

NavSoft's

2014

Nautical Almanac

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Formulae

$$\text{Dip} = 0.971 \times \text{Ht}^{1/2}$$

or

Ht in feet

$$\text{Dip} = 1.758 \times \text{Ht}^{1/2}$$

Ht in meters

$$\text{Refraction} = 0.96 / \text{Tan(Alt)}$$

Altitude > 11°

$$\text{Parallax} = \text{HP} \times \text{Cos(Alt)}$$

$$\text{Cos(Zenith Distance)} = \text{Sin(Lat)} \times \text{Sin(Dec)} + \text{Cos(Lat)} \times \text{Cos(Dec)} \times \text{Cos(LHA)}$$

$$\text{Tan(Azimuth)} = \text{Sin(LHA)} / [\text{Cos(Lat)} \times \text{Tan(Dec)} - \text{Sin(Lat)} \times \text{Cos(LHA)}]$$

ABC Tables

$$A = \text{Cos(Lat)} \times \text{Tan(Dec)}$$

$$B = \text{Sin(Lat)} \times \text{Cos(LHA)}$$

$$C = \text{Sin(LHA)} / \text{Tan(Azimuth)}$$

or

$$\text{Azimuth} = \text{Atan}[C / \text{Sin(LHA)}]$$

Increments

$$\text{Sun} = 15'' / \text{hour}$$

$$\text{Moon} = 14''.316666' / \text{hour}$$

$$\text{Aries} = 15''.041666' / \text{hour}$$

Horizontal Parallaxes and Semi-Diameters for 2014

	Sun SD	Venus		Mars		Jupiter SD	Saturn SD
		HP	SD	HP	SD		
Jan 1	16'.3	0'.53	0'.50	0'.11	0'.06	0'.37	0'.12
Jan	16'.3	0'.54	0'.52	0'.12	0'.06	0'.37	0'.12
Feb	16'.2	0'.35	0'.34	0'.16	0'.08	0'.35	0'.13
Mar	16'.1	0'.24	0'.23	0'.21	0'.11	0'.32	0'.13
Apr	15'.9	0'.17	0'.16	0'.24	0'.13	0'.29	0'.14
May	15'.8	0'.13	0'.13	0'.21	0'.11	0'.27	0'.14
Jun	15'.7	0'.11	0'.11	0'.17	0'.09	0'.25	0'.14
Jul	15'.7	0'.10	0'.10	0'.14	0'.07	0'.25	0'.13
Aug	15'.8	0'.09	0'.09	0'.11	0'.06	0'.25	0'.12
Sep	15'.9	0'.09	0'.08	0'.10	0'.05	0'.26	0'.12
Oct	16'.0	0'.09	0'.08	0'.09	0'.05	0'.27	0'.11
Nov	16'.2	0'.09	0'.08	0'.08	0'.04	0'.30	0'.11
Dec	16'.2	0'.09	0'.08	0'.08	0'.04	0'.33	0'.11
Dec 31	16'.3	0'.09	0'.09	0'.07	0'.04	0'.34	0'.12

15th day of each month unless stated

Sun's HP = 0'.15

HP for Jupiter and Saturn < 0'.05

This Almanac was compiled using AstroNav which will print pages for any dates between 9999BC and 9999AD. It also includes data for all visible bodies at less than the cost of a printed Nautical Almanac. Further details and a demonstration version can be found at navsoft.com/astronav.html

Supplementary tables, which do not change from year to year, are available at navsoft.com/downloads.html

