	10	35.7	72	5.3	72	11	21.0	11	22.9	10	50.0	72	5.5																								
25	11	6.3	11	8.1	10	35.9	75	5.6	75	11	21.3	11	23.1	10	50.2	75	5.7																								
26	11	6.5	11	8.3	10	36.1	78	5.8	78	11	21.5	11	23.4	10	50.5	78	5.9																								
27	11	6.8	11	8.6	10	36.4	81	6.0	81	11	21.8	11	23.6	10	50.7	81	6.1																								
28	11	7.0	11	8.8	10	36.6	84	6.2	84	11	22.0	11	23.9	10	50.9	84	6.4																								
29	11	7.3	11	9.1	10	36.9	87	6.5	87	11	22.3	11	24.1	10	51.2	87	6.6																								
30	11	7.5	11	9.3	10	37.1	90	6.7	90	11	22.5	11	24.4	10	51.4	90	6.8																								
31	11	7.8	11	9.6	10	37.3	93	6.9	93	11	22.8	11	24.6	10	51.6	93	7.1																								
32	11	8.0	11	9.8	10	37.6	96	7.1	96	11	23.0	11	24.9	10	51.9	96	7.3																								
33	11	8.3	11	10.1	10	37.8	99	7.3	99	11	23.3	11	25.1	10	52.1	99	7.5																								
34	11	8.5	11	10.3	10	38.0	102	7.6	102	11	23.5	11	25.4	10	52.4	102	7.7																								
35	11	8.8	11	10.6	10	38.3	105	7.8	105	11	23.8	11	25.6	10	52.6	105	8.0																								
36	11	9.0	11	10.8	10	38.5	108	8.0	108	11	24.0	11	25.9	10	52.8	108	8.2																								
37	11	9.3	11	11.1	10	38.8	111	8.2	111	11	24.3	11	26.1	10	53.1	111	8.4																								
38	11	9.5	11	11.3	10	39.0	114	8.5	114	11	24.5	11	26.4	10	53.3	114	8.6																								
39	11	9.8	11	11.6	10	39.2	117	8.7	117	11	24.8	11	26.6	10	53.6	117	8.9																								
40	11	10.0	11	11.8	10	39.5	120	8.9	120	11	25.0	11	26.9	10	53.8	120	9.1																								
41	11	10.3	11	12.1	10	39.7	123	9.1	123	11	25.3	11	27.1	10	54.0	123	9.3																								
42	11	10.5	11	12.3	10	40.0	126	9.3	126	11	25.5	11	27.4	10	54.3	126	9.6																								
43	11	10.8	11	12.6	10	40.2	129	9.6	129	11	25.8	11	27.6	10	54.5	129	9.8																								
44	11	11.0	11	12.8	10	40.4	132	9.8	132	11	26.0	11	27.9	10	54.7	132	10.0																								
45	11	11.3	11	13.1	10	40.7	135	10.0	135	11	26.3	11	28.1	10	55.0	135	10.2																								
46	11	11.5	11	13.3	10	40.9	138	10.2	138	11	26.5	11	28.4	10	55.2	138	10.5																								
47	11	11.8	11	13.6	10	41.1	141	10.5	141	11	26.8	11	28.6	10	55.5	141	10.7																								
48	11	12.0	11	13.8	10	41.4	144	10.7	144	11	27.0	11	28.9	10	55.7	144	10.9																								
49	11	12.3	11	14.1	10	41.6	147	10.9	147	11	27.3	11	29.1	10	55.9	147	11.1																								
50	11	12.5	11	14.3	10	41.9	150	11.1	150	11	27.5	11	29.4	10	56.2	150	11.4																								
51	11	12.8	11	14.6	10	42.1	153	11.3	153	11	27.8	11	29.6	10	56.4	153	11.6																								
52	11	13.0	11	14.8	10	42.3	156	11.6	156	11	28.0	11	29.9	10	56.7	156	11.8																								
53	11	13.3	11	15.1	10	42.6	159	11.8	159	11	28.3	11	30.1	10	56.9	159	12.1																								
54	11	13.5	11	15.3	10	42.8	162	12.0	162	11	28.5	11	30.4	10	57.1	162	12.3																								
55	11	13.8	11	15.6	10	43.1	165	12.2	165	11	28.8	11	30.6	10	57.4	165	12.5																								
56	11	14.0	11	15.8	10	43.3	168	12.5	168	11	29.0	11	30.9	10	57.6	168	12.7																								
57	11	14.3	11	16.1	10	43.5	171	12.7	171	11	29.3	11	31.1	10	57.9	171	13.0																								
58	11	14.5	11	16.3	10	43.8	174	12.9	174	11	29.5	11	31.4	10	58.1	174	13.2																								
59	11	14.8	11	16.6	10	44.0	177	13.1	177	11	29.8	11	31.6	10	58.3	177	13.4																								
60	11	15.0	11	16.8	10	44.3	180	13.4	180	11	30.0	11	31.9	10	58.6	180	13.7																								

46 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	47 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° /	° /	° /	° /	° /	0	/	s	° /	° /	° /	° /	° /	0	/
0	11 30.0	11 31.9	10 58.6	0	0.0	0	0.0	0	11 45.0	11 46.9	11 12.9	0	0.0	0	0.0
1	11 30.3	11 32.1	10 58.8	3	0.2	3	0.2	1	11 45.3	11 47.2	11 13.1	3	0.2	3	0.2
2	11 30.5	11 32.4	10 59.0	6	0.5	6	0.5	2	11 45.5	11 47.4	11 13.4	6	0.5	6	0.5
3	11 30.8	11 32.6	10 59.3	9	0.7	9	0.7	3	11 45.8	11 47.7	11 13.6	9	0.7	9	0.7
4	11 31.0	11 32.9	10 59.5	12	0.9	12	0.9	4	11 46.0	11 47.9	11 13.8	12	1.0	12	1.0
5	11 31.3	11 33.1	10 59.8	15	1.2	15	1.2	5	11 46.3	11 48.2	11 14.1	15	1.2	15	1.2
6	11 31.5	11 33.4	11 0.0	18	1.4	18	1.4	6	11 46.5	11 48.4	11 14.3	18	1.4	18	1.4
7	11 31.8	11 33.6	11 0.2	21	1.6	21	1.6	7	11 46.8	11 48.7	11 14.6	21	1.7	21	1.7
8	11 32.0	11 33.9	11 0.5	24	1.9	24	1.9	8	11 47.0	11 48.9	11 14.8	24	1.9	24	1.9
9	11 32.3	11 34.1	11 0.7	27	2.1	27	2.1	9	11 47.3	11 49.2	11 15.0	27	2.1	27	2.1
10	11 32.5	11 34.4	11 1.0	30	2.3	30	2.3	10	11 47.5	11 49.4	11 15.3	30	2.4	30	2.4
11	11 32.8	11 34.6	11 1.2	33	2.6	33	2.6	11	11 47.8	11 49.7	11 15.5	33	2.6	33	2.6
12	11 33.0	11 34.9	11 1.4	36	2.8	36	2.8	12	11 48.0	11 49.9	11 15.7	36	2.9	36	2.9
13	11 33.3	11 35.1	11 1.7	39	3.0	39	3.0	13	11 48.3	11 50.2	11 16.0	39	3.1	39	3.1
14	11 33.5	11 35.4	11 1.9	42	3.3	42	3.3	14	11 48.5	11 50.4	11 16.2	42	3.3	42	3.3
15	11 33.8	11 35.6	11 2.1	45	3.5	45	3.5	15	11 48.8	11 50.7	11 16.5	45	3.6	45	3.6
16	11 34.0	11 35.9	11 2.4	48	3.7	48	3.7	16	11 49.0	11 50.9	11 16.7	48	3.8	48	3.8
17	11 34.3	11 36.2	11 2.6	51	4.0	51	4.0	17	11 49.3	11 51.2	11 16.9	51	4.0	51	4.0
18	11 34.5	11 36.4	11 2.9	54	4.2	54	4.2	18	11 49.5	11 51.4	11 17.2	54	4.3	54	4.3
19	11 34.8	11 36.7	11 3.1	57	4.4	57	4.4	19	11 49.8	11 51.7	11 17.4	57	4.5	57	4.5
20	11 35.0	11 36.9	11 3.3	60	4.7	60	4.7	20	11 50.0	11 51.9	11 17.7	60	4.8	60	4.8
21	11 35.3	11 37.2	11 3.6	63	4.9	63	4.9	21	11 50.3	11 52.2	11 17.9	63	5.0	63	5.0
22	11 35.5	11 37.4	11 3.8	66	5.1	66	5.1	22	11 50.5	11 52.4	11 18.1	66	5.2	66	5.2
23	11 35.8	11 37.7	11 4.1	69	5.3	69	5.3	23	11 50.8	11 52.7	11 18.4	69	5.5	69	5.5
24	11 36.0	11 37.9	11 4.3	72	5.6	72	5.6	24	11 51.0	11 52.9	11 18.6	72	5.7	72	5.7
25	11 36.3	11 38.2	11 4.5	75	5.8	75	5.8	25	11 51.3	11 53.2	11 18.8	75	5.9	75	5.9
26	11 36.5	11 38.4	11 4.8	78	6.0	78	6.0	26	11 51.5	11 53.4	11 19.1	78	6.2	78	6.2
27	11 36.8	11 38.7	11 5.0	81	6.3	81	6.3	27	11 51.8	11 53.7	11 19.3	81	6.4	81	6.4
28	11 37.0	11 38.9	11 5.2	84	6.5	84	6.5	28	11 52.0	11 53.9	11 19.6	84	6.7	84	6.7
29	11 37.3	11 39.2	11 5.5	87	6.7	87	6.7	29	11 52.3	11 54.2	11 19.8	87	6.9	87	6.9
30	11 37.5	11 39.4	11 5.7	90	7.0	90	7.0	30	11 52.5	11 54.5	11 20.0	90	7.1	90	7.1
31	11 37.8	11 39.7	11 6.0	93	7.2	93	7.2	31	11 52.8	11 54.7	11 20.3	93	7.4	93	7.4
32	11 38.0	11 39.9	11 6.2	96	7.4	96	7.4	32	11 53.0	11 55.0	11 20.5	96	7.6	96	7.6
33	11 38.3	11 40.2	11 6.4	99	7.7	99	7.7	33	11 53.3	11 55.2	11 20.8	99	7.8	99	7.8
34	11 38.5	11 40.4	11 6.7	102	7.9	102	7.9	34	11 53.5	11 55.5	11 21.0	102	8.1	102	8.1
35	11 38.8	11 40.7	11 6.9	105	8.1	105	8.1	35	11 53.8	11 55.7	11 21.2	105	8.3	105	8.3
36	11 39.0	11 40.9	11 7.2	108	8.4	108	8.4	36	11 54.0	11 56.0	11 21.5	108	8.6	108	8.6
37	11 39.3	11 41.2	11 7.4	111	8.6	111	8.6	37	11 54.3	11 56.2	11 21.7	111	8.8	111	8.8
38	11 39.5	11 41.4	11 7.6	114	8.8	114	8.8	38	11 54.5	11 56.5	11 22.0	114	9.0	114	9.0
39	11 39.8	11 41.7	11 7.9	117	9.1	117	9.1	39	11 54.8	11 56.7	11 22.2	117	9.3	117	9.3
40	11 40.0	11 41.9	11 8.1	120	9.3	120	9.3	40	11 55.0	11 57.0	11 22.4	120	9.5	120	9.5
41	11 40.3	11 42.2	11 8.3	123	9.5	123	9.5	41	11 55.3	11 57.2	11 22.7	123	9.7	123	9.7
42	11 40.5	11 42.4	11 8.6	126	9.8	126	9.8	42	11 55.5	11 57.5	11 22.9	126	10.0	126	10.0
43	11 40.8	11 42.7	11 8.8	129	10.0	129	10.0	43	11 55.8	11 57.7	11 23.1	129	10.2	129	10.2
44	11 41.0	11 42.9	11 9.1	132	10.2	132	10.2	44	11 56.0	11 58.0	11 23.4	132	10.5	132	10.5
45	11 41.3	11 43.2	11 9.3	135	10.5	135	10.5	45	11 56.3	11 58.2	11 23.6	135	10.7	135	10.7
46	11 41.5	11 43.4	11 9.5	138	10.7	138	10.7	46	11 56.5	11 58.5	11 23.9	138	10.9	138	10.9
47	11 41.8	11 43.7	11 9.8	141	10.9	141	10.9	47	11 56.8	11 58.7	11 24.1	141	11.2	141	11.2
48	11 42.0	11 43.9	11 10.0	144	11.2	144	11.2	48	11 57.0	11 59.0	11 24.3	144	11.4	144	11.4
49	11 42.3	11 44.2	11 10.3	147	11.4	147	11.4	49	11 57.3	11 59.2	11 24.6	147	11.6	147	11.6
50	11 42.5	11 44.4	11 10.5	150	11.6	150	11.6	50	11 57.5	11 59.5	11 24.8	150	11.9	150	11.9
51	11 42.8	11 44.7	11 10.7	153	11.9	153	11.9	51	11 57.8	11 59.7	11 25.1	153	12.1	153	12.1
52	11 43.0	11 44.9	11 11.0	156	12.1	156	12.1	52	11 58.0	12 0.0	11 25.3	156	12.4	156	12.4
53	11 43.3	11 45.2	11 11.2	159	12.3	159	12.3	53	11 58.3	12 0.2	11 25.5	159	12.6	159	12.6
54	11 43.5	11 45.4	11 11.5	162	12.6	162	12.6	54	11 58.5	12 0.5	11 25.8	162	12.8	162	12.8
55	11 43.8	11 45.7	11 11.7	165	12.8	165	12.8	55	11 58.8	12 0.7	11 26.0	165	13.1	165	13.1
56	11 44.0	11 45.9	11 11.9	168	13.0	168	13.0	56	11 59.0	12 1.0	11 26.2	168	13.3	168	13.3
57	11 44.3	11 46.2	11 12.2	171	13.3	171	13.3	57	11 59.3	12 1.2	11 26.5	171	13.5	171	13.5
58	11 44.5	11 46.4	11 12.4	174	13.5	174	13.5	58	11 59.5	12 1.5	11 26.7	174	13.8	174	13.8
59	11 44.8	11 46.7	11 12.6	177	13.7	177	13.7	59	11 59.8	12 1.7	11 27.0	177	14.0	177	14.0
60	11 45.0	11 46.9	11 12.9	180	14.0	180	14.0	60	12 0.0	12 2.0	11 27.2	180	14.3	180	14.3

48 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	49 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° /	° /	° /	° /	° /	0	/	s	° /	° /	° /	° /	° /	0	/
0	12 0.0	12 2.0	11 27.2	0	0.0	0	0.0	0	12 15.0	12 17.0	11 41.5	0	0.0	0	0.0
1	12 0.3	12 2.2	11 27.4	3	0.2	3	0.2	1	12 15.3	12 17.3	11 41.8	3	0.2	3	0.2
2	12 0.5	12 2.5	11 27.7	6	0.5	6	0.5	2	12 15.5	12 17.5	11 42.0	6	0.5	6	0.5
3	12 0.8	12 2.7	11 27.9	9	0.7	9	0.7	3	12 15.8	12 17.8	11 42.2	9	0.7	9	0.7
4	12 1.0	12 3.0	11 28.2	12	1.0	12	1.0	4	12 16.0	12 18.0	11 42.5	12	1.0	12	1.0
5	12 1.3	12 3.2	11 28.4	15	1.2	15	1.2	5	12 16.3	12 18.3	11 42.7	15	1.2	15	1.2
6	12 1.5	12 3.5	11 28.6	18	1.5	18	1.5	6	12 16.5	12 18.5	11 42.9	18	1.5	18	1.5
7	12 1.8	12 3.7	11 28.9	21	1.7	21	1.7	7	12 16.8	12 18.8	11 43.2	21	1.7	21	1.7
8	12 2.0	12 4.0	11 29.1	24	1.9	24	1.9	8	12 17.0	12 19.0	11 43.4	24	2.0	24	2.0
9	12 2.3	12 4.2	11 29.3	27	2.2	27	2.2	9	12 17.3	12 19.3	11 43.7	27	2.2	27	2.2
10	12 2.5	12 4.5	11 29.6	30	2.4	30	2.4	10	12 17.5	12 19.5	11 43.9	30	2.5	30	2.5
11	12 2.8	12 4.7	11 29.8	33	2.7	33	2.7	11	12 17.8	12 19.8	11 44.1	33	2.7	33	2.7
12	12 3.0	12 5.0	11 30.1	36	2.9	36	2.9	12	12 18.0	12 20.0	11 44.4	36	3.0	36	3.0
13	12 3.3	12 5.2	11 30.3	39	3.2	39	3.2	13	12 18.3	12 20.3	11 44.6	39	3.2	39	3.2
14	12 3.5	12 5.5	11 30.5	42	3.4	42	3.4	14	12 18.5	12 20.5	11 44.9	42	3.5	42	3.5
15	12 3.8	12 5.7	11 30.8	45	3.6	45	3.6	15	12 18.8	12 20.8	11 45.1	45	3.7	45	3.7
16	12 4.0	12 6.0	11 31.0	48	3.9	48	3.9	16	12 19.0	12 21.0	11 45.3	48	4.0	48	4.0
17	12 4.3	12 6.2	11 31.3	51	4.1	51	4.1	17	12 19.3	12 21.3	11 45.6	51	4.2	51	4.2
18	12 4.5	12 6.5	11 31.5	54	4.4	54	4.4	18	12 19.5	12 21.5	11 45.8	54	4.5	54	4.5
19	12 4.8	12 6.7	11 31.7	57	4.6	57	4.6	19	12 19.8	12 21.8	11 46.1	57	4.7	57	4.7
20	12 5.0	12 7.0	11 32.0	60	4.9	60	4.9	20	12 20.0	12 22.0	11 46.3	60	5.0	60	5.0
21	12 5.3	12 7.2	11 32.2	63	5.1	63	5.1	21	12 20.3	12 22.3	11 46.5	63	5.2	63	5.2
22	12 5.5	12 7.5	11 32.4	66	5.3	66	5.3	22	12 20.5	12 22.5	11 46.8	66	5.4	66	5.4
23	12 5.8	12 7.7	11 32.7	69	5.6	69	5.6	23	12 20.8	12 22.8	11 47.0	69	5.7	69	5.7
24	12 6.0	12 8.0	11 32.9	72	5.8	72	5.8	24	12 21.0	12 23.0	11 47.2	72	5.9	72	5.9
25	12 6.3	12 8.2	11 33.2	75	6.1	75	6.1	25	12 21.3	12 23.3	11 47.5	75	6.2	75	6.2
26	12 6.5	12 8.5	11 33.4	78	6.3	78	6.3	26	12 21.5	12 23.5	11 47.7	78	6.4	78	6.4
27	12 6.8	12 8.7	11 33.6	81	6.5	81	6.5	27	12 21.8	12 23.8	11 48.0	81	6.7	81	6.7
28	12 7.0	12 9.0	11 33.9	84	6.8	84	6.8	28	12 22.0	12 24.0	11 48.2	84	6.9	84	6.9
29	12 7.3	12 9.2	11 34.1	87	7.0	87	7.0	29	12 22.3	12 24.3	11 48.4	87	7.2	87	7.2
30	12 7.5	12 9.5	11 34.4	90	7.3	90	7.3	30	12 22.5	12 24.5	11 48.7	90	7.4	90	7.4
31	12 7.8	12 9.7	11 34.6	93	7.5	93	7.5	31	12 22.8	12 24.8	11 48.9	93	7.7	93	7.7
32	12 8.0	12 10.0	11 34.8	96	7.8	96	7.8	32	12 23.0	12 25.0	11 49.2	96	7.9	96	7.9
33	12 8.3	12 10.2	11 35.1	99	8.0	99	8.0	33	12 23.3	12 25.3	11 49.4	99	8.2	99	8.2
34	12 8.5	12 10.5	11 35.3	102	8.2	102	8.2	34	12 23.5	12 25.5	11 49.6	102	8.4	102	8.4
35	12 8.8	12 10.7	11 35.6	105	8.5	105	8.5	35	12 23.8	12 25.8	11 49.9	105	8.7	105	8.7
36	12 9.0	12 11.0	11 35.8	108	8.7	108	8.7	36	12 24.0	12 26.0	11 50.1	108	8.9	108	8.9
37	12 9.3	12 11.2	11 36.0	111	9.0	111	9.0	37	12 24.3	12 26.3	11 50.3	111	9.2	111	9.2
38	12 9.5	12 11.5	11 36.3	114	9.2	114	9.2	38	12 24.5	12 26.5	11 50.6	114	9.4	114	9.4
39	12 9.8	12 11.7	11 36.5	117	9.5	117	9.5	39	12 24.8	12 26.8	11 50.8	117	9.7	117	9.7
40	12 10.0	12 12.0	11 36.7	120	9.7	120	9.7	40	12 25.0	12 27.0	11 51.1	120	9.9	120	9.9
41	12 10.3	12 12.2	11 37.0	123	9.9	123	9.9	41	12 25.3	12 27.3	11 51.3	123	10.1	123	10.1
42	12 10.5	12 12.5	11 37.2	126	10.2	126	10.2	42	12 25.5	12 27.5	11 51.5	126	10.4	126	10.4
43	12 10.8	12 12.8	11 37.5	129	10.4	129	10.4	43	12 25.8	12 27.8	11 51.8	129	10.6	129	10.6
44	12 11.0	12 13.0	11 37.7	132	10.7	132	10.7	44	12 26.0	12 28.0	11 52.0	132	10.9	132	10.9
45	12 11.3	12 13.3	11 37.9	135	10.9	135	10.9	45	12 26.3	12 28.3	11 52.3	135	11.1	135	11.1
46	12 11.5	12 13.5	11 38.2	138	11.2	138	11.2	46	12 26.5	12 28.5	11 52.5	138	11.4	138	11.4
47	12 11.8	12 13.8	11 38.4	141	11.4	141	11.4	47	12 26.8	12 28.8	11 52.7	141	11.6	141	11.6
48	12 12.0	12 14.0	11 38.7	144	11.6	144	11.6	48	12 27.0	12 29.0	11 53.0	144	11.9	144	11.9
49	12 12.3	12 14.3	11 38.9	147	11.9	147	11.9	49	12 27.3	12 29.3	11 53.2	147	12.1	147	12.1
50	12 12.5	12 14.5	11 39.1	150	12.1	150	12.1	50	12 27.5	12 29.5	11 53.4	150	12.4	150	12.4
51	12 12.8	12 14.8	11 39.4	153	12.4	153	12.4	51	12 27.8	12 29.8	11 53.7	153	12.6	153	12.6
52	12 13.0	12 15.0	11 39.6	156	12.6	156	12.6	52	12 28.0	12 30.0	11 53.9	156	12.9	156	12.9
53	12 13.3	12 15.3	11 39.8	159	12.9	159	12.9	53	12 28.3	12 30.3	11 54.2	159	13.1	159	13.1
54	12 13.5	12 15.5	11 40.1	162	13.1	162	13.1	54	12 28.5	12 30.5	11 54.4	162	13.4	162	13.4
55	12 13.8	12 15.8	11 40.3	165	13.3	165	13.3	55	12 28.8	12 30.8	11 54.6	165	13.6	165	13.6
56	12 14.0	12 16.0	11 40.6	168	13.6	168	13.6	56	12 29.0	12 31.1	11 54.9	168	13.9	168	13.9
57	12 14.3	12 16.3	11 40.8	171	13.8	171	13.8	57	12 29.3	12 31.3	11 55.1	171	14.1	171	14.1
58	12 14.5	12 16.5	11 41.0	174	14.1	174	14.1	58	12 29.5	12 31.6	11 55.4	174	14.4	174	14.4
59	12 14.8	12 16.8	11 41.3	177	14.3	177	14.3	59	12 29.8	12 31.8	11 55.6	177	14.6	177	14.6
60	12 15.0	12 17.0	11 41.5	180	14.6	180	14.6	60	12 30.0	12 32.1	11 55.8	180	14.9	180	14.9