2014 January 1, 2, 3 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.3			MARS +0.8			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil	1		2	3				
Wednesday	00	100° 34'.3	162° 09'.6	18° 12'.9 S	269° 00'.9	2° 36'.2 S	353° 04'.4	22° 35'.1 N	232° 03'.1	15° 44'.5 S	Acamar	315° 17'.8	40° 15'.2 S	179° 10'.2	23° 01'.3 S	186° 33'.8	3.3	19° 05'.1 S	2.9	61.3	N 72°	08:23	10:39	-	-	11:14	10:54						
	01	115° 36'.7	177° 13'.3	12.5	284° 02'.3	36.6	8° 07'.2	35.2	247° 05'.4	44.5	Achernar	335° 26'.4	57° 10'.2 S	194° 09'.9	01'.1	200° 56'.1	3.3	02.2	3.0	68°	07:49	09:16	-	-	09:46	10:04	10:13						
	02	130° 39'.2	192° 16'.9	12.0	299° 03'.7	37.1	23° 10'.1	35.2	262° 07'.6	44.6	Acruz	173° 08'.7	63° 10'.4 S	209° 09'.6	00'.9	215° 18'.4	3.3	18° 59'.2 S	3.2	66°	07:37	08:52	10:26	09:15	09:43	09:59							
	03	145° 41'.7	207° 20'.6	11'.6	314° 05'.2	37.5	38° 12'.9	35.3	277° 09'.8	44.7	Adhara	255° 11'.8	28° 59'.7 S	224° 09'.3	00'.7	229° 40'.7	3.3	56.0	3.3	64°	07:26	08:34	09:48	08:53	09:25	09:47							
	04	160° 44'.1	222° 24'.2	11'.2	329° 06'.6	37.9	53° 15'.7	35.3	292° 12'.1	44.6	Aldebaran	290° 48'.6	16° 32'.1 N	239° 09.0	00'.5	244° 03'.0	3.4	52.7	3.5	62°	07:17	08:18	09:22	08:34	09:11	09:37							
	05	175° 46'.6	237° 27'.9	10'.7	344° 08.0	38.3	68° 18'.5	35.3	307° 14'.3	44.8		196° 20'.5	55° 52'.7 N	254° 08'.8	00'.3	258° 25'.4	3.3	49.2	3.6	61.4	60°	07:09	08:05	09:02	08:19	08:59	09:28						
	06	190° 49'.1	252° 31'.5	10'.3	359° 09'.5	38.7	83° 21'.4	35.4	322° 16'.6	44.8	Alioth	260° 20'.5	55° 52'.7 N	269° 08'.5	00'.1	272° 47'.7	3.4	45.6	3.8	N 58°	07:02	07:54	08:45	08:06	08:48	09:21							
	07	205° 51'.5	267° 35'.2	09.8	14° 10'.9	39.1	98° 24'.2	35.4	337° 18'.8	44.9	Alkaid	152° 58'.8	49° 14'.4 N	284° 08'.2	22° 59'.9 S	287° 10'.1	3.4	41.8	3.9	56°	06:55	07:44	08:31	07:55	08:39	09:14							
	08	220° 54'.0	282° 38'.9	09.4	29° 12'.3	39.5	113° 27'.0	35.5	352° 21'.0	44.9	Alnair	27° 43'.6	46° 53'.6 E	299° 07'.9	59.7	301° 32'.5	3.4	37.9	4.0	54°	06:50	07:35	08:19	07:45	08:31	09:08							
	09	235° 56'.4	297° 42'.5	08.9	44° 13'.8	39.9	128° 29'.8	35.5	7° 23'.3	45.0	Alnilam	275° 45'.6	1° 11'.8 S	314° 07'.6	59.5	315° 54'.9	3.4	33.9	4.0	52°	06:44	07:27	08:08	07:37	08:24	09:02							
	10	250° 58'.9	312° 46'.2	08.5	59° 15'.2	40.3	143° 32'.7	35.6	22° 25'.5	45.0	Alphard	217° 55'.4	8° 43'.3 S	329° 07'.3	59.2	330° 17'.3	3.4	29.7	4.4	50°	06:39	07:20	07:58	07:29	08:17	08:57							
	11	266° 01'.4	327° 49'.9	08.0	74° 16'.6	40.7	158° 35'.5	35.6	37° 27'.7	45.1		190° 20'.5	55° 52'.7 N	344° 07'.0	59.0	344° 39'.7	3.5	25.3	4.4	45°	06:28	07:05	07:38	07:12	08:03	08:47							
	12	281° 03'.8	342° 53'.6	18° 07'.6 S	89° 18'.1	2° 41'.1 S	173° 38'.3	22° 35'.7 N	52° 30'.0	15° 45'.1 S	Alphecca	126° 11'.0	26° 40'.0 N	359° 06'.7	22° 58'.8 S	359° 02'.2	3.5	18° 20'.9 S	4.6	61.4	N 40°	06:18	06:52	07:22	06:58	07:51	08:38						
	13	296° 06'.3	357° 57'.3	07.2	104° 19'.5	41.5	188° 41'.1	35.7	67° 32'.2	45.2	Alpheratz	357° 43'.1	29° 10'.3 N	14° 06'.4	58.6	13° 24'.7	3.5	16.3	4.8	35°	06:09	06:40	07:08	06:47	07:41	08:30							
	14	311° 08'.8	13° 00'.9	06.7	119° 20'.9	41.9	203° 44'.0	35.8	82° 34'.4	45.2	Altair	62° 08'.2	8° 54'.5 N	29° 06'.1	58.4	27° 47'.2	3.6	11.5	4.9	30°	06:00	06:30	06:56	06:36	07:32	08:23							
	15	326° 11'.2	28° 04'.6	06.3	134° 22'.4	42.3	218° 46'.8	35.8	97° 36'.7	45.3	Ankaa	353° 15'.4	42° 14'.0 S	44° 05'.8	58.2	42° 09'.8	3.6	06.6	5.0	20°	05:44	06:11	06:35	06:19	07:17	08:11							
	16	341° 13'.7	43° 08'.3	05.8	149° 23'.8	42.7	233° 49'.6	35.9	112° 38'.9	45.3	Antares	112° 26'.1	26° 27'.6 S	59° 05'.5	58.0	56° 32'.4	3.6	01'.6	5.2	N 10°	05:28	05:55	06:17	06:03	07:04	08:01							
	17	356° 16'.2	58° 12'.0	05.4	164° 25'.3	43.1	248° 52'.4	35.9	127° 41'.2	45.4		70° 55'.0	57.8	74° 05'.2	57.8	70° 55'.0	3.7	17° 56'.4 S	5.2	0°	05:12	05:38	06:00	05:49	06:51	07:51							