50 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.	51 <sup>m</sup>		Sol y planetas		Aries	Luna	Dif.	Correc.
s	° /	° /	° /	° /	° /	0	/	s	° /	° /	° /	° /	° /	0	/
0	12 30.0	12 32.1	11 55.8	0	0.0	0	0.0	0	12 45.0	12 47.1	12 10.2	0	0.0	0	0.0
1	12 30.3	12 32.3	11 56.1	3	0.3	3	0.3	1	12 45.3	12 47.3	12 10.4	3	0.3	3	0.3
2	12 30.5	12 32.6	11 56.3	6	0.5	6	0.5	2	12 45.5	12 47.6	12 10.6	6	0.5	6	0.5
3	12 30.8	12 32.8	11 56.5	9	0.8	9	0.8	3	12 45.8	12 47.8	12 10.9	9	0.8	9	0.8
4	12 31.0	12 33.1	11 56.8	12	1.0	12	1.0	4	12 46.0	12 48.1	12 11.1	12	1.0	12	1.0
5	12 31.3	12 33.3	11 57.0	15	1.3	15	1.3	5	12 46.3	12 48.3	12 11.3	15	1.3	15	1.3
6	12 31.5	12 33.6	11 57.3	18	1.5	18	1.5	6	12 46.5	12 48.6	12 11.6	18	1.5	18	1.5
7	12 31.8	12 33.8	11 57.5	21	1.8	21	1.8	7	12 46.8	12 48.8	12 11.8	21	1.8	21	1.8
8	12 32.0	12 34.1	11 57.7	24	2.0	24	2.0	8	12 47.0	12 49.1	12 12.1	24	2.1	24	2.1
9	12 32.3	12 34.3	11 58.0	27	2.3	27	2.3	9	12 47.3	12 49.4	12 12.3	27	2.3	27	2.3
10	12 32.5	12 34.6	11 58.2	30	2.5	30	2.5	10	12 47.5	12 49.6	12 12.5	30	2.6	30	2.6
11	12 32.8	12 34.8	11 58.5	33	2.8	33	2.8	11	12 47.8	12 49.9	12 12.8	33	2.8	33	2.8
12	12 33.0	12 35.1	11 58.7	36	3.0	36	3.0	12	12 48.0	12 50.1	12 13.0	36	3.1	36	3.1
13	12 33.3	12 35.3	11 58.9	39	3.3	39	3.3	13	12 48.3	12 50.4	12 13.3	39	3.3	39	3.3
14	12 33.5	12 35.6	11 59.2	42	3.5	42	3.5	14	12 48.5	12 50.6	12 13.5	42	3.6	42	3.6
15	12 33.8	12 35.8	11 59.4	45	3.8	45	3.8	15	12 48.8	12 50.9	12 13.7	45	3.9	45	3.9
16	12 34.0	12 36.1	11 59.7	48	4.0	48	4.0	16	12 49.0	12 51.1	12 14.0	48	4.1	48	4.1
17	12 34.3	12 36.3	11 59.9	51	4.3	51	4.3	17	12 49.3	12 51.4	12 14.2	51	4.4	51	4.4
18	12 34.5	12 36.6	12 0.1	54	4.5	54	4.5	18	12 49.5	12 51.6	12 14.4	54	4.6	54	4.6
19	12 34.8	12 36.8	12 0.4	57	4.8	57	4.8	19	12 49.8	12 51.9	12 14.7	57	4.9	57	4.9
20	12 35.0	12 37.1	12 0.6	60	5.1	60	5.1	20	12 50.0	12 52.1	12 14.9	60	5.2	60	5.2
21	12 35.3	12 37.3	12 0.8	63	5.3	63	5.3	21	12 50.3	12 52.4	12 15.2	63	5.4	63	5.4
22	12 35.5	12 37.6	12 1.1	66	5.6	66	5.6	22	12 50.5	12 52.6	12 15.4	66	5.7	66	5.7
23	12 35.8	12 37.8	12 1.3	69	5.8	69	5.8	23	12 50.8	12 52.9	12 15.6	69	5.9	69	5.9
24	12 36.0	12 38.1	12 1.6	72	6.1	72	6.1	24	12 51.0	12 53.1	12 15.9	72	6.2	72	6.2
25	12 36.3	12 38.3	12 1.8	75	6.3	75	6.3	25	12 51.3	12 53.4	12 16.1	75	6.4	75	6.4
26	12 36.5	12 38.6	12 2.0	78	6.6	78	6.6	26	12 51.5	12 53.6	12 16.4	78	6.7	78	6.7
27	12 36.8	12 38.8	12 2.3	81	6.8	81	6.8	27	12 51.8	12 53.9	12 16.6	81	7.0	81	7.0
28	12 37.0	12 39.1	12 2.5	84	7.1	84	7.1	28	12 52.0	12 54.1	12 16.8	84	7.2	84	7.2
29	12 37.3	12 39.3	12 2.8	87	7.3	87	7.3	29	12 52.3	12 54.4	12 17.1	87	7.5	87	7.5
30	12 37.5	12 39.6	12 3.0	90	7.6	90	7.6	30	12 52.5	12 54.6	12 17.3	90	7.7	90	7.7
31	12 37.8	12 39.8	12 3.2	93	7.8	93	7.8	31	12 52.8	12 54.9	12 17.5	93	8.0	93	8.0
32	12 38.0	12 40.1	12 3.5	96	8.1	96	8.1	32	12 53.0	12 55.1	12 17.8	96	8.2	96	8.2
33	12 38.3	12 40.3	12 3.7	99	8.3	99	8.3	33	12 53.3	12 55.4	12 18.0	99	8.5	99	8.5
34	12 38.5	12 40.6	12 3.9	102	8.6	102	8.6	34	12 53.5	12 55.6	12 18.3	102	8.8	102	8.8
35	12 38.8	12 40.8	12 4.2	105	8.8	105	8.8	35	12 53.8	12 55.9	12 18.5	105	9.0	105	9.0
36	12 39.0	12 41.1	12 4.4	108	9.1	108	9.1	36	12 54.0	12 56.1	12 18.7	108	9.3	108	9.3
37	12 39.3	12 41.3	12 4.7	111	9.3	111	9.3	37	12 54.3	12 56.4	12 19.0	111	9.5	111	9.5
38	12 39.5	12 41.6	12 4.9	114	9.6	114	9.6	38	12 54.5	12 56.6	12 19.2	114	9.8	114	9.8
39	12 39.8	12 41.8	12 5.1	117	9.8	117	9.8	39	12 54.8	12 56.9	12 19.5	117	10.0	117	10.0
40	12 40.0	12 42.1	12 5.4	120	10.1	120	10.1	40	12 55.0	12 57.1	12 19.7	120	10.3	120	10.3
41	12 40.3	12 42.3	12 5.6	123	10.4	123	10.4	41	12 55.3	12 57.4	12 19.9	123	10.6	123	10.6
42	12 40.5	12 42.6	12 5.9	126	10.6	126	10.6	42	12 55.5	12 57.6	12 20.2	126	10.8	126	10.8
43	12 40.8	12 42.8	12 6.1	129	10.9	129	10.9	43	12 55.8	12 57.9	12 20.4	129	11.1	129	11.1
44	12 41.0	12 43.1	12 6.3	132	11.1	132	11.1	44	12 56.0	12 58.1	12 20.6	132	11.3	132	11.3
45	12 41.3	12 43.3	12 6.6	135	11.4	135	11.4	45	12 56.3	12 58.4	12 20.9	135	11.6	135	11.6
46	12 41.5	12 43.6	12 6.8	138	11.6	138	11.6	46	12 56.5	12 58.6	12 21.1	138	11.8	138	11.8
47	12 41.8	12 43.8	12 7.0	141	11.9	141	11.9	47	12 56.8	12 58.9	12 21.4	141	12.1	141	12.1
48	12 42.0	12 44.1	12 7.3	144	12.1	144	12.1	48	12 57.0	12 59.1	12 21.6	144	12.4	144	12.4
49	12 42.3	12 44.3	12 7.5	147	12.4	147	12.4	49	12 57.3	12 59.4	12 21.8	147	12.6	147	12.6
50	12 42.5	12 44.6	12 7.8	150	12.6	150	12.6	50	12 57.5	12 59.6	12 22.1	150	12.9	150	12.9
51	12 42.8	12 44.8	12 8.0	153	12.9	153	12.9	51	12 57.8	12 59.9	12 22.3	153	13.1	153	13.1
52	12 43.0	12 45.1	12 8.2	156	13.1	156	13.1	52	12 58.0	13 0.1	12 22.6	156	13.4	156	13.4
53	12 43.3	12 45.3	12 8.5	159	13.4	159	13.4	53	12 58.3	13 0.4	12 22.8	159	13.6	159	13.6
54	12 43.5	12 45.6	12 8.7	162	13.6	162	13.6	54	12 58.5	13 0.6	12 23.0	162	13.9	162	13.9
55	12 43.8	12 45.8	12 9.0	165	13.9	165	13.9	55	12 58.8	13 0.9	12 23.3	165	14.2	165	14.2
56	12 44.0	12 46.1	12 9.2	168	14.1	168	14.1	56	12 59.0	13 1.1	12 23.5	168	14.4	168	14.4
57	12 44.3	12 46.3	12 9.4	171	14.4	171	14.4	57	12 59.3	13 1.4	12 23.8	171	14.7	171	14.7
58	12 44.5	12 46.6	12 9.7	174	14.6	174	14.6	58	12 59.5	13 1.6	12 24.0	174	14.9	174	14.9
59	12 44.8	12 46.8	12 9.9	177	14.9	177	14.9	59	12 59.8	13 1.9	12 24.2	177	15.2	177	15.2
60	12 45.0	12 47.1	12 10.2	180	15.2	180	15.2	60	13 0.0	13 2.1	12 24.5	180	15.5	180	15.5