	18	11° 18'.6	73° 15'.7	04.9	179° 26'.7	43.5	263° 55'.3	35.9	142° 43'.4	45.5	Arcturus	145° 55'.5	19° 06'.5 N	89° 04'.9	57.6	85° 17'.7	3.7	51.2	5.5	S 10°	04:53	05:20	05:43	05:35	06:39	07:41							
	19	26° 21'.1	88° 19'.4	04.5	194° 28'.1	43.9	278° 58'.1	36.0	157° 45'.6	45.5	Atria	107° 28'.0	69° 02'.8 S	104° 04'.6	57.3	99° 40'.4	3.7	45.7	5.5	20°	04:31	05:00	05:25	05:19	06:25	07:31							
	20	41° 23'.5	103° 23'.2	04.1	209° 29'.6	44.3	294° 00'.9	36.0	172° 47'.9	45.6	Avior	234° 17'.2	59° 33'.3 S	119° 04'.3	57.1	114° 03'.1	3.8	40.2	5.7	30°	04:03	04:36	05:03	05:02	06:10	07:19							
	21	56° 26'.0	118° 26'.9	03.6	224° 31'.0	44.7	309° 03'.7	36.1	187° 50'.1	45.6	Bellatrix	278° 31'.3	6° 21'.5 N	134° 04'.0	56.9	128° 25'.9	3.9	34.5	5.8	35°	03:44	04:21	04:50	04:52	06:01	07:12							
	22	71° 28'.5	133° 30'.6	03.2	239° 32'.4	45.1	324° 06'.6	36.1	202° 52'.4	45.7	Betelgeuse	271° 00'.5	7° 24'.4 N	149° 03'.7	56.7	142° 48'.8	3.8	28.7	6.0	40°	03:22	04:03	04:36	04:40	05:51	07:04							
23	86° 30'.9	148° 34'.3	02.8	254° 33'.9	45.5	339° 09'.4	36.2	217° 54'.6	45.7		164° 03'.4	56.5	157° 11'.6	3.9	22.7	6.1		45°	02:52	03:41	04:18	04:26	05:39	06:55									
Thursday	00	101° 33'.4	163° 38'.0	18° 02'.3 S	269° 35'.3	2° 45'.9 S	354° 12'.2	22° 36'.2 N	232° 56'.8	15° 45'.8 S	Canopus	263° 55'.4	52° 42'.4 S	179° 03'.1	22° 56'.2 S	171° 34'.5	4.0	17° 16'.6 S	6.2	61.4	S 50°	02:09	03:12	03:56	04:09	05:24	06:44						
	01	116° 35'.9	178° 41'.8	01.9	284° 36'.8	46.4	9° 15'.0	36.3	247° 59'.1	45.8	Capella	280° 33'.4	46° 00'.6 N	194° 02'.9	56.0	185° 57'.5	4.0	10.4	6.3	52°	01:43	02:58	03:46	04:01	05:18	06:39							
	02	131° 38'.3	193° 45'.5	01.4	299° 38'.2	46.8	24° 17'.9	36.3	263° 01'.3	45.9	Deneb	49° 31'.6	45° 20'.1 N	209° 02'.6	55.8	200° 20'.5	4.1	04.1	6.5	54°	01:03	02:41	03:34	03:53	05:10	06:33							
	03	146° 40'.8	208° 49'.2	01.0	314° 39'.6	47.2	39° 20'.7	36.4	278° 03'.5	45.9	Denebola	182° 33'.2	14° 29'.4 N	224° 02'.3	55.6	214° 43'.6	4.1	16° 57'.6 S	6.6	56°	-	02:19	03:00	03:43	05:02	06:27							
	04	161° 43'.3	223° 53'.0	00.6	329° 41'.1	47.6	54° 23'.5	36.4	293° 05'.8	46.0	Diphda	348° 55'.5	17° 54'.7 S	239° 02'.0	55.4	229° 06'.7	4.2	51'.0	6.7	58°	-	01:52	03:04	03:41	04:52	06:19							
	05	176° 45'.7	238° 56'.7	00.1	344° 42'.5	48.0	69° 26'.3	36.4	308° 08'.0	46.0		254° 01'.7	55.1	243° 29'.9	4.2	24.3	6.8		60°	-	01:09	02:44	03:18	04:41	06:11								
	06	191° 48'.2	254° 00'.4	17° 59'.7 S	359° 44'.0	48.4	84° 29'.2	36.5	323° 10'.3	46.1	Dubhe	193° 51'.0	61° 40'.1 N	269° 01'.4	54.9	257° 53'.1	4.3	37.5	7.0	S 62°	-	-	02:20	03:03	04:28	06:02							
	07	206° 50'.7	269° 04'.2	59.3	14° 45'.4	48.8	99° 32'.0	36.5	338° 12'.5	46.2	El Nath	278° 11'.7	28° 37'.0 N	284° 01'.1	54.7	272° 16'.4	4.3	30.5	7.0														
	08	221° 53'.1	284° 07'.9	58.8	29° 46'.8	49.2	114° 34'.8	36.6	353° 14'.7	46.2	Eltanin	90° 46'.5	51° 29'.3 N	299° 00'.8	54.5	286° 39'.7	4.4	23.5	7.2														
	09	236° 55'.6	299° 11'.7	58.4	44° 48'.3	49.6	129° 37'.6	36.6	8° 17'.0	46.3	Enif	33° 47'.0	9° 56'.5 S	314° 00'.5	54.2	301° 03'.1	4.4	16.3	7.3														
	10	251° 58'.0	314° 15'.5	58.0	59° 49'.7	50.0	144° 40'.5	36.7	33° 19'.2	46.3	Fomalhaut	15° 23'.8	29° 32'.9 S	329° 00'.2	54.0	315° 26'.5	4.5	09.0	7.5														
	11	267° 00'.5	329° 19'.2	57.5	74° 51'.2	50.4	159° 43'.3	36.7	38° 21'.5	46.4		159° 43'.3	36.7	38° 21'.5	46.4	343° 59.9	53.8	329° 50'.0	4.6	01'.5	7.5												
	12	282° 03'.0	344° 23'.0	17° 57'.1 S	89° 52'.6	2° 50'.8 S	174° 46'.1	22° 36'.8 N	53° 23'.7	15° 46'.4 S	Gacrux	172° 00'.3	57° 11'.3 S	358° 59'.6	22° 53'.6 S	344° 13'.6	4.6	15° 54'.0 S	7.7	61.4	N 70°	-	14:21	16:04	13:44	15:53	17:37						
	13	297° 05'.4	359° 26'.8	56.7	104° 54'.1	51.2	189° 49'.0	36.8	68° 25'.9	46.5	Giennah	175° 51'.8	17° 37'.2 S	13° 59'.3	53.3	358° 37'.2	4.7	46.3	7.7	68°	-	14:53	16:19	14:30	16:20	18:13							
	14	312° 07'.9	14° 30'.5	56.3	119° 55'.5	51.6	204° 51'.8	36.9	83° 28'.2	46.5	Hadar	148° 47'.5	60° 26'.1 S	28° 59'.1	53.1	13° 00'.9																	

2014 January 4, 5, 6 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.2			MARS +0.8			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	GHA	GHA	Dec	GHA	Dec	05:00 S	GHA	Dec	22° 38'4.0 N	GHA	Dec	234° 44'.4	15° 48'.3 S	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:19	10:30	-	10:41	10:32	10:23																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Saturday	00	103° 31'.7	166° 40'.7	17° 42'.0 S	270° 44'.8	3° 05'.0 S	356° 27'.9	22° 38'.4 N	234° 44'.4	15° 48'.3 S	Acamar	315° 17'.8	40° 15'.2 S	178° 49'.2	22° 44'.8 S	143° 08'.3	7.2	10° 19'.1 S	10.7	60.7	N 70°	08:01	09:43	-	10:29	10:26	10:24	01	118° 34'.2	181° 44'.5	41'.6	285° 46'.3	05'.4	11° 30'.7	38'.5	249° 46'.6	48'.4	157° 34'.5	7.3	08'.4	10'.8	68°	07:47	09:12	11:29	10:19	10:22	10:24	02	133° 36'.6	196° 48'.4	41'.2	300° 47'.7	05'.8	26° 33'.5	38'.5	264° 48'.9	48'.4	173° 08'.6	63° 10'.4 S	208° 48'.7	44'.3	172° 00'.8	7.4	9° 57'.6 S	10'.8	66°	07:35	08:49	10:20	10:10	10:18	10:25	03	148° 39'.1	211° 52'.3	40'.7	315° 49'.2	06'.2	41° 36'.4	38'.5	279° 51'.1	48'.5	186° 27'.2	7.5	46'.8	10'.8	60.6	07:25	08:31	09:45	10:03	10:15	10:26	04	163° 41'.5	226° 56'.2	40'.3	330° 50'.6	06'.6	56° 39'.2	38'.6	294° 53'.4	48'.5	238° 48'.1	43'.8	200° 53'.7	7.5	36'.0	11'.0	62°	07:16	08:17	09:19	09:56	10:12	10:26	05	178° 44'.0	242° 00'.1	39'.9	345° 52'.1	07'.0	71° 42'.0	38'.6	309° 55'.6	48'.6	253° 47'.8	43'.5	215° 20'.2	7.6	25'.0	10'.9	60°	07:08	08:04	09:00	09:51	10:10	10:27	06	193° 46'.5	257° 04'.0	39'.5	0° 53'.5	07'.4	86° 44'.8	38'.7	324° 57'.9	48'.6	260° 20'.4	55° 52'.7 N	268° 47'.5	43'.2	229° 46'.8	7.7	14'.1	11'.0	60.5	N 58°	07:01	07:53	08:43	09:46	10:08	10:27	07	208° 48'.9	272° 07'.9	39'.1	15° 55'.0	07'.8	101° 47'.7	38'.7	340° 00'.1	47'.7	152° 58'.8	49° 14'.3 N	283° 47'.2	43'.0	244° 13'.5	7.7	03'.1	11'.1	56°	06:55	07:43	08:30	09:42	10:06	10:27	08	223° 51'.4	287° 11'.8	38'.7	30° 56'.5	08'.2	116° 50'.5	38'.8	355° 02'.4	48'.7	162° 08'.2	8° 54'.5 N	298° 47'.0	42'.7	258° 40'.2	7.8	8° 52'.0 S	11'.1	54°	06:49	07:35	08:18	09:38	10:04	10:28	09	238° 53'.9	302° 15'.7	38'.3	45° 57'.9	08'.6	131° 53'.3	38'.8	40° 04'.6	48'.7	275° 45'.6	1° 11'.8 S	313° 46'.7	42'.5	273° 07'.0	7.9	40'.2	11'.1	60.4	52°	06:44	07:27	08:07	09:34	10:02	10:28	10	253° 56'.3	317° 19'.6	37'.9	60° 59'.4	09'.0	146° 56'.2	38'.9	25° 06'.8	48'.8	217° 55'.4	8° 43'.3 S	328° 46'.4	42'.2	287° 33'.9	8.0	29'.8	11'.2	50°	06:39	07:20	07:58	09:31	10:01	10:28	11	268° 58'.8	332° 23'.5	37'.5	76° 00'.8	09'.3	161° 59'.0	38'.9	40° 09'.1	48'.9	290° 46'.1	41'.9	302° 00'.9	81.1	18'.6	11'.2	45°	06:28	07:05	07:38	09:24	09:58	10:29	12	284° 01'.3	347° 27.4	17° 37'.1 S	91° 02'.3	3° 09'.7 S	177° 01'.8	22° 38'.9 N	55° 11'.3	15° 48'.9 S	Alphecca	126° 10'.9	26° 40'.0 N	358° 45'.8	22° 41'.7 S	316° 28'.0	8.1	8° 07'.4 S	11'.3	60.4	N 40°	06:18	06:52	07:22	09:18	09:55	10:29	13	299° 03'.7	2° 31'.3	36'.7	106° 03'.8	10'.1	192° 04'.6	39'.0	70° 13'.6	49'.0	Alpheratz	357° 43'.1	29° 10'.3 N	13° 45'.5	41'.4	330° 55'.1	8.2	7° 56'.1 S	11'.3	60.3	35°	06:09	06:41	07:09	09:13	09:53	10:30	14	314° 06'.2	17° 35'.2	36'.3	121° 05'.2	10'.5	207° 07'.5	39'.0	85° 15'.8	49'.0	Altair	62° 08'.2	8° 54'.5 N	28° 45'.3	41'.1	345° 22'.3	8.2	44'.8	11'.4	30°	06:01	06:30	06:57	09:09	09:51	10:30	15	329° 08'.6	32° 39'.1	35'.9	136° 06'.7	10'.9	222° 10'.3	39'.1	100° 18'.1	49'.1	Ankaa	353° 15'.4	42° 14'.0 S	43° 45'.0	40'.9	359° 49'.5	8.3	33'.5	11'.4	20°	05:45	06:12	06:36	09:01	09:47	10:31	16	344° 11'.1	47° 43'.1	35'.5	151° 08'.1	11'.3	237° 13'.1	39'.1	115° 20'.3	49'.1	Antares	112° 26'.1	26° 27'.6 S	58° 44'.7	40'.6	14° 16'.8	8.4	22'.1	11'.4	60.2	N 10°	05:30	05:56	06:18	08:54	09:44	10:32	17	359° 13'.6	62° 47'.0	35'.1	168° 09'.6	11'.7	252° 15'.9	39'.2	130° 22'.6	49'.2	Arcturus	145° 55'.5	19° 06'.5 N	88° 44'.1	40'.0	43° 11'.7	8.6	6° 59'.3 S	11'.5	50°	05:13	05:39	06:02	08:48	09:41	10:32	18	14° 16'.0	77° 50'.9	34'.7	181° 11'.1	12'.1	267° 18'.8	39'.2	145° 24'.8	49'.2	Arcturus	145° 55'.5	19° 06'.5 N	88° 44'.1	40'.0	43° 11'.7	8.6	6° 59'.3 S	11'.5	50°	S 10°	04:55	05:22	05:45	08:41	09:38	10:33	19	29° 18'.5	92° 54'.9	34'.3	196° 12'.5	12'.5	282° 21'.6	39'.3	160° 27'.0	49'.3	Atria	107° 28'.0	69° 02'.8 S	103° 43'.8	39'.8	57° 39'.3	8.6	47'.8	11'.5	60.1	20°	04:33	05:02	05:26	08:34	09:35	10:34	20	44° 21'.0	107° 58'.8	33'.9	211° 14'.0	12'.9	297° 24'.4	39'.3	175° 29'.3	49'.3	Avia	234° 17'.2	