52 <sup>m</sup>			Sol y planetas			Aries	Luna	Dif.	Correc.	53 <sup>m</sup>			Sol y planetas			Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'	°	'	s	'
0	13	0.0	13	2.1	12	24.5	0	0.0	0	13	15.0	13	17.2	12	38.8	0	0.0		
1	13	0.3	13	2.4	12	24.7	3	0.3	1	13	15.3	13	17.4	12	39.0	3	0.3		
2	13	0.5	13	2.6	12	24.9	6	0.5	2	13	15.5	13	17.7	12	39.3	6	0.5		
3	13	0.8	13	2.9	12	25.2	9	0.8	3	13	15.8	13	17.9	12	39.5	9	0.8		
4	13	1.0	13	3.1	12	25.4	12	1.1	4	13	16.0	13	18.2	12	39.7	12	1.1		
5	13	1.3	13	3.4	12	25.7	15	1.3	5	13	16.3	13	18.4	12	40.0	15	1.3		
6	13	1.5	13	3.6	12	25.9	18	1.6	6	13	16.5	13	18.7	12	40.2	18	1.6		
7	13	1.8	13	3.9	12	26.1	21	1.8	7	13	16.8	13	18.9	12	40.5	21	1.9		
8	13	2.0	13	4.1	12	26.4	24	2.1	8	13	17.0	13	19.2	12	40.7	24	2.1		
9	13	2.3	13	4.4	12	26.6	27	2.4	9	13	17.3	13	19.4	12	40.9	27	2.4		
10	13	2.5	13	4.6	12	26.9	30	2.6	10	13	17.5	13	19.7	12	41.2	30	2.7		
11	13	2.8	13	4.9	12	27.1	33	2.9	11	13	17.8	13	19.9	12	41.4	33	2.9		
12	13	3.0	13	5.1	12	27.3	36	3.2	12	13	18.0	13	20.2	12	41.6	36	3.2		
13	13	3.3	13	5.4	12	27.6	39	3.4	13	13	18.3	13	20.4	12	41.9	39	3.5		
14	13	3.5	13	5.6	12	27.8	42	3.7	14	13	18.5	13	20.7	12	42.1	42	3.7		
15	13	3.8	13	5.9	12	28.0	45	3.9	15	13	18.8	13	20.9	12	42.4	45	4.0		
16	13	4.0	13	6.1	12	28.3	48	4.2	16	13	19.0	13	21.2	12	42.6	48	4.3		
17	13	4.3	13	6.4	12	28.5	51	4.5	17	13	19.3	13	21.4	12	42.8	51	4.5		
18	13	4.5	13	6.6	12	28.8	54	4.7	18	13	19.5	13	21.7	12	43.1	54	4.8		
19	13	4.8	13	6.9	12	29.0	57	5.0	19	13	19.8	13	21.9	12	43.3	57	5.1		
20	13	5.0	13	7.1	12	29.2	60	5.3	20	13	20.0	13	22.2	12	43.6	60	5.4		
21	13	5.3	13	7.4	12	29.5	63	5.5	21	13	20.3	13	22.4	12	43.8	63	5.6		
22	13	5.5	13	7.7	12	29.7	66	5.8	22	13	20.5	13	22.7	12	44.0	66	5.9		
23	13	5.8	13	7.9	12	30.0	69	6.0	23	13	20.8	13	22.9	12	44.3	69	6.2		
24	13	6.0	13	8.2	12	30.2	72	6.3	24	13	21.0	13	23.2	12	44.5	72	6.4		
25	13	6.3	13	8.4	12	30.4	75	6.6	25	13	21.3	13	23.4	12	44.7	75	6.7		
26	13	6.5	13	8.7	12	30.7	78	6.8	26	13	21.5	13	23.7	12	45.0	78	7.0		
27	13	6.8	13	8.9	12	30.9	81	7.1	27	13	21.8	13	23.9	12	45.2	81	7.2		
28	13	7.0	13	9.2	12	31.1	84	7.4	28	13	22.0	13	24.2	12	45.5	84	7.5		
29	13	7.3	13	9.4	12	31.4	87	7.6	29	13	22.3	13	24.4	12	45.7	87	7.8		
30	13	7.5	13	9.7	12	31.6	90	7.9	30	13	22.5	13	24.7	12	45.9	90	8.0		
31	13	7.8	13	9.9	12	31.9	93	8.1	31	13	22.8	13	24.9	12	46.2	93	8.3		
32	13	8.0	13	10.2	12	32.1	96	8.4	32	13	23.0	13	25.2	12	46.4	96	8.6		
33	13	8.3	13	10.4	12	32.3	99	8.7	33	13	23.3	13	25.4	12	46.7	99	8.8		
34	13	8.5	13	10.7	12	32.6	102	8.9	34	13	23.5	13	25.7	12	46.9	102	9.1		
35	13	8.8	13	10.9	12	32.8	105	9.2	35	13	23.8	13	26.0	12	47.1	105	9.4		
36	13	9.0	13	11.2	12	33.1	108	9.5	36	13	24.0	13	26.2	12	47.4	108	9.6		
37	13	9.3	13	11.4	12	33.3	111	9.7	37	13	24.3	13	26.5	12	47.6	111	9.9		
38	13	9.5	13	11.7	12	33.5	114	10.0	38	13	24.5	13	26.7	12	47.9	114	10.2		
39	13	9.8	13	11.9	12	33.8	117	10.2	39	13	24.8	13	27.0	12	48.1	117	10.4		
40	13	10.0	13	12.2	12	34.0	120	10.5	40	13	25.0	13	27.2	12	48.3	120	10.7		
41	13	10.3	13	12.4	12	34.2	123	10.8	41	13	25.3	13	27.5	12	48.6	123	11.0		
42	13	10.5	13	12.7	12	34.5	126	11.0	42	13	25.5	13	27.7	12	48.8	126	11.2		
43	13	10.8	13	12.9	12	34.7	129	11.3	43	13	25.8	13	28.0	12	49.0	129	11.5		
44	13	11.0	13	13.2	12	35.0	132	11.6	44	13	26.0	13	28.2	12	49.3	132	11.8		
45	13	11.3	13	13.4	12	35.2	135	11.8	45	13	26.3	13	28.5	12	49.5	135	12.0		
46	13	11.5	13	13.7	12	35.4	138	12.1	46	13	26.5	13	28.7	12	49.8	138	12.3		
47	13	11.8	13	13.9	12	35.7	141	12.3	47	13	26.8	13	29.0	12	50.0	141	12.6		
48	13	12.0	13	14.2	12	35.9	144	12.6	48	13	27.0	13	29.2	12	50.2	144	12.8		
49	13	12.3	13	14.4	12	36.2	147	12.9	49	13	27.3	13	29.5	12	50.5	147	13.1		
50	13	12.5	13	14.7	12	36.4	150	13.1	50	13	27.5	13	29.7	12	50.7	150	13.4		
51	13	12.8	13	14.9	12	36.6	153	13.4	51	13	27.8	13	30.0	12	51.0	153	13.6		
52	13	13.0	13	15.2	12	36.9	156	13.7	52	13	28.0	13	30.2	12	51.2	156	13.9		
53	13	13.3	13	15.4	12	37.1	159	13.9	53	13	28.3	13	30.5	12	51.4	159	14.2		
54	13	13.5	13	15.7	12	37.4	162	14.2	54	13	28.5	13	30.7	12	51.7	162	14.4		
55	13	13.8	13	15.9	12	37.6	165	14.4	55	13	28.8	13	31.0	12	51.9	165	14.7		
56	13	14.0	13	16.2	12	37.8	168	14.7	56	13	29.0	13	31.2	12	52.1	168	15.0		
57	13	14.3	13	16.4	12	38.1	171	15.0	57	13	29.3	13	31.5	12	52.4	171	15.2		
58	13	14.5	13	16.7	12	38.3	174	15.2	58	13	29.5	13	31.7	12	52.6	174	15.5		
59	13	14.8	13	16.9	12	38.5	177	15.5	59	13	29.8	13	32.0	12	52.9	177	15.8		
60	13	15.0	13	17.2	12	38.8	180	15.8	60	13	30.0	13	32.2	12	53.1	180	16.1		