59° 33'.4 S	118° 43'.6	39'.5	72° 06'.9	8.6	36'.3	11'.5	30°	04:05	04:38	05:05	08:27	09:32	10:35	21	59° 23'.4	123° 02'.7	33'.5	226° 15'.5	13'.2	312° 27'.3	39'.4	190° 31'.5	49'.4	Bellatrix	278° 31'.3	6° 21'.5 N	133° 43'.3	39'.2	86° 34'.5	8.8	24'.8	11'.5	35°	03:47	04:23	04:53	08:22	09:30	10:35	22	74° 25'.9	138° 06'.7	33'.1	241° 16'.9	13'.6	327° 30'.1	39'.4	205° 33'.8	49'.4	Betelgeuse	271° 00'.5	7° 24'.4 N	148° 43'.0	39'.0	101° 02'.3	8.8	13'.3	11'.6	60.0	40°	03:25	04:06	04:38	08:17	09:28	10:36	23	89° 28'.4	153° 10'.6	32'.7	256° 18'.4	14.0	342° 32.9	39.4	220° 36'.0	49.5					163° 42.7	38.7	115° 30'.1	8.9	01.7	11.5	45°	02:56	03:44	04:21	08:11	09:25	10:36
	Sunday	00	104° 30'.8	168° 14'.5	17° 32'.3 S	271° 19'.8	3° 14'.4 S	357° 35'.7	22° 39'.5 N	235° 38'.3	15° 49'.5 S	Canopus	263° 55'.4	52° 42'.4 S	178° 42'.4	22° 38'.4 S	129° 58'.0	8.9	5° 50'.2 S	11'.7	60.0	S 50°	02:14	03:16	04:00	08:04	09:22	10:37	01	119° 33'.3	183° 18'.5	31'.9	286° 21'.3	14.8	12° 38'.6	39'.5	250° 40'.5	49'.6	Capella	280° 33'.4	46° 00'.6 N	193° 42'.2	38'.1	144° 25'.9	9.0	38'.5	11'.6	59.9	52°	01:49	03:02	03:49	08:00	09:20	10:37	02	134° 35'.8	198° 22'.4	31'.5	301° 22'.8	15.2	27° 41'.4	39'.6	265° 42'.8	49'.6	Deneb	49° 31'.6	45° 20'.1 N	208° 41'.9	37.9	158° 53'.9	9.1	26'.9	11'.6	59.5	54°	01:13	02:45	03:38	07:57	09:19	10:38	03	149° 38'.2	213° 26'.4	31'.1	316° 24'.2	15.6	42° 44'.2	39'.6	280° 45'.0	49.7	Denebola	182° 33'.2	14° 29'.4 N	223° 41'.6	37.6	173° 22'.0	9.1	15'.3	11'.7	56°	-	02:25	03:24	07:53	09:17	10:38	04	164° 40'.7	228° 30'.3	30'.7	331° 25'.7	16.0	57° 47'.1	39.7	295° 47'.3	49.7	Diphda	348° 55'.5	17° 54'.7 S	238° 41'.3	37.3	183° 50'.1	9.2	03'.6	11'.6	59.8	58°	-	01:58	03:09	07:48	09:15	10:39	05	179° 43'.1	243° 34'.3	30'.3	346° 27.2	16.4	72° 49.9	39.7	310° 49.5	49.8					253° 41'.0	37.0	202° 18'.3	9.3	4° 52'.0 S	11'.7	S 60°	-	01:19	02:50	07:43	09:13	10:39	06	194° 45'.6	258° 38'.2	29.9	1° 28'.6	16.7	87° 52'.7	39.8	325° 51'.8	49.8	Dubhe	193° 51'.0	61° 40'.1 N	268° 40'.8	36.7	216° 46'.6	9.3	40'.3	11'.7	59.7	S 62°	-	02:26	07:37	09:10	10:40	07	209° 48'.1	273° 42.2	29.5	16° 30'.1	17.1	102° 55.5	39.8	340° 54'.0	49.9	Alnair	278° 11'.7	28° 37'.0 N	283° 40'.5	36.5	231° 14.9	9.4	28.6	11.7	59.7								08	224° 50'.5	288° 46.2	29.1	31° 31'.6	17.5	117° 58'.4	39.8	355° 56'.3	49.9	Eltanin	90° 46'.5	51° 29'.3 N	298° 40'.2	36.2	245° 43'.3	9.5	16'.9	11.8		Lat	Sunset	Twilight		Moonset			09	239° 53'.0	303° 50'.1	28.7	46° 33'.1	17.9	133° 01'.2	39.9	10° 58'.5	50.0	Enif	33° 47'.0	9° 56'.5 S	313° 39'.9	35.9	260° 11'.8	9.5	05'.1	11.7	59.6								10	254° 55'.5	318° 54'.1	28.3	61° 34'.5	18.3	148° 04'.0	39.9	26° 00'.8	50.0	Fomalhaut	15° 23'.8	29° 32'.9 S	328° 39.6	35.6	274° 40'.3	9.6	3° 53'.4 S	11.7								11	269° 57'.9	333° 58'.1	28.0	76° 36'.0	18.7	163° 06'.8	40.0	41° 03'.0	50.1					343° 39.4	35.3	289° 08'.9	9.6	41'.7	11.8	N 72°	-	13:42	15:52	19:45	21:44	23:38	12	285° 00'.4	349° 02.0	17° 27'.6 S	91° 37'.5	3° 19'.1 S	178° 09'.7	22° 40'.0 N	56° 05'.2	15° 50'.1 S	Gacrux	172° 00'.3	57° 11'.3 S	358° 39'.1	22° 35.0 S	303° 37'.5	9.7	3° 29'.9 S	11.7	59.5	N 70°	-	14:29	16:10	19:55	21:47	23:39	13	300° 02'.9	4° 06'.0	27.2	106° 38'.9	19.4	193° 12'.5	40.1	71° 07'.5	50.2	Gienah	175° 51'.8	17° 37'.2 S	13° 38'.8	34.7	318° 06.2	9.7	18'.2	11.8	59.5	68°	12:42	14:59	16:24	20:03	21:49	23:39	14	315° 05'.3	19° 10'.0	26.8	121° 40'.4	19.8	208° 15'.3	40.1	86° 09'.7	50.2	Hamal	148° 47'.4	60° 26'.1 S	28° 38'.5	34.5	332° 34'.9	9.8	06'.4	11.7	59.4	66°	13:51	15:22	16:36	20:10	21:50	23:26	15	330° 07.8	34° 14'.0	26.4	136° 41'.9	20.2	223° 18'.2	40.2	101° 12'.0	50.3	Hadar	328° 00'.2	23° 31'.8 N	43° 38'.2	34.2	347° 03'.7	9.9	2° 54'.7 S	11.8	59.4	64°	14:27	15:40	16:46	20:16	21:52	23:24	16	345° 10'.3	49° 18'.0	26.0	151° 43'.3	20.6	238° 21'.0	40.2	116° 14'.2	50.3	Kaus Aust.	83° 43'.7	34° 22'.5 S	58° 38'.0	33.9	1° 32'.6	9.9	42'.9	11.7	59.3	62°	14:52	15:55	16:55	20:21	21:53	23:21	17	0° 12'.7	64° 21'.9	25.6	166° 44'.8	21.0	253° 23'.8	40.3	131° 16'.5	50.4					73° 37.7	33.6	16° 01'.5	10.0	31.2	11.8	60°	15:11	16:07	17:03	20:25	21:54	23:19	18	15° 15'.2	79° 25'.9	25.2	181° 46'.3	21.4	268° 26'.6	40.3	146° 18'.7	50.4	Kochab	137° 20'.8	74° 05'.6 N	88° 37.4	33.3	30° 30'.5	10.0	19.4	11.7	59.3	N 58°	15:28	16:18	17:10	20:29																																																																																																				

2014 January 7, 8, 9 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.1			MARS +0.7			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	7		Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:15	10:19	-	10:14	10:05	09:54			
Tuesday	00	106° 29' 1	171° 26' 5	17° 14' 0 S	272° 30' 6	3° 32' 8 S	359° 51' 5	22° 41' 6 N	237° 26' 2	15° 51' 9 S	252° 28' 5	52' 0	Acamar	315° 17' 9	40° 15' 2 S	178° 29' 2	22° 24' 3 S	105° 21' 1	11' 3	3° 26' 9 N	11' 1	58' 2	N 70°	07:58	09:36	-	10:21	10:19	10:17			
	01	121° 31' 6	186° 30' 5	13' 6	287° 32' 1	33' 2	14° 54' 3	41' 7	252° 28' 5	52' 0	30° 51' 3	24' 0	Achernar	335° 26' 5	57° 10' 3 S	193° 28' 9	24' 0	119° 51' 4	11' 3	38' 0	11' 2	58' 1	68°	07:44	09:08	11:09	10:27	10:30	10:35			
	02	136° 34' 0	201° 34' 6	13' 2	302° 33' 6	33' 6	29° 57' 1	41' 7	267° 30' 8	52' 0	20° 28' 6	23' 6	Acruz	173° 08' 6	63° 10' 4 S	208° 28' 6	23' 6	134° 21' 7	11' 4	49' 2	11' 0	66°	67:32	08:46	10:13	10:32	10:40	10:49				
	03	151° 36' 5	216° 38' 6	12' 9	317° 35' 1	34' 0	44° 59' 9	41' 8	282° 33' 0	52' 0	14° 28' 3	23' 3	Adhara	255° 11' 8	28° 59' 7 S	223° 28' 4	23' 3	148° 52' 1	11' 4	4° 00' 2 N	11' 1	58' 0	64°	07:23	08:29	09:40	10:36	10:48	11:01			
	04	166° 39' 0	231° 42' 7	12' 5	332° 36' 5	34' 3	60° 02' 8	41' 8	297° 35' 3	52' 1	23° 28' 1	23' 0	Aldebaran	290° 48' 6	16° 32' 1 N	238° 28' 1	23' 0	163° 22' 5	11' 4	11' 3	11' 0	62°	07:14	08:14	09:16	10:40	10:54	11:11				
	05	181° 41' 4	246° 46' 7	12' 1	347° 38' 0	34' 7	75° 05' 6	41' 9	312° 37' 5	52' 2	25° 27' 8	22' 7				253° 27' 8	22' 7	177° 52' 9	11' 4	22' 3	11' 0	60°	07:07	08:02	08:57	10:43	11:00	11:20				
	06	196° 43' 9	261° 50' 8	11' 8	2° 39' 5	35' 1	90° 08' 4	41' 9	327° 39' 8	52' 2	196° 20' 4	55° 52' 7 N	268° 27' 6	22' 4	192° 23' 3	11' 4	33' 3	11' 0	57' 9	N 58°	07:00	07:51	08:41	10:46	11:06	11:28						
	07	211° 46' 3	276° 54' 8	11' 4	17° 41' 0	35' 5	105° 11' 3	41' 9	342° 42' 0	52' 3	152° 58' 7	49° 14' 3 N	283° 27' 3	22' 1	206° 53' 7	11' 5	44' 3	10' 9	56°	56°	06:54	07:42	08:28	10:48	11:10	11:35						
	08	226° 48' 8	291° 58' 9	11' 0	32° 42' 5	35' 9	120° 14' 1	42' 0	357° 44' 3	52' 3	27° 43' 6	46° 53' 6 S	298° 27' 0	21' 7	221° 24' 2	11' 5	55' 2	10' 8	54°	54°	06:48	07:34	08:16	10:51	11:15	11:41						
	09	241° 51' 3	307° 03' 0	10' 7	47° 44' 0	36' 2	135° 16' 9	42' 0	42° 46' 5	52' 3	275° 45' 6	1° 11' 8 S	313° 26' 7	21' 4	235° 54' 7	11' 6	5° 06' 0 N	10' 9	57' 8	52°	06:43	07:26	08:06	10:53	11:19	11:46						
	10	256° 53' 7	322° 07' 0	10' 3	62° 45' 5	36' 6	150° 19' 7	42' 1	27° 48' 8	52' 4	217° 55' 4	8° 43' 3 S	328° 26' 5	21' 1	250° 25' 3	11' 5	16' 9	10' 8	50°	50°	06:38	07:19	07:57	10:55	11:22	11:51						
	11	271° 56' 2	337° 11' 1	10' 0	77° 47' 0	37' 0	165° 22' 6	42' 1	42° 51' 0	52' 4	290° 26' 2	20' 8	343° 26' 2	20' 8	264° 55' 8	11' 6	27' 7	10' 7	57' 7	45°	06:28	07:04	07:38	10:59	11:30	12:02						
	12	286° 58' 7	352° 15' 2	17° 09' 6 S	92° 48' 4	3° 37' 4 S	180° 25' 4	22° 42' 2 N	57° 53' 3	15° 52' 5 S	126° 10' 9	26° 40' 0 N	358° 25' 9	22° 20' 5 S	279° 26' 4	11' 6	5° 38' 4 N	10' 7	57' 7	N 40°	06:18	06:52	07:22	11:03	11:36	12:11						
	13	302° 01' 1	7° 19' 2	09' 2	107° 49' 9	37' 7	195° 28' 2	42' 2	72° 55' 5	52' 5	357° 43' 1	29° 10' 3 N	13° 25' 7	20' 1	293° 57' 0	11' 6	49' 1	10' 7	35°	35°	06:09	06:41	07:09	11:06	11:42	12:19						
	14	317° 03' 6	22° 23' 3	08' 9	122° 51' 4	38' 1	210° 31' 0	42' 2	87° 57' 8	52' 6	62° 08' 2	8° 54' 5 S	28° 25' 4	19' 8	308° 27' 6	11' 7	59' 8	10' 6	57' 6	30°	06:01	06:31	06:57	11:08	11:47	12:26						
	15	332° 06' 1	37° 27' 4	08' 5	137° 52' 9	38' 5	225° 33' 9	42' 3	103° 00' 0	52' 6	353° 15' 4	42° 14' 0 S	43° 25' 1	19' 5	322° 58' 3	11' 6	6° 10' 4 N	10' 5	20°	20°	05:46	06:13	06:37	11:13	11:55	12:37						
	16	347° 08' 5	52° 31' 4	08' 2	152° 54' 4	38' 9	240° 36' 7	42' 3	118° 02' 3	52' 7	112° 26' 0	26° 27' 6 S	58° 24' 9	19' 2	337° 28' 9	11' 7	20' 9	10' 6	N 10°	50°	05:31	05:57	06:19	11:17	12:03	12:48						
	17	2° 11' 0	67° 35' 5	07' 8	167° 55' 9	39' 2	255° 39' 5	42' 4	133° 04' 6	52' 7	133° 04' 6	52' 7	73° 24' 6	18' 8	351° 59' 6	11' 7	31' 5	10' 4	57' 5	0°	05:15	05:41	06:03	11:22	12:10	12:58						
	18	17° 13' 5	82° 39' 6	07' 5	182° 57' 4	39' 6	270° 42' 4	42' 4	148° 06' 8	52' 8	145° 55' 5	19° 06' 5 N	88° 24' 3	18' 5	6° 30' 3	11' 7	41' 9	10' 5	S 10°	50°	04:57	05:24	05:46	11:26	12:17	13:08						
	19	32° 15' 9	97° 43' 7	07' 1	197° 58' 9	40' 0	285° 45' 2	42' 5	163° 09' 1	52' 8	107° 27' 9	69° 02' 8 S	103° 24' 1	18' 2	21° 01' 0	11' 8	52' 4	10' 4	57' 4	20°	04:35	05:04	05:28	11:30	12:25	13:18						
	20	47° 18' 4	112° 47' 7	06' 8	213° 00' 4	40' 4	300° 48' 0	42' 5	178° 11' 3	52' 9	234° 17' 2	59° 33' 4 S	118° 23' 8	17' 9	35° 31' 8	11' 7	7° 02' 8 N	10' 3	30°	30°	04:08	04:41	05:08	11:35	12:33	13:30						
	21	62° 20' 8	127° 51' 8	06' 4	228° 01' 9	40' 7	315° 50' 8	42' 6	193° 13' 6	52' 9	278° 31' 3	6° 21' 5 S	133° 23' 5	17' 5	50° 02' 5	11' 8	13' 1	10' 3	35°	35°	03:50	04:26	04:55	11:38	12:39	13:38						
	22	77° 23' 3	142° 55' 9	06' 0	243° 03' 3	41' 1	330° 53' 7	42' 6	208° 15' 8	53' 0	271° 00' 5	7° 24' 4 N	148° 23' 3	17' 2	64° 33' 3	11' 8	23' 4	10' 2	57' 3	40°	03:28	04:09	04:41	11:41	12:44	13:46						
23	92° 25' 8	158° 00' 0	05' 7	258° 04' 8	41' 5	345° 56' 5	42' 6	223° 18' 1	53' 0			163° 23' 0	16' 9	79° 04' 1	11' 8	33' 6	10' 2	45°	45°	03:00	03:48	04:24	11:45	12:51	13:55							
Wednesday	00	107° 28' 2	173° 04' 1	17° 05' 3 S	273° 06' 3	3° 41' 9 S	0° 59' 3	22° 42' 7 N	238° 20' 3	15° 53' 1 S	263° 55' 4	52° 42' 4 S	178° 22' 7	22° 16' 5 S	93° 34' 9	11' 8	7° 43' 8 N	10' 1	57' 3	S 50°	02:19	03:20	04:03	11:50	12:59	14:07						
	01	122° 30' 7	188° 08' 1	05' 0	288° 07' 8	42' 2	16° 02' 1	42' 7	253° 22' 6	53' 1	280° 33' 4	46° 00' 6 N	193° 22' 5	16' 2	108° 05' 7	11' 8	5' 9	10' 1	57' 2	52°	01:56	03:06	03:53	11:52	13:03	14:12						
	02	137° 33' 2	203° 12' 2	04' 6	303° 09' 3	42' 6	31° 05' 0	42' 8	268° 24' 8	53' 2	49° 31' 6	45° 20' 1 N	208° 22' 2	15' 9	122° 05' 7	11' 9	8° 04' 0 N	10' 0	54°	54°	01:22	02:50	03:42	11:54	13:07	14:18						
	03	152° 35' 6	218° 16' 3	04' 3	313° 10' 8	43' 0	46° 07' 8	42' 8	283° 27' 1	53' 2	182° 33' 1	14° 29' 4 N	223° 21' 9	15' 5	137° 07' 4	11' 8	14' 0	10' 0	56°	-	02:31	03:29	11:57	13:12	14:24							
	04	167° 38' 1	233° 20' 4	03' 9	338° 12' 3	43' 4	61° 10' 6	42' 9	298° 29' 4	53' 3	348° 55' 5	17° 54' 7 S	238° 21' 7	15' 2	151° 38' 2	11' 9	24' 0	9' 9	57' 1	58°	-	02:05	03:14	12:00	13:17	14:32						
	05	182° 40' 6	248° 24' 5	03' 6	348° 13' 8	43' 7	76° 13' 5	42' 9	313° 31' 6	53' 3			253° 21' 4	14' 9	166° 09' 1	11' 9	33' 9	9' 8	S 60°	-	01:30	02:55	12:03	13:23	14:40							
	06	197° 43' 0	263° 28' 6	03' 3	3° 15' 3	44' 1	91° 16' 3	42' 9	328° 33' 9	53' 4	193° 51' 0	61° 40' 1 N	268° 21' 1	14' 5	180° 40' 0	11' 9	43' 7	9' 8	57' 0	S 62°	-	02:33	12:07	13:30	14:50							
	07	212° 45' 5	278° 32' 7	02' 9	18° 16' 8	44' 5	106° 19' 1	43' 0	343° 36' 1	53' 4	278° 11' 7	28° 37' 0 N	283° 20' 9	14' 2	195° 10' 9	11' 9	5' 5	9' 8														
	08	227° 48' 0	293° 36' 8	02' 6	33° 18' 3	44' 8	121° 21' 9	43' 0	358° 38' 4	53' 5	90° 46' 5	51° 29' 3 N	298° 20' 6	13' 9	209° 41' 8	11' 9	9° 03' 3 N	9' 7														
	09	242° 50' 4	308° 40' 9	02' 2	48° 19' 8	45' 2	136° 24' 8	43' 1	13° 40' 6	53' 5	33° 47' 0	9° 56' 5 S	313° 20' 3	13' 5	224° 12' 7	11' 9	13' 0	9' 6	56' 9													
	10	257° 52' 9	323° 45' 0	01' 9	63° 21' 3	45' 6	151° 27' 6	43' 1	28° 42' 9	53' 5	15° 23' 8	29° 32' 9 S	328° 20' 1	13' 2	238° 43' 6	11' 9	22' 6	9' 6														
	11	272° 55' 3	338° 49' 1	01' 5	78° 22' 8	46' 0	166° 30' 4	43' 2	43° 45' 1	53' 6			343° 19' 8	12' 8	253° 14' 5	12' 0	32' 2	9' 5														
	12	287° 57' 8	353° 53' 1	17° 01' 2 S	9																											