<b>54<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.	<b>55<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.
<sup>s</sup>	° /	° /	° /	° /	° /	0	/	<sup>s</sup>	° /	° /	° /	° /	° /	0	/
<b>0</b>	13 30.0	13 32.2	12 53.1	<b>0</b>	0.0	<b>0</b>	0.0	<b>0</b>	13 45.0	13 47.3	13 7.4	<b>0</b>	0.0	<b>0</b>	0.0
<b>1</b>	13 30.3	13 32.5	12 53.3	<b>3</b>	0.3	<b>1</b>	0.3	<b>1</b>	13 45.3	13 47.5	13 7.7	<b>3</b>	0.3	<b>1</b>	0.3
<b>2</b>	13 30.5	13 32.7	12 53.6	<b>6</b>	0.5	<b>2</b>	0.5	<b>2</b>	13 45.5	13 47.8	13 7.9	<b>6</b>	0.6	<b>2</b>	0.6
<b>3</b>	13 30.8	13 33.0	12 53.8	<b>9</b>	0.8	<b>3</b>	0.8	<b>3</b>	13 45.8	13 48.0	13 8.1	<b>9</b>	0.8	<b>3</b>	0.8
<b>4</b>	13 31.0	13 33.2	12 54.1	<b>12</b>	1.1	<b>4</b>	1.1	<b>4</b>	13 46.0	13 48.3	13 8.4	<b>12</b>	1.1	<b>4</b>	1.1
<b>5</b>	13 31.3	13 33.5	12 54.3	<b>15</b>	1.4	<b>5</b>	1.4	<b>5</b>	13 46.3	13 48.5	13 8.6	<b>15</b>	1.4	<b>5</b>	1.4
<b>6</b>	13 31.5	13 33.7	12 54.5	<b>18</b>	1.6	<b>6</b>	1.6	<b>6</b>	13 46.5	13 48.8	13 8.8	<b>18</b>	1.7	<b>6</b>	1.7
<b>7</b>	13 31.8	13 34.0	12 54.8	<b>21</b>	1.9	<b>7</b>	1.9	<b>7</b>	13 46.8	13 49.0	13 9.1	<b>21</b>	1.9	<b>7</b>	1.9
<b>8</b>	13 32.0	13 34.2	12 55.0	<b>24</b>	2.2	<b>8</b>	2.2	<b>8</b>	13 47.0	13 49.3	13 9.3	<b>24</b>	2.2	<b>8</b>	2.2
<b>9</b>	13 32.3	13 34.5	12 55.2	<b>27</b>	2.5	<b>9</b>	2.5	<b>9</b>	13 47.3	13 49.5	13 9.6	<b>27</b>	2.5	<b>9</b>	2.5
<b>10</b>	13 32.5	13 34.7	12 55.5	<b>30</b>	2.7	<b>10</b>	2.7	<b>10</b>	13 47.5	13 49.8	13 9.8	<b>30</b>	2.8	<b>10</b>	2.8
<b>11</b>	13 32.8	13 35.0	12 55.7	<b>33</b>	3.0	<b>11</b>	3.0	<b>11</b>	13 47.8	13 50.0	13 10.0	<b>33</b>	3.1	<b>11</b>	3.1
<b>12</b>	13 33.0	13 35.2	12 56.0	<b>36</b>	3.3	<b>12</b>	3.3	<b>12</b>	13 48.0	13 50.3	13 10.3	<b>36</b>	3.3	<b>12</b>	3.3
<b>13</b>	13 33.3	13 35.5	12 56.2	<b>39</b>	3.5	<b>13</b>	3.5	<b>13</b>	13 48.3	13 50.5	13 10.5	<b>39</b>	3.6	<b>13</b>	3.6
<b>14</b>	13 33.5	13 35.7	12 56.4	<b>42</b>	3.8	<b>14</b>	3.8	<b>14</b>	13 48.5	13 50.8	13 10.8	<b>42</b>	3.9	<b>14</b>	3.9
<b>15</b>	13 33.8	13 36.0	12 56.7	<b>45</b>	4.1	<b>15</b>	4.1	<b>15</b>	13 48.8	13 51.0	13 11.0	<b>45</b>	4.2	<b>15</b>	4.2
<b>16</b>	13 34.0	13 36.2	12 56.9	<b>48</b>	4.4	<b>16</b>	4.4	<b>16</b>	13 49.0	13 51.3	13 11.2	<b>48</b>	4.4	<b>16</b>	4.4
<b>17</b>	13 34.3	13 36.5	12 57.2	<b>51</b>	4.6	<b>17</b>	4.6	<b>17</b>	13 49.3	13 51.5	13 11.5	<b>51</b>	4.7	<b>17</b>	4.7
<b>18</b>	13 34.5	13 36.7	12 57.4	<b>54</b>	4.9	<b>18</b>	4.9	<b>18</b>	13 49.5	13 51.8	13 11.7	<b>54</b>	5.0	<b>18</b>	5.0
<b>19</b>	13 34.8	13 37.0	12 57.6	<b>57</b>	5.2	<b>19</b>	5.2	<b>19</b>	13 49.8	13 52.0	13 12.0	<b>57</b>	5.3	<b>19</b>	5.3
<b>20</b>	13 35.0	13 37.2	12 57.9	<b>60</b>	5.5	<b>20</b>	5.5	<b>20</b>	13 50.0	13 52.3	13 12.2	<b>60</b>	5.6	<b>20</b>	5.6
<b>21</b>	13 35.3	13 37.5	12 58.1	<b>63</b>	5.7	<b>21</b>	5.7	<b>21</b>	13 50.3	13 52.5	13 12.4	<b>63</b>	5.8	<b>21</b>	5.8
<b>22</b>	13 35.5	13 37.7	12 58.3	<b>66</b>	6.0	<b>22</b>	6.0	<b>22</b>	13 50.5	13 52.8	13 12.7	<b>66</b>	6.1	<b>22</b>	6.1
<b>23</b>	13 35.8	13 38.0	12 58.6	<b>69</b>	6.3	<b>23</b>	6.3	<b>23</b>	13 50.8	13 53.0	13 12.9	<b>69</b>	6.4	<b>23</b>	6.4
<b>24</b>	13 36.0	13 38.2	12 58.8	<b>72</b>	6.5	<b>24</b>	6.5	<b>24</b>	13 51.0	13 53.3	13 13.1	<b>72</b>	6.7	<b>24</b>	6.7
<b>25</b>	13 36.3	13 38.5	12 59.1	<b>75</b>	6.8	<b>25</b>	6.8	<b>25</b>	13 51.3	13 53.5	13 13.4	<b>75</b>	6.9	<b>25</b>	6.9
<b>26</b>	13 36.5	13 38.7	12 59.3	<b>78</b>	7.1	<b>26</b>	7.1	<b>26</b>	13 51.5	13 53.8	13 13.6	<b>78</b>	7.2	<b>26</b>	7.2
<b>27</b>	13 36.8	13 39.0	12 59.5	<b>81</b>	7.4	<b>27</b>	7.4	<b>27</b>	13 51.8	13 54.0	13 13.9	<b>81</b>	7.5	<b>27</b>	7.5
<b>28</b>	13 37.0	13 39.2	12 59.8	<b>84</b>	7.6	<b>28</b>	7.6	<b>28</b>	13 52.0	13 54.3	13 14.1	<b>84</b>	7.8	<b>28</b>	7.8
<b>29</b>	13 37.3	13 39.5	13 0.0	<b>87</b>	7.9	<b>29</b>	7.9	<b>29</b>	13 52.3	13 54.5	13 14.3	<b>87</b>	8.0	<b>29</b>	8.0
<b>30</b>	13 37.5	13 39.7	13 0.3	<b>90</b>	8.2	<b>30</b>	8.2	<b>30</b>	13 52.5	13 54.8	13 14.6	<b>90</b>	8.3	<b>30</b>	8.3
<b>31</b>	13 37.8	13 40.0	13 0.5	<b>93</b>	8.4	<b>31</b>	8.4	<b>31</b>	13 52.8	13 55.0	13 14.8	<b>93</b>	8.6	<b>31</b>	8.6
<b>32</b>	13 38.0	13 40.2	13 0.7	<b>96</b>	8.7	<b>32</b>	8.7	<b>32</b>	13 53.0	13 55.3	13 15.1	<b>96</b>	8.9	<b>32</b>	8.9
<b>33</b>	13 38.3	13 40.5	13 1.0	<b>99</b>	9.0	<b>33</b>	9.0	<b>33</b>	13 53.3	13 55.5	13 15.3	<b>99</b>	9.2	<b>33</b>	9.2
<b>34</b>	13 38.5	13 40.7	13 1.2	<b>102</b>	9.3	<b>34</b>	9.3	<b>34</b>	13 53.5	13 55.8	13 15.5	<b>102</b>	9.4	<b>34</b>	9.4
<b>35</b>	13 38.8	13 41.0	13 1.5	<b>105</b>	9.5	<b>35</b>	9.5	<b>35</b>	13 53.8	13 56.0	13 15.8	<b>105</b>	9.7	<b>35</b>	9.7
<b>36</b>	13 39.0	13 41.2	13 1.7	<b>108</b>	9.8	<b>36</b>	9.8	<b>36</b>	13 54.0	13 56.3	13 16.0	<b>108</b>	10.0	<b>36</b>	10.0
<b>37</b>	13 39.3	13 41.5	13 1.9	<b>111</b>	10.1	<b>37</b>	10.1	<b>37</b>	13 54.3	13 56.5	13 16.2	<b>111</b>	10.3	<b>37</b>	10.3
<b>38</b>	13 39.5	13 41.7	13 2.2	<b>114</b>	10.4	<b>38</b>	10.4	<b>38</b>	13 54.5	13 56.8	13 16.5	<b>114</b>	10.5	<b>38</b>	10.5
<b>39</b>	13 39.8	13 42.0	13 2.4	<b>117</b>	10.6	<b>39</b>	10.6	<b>39</b>	13 54.8	13 57.0	13 16.7	<b>117</b>	10.8	<b>39</b>	10.8
<b>40</b>	13 40.0	13 42.2	13 2.6	<b>120</b>	10.9	<b>40</b>	10.9	<b>40</b>	13 55.0	13 57.3	13 17.0	<b>120</b>	11.1	<b>40</b>	11.1
<b>41</b>	13 40.3	13 42.5	13 2.9	<b>123</b>	11.2	<b>41</b>	11.2	<b>41</b>	13 55.3	13 57.5	13 17.2	<b>123</b>	11.4	<b>41</b>	11.4
<b>42</b>	13 40.5	13 42.7	13 3.1	<b>126</b>	11.4	<b>42</b>	11.4	<b>42</b>	13 55.5	13 57.8	13 17.4	<b>126</b>	11.7	<b>42</b>	11.7
<b>43</b>	13 40.8	13 43.0	13 3.4	<b>129</b>	11.7	<b>43</b>	11.7	<b>43</b>	13 55.8	13 58.0	13 17.7	<b>129</b>	11.9	<b>43</b>	11.9
<b>44</b>	13 41.0	13 43.2	13 3.6	<b>132</b>	12.0	<b>44</b>	12.0	<b>44</b>	13 56.0	13 58.3	13 17.9	<b>132</b>	12.2	<b>44</b>	12.2
<b>45</b>	13 41.3	13 43.5	13 3.8	<b>135</b>	12.3	<b>45</b>	12.3	<b>45</b>	13 56.3	13 58.5	13 18.2	<b>135</b>	12.5	<b>45</b>	12.5
<b>46</b>	13 41.5	13 43.7	13 4.1	<b>138</b>	12.5	<b>46</b>	12.5	<b>46</b>	13 56.5	13 58.8	13 18.4	<b>138</b>	12.8	<b>46</b>	12.8
<b>47</b>	13 41.8	13 44.0	13 4.3	<b>141</b>	12.8	<b>47</b>	12.8	<b>47</b>	13 56.8	13 59.0	13 18.6	<b>141</b>	13.0	<b>47</b>	13.0
<b>48</b>	13 42.0	13 44.3	13 4.6	<b>144</b>	13.1	<b>48</b>	13.1	<b>48</b>	13 57.0	13 59.3	13 18.9	<b>144</b>	13.3	<b>48</b>	13.3
<b>49</b>	13 42.3	13 44.5	13 4.8	<b>147</b>	13.4	<b>49</b>	13.4	<b>49</b>	13 57.3	13 59.5	13 19.1	<b>147</b>	13.6	<b>49</b>	13.6
<b>50</b>	13 42.5	13 44.8	13 5.0	<b>150</b>	13.6	<b>50</b>	13.6	<b>50</b>	13 57.5	13 59.8	13 19.3	<b>150</b>	13.9	<b>50</b>	13.9
<b>51</b>	13 42.8	13 45.0	13 5.3	<b>153</b>	13.9	<b>51</b>	13.9	<b>51</b>	13 57.8	14 0.0	13 19.6	<b>153</b>	14.2	<b>51</b>	14.2
<b>52</b>	13 43.0	13 45.3	13 5.5	<b>156</b>	14.2	<b>52</b>	14.2	<b>52</b>	13 58.0	14 0.3	13 19.8	<b>156</b>	14.4	<b>52</b>	14.4
<b>53</b>	13 43.3	13 45.5	13 5.7	<b>159</b>	14.4	<b>53</b>	14.4	<b>53</b>	13 58.3	14 0.5	13 20.1	<b>159</b>	14.7	<b>53</b>	14.7
<b>54</b>	13 43.5	13 45.8	13 6.0	<b>162</b>	14.7	<b>54</b>	14.7	<b>54</b>	13 58.5	14 0.8	13 20.3	<b>162</b>	15.0	<b>54</b>	15.0
<b>55</b>	13 43.8	13 46.0	13 6.2	<b>165</b>	15.0	<b>55</b>	15.0	<b>55</b>	13 58.8	14 1.0	13 20.5	<b>165</b>	15.3	<b>55</b>	15.3
<b>56</b>	13 44.0	13 46.3	13 6.5	<b>168</b>	15.3	<b>56</b>	15.3	<b>56</b>	13 59.0	14 1.3	13 20.8	<b>168</b>	15.5	<b>56</b>	15.5
<b>57</b>	13 44.3	13 46.5	13 6.7	<b>171</b>	15.5	<b>57</b>	15.5	<b>57</b>	13 59.3	14 1.5	13 21.0	<b>171</b>	15.8	<b>57</b>	15.8
<b>58</b>	13 44.5	13 46.8	13 6.9	<b>174</b>	15.8	<b>58</b>	15.8	<b>58</b>	13 59.5	14 1.8	13 21.3	<b>174</b>	16.1	<b>58</b>	16.1
<b>59</b>	13 44.8	13 47.0	13 7.2	<b>177</b>	16.1	<b>59</b>	16.1	<b>59</b>	13 59.8	14 2.0	13 21.5	<b>177</b>	16.4	<b>59</b>	16.4
<b>60</b>	13 45.0	13 47.3	13 7.4	<b>180</b>	16.4	<b>60</b>	16.4	<b>60</b>	14 0.0	14 2.3	13 21.7	<b>180</b>	16.7	<b>60</b>	16.7