2014 January 10, 11, 12 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise						
10 Fri day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:09	10:08	-	09:39	09:06	-						
	00	109° 26'5	176° 21'2	16° 49'3 S	274° 18'4	3° 59'6 S	3° 15'0	22° 44'8 N	240° 08'7	15° 55'3 S	240° 08'7	15° 55'3 S	Acamar	315° 17'9	40° 15'2 S	178° 10'2	21° 59'8 S	70° 20'8	12.0	14° 40'7 N	7.0	55.7	N 70°	07:53	09:29	-	10:16	10:18	10:26						
	01	124° 29'0	191° 25'4	49.0	289° 20'0	59.9	18° 17'8	44.8	255° 11'0	55.4	255° 11'0	55.4	Achernar	335° 26'5	57° 10'3 S	193° 10'0	59'4	84° 51'8	11.9	47.7	6.9	68°	07:40	09:02	10:53	10:42	10:55	11:19							
	02	139° 31'4	206° 29'5	48.7	304° 21'5	4° 00'3 S	33° 20'6	44.9	270° 13'2	55.4	270° 13'2	55.4	Acruz	173° 08'6	63° 10'4 S	208° 09'7	59'0	99° 22'7	11.9	54.6	6.8	66°	07:29	08:41	10:05	11:02	11:22	11:51							
	03	154° 33'9	221° 33'6	48.4	319° 23'0	00.7	48° 23'5	44.9	285° 15'3	55.5	285° 15'3	55.5	Adhara	255° 11'8	28° 59'7 S	223° 09'5	58'7	113° 53'6	11.9	15° 01'4 N	6.7	64°	07:20	08:25	09:34	11:19	11:42	12:15							
	04	169° 36'4	236° 37.7	48.0	334° 24.5	01.0	63° 26'3	44.9	300° 17'8	55.5	300° 17'8	55.5	Aldebaran	290° 48'6	16° 32'1 N	238° 09'2	58'3	128° 24'5	12.0	08.1	6.7	55'6	62°	07:12	08:11	09:12	11:32	11:59	12:34						
	05	184° 38.8	251° 41.9	47.7	349° 26.0	01.4	78° 29'1	45.0	315° 20'0	55.5	315° 20'0	55.5				253° 09'0	57'9	142° 55'5	11.9	14.8	6.6	60°	07:05	07:59	08:53	11:44	12:13	12:50							
	06	199° 41'3	266° 46'0	47.4	4° 27'5	01.7	93° 31'9	45.0	330° 22'3	55.6	330° 22'3	55.6	Alioth	190° 20'4	55° 52'7 N	268° 08'7	57.5	157° 26'4	11.9	21.4	6.5	N 58°	06:58	07:49	08:38	11:54	12:25	13:03							
	07	214° 43'8	281° 50'1	47.1	19° 29'0	02.1	108° 34'8	45.1	345° 24'6	55.6	345° 24'6	55.6	Alkaid	152° 58'7	49° 14'3 N	283° 08'5	57.2	171° 57'3	11.9	27.9	6.4	56°	06:52	07:40	08:25	12:02	12:35	13:14							
	08	229° 46'2	296° 54'3	46.8	34° 30'6	02.5	123° 37'6	45.1	0° 26'8	55.7	0° 26'8	55.7	Alnair	27° 43'6	46° 53'6 E	298° 08'2	56.8	186° 28'2	11.9	34.3	6.4	55.5	54°	06:47	07:32	08:14	12:10	12:44	13:24						
	09	244° 48'7	311° 58'4	46.5	49° 32'1	02.8	138° 40'4	45.2	10° 29'1	55.7	10° 29'1	55.7	Alnilam	275° 45'6	1° 11'8 S	313° 08'0	56.4	200° 59'1	11.9	40.7	6.3	52°	06:42	07:25	08:04	12:17	12:52	13:33							
	10	259° 51'2	327° 02'5	46.2	64° 33'6	03.2	153° 43'2	45.2	30° 31'3	55.8	30° 31'3	55.8	Alphard	217° 55'4	8° 43'4 S	328° 07'7	56'0	215° 30'0	11.9	47.0	6.1	50°	06:37	07:18	07:55	12:23	13:00	13:41							
	11	274° 53'6	342° 06'6	45.9	79° 35'1	03'6	168° 46'1	45'2	45° 33'6	55'8	45° 33'6	55'8				343° 07'5	55'7	230° 00'9	11.8	53'1	6'1	45°	06:27	07:04	07:37	12:37	13:15	13:58							
	12	289° 56'1	357° 10'8	16° 45'5 S	94° 36'6	4° 03'9 S	183° 48'9	22° 45'3 N	60° 35'9	15° 55'9 S	60° 35'9	15° 55'9 S	Alphecca	126° 10'9	26° 40'0 N	358° 07'2	21° 55'3 S	244° 31'7	11.9	15° 59'2 N	6.1	55.4	N 40°	06:18	06:51	07:21	12:48	13:28	14:12						
	13	304° 58'6	12° 14'9	45.2	109° 38'1	04.3	198° 51'7	45'3	75° 38'1	55'9	75° 38'1	55'9	Alpheratz	357° 43'1	29° 10'3 N	13° 07'0	54'9	259° 02'6	11.9	16° 05'3 N	5'9	35°	06:09	06:41	07:08	12:58	13:39	14:24							
	14	320° 01'0	27° 19'0	44.9	124° 39'7	04'6	213° 54'5	45'4	90° 40'4	56'0	90° 40'4	56'0	Altair	62° 08'2	8° 54'5 N	28° 06'7	54'5	273° 33'5	11.8	11'2	5'9	30°	06:01	06:31	06:57	13:06	13:49	14:34							
	15	335° 03'5	42° 23'1	44.6	139° 41'2	05.0	228° 57'3	45'4	105° 42'7	56'0	105° 42'7	56'0	Ankaa	353° 15'5	42° 14'0 S	43° 06'5	54'2	288° 04'3	11.8	17.1	5'7	20°	05:47	06:14	06:37	13:21	14:06	14:52							
	16	350° 05'9	57° 27'3	44.3	154° 42'7	05.4	244° 00'2	45'4	120° 44'9	56'0	120° 44'9	56'0	Antares	112° 26'0	26° 27'6 S	58° 06'2	53'8	302° 35'2	11.8	22.8	5'7	55'3	N 10°	05:32	05:58	06:20	13:34	14:20	15:08						
	17	5° 08'4	72° 31'4	44.0	169° 44'2	05.7	259° 03'0	45'5	135° 47'2	56'1	135° 47'2	56'1				317° 06'0	53'4	317° 06'0	11.9	28.5	5'7	50°	05:16	05:42	06:04	13:46	14:34	15:22							
	18	20° 10'9	87° 35'5	43'7	184° 45'7	06'1	274° 05'8	45'5	150° 49'4	56'1	150° 49'4	56'1	Arcturus	145° 55'5	19° 06'5 N	88° 05'7	53'0	331° 36'9	11.8	34'2	5'5	S 10°	04:58	05:25	05:48	13:58	14:48	15:37							
	19	35° 13'3	102° 39'7	43'4	199° 47'3	06.4	289° 08'6	45'6	165° 51'7	56'2	165° 51'7	56'2	Atria	107° 27'9	69° 02'8 S	103° 05'5	52'6	346° 07'7	11.8	39.7	5'4	20°	04:37	05:06	05:30	14:11	15:02	15:53							
	20	50° 15'8	117° 43'8	43'1	214° 48'8	06.8	304° 11'5	45'6	180° 54'0	56'2	180° 54'0	56'2	Avia	234° 17'1	59° 33'4 S	118° 05'2	52'3	0° 38'5	11.8	45.1	5'4	55'2	30°	04:10	04:43	05:10	14:26	15:19	16:11						
	21	65° 18'3	132° 47'9	42'8	229° 50'3	07.2	319° 14'3	45'7	195° 56'2	56'3	195° 56'2	56'3	Bellatrix	278° 31'3	6° 21'5 N	133° 05'0	51'9	15° 09'3	11.9	50'5	5'3	35°	03:53	04:29	04:58	14:35	15:29	16:21							
22	80° 20'7	147° 52'1	42'5	244° 51'8	07'5	334° 17'1	45'7	210° 58'5	56'3	210° 58'5	56'3	Betelgeuse	271° 00'5	7° 24'3 N	148° 04'7	51'5	29° 40'2	11.8	55'8	5'2	40°	03:32	04:12	04:44	14:44	15:41	16:33								
23	95° 23'2	162° 56'2	42'2	259° 53'3	07.9	349° 19'9	45'7	226° 00'8	56'4	226° 00'8	56'4				163° 04'5	51'1	44° 11'0	11.8	17° 01'0 N	5'1	45°	03:04	03:52	04:28	14:56	15:54	16:48								
11 Sat day	00	110° 25'7	178° 00'3	16° 41'9 S	274° 54'9	4° 08'2 S	4° 22'8	22° 45'8 N	241° 03'0	15° 56'4 S	241° 03'0	15° 56'4 S	Canopus	263° 55'4	52° 42'5 S	178° 04'2	21° 50'7 S	58° 41'8	11'7	17° 06'1 N	5'0	55'2	S 50°	02:25	03:25	04:07	15:10	16:10	17:05						
	01	125° 28'1	193° 04'4	41'6	289° 56'4	08.6	19° 25'6	45'8	256° 05'3	56'5	256° 05'3	56'5	Capella	280° 33'4	46° 00'6 N	193° 04'0	50'3	73° 12'5	11.8	11'1	4'9	55'1	52°	02:03	03:12	03:58	15:17	16:18	17:13						
	02	140° 30'6	208° 08'6	41'3	304° 57'9	09.0	34° 28'4	45'9	271° 07'6	56'5	271° 07'6	56'5	Deneb	49° 31'6	45° 20'1 N	208° 03'7	50'0	80° 43'3	11.8	16'0	4'9	54°	01:32	02:56	03:47	15:24	16:26	17:22							
	03	155° 33'0	223° 12'7	41'0	319° 59'4	09.3	49° 31'2	45'9	286° 09'8	56'6	286° 09'8	56'6	Denebola	182° 33'1	14° 29'4 N	223° 03'5	49'6	102° 14'1	11.8	20'9	4'7	56°	00:31	02:37	03:34	15:33	16:36	17:33							
	04	170° 35'5	238° 16'8	40'7	335° 00'9	09'7	64° 34'1	46'0	301° 12'1	56'5	301° 12'1	56'5	Diphda	348° 55'5	17° 54'7 S	238° 03'2	49'2	116° 44'9	11.7	25'6	4'7	58°	-	02:13	03:19	15:42	16:47	17:44							
	05	185° 38'0	253° 21'0	40'4	350° 02'5	10'0	79° 36'9	46'0	316° 14'3	56'6	316° 14'3	56'6				253° 03'0	48'8	131° 15'6	11.8	30'3	4'6	S 60°	-	01:41	03:02	15:53	16:59	17:58							
	06	200° 40'4	268° 25'1	40'1	5° 04'0	10'4	94° 39'7	46'0	331° 16'6	56'7	331° 16'6	56'7	Dubhe	193° 50'9	61° 40'1 N	268° 02'7	48'4	145° 46'4	11.8	34'9	4'5	55'0	S 62°	-	00:33	02:40	16:05	17:14	18:14						
	07	215° 42'9	283° 29'2	39'8	20° 05'5	10'7	109° 42'5	46'1	346° 18'9	56'7	346° 18'9	56'7	Elinath	278° 11'7	28° 37'0 N	283° 02'5	48'0	160° 17'2	11.7	39.4	4'4														
	08	230° 45'4	298° 33'3	39'5	35° 07'0	11'1	124° 45'4	46'1	1° 21'1	56'8	1° 21'1	56'8	Eltanin	90° 46'5	51° 29'3 N	298° 02'2	47'6	174° 47'9	11.8	43'8	4'3														
	09	245° 47'8	313° 37'5	39'2	50° 08'6	11'5	139° 48'2	46'2	16° 23'4	56'8	16° 23'4	56'8	Enif	33° 47'0	9° 56'5 S	313° 02'0	47'2	189° 18'7	11.7	48'1	4'3														
	10	260° 50'3	328° 41'6	38'9	65° 10'1	11'8	154° 51'0	46'2	31° 25'7	56'9	31° 25'7	56'9	Fomalhaut	15° 23'8	29° 32'9 S	328° 01'7	46'8	203° 49'4	11'7	52'4	4'1														
	11																																		