56 <sup>m</sup>			Sol y planetas			Aries	Luna	Dif.	Correc.	57 <sup>m</sup>			Sol y planetas			Aries	Luna	Dif.	Correc.
s	°	'	°	'	°	'	°	'	s	°	'	°	'	°	'	°	'	s	'
0	14	0.0	14	2.3	13	21.7	0	0.0	0	14	15.0	14	17.3	13	36.1	0	0.0		
1	14	0.3	14	2.6	13	22.0	3	0.3	1	14	15.3	14	17.6	13	36.3	3	0.3		
2	14	0.5	14	2.8	13	22.2	6	0.6	2	14	15.5	14	17.8	13	36.5	6	0.6		
3	14	0.8	14	3.1	13	22.4	9	0.8	3	14	15.8	14	18.1	13	36.8	9	0.9		
4	14	1.0	14	3.3	13	22.7	12	1.1	4	14	16.0	14	18.3	13	37.0	12	1.2		
5	14	1.3	14	3.6	13	22.9	15	1.4	5	14	16.3	14	18.6	13	37.2	15	1.4		
6	14	1.5	14	3.8	13	23.2	18	1.7	6	14	16.5	14	18.8	13	37.5	18	1.7		
7	14	1.8	14	4.1	13	23.4	21	2.0	7	14	16.8	14	19.1	13	37.7	21	2.0		
8	14	2.0	14	4.3	13	23.6	24	2.3	8	14	17.0	14	19.3	13	38.0	24	2.3		
9	14	2.3	14	4.6	13	23.9	27	2.5	9	14	17.3	14	19.6	13	38.2	27	2.6		
10	14	2.5	14	4.8	13	24.1	30	2.8	10	14	17.5	14	19.8	13	38.4	30	2.9		
11	14	2.8	14	5.1	13	24.4	33	3.1	11	14	17.8	14	20.1	13	38.7	33	3.2		
12	14	3.0	14	5.3	13	24.6	36	3.4	12	14	18.0	14	20.3	13	38.9	36	3.5		
13	14	3.3	14	5.6	13	24.8	39	3.7	13	14	18.3	14	20.6	13	39.2	39	3.7		
14	14	3.5	14	5.8	13	25.1	42	4.0	14	14	18.5	14	20.9	13	39.4	42	4.0		
15	14	3.8	14	6.1	13	25.3	45	4.2	15	14	18.8	14	21.1	13	39.6	45	4.3		
16	14	4.0	14	6.3	13	25.6	48	4.5	16	14	19.0	14	21.4	13	39.9	48	4.6		
17	14	4.3	14	6.6	13	25.8	51	4.8	17	14	19.3	14	21.6	13	40.1	51	4.9		
18	14	4.5	14	6.8	13	26.0	54	5.1	18	14	19.5	14	21.9	13	40.3	54	5.2		
19	14	4.8	14	7.1	13	26.3	57	5.4	19	14	19.8	14	22.1	13	40.6	57	5.5		
20	14	5.0	14	7.3	13	26.5	60	5.7	20	14	20.0	14	22.4	13	40.8	60	5.8		
21	14	5.3	14	7.6	13	26.7	63	5.9	21	14	20.3	14	22.6	13	41.1	63	6.0		
22	14	5.5	14	7.8	13	27.0	66	6.2	22	14	20.5	14	22.9	13	41.3	66	6.3		
23	14	5.8	14	8.1	13	27.2	69	6.5	23	14	20.8	14	23.1	13	41.5	69	6.6		
24	14	6.0	14	8.3	13	27.5	72	6.8	24	14	21.0	14	23.4	13	41.8	72	6.9		
25	14	6.3	14	8.6	13	27.7	75	7.1	25	14	21.3	14	23.6	13	42.0	75	7.2		
26	14	6.5	14	8.8	13	27.9	78	7.3	26	14	21.5	14	23.9	13	42.3	78	7.5		
27	14	6.8	14	9.1	13	28.2	81	7.6	27	14	21.8	14	24.1	13	42.5	81	7.8		
28	14	7.0	14	9.3	13	28.4	84	7.9	28	14	22.0	14	24.4	13	42.7	84	8.1		
29	14	7.3	14	9.6	13	28.7	87	8.2	29	14	22.3	14	24.6	13	43.0	87	8.3		
30	14	7.5	14	9.8	13	28.9	90	8.5	30	14	22.5	14	24.9	13	43.2	90	8.6		
31	14	7.8	14	10.1	13	29.1	93	8.8	31	14	22.8	14	25.1	13	43.4	93	8.9		
32	14	8.0	14	10.3	13	29.4	96	9.0	32	14	23.0	14	25.4	13	43.7	96	9.2		
33	14	8.3	14	10.6	13	29.6	99	9.3	33	14	23.3	14	25.6	13	43.9	99	9.5		
34	14	8.5	14	10.8	13	29.8	102	9.6	34	14	23.5	14	25.9	13	44.2	102	9.8		
35	14	8.8	14	11.1	13	30.1	105	9.9	35	14	23.8	14	26.1	13	44.4	105	10.1		
36	14	9.0	14	11.3	13	30.3	108	10.2	36	14	24.0	14	26.4	13	44.6	108	10.4		
37	14	9.3	14	11.6	13	30.6	111	10.5	37	14	24.3	14	26.6	13	44.9	111	10.6		
38	14	9.5	14	11.8	13	30.8	114	10.7	38	14	24.5	14	26.9	13	45.1	114	10.9		
39	14	9.8	14	12.1	13	31.0	117	11.0	39	14	24.8	14	27.1	13	45.4	117	11.2		
40	14	10.0	14	12.3	13	31.3	120	11.3	40	14	25.0	14	27.4	13	45.6	120	11.5		
41	14	10.3	14	12.6	13	31.5	123	11.6	41	14	25.3	14	27.6	13	45.8	123	11.8		
42	14	10.5	14	12.8	13	31.8	126	11.9	42	14	25.5	14	27.9	13	46.1	126	12.1		
43	14	10.8	14	13.1	13	32.0	129	12.1	43	14	25.8	14	28.1	13	46.3	129	12.4		
44	14	11.0	14	13.3	13	32.2	132	12.4	44	14	26.0	14	28.4	13	46.5	132	12.7		
45	14	11.3	14	13.6	13	32.5	135	12.7	45	14	26.3	14	28.6	13	46.8	135	12.9		
46	14	11.5	14	13.8	13	32.7	138	13.0	46	14	26.5	14	28.9	13	47.0	138	13.2		
47	14	11.8	14	14.1	13	32.9	141	13.3	47	14	26.8	14	29.1	13	47.3	141	13.5		
48	14	12.0	14	14.3	13	33.2	144	13.6	48	14	27.0	14	29.4	13	47.5	144	13.8		
49	14	12.3	14	14.6	13	33.4	147	13.8	49	14	27.3	14	29.6	13	47.7	147	14.1		
50	14	12.5	14	14.8	13	33.7	150	14.1	50	14	27.5	14	29.9	13	48.0	150	14.4		
51	14	12.8	14	15.1	13	33.9	153	14.4	51	14	27.8	14	30.1	13	48.2	153	14.7		
52	14	13.0	14	15.3	13	34.1	156	14.7	52	14	28.0	14	30.4	13	48.5	156	15.0		
53	14	13.3	14	15.6	13	34.4	159	15.0	53	14	28.3	14	30.6	13	48.7	159	15.2		
54	14	13.5	14	15.8	13	34.6	162	15.3	54	14	28.5	14	30.9	13	48.9	162	15.5		
55	14	13.8	14	16.1	13	34.9	165	15.5	55	14	28.8	14	31.1	13	49.2	165	15.8		
56	14	14.0	14	16.3	13	35.1	168	15.8	56	14	29.0	14	31.4	13	49.4	168	16.1		
57	14	14.3	14	16.6	13	35.3	171	16.1	57	14	29.3	14	31.6	13	49.7	171	16.4		
58	14	14.5	14	16.8	13	35.6	174	16.4	58	14	29.5	14	31.9	13	49.9	174	16.7		
59	14	14.8	14	17.1	13	35.8	177	16.7	59	14	29.8	14	32.1	13	50.1	177	17.0		
60	14	15.0	14	17.3	13	36.1	180	17.0	60	14	30.0	14	32.4	13	50.4	180	17.3		

<b>58<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.	<b>59<sup>m</sup></b>		Sol y planetas		Aries	Luna	Dif.	Correc.
<sup>s</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>'</sup>	<sup>s</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>o</sup> / <sup>'</sup>	<sup>'</sup>
<b>0</b>	14 30.0	14 32.4	13 50.4	<b>0</b>	0.0	<b>0</b>	0.0	<b>0</b>	14 45.0	14 47.4	14 4.7	<b>0</b>	0.0		
<b>1</b>	14 30.3	14 32.6	13 50.6	<b>3</b>	0.3	<b>1</b>	0.3	<b>1</b>	14 45.3	14 47.7	14 4.9	<b>3</b>	0.3		
<b>2</b>	14 30.5	14 32.9	13 50.8	<b>6</b>	0.6	<b>2</b>	0.6	<b>2</b>	14 45.5	14 47.9	14 5.2	<b>6</b>	0.6		
<b>3</b>	14 30.8	14 33.1	13 51.1	<b>9</b>	0.9	<b>3</b>	0.9	<b>3</b>	14 45.8	14 48.2	14 5.4	<b>9</b>	0.9		
<b>4</b>	14 31.0	14 33.4	13 51.3	<b>12</b>	1.2	<b>4</b>	1.2	<b>4</b>	14 46.0	14 48.4	14 5.6	<b>12</b>	1.2		
<b>5</b>	14 31.3	14 33.6	13 51.6	<b>15</b>	1.5	<b>5</b>	1.5	<b>5</b>	14 46.3	14 48.7	14 5.9	<b>15</b>	1.5		
<b>6</b>	14 31.5	14 33.9	13 51.8	<b>18</b>	1.8	<b>6</b>	1.8	<b>6</b>	14 46.5	14 48.9	14 6.1	<b>18</b>	1.8		
<b>7</b>	14 31.8	14 34.1	13 52.0	<b>21</b>	2.0	<b>7</b>	2.0	<b>7</b>	14 46.8	14 49.2	14 6.4	<b>21</b>	2.1		
<b>8</b>	14 32.0	14 34.4	13 52.3	<b>24</b>	2.3	<b>8</b>	2.3	<b>8</b>	14 47.0	14 49.4	14 6.6	<b>24</b>	2.4		
<b>9</b>	14 32.3	14 34.6	13 52.5	<b>27</b>	2.6	<b>9</b>	2.6	<b>9</b>	14 47.3	14 49.7	14 6.8	<b>27</b>	2.7		
<b>10</b>	14 32.5	14 34.9	13 52.8	<b>30</b>	2.9	<b>10</b>	2.9	<b>10</b>	14 47.5	14 49.9	14 7.1	<b>30</b>	3.0		
<b>11</b>	14 32.8	14 35.1	13 53.0	<b>33</b>	3.2	<b>11</b>	3.2	<b>11</b>	14 47.8	14 50.2	14 7.3	<b>33</b>	3.3		
<b>12</b>	14 33.0	14 35.4	13 53.2	<b>36</b>	3.5	<b>12</b>	3.5	<b>12</b>	14 48.0	14 50.4	14 7.5	<b>36</b>	3.6		
<b>13</b>	14 33.3	14 35.6	13 53.5	<b>39</b>	3.8	<b>13</b>	3.8	<b>13</b>	14 48.3	14 50.7	14 7.8	<b>39</b>	3.9		
<b>14</b>	14 33.5	14 35.9	13 53.7	<b>42</b>	4.1	<b>14</b>	4.1	<b>14</b>	14 48.5	14 50.9	14 8.0	<b>42</b>	4.2		
<b>15</b>	14 33.8	14 36.1	13 53.9	<b>45</b>	4.4	<b>15</b>	4.4	<b>15</b>	14 48.8	14 51.2	14 8.3	<b>45</b>	4.5		
<b>16</b>	14 34.0	14 36.4	13 54.2	<b>48</b>	4.7	<b>16</b>	4.7	<b>16</b>	14 49.0	14 51.4	14 8.5	<b>48</b>	4.8		
<b>17</b>	14 34.3	14 36.6	13 54.4	<b>51</b>	5.0	<b>17</b>	5.0	<b>17</b>	14 49.3	14 51.7	14 8.7	<b>51</b>	5.1		
<b>18</b>	14 34.5	14 36.9	13 54.7	<b>54</b>	5.3	<b>18</b>	5.3	<b>18</b>	14 49.5	14 51.9	14 9.0	<b>54</b>	5.4		
<b>19</b>	14 34.8	14 37.1	13 54.9	<b>57</b>	5.6	<b>19</b>	5.6	<b>19</b>	14 49.8	14 52.2	14 9.2	<b>57</b>	5.7		
<b>20</b>	14 35.0	14 37.4	13 55.1	<b>60</b>	5.9	<b>20</b>	5.9	<b>20</b>	14 50.0	14 52.4	14 9.5	<b>60</b>	6.0		
<b>21</b>	14 35.3	14 37.6	13 55.4	<b>63</b>	6.1	<b>21</b>	6.1	<b>21</b>	14 50.3	14 52.7	14 9.7	<b>63</b>	6.2		
<b>22</b>	14 35.5	14 37.9	13 55.6	<b>66</b>	6.4	<b>22</b>	6.4	<b>22</b>	14 50.5	14 52.9	14 9.9	<b>66</b>	6.5		
<b>23</b>	14 35.8	14 38.1	13 55.9	<b>69</b>	6.7	<b>23</b>	6.7	<b>23</b>	14 50.8	14 53.2	14 10.2	<b>69</b>	6.8		
<b>24</b>	14 36.0	14 38.4	13 56.1	<b>72</b>	7.0	<b>24</b>	7.0	<b>24</b>	14 51.0	14 53.4	14 10.4	<b>72</b>	7.1		
<b>25</b>	14 36.3	14 38.6	13 56.3	<b>75</b>	7.3	<b>25</b>	7.3	<b>25</b>	14 51.3	14 53.7	14 10.6	<b>75</b>	7.4		
<b>26</b>	14 36.5	14 38.9	13 56.6	<b>78</b>	7.6	<b>26</b>	7.6	<b>26</b>	14 51.5	14 53.9	14 10.9	<b>78</b>	7.7		
<b>27</b>	14 36.8	14 39.2	13 56.8	<b>81</b>	7.9	<b>27</b>	7.9	<b>27</b>	14 51.8	14 54.2	14 11.1	<b>81</b>	8.0		
<b>28</b>	14 37.0	14 39.4	13 57.0	<b>84</b>	8.2	<b>28</b>	8.2	<b>28</b>	14 52.0	14 54.4	14 11.4	<b>84</b>	8.3		
<b>29</b>	14 37.3	14 39.7	13 57.3	<b>87</b>	8.5	<b>29</b>	8.5	<b>29</b>	14 52.3	14 54.7	14 11.6	<b>87</b>	8.6		
<b>30</b>	14 37.5	14 39.9	13 57.5	<b>90</b>	8.8	<b>30</b>	8.8	<b>30</b>	14 52.5	14 54.9	14 11.8	<b>90</b>	8.9		
<b>31</b>	14 37.8	14 40.2	13 57.8	<b>93</b>	9.1	<b>31</b>	9.1	<b>31</b>	14 52.8	14 55.2	14 12.1	<b>93</b>	9.2		
<b>32</b>	14 38.0	14 40.4	13 58.0	<b>96</b>	9.4	<b>32</b>	9.4	<b>32</b>	14 53.0	14 55.4	14 12.3	<b>96</b>	9.5		
<b>33</b>	14 38.3	14 40.7	13 58.2	<b>99</b>	9.7	<b>33</b>	9.7	<b>33</b>	14 53.3	14 55.7	14 12.6	<b>99</b>	9.8		
<b>34</b>	14 38.5	14 40.9	13 58.5	<b>102</b>	9.9	<b>34</b>	9.9	<b>34</b>	14 53.5	14 55.9	14 12.8	<b>102</b>	10.1		
<b>35</b>	14 38.8	14 41.2	13 58.7	<b>105</b>	10.2	<b>35</b>	10.2	<b>35</b>	14 53.8	14 56.2	14 13.0	<b>105</b>	10.4		
<b>36</b>	14 39.0	14 41.4	13 59.0	<b>108</b>	10.5	<b>36</b>	10.5	<b>36</b>	14 54.0	14 56.4	14 13.3	<b>108</b>	10.7		
<b>37</b>	14 39.3	14 41.7	13 59.2	<b>111</b>	10.8	<b>37</b>	10.8	<b>37</b>	14 54.3	14 56.7	14 13.5	<b>111</b>	11.0		
<b>38</b>	14 39.5	14 41.9	13 59.4	<b>114</b>	11.1	<b>38</b>	11.1	<b>38</b>	14 54.5	14 56.9	14 13.8	<b>114</b>	11.3		
<b>39</b>	14 39.8	14 42.2	13 59.7	<b>117</b>	11.4	<b>39</b>	11.4	<b>39</b>	14 54.8	14 57.2	14 14.0	<b>117</b>	11.6		
<b>40</b>	14 40.0	14 42.4	13 59.9	<b>120</b>	11.7	<b>40</b>	11.7	<b>40</b>	14 55.0	14 57.5	14 14.2	<b>120</b>	11.9		
<b>41</b>	14 40.3	14 42.7	14 0.1	<b>123</b>	12.0	<b>41</b>	12.0	<b>41</b>	14 55.3	14 57.7	14 14.5	<b>123</b>	12.2		
<b>42</b>	14 40.5	14 42.9	14 0.4	<b>126</b>	12.3	<b>42</b>	12.3	<b>42</b>	14 55.5	14 58.0	14 14.7	<b>126</b>	12.5		
<b>43</b>	14 40.8	14 43.2	14 0.6	<b>129</b>	12.6	<b>43</b>	12.6	<b>43</b>	14 55.8	14 58.2	14 14.9	<b>129</b>	12.8		
<b>44</b>	14 41.0	14 43.4	14 0.9	<b>132</b>	12.9	<b>44</b>	12.9	<b>44</b>	14 56.0	14 58.5	14 15.2	<b>132</b>	13.1		
<b>45</b>	14 41.3	14 43.7	14 1.1	<b>135</b>	13.2	<b>45</b>	13.2	<b>45</b>	14 56.3	14 58.7	14 15.4	<b>135</b>	13.4		
<b>46</b>	14 41.5	14 43.9	14 1.3	<b>138</b>	13.5	<b>46</b>	13.5	<b>46</b>	14 56.5	14 59.0	14 15.7	<b>138</b>	13.7		
<b>47</b>	14 41.8	14 44.2	14 1.6	<b>141</b>	13.7	<b>47</b>	13.7	<b>47</b>	14 56.8	14 59.2	14 15.9	<b>141</b>	14.0		
<b>48</b>	14 42.0	14 44.4	14 1.8	<b>144</b>	14.0	<b>48</b>	14.0	<b>48</b>	14 57.0	14 59.5	14 16.1	<b>144</b>	14.3		
<b>49</b>	14 42.3	14 44.7	14 2.1	<b>147</b>	14.3	<b>49</b>	14.3	<b>49</b>	14 57.3	14 59.7	14 16.4	<b>147</b>	14.6		
<b>50</b>	14 42.5	14 44.9	14 2.3	<b>150</b>	14.6	<b>50</b>	14.6	<b>50</b>	14 57.5	15 0.0	14 16.6	<b>150</b>	14.9		
<b>51</b>	14 42.8	14 45.2	14 2.5	<b>153</b>	14.9	<b>51</b>	14.9	<b>51</b>	14 57.8	15 0.2	14 16.9	<b>153</b>	15.2		
<b>52</b>	14 43.0	14 45.4	14 2.8	<b>156</b>	15.2	<b>52</b>	15.2	<b>52</b>	14 58.0	15 0.5	14 17.1	<b>156</b>	15.5		
<b>53</b>	14 43.3	14 45.7	14 3.0	<b>159</b>	15.5	<b>53</b>	15.5	<b>53</b>	14 58.3	15 0.7	14 17.3	<b>159</b>	15.8		
<b>54</b>	14 43.5	14 45.9	14 3.3	<b>162</b>	15.8	<b>54</b>	15.8	<b>54</b>	14 58.5	15 1.0	14 17.6	<b>162</b>	16.1		
<b>55</b>	14 43.8	14 46.2	14 3.5	<b>165</b>	16.1	<b>55</b>	16.1	<b>55</b>	14 58.8	15 1.2	14 17.8	<b>165</b>	16.4		
<b>56</b>	14 44.0	14 46.4	14 3.7	<b>168</b>	16.4	<b>56</b>	16.4	<b>56</b>	14 59.0	15 1.5	14 18.0	<b>168</b>	16.7		
<b>57</b>	14 44.3	14 46.7	14 4.0	<b>171</b>	16.7	<b>57</b>	16.7	<b>57</b>	14 59.3	15 1.7	14 18.3	<b>171</b>	17.0		
<b>58</b>	14 44.5	14 46.9	14 4.2	<b>174</b>	17.0	<b>58</b>	17.0	<b>58</b>	14 59.5	15 2.0	14 18.5	<b>174</b>	17.3		
<b>59</b>	14 44.8	14 47.2	14 4.4	<b>177</b>	17.3	<b>59</b>	17.3	<b>59</b>	14 59.8	15 2.2	14 18.8	<b>177</b>	17.6		
<b>60</b>	14 45.0	14 47.4	14 4.7	<b>180</b>	17.6	<b>60</b>	17.6	<b>60</b>	15 0.0	15 2.5	14 19.0	<b>180</b>	17.9		

**Suplemento al Almanaque Náutico**

**para su uso en la**

**Navegación Aérea**

Real Instituto y Observatorio de la Armada  
San Fernando (Cádiz)

## Ortos, Ocasos y Crepúsculos

CORRECCIÓN QUE, POR ALTITUD DEL OBSERVADOR, DEBE RESTARSE A LAS HORAS  
TABULADAS DEL ORTO DEL SOL, O SUMARSE A LAS DEL OCASO.

VALEDERA PARA LATITUDES INFERIORES A 60°

DURACIÓN CREPÚSCULO	ALTITUD (METROS)												
	150	500	1000	1500	2000	3000	4000	5000	6000	7000	9000	12000	15000
<sup>m</sup> <b>20</b>	<sup>m</sup> 2	<sup>m</sup> 4	<sup>m</sup> 5	<sup>m</sup> 6	<sup>m</sup> 7	<sup>m</sup> 8	<sup>m</sup> 9	<sup>m</sup> 9	<sup>m</sup> 10	<sup>m</sup> 11	<sup>m</sup> 13	<sup>m</sup> 15	<sup>m</sup> 16
<b>25</b>	2	5	6	7	8	9	10	11	13	14	16	18	20
<b>30</b>	2	5	6	8	9	11	12	14	16	17	19	22	25
<b>35</b>	3	6	7	9	11	13	15	17	18	20	23	26	29
<b>40</b>	3	6	8	10	12	15	17	19	21	23	26	30	33
<b>45</b>	3	6	8	11	14	17	19	21	24	26	29	33	37
<b>50</b>	4	7	9	12	15	18	20	23	26	29	32	36	41
<b>55</b>	4	8	10	13	16	19	22	25	28	31	35	39	45
<b>60</b>	5	9	11	14	17	20	24	27	30	33	38	43	49
<b>65</b>	5	9	12	15	18	22	25	29	32	34	40	46	52
<b>70</b>	5	10	13	16	18	23	26	30	33	36	42	48	55
<b>75</b>	5	10	13	16	18	23	26	30	33	36	42	48	55
<b>80</b>	6	10	14	18	20	25	29	33	37	40	47	54	61
<b>85</b>	6	11	15	19	21	26	30	35	39	42	50	57	65
<b>90</b>	6	11	16	20	22	28	32	36	40	44	52	60	69
<b>95</b>	7	11	16	20	23	29	33	38	42	46	55	64	73
<b>100</b>	7	12	17	21	24	30	35	40	44	48	57	67	77
<b>105</b>	7	12	17	22	25	31	36	41	46	50	59	70	81
<b>110</b>	7	12	18	23	26	33	38	43	48	52	61	73	84

DURACIÓN DEL CREPÚSCULO, SEGÚN LA ALTITUD DEL OBSERVADOR

VALEDERA PARA LATITUDES INFERIORES A 60°

DURACIÓN CREPÚSCULO AL NIVEL DEL MAR	ALTITUD (METROS)												
	150	500	1000	1500	2000	3000	4000	5000	6000	7000	9000	12000	15000
<sup>m</sup> <b>20</b>	<sup>m</sup> 20	<sup>m</sup> 20	<sup>m</sup> 20	<sup>m</sup> 21	<sup>m</sup> 21	<sup>m</sup> 21	<sup>m</sup> 22	<sup>m</sup> 22	<sup>m</sup> 22	<sup>m</sup> 23	<sup>m</sup> 24	<sup>m</sup> 25	<sup>m</sup> 26
<b>25</b>	25	25	25	26	26	27	27	28	28	28	29	31	32
<b>30</b>	30	30	31	31	31	32	32	33	33	34	35	37	39
<b>35</b>	35	35	36	36	36	37	38	38	39	40	41	43	45
<b>40</b>	40	40	41	41	41	42	43	44	45	46	47	49	52
<b>45</b>	45	45	46	46	47	48	49	50	50	51	53	56	58
<b>50</b>	50	50	51	51	52	53	54	55	56	57	59	62	65
<b>55</b>	55	55	56	57	57	59	60	60	61	63	66	69	72
<b>60</b>	60	60	61	62	63	64	65	66	67	69	72	76	80
<b>65</b>	65	65	67	67	68	70	71	72	73	75	78	83	89
<b>70</b>	70	71	72	73	74	75	77	78	80	82	85	90	99
<b>75</b>	75	76	77	78	79	81	83	85	87	89	93	99	110
<b>80</b>	80	81	82	83	85	87	90	92	94	97	102	110	121
<b>85</b>	85	86	87	89	90	93	96	98	101	104	109	120	L
<b>90</b>	90	91	93	94	96	100	102	105	108	111	117	L	L
<b>95</b>	95	97	98	100	102	106	109	112	115	119	126	L	L
<b>100</b>	100	102	104	106	108	112	116	119	123	128	136	L	L
<b>105</b>	105	108	110	112	115	118	122	127	133	L	L	L	L
<b>110</b>	110	113	120	127	L	L	L	L	L	L	L	L	L

Las condiciones atmosféricas pueden falsear notablemente los datos de esta Tabla, sobre todo en grandes altitudes. El símbolo L, indica que el crepúsculo dura toda la noche.

## Correcciones que deben hacerse a las alturas observadas

Con Sextante de Nivel:

- Corrección instrumental.
- Refracción; (Tabla A).
- Corrección Coriolis. Z; (Tabla B) da el desplazamiento de la línea de posición.

Con Sextante Marino:

- Corrección instrumental.
- Refracción; (Tabla A).
- Depresión del horizonte; (Tabla C)

En el caso de la Luna, debe aplicarse la corrección por Paralaje en altura (Tabla D)

<b>Tabla A:</b> para toda clase de sextantes Corrección por refracción										<b>Tabla B:</b> para sextante de nivel Corrección de Coriolis, Z								<b>Tabla C:</b> para sextante marino Depresión del horizonte	
Altitud (metros)	ALTURA OBSERVADA									Veloc. nudos	LATITUD							Veloc. km/h	Altitud Depresión
	4°	6°	8°	10°	15°	20°	30°	45°	60°		0°	10°	20°	30°	40°	50°	60°		
<b>0</b>	12	8	6	5	4	3	2	1	1	<b>100</b>	0	0	1	1	2	2	2	<b>185</b>	
<b>1.500</b>	10	7	6	5	3	2	1	1	0	<b>150</b>	0	1	1	2	3	3	3	<b>277</b>	
<b>3.000</b>	9	6	5	4	3	2	1	1	0	<b>200</b>	0	1	2	3	3	4	5	<b>370</b>	
<b>4.500</b>	8	5	4	3	2	2	1	1	0	<b>250</b>	0	1	2	3	4	5	6	<b>463</b>	
<b>6.000</b>	7	5	4	3	2	1	1	1	0	<b>300</b>	0	1	3	4	5	6	7	<b>556</b>	
<b>7.500</b>	6	4	3	2	2	1	1	0	0	<b>350</b>	0	2	3	5	6	7	8	<b>648</b>	
<b>9.000</b>	6	4	3	2	1	1	1	0	0	<b>400</b>	0	2	4	5	7	8	9	<b>741</b>	
<b>10.500</b>	5	3	3	2	1	1	1	0	0	<b>450</b>	0	2	4	6	8	9	10	<b>834</b>	
<b>12.000</b>	5	3	3	1	1	1	0	0	0	<b>500</b>	0	2	4	7	8	10	11	<b>926</b>	
<b>15.000</b>	4	3	2	1	1	1	0	0	0	Se aplica desplazando la línea de posición paralelamente a sí misma la distancia Z, en la dirección normal al rumbo; hacia Er. (der.), en el hemisferio N.; hacia Br. (izq.), en el hemisferio S.									
Se resta de la altura observada																			
<b>Tabla D:</b> para toda clase de sextantes. Paralaje en altura de la Luna																			
Altura	PARALAJE HORIZONTAL								Altura	PARALAJE HORIZONTAL									
	54'	55'	56'	57'	58'	59'	60'	61'		54'	55'	56'	57'	58'	59'	60'	61'		
<b>5°</b>	54	55	56	57	58	59	60	61	<b>60°</b>	27	27	28	28	29	29	30	30	28	
<b>10</b>	53	54	55	56	57	58	59	60	<b>61</b>	26	27	27	28	28	29	29	30	10	
<b>15</b>	52	53	54	55	56	57	58	59	<b>62</b>	25	26	26	27	27	28	28	29	15	
<b>19</b>	51	52	53	54	55	56	57	58	<b>63</b>	25	25	25	26	26	27	27	28	19	
<b>23</b>	50	51	52	52	53	54	55	56	<b>64</b>	24	24	25	25	25	26	26	27	23	
<b>27</b>	48	49	50	51	52	53	53	54	<b>65</b>	23	23	24	24	25	25	25	26	27	
<b>30</b>	47	48	48	49	50	52	52	53	<b>66</b>	22	22	23	23	24	24	24	25	30	
<b>33</b>	45	46	47	48	49	50	50	51	<b>67</b>	21	21	22	22	23	23	23	24	33	
<b>36</b>	44	45	45	46	47	48	49	49	<b>68</b>	20	21	21	21	22	22	22	23	36	
<b>39</b>	42	43	43	44	45	46	47	47	<b>69</b>	19	20	20	20	21	21	21	22	39	
<b>42</b>	40	41	42	42	43	44	45	45	<b>70</b>	18	19	19	20	20	20	21	21	42	
<b>45</b>	38	39	40	40	41	42	43	43	<b>71</b>	18	18	18	19	19	19	20	20	45	
<b>47</b>	37	37	38	39	40	40	41	42	<b>72</b>	17	17	17	18	18	18	19	19	47	
<b>49</b>	36	36	37	37	38	39	39	40	<b>73</b>	16	16	16	17	17	17	18	18	49	
<b>51</b>	34	35	35	36	36	37	38	38	<b>74</b>	15	15	15	16	16	16	17	17	51	
<b>53</b>	32	33	34	34	35	36	36	37	<b>75</b>	14	14	14	15	15	15	16	16	53	
<b>55</b>	31	32	32	33	33	34	34	35	<b>76</b>	13	13	14	14	14	14	15	15	55	
<b>57</b>	29	30	30	31	32	32	33	33	<b>77</b>	12	12	13	13	13	13	13	14	57	
<b>58</b>	29	29	30	30	31	31	32	32	<b>78</b>	11	11	12	12	12	12	12	13	58	
<b>59</b>	28	28	29	29	30	30	31	31	<b>79</b>	10	10	11	11	11	11	11	12	59	
<b>60</b>	27	27	28	28	29	29	30	30	<b>80</b>	9	10	10	10	10	10	10	11	60	
Se suma a la altura observada																			

Altitud	Depresión
28	10
35	11
42	12
49	12
57	13
57	14
66	15
76	16
86	17
97	18
108	18
120	19
133	20
147	21
161	22
175	23
190	24
206	25
223	26
240	27
258	28
276	29
295	30
315	31
335	32
356	33
377	34
399	35
422	36
445	37
470	38
495	39
520	40
546	41
573	42
600	43
628	44
657	45
686	46
716	47
747	48
778	49
809	50



### Explicación y ejemplos

Este suplemento tiene por objeto el que pueda utilizarse el ALMANAQUE NÁUTICO para resolver los problemas de la navegación astronómica en vuelo, incluyendo para ello las tablas de correcciones debidas a la altitud del observador.

Estas tablas son las denominadas A, B, C y D, y se presentan de forma que no necesitan explicación, aclarándose su uso con algunos ejemplos. En cuanto a la denominada Tabla I, se refiere a la incluida en el texto del ALMANAQUE.

Las dos primeras tablas proporcionan, tomando como argumento la duración del crepúsculo civil al nivel del mar y la altitud del observador, una, la corrección que debe aplicarse a la hora calculada del orto u ocaso al nivel del mar, y otra, la duración del crepúsculo, ya corregida. Esta duración del crepúsculo no corresponde ya al instante en que el Sol tiene 6° de depresión bajo el horizonte visible, sino que corresponde aproximadamente al grado de claridad que en tales condiciones aprecia el observador al nivel del mar.

Respecto a las correcciones de altura, en la tabla se hace relación de las que deben aplicarse según se observe con sextante marino o de nivel. Su uso se aclara con los siguientes ejemplos.

**Ejemplo 1.** Se ha observado con sextante de nivel (corrección instrumental -2') en latitud norte 50° 20' y altitud 2200 metros y una velocidad de 300 nudos, la altura de Arcturus. La lectura del sextante fue de 32° 22', y el rumbo, en el instante de la observación, 280°. Determinar la altura del astro que se debe emplear en el cálculo de la recta de altura, y alteración que debe sufrir esta por el efecto de Coriolis.

Altura observada .....	32° 22'
Corrección instrumental .....	-2'
Corrección por refracción (Tabla A) ....	-1'
Altura pedida .....	32° 19'
Tabla B .....	6'

La recta de altura deberá desplazarse paralelamente a sí misma, hasta correr 6' en dirección  $280^\circ + 90^\circ = 10^\circ$ .

**Ejemplo 2.** Estando a 400 metros de altitud, se observó con sextante marino (corrección de índice +3') el limbo inferior de la Luna a 25° 14' de altura, un día en el que la paralaje horizontal era de 54' y el semidiámetro de 15'. Calcular la altura verdadera al centro de la Luna.

Altura observada .....	25° 14'
Corrección instrumental .....	+3'
Refracción (Tabla A) .....	-2'
Depresión (Tabla C) .....	-36'
Paralaje (Tabla D) .....	+49'
Semidiámetro .....	+15'
Altura pedida .....	25° 43'

### Latitud por la Polar

Para las necesidades de la navegación aérea basta utilizar la Tabla I como se explica en el ALMANAQUE, redondeando el resultado al minuto más próximo.

Si la corrección se ha hecho con sextante de nivel, es necesario aplicar la corrección de Coriolis. Puede aplicarse, como en el caso general, considerando que la recta de altura es el paralelo resultante. Sin embargo será más sencillo corregir la latitud calculada sin tener en cuenta el efecto Coriolis, aplicando lo que arroje la tablilla siguiente, cuyos argumentos son el resultado de la Tabla B y el rumbo verdadero.

CORRECCIÓN DE CORIOLIS (para sextante de nivel)

RUMBO	Z (resultado Tabla B)									RUMBO	
	0'	1'	2'	3'	4'	5'	6'	7'	8'		
<b>0° 180°</b>	0'	0'	0'	0'	0'	0'	0'	0'	0'	<b>180° 0°</b>	
<b>15° 165°</b>	0	0	-1+	-1+	-1+	-1+	-2+	-2+	-2+	<b>195° 345°</b>	
<b>30° 150°</b>	0	0	-1+	-1+	-2+	-2+	-3+	-3+	-4+	<b>210° 330°</b>	
<b>45° 135°</b>	0	-1+	-1+	-2+	-3+	-4+	-4+	-5+	-6+	<b>225° 315°</b>	
<b>60° 120°</b>	0	-1+	-2+	-3+	-3+	-4+	-5+	-6+	-7+	<b>240° 300°</b>	
<b>75° 105°</b>	0	-1+	-2+	-3+	-4+	-5+	-6+	-7+	-8+	<b>255° 285°</b>	
<b>90°</b>	0	-1+	-2+	-3+	-4+	-5+	-6+	-7+	-8+	<b>270°</b>	

**Ejemplo.** Volando a 300 nudos con rumbo  $67^\circ$  y una altitud de 1500 m, se observó con sextante de nivel (corrección instrumental  $-3'$ ) una altura de la Polar de  $45^\circ 49'$ , cuando el horario de Aries era  $359^\circ 30'$ .

Altura observada . . . . .	$45^\circ 49'$	
Corrección instrumental . . . . .	$-3'$	
Refracción (Tabla A) . . . . .	$-1'$	
	<hr/>	
Altura verdadera . . . . .	$45^\circ 45'$	
Tabla I (pág. 383) . . . . .	$-28'$	
	<hr/>	
Latitud aproximada . . . . .	$45^\circ 17'$	
Z (Tabla B) . . . . .		$6'$
Corrección Coriolis . . . . .	$-5'$	
	<hr/>	
Latitud . . . . .	$45^\circ 12'$	



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