2014 January 13, 14, 15 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.1			MARS +0.6			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:03	09:56	-	-	-	12:37				
Monday	00	112° 23' 9	181° 18' 1	16° 28' 4 S	276° 08' 4	4° 25' 2 S	6° 38' 2	22° 47' 8 N	242° 51' 8	15° 58' 5 S	Acamar	315° 17' 9	40° 15' 2 S	177° 52' 6	21° 31' 4 S	35° 15' 8	11' 8	19° 26' 9 N	0.7	54.4	N 70°	07:48	09:21	-	-	10:59	12:11	13:42					
	01	127° 26' 4	196° 22' 2	28.1	291° 10' 0	25.6	21° 41' 1	47.8	257° 54' 1	58.6	Achernar	335° 26' 5	57° 10' 3 S	192° 52' 4	31' 0	49° 46' 6	11' 7	27.6	0.6	54.3	68°	07:36	08:56	10:38	12:00	13:01	14:18						
	02	142° 28' 9	211° 26' 3	27.9	306° 11' 5	25.9	36° 43' 9	47.9	272° 56' 4	58.6	Acruz	173° 08' 5	63° 10' 4 S	207° 52' 1	30' 6	64° 17' 3	11' 7	28.2	0.5		66°	07:25	08:36	09:56	12:34	13:33	14:43						
	03	157° 31' 3	226° 30' 4	27.6	321° 13' 0	26.3	51° 46' 7	47.9	287° 58' 7	58.6	Adhara	255° 11' 8	28° 59' 7 S	222° 51' 9	30' 1	78° 48' 0	11' 8	28.7	0.5		64°	07:16	08:21	09:28	13:00	13:56	15:02						
	04	172° 33' 8	241° 34' 5	27.4	336° 14' 6	26.6	66° 49' 5	48.0	303° 00' 9	58.7	Aldebaran	290° 48' 6	16° 32' 1 N	237° 51' 7	29.7	93° 18' 8	11' 8	29.2	0.3		62°	07:09	08:07	09:07	13:19	14:15	15:18						
	05	187° 36' 3	256° 38' 6	27.1	351° 16' 1	27.0	81° 52' 3	48.0	318° 03' 2	58.7				252° 51' 4	29.3	107° 49' 6	11' 7	29.5	0.2		60°	07:02	07:56	08:49	13:35	14:30	15:32						
	06	202° 38' 7	271° 42' 7	26.8	6° 17' 7	27.3	96° 55' 2	48.0	333° 05' 5	58.8	Alioth	166° 20' 3	55° 52' 7 N	267° 51' 2	28.9	122° 20' 3	11.8	29.7	0.2		N 58°	06:56	07:46	08:35	13:49	14:43	15:43						
	07	217° 41' 2	286° 46' 7	26.6	21° 19' 2	27.6	111° 58' 0	48.1	348° 07' 7	58.8	Alkaid	152° 58' 7	49° 14' 3 N	282° 51' 0	28.4	136° 51' 1	11.8	29.9	0.1		56°	06:50	07:38	08:22	14:01	14:54	15:53						
	08	232° 43' 6	301° 50' 8	26.3	36° 20' 8	28.0	127° 00' 8	48.1	3° 10' 0	58.9	Alnair	27° 43' 6	46° 53' 6 E	297° 50' 7	28.0	151° 21' 9	11.8	30.0	0.1		54°	06:45	07:30	08:12	14:11	15:04	16:02						
	09	247° 46' 1	316° 54' 9	26.1	51° 22' 3	28.3	142° 03' 6	48.2	18° 12' 3	58.9	Alnilam	275° 45' 6	1° 11' 8 S	312° 50' 5	27.6	165° 52' 7	11.8	29.9	0.1		52°	06:40	07:23	08:02	14:20	15:12	16:09						
	10	262° 48' 6	331° 59' 0	25.8	66° 23' 9	28.7	157° 06' 4	48.2	33° 14' 6	58.9	Alphard	217° 55' 4	8° 43' 4 S	327° 50' 3	27.2	180° 23' 5	11.8	29.8	0.2	54.2	50°	06:36	07:16	07:53	14:28	15:20	16:16						
	11	277° 51' 0	347° 03' 1	25.6	81° 25' 4	29.0	172° 09' 3	48.2	48° 16' 8	59.0				342° 50' 0	26.7	194° 54' 3	11.8	29.6	0.3		45°	06:26	07:02	07:35	14:45	15:37	16:31						
	12	292° 53' 5	2° 07' 2	16° 25' 3 S	96° 27' 0	4° 29' 4 S	187° 12' 1	22° 48' 3 N	63° 19' 1	59.0 S	Alphecca	126° 10' 9	26° 40' 0 N	357° 49' 8	21° 26' 3 S	209° 25' 1	11.9	19° 29' 3 N	0.4	54.2	N 40°	06:17	06:51	07:20	15:00	15:50	16:44						
	13	307° 56' 0	17° 11' 3	25.1	111° 28' 5	29.7	202° 14' 9	48.3	78° 21' 4	59.1	Alpheratz	357° 43' 1	29° 10' 2 N	12° 49' 6	25.9	223° 56' 0	11.8	28.9	0.5		35°	06:09	06:40	07:08	15:12	16:02	16:54						
	14	322° 58' 4	32° 15' 4	24.8	126° 30' 1	30.1	217° 17' 7	48.4	93° 23' 6	59.1	Altair	62° 08' 2	8° 54' 5 N	27° 49' 3	25.4	238° 26' 8	11.9	28.4	0.5		30°	06:01	06:31	06:57	15:22	16:12	17:03						
	15	338° 00' 9	47° 19' 5	24.6	141° 31' 6	30.4	232° 20' 5	48.4	108° 25' 9	59.2	Ankaa	353° 15' 5	42° 14' 0 S	42° 49' 1	25.0	252° 57' 7	11.9	27.9	0.7		20°	05:47	06:14	06:38	15:40	16:29	17.19						
	16	353° 03' 4	62° 23' 6	24.3	156° 33' 2	30.8	247° 23' 4	48.5	123° 28' 5	59.2	Antares	112° 26' 0	26° 27' 6 S	57° 48' 9	24.6	267° 28' 6	11.9	27.2	0.8		N 10°	05:33	05:59	06:21	15:56	16:44	17.33						
	17	8° 05' 8	77° 27' 6	24.1	171° 34' 7	31.1	262° 26' 2	48.5	138° 30' 2	59.2				72° 48' 6	24.1	281° 59' 5	11.9	26.4	0.8		0°	05:17	05:43	06:05	16:11	16:59	17.46						
	18	23° 08' 3	92° 31' 7	23.8	186° 36' 3	31.4	277° 29' 0	48.5	153° 32' 7	59.3	Arcturus	145° 55' 4	19° 06' 4 N	87° 48' 4	23.7	296° 30' 4	11.9	25.6	0.9		S 10°	05:00	05:27	05:50	16:26	17:13	17.58						
	19	38° 10' 8	107° 35' 8	23.6	201° 37' 8	31.8	292° 31' 8	48.6	168° 35' 0	59.3	Atria	107° 27' 8	69° 02' 8 S	102° 48' 2	23.3	311° 01' 3	11.9	24.7	1.1		20°	04:40	05:08	05:32	16:41	17:28	18.12						
	20	53° 13' 2	122° 39' 9	23.3	216° 39' 4	32.1	307° 34' 6	48.6	183° 37' 3	59.4	Avia	234° 17' 1	59° 33' 4 S	117° 48' 0	22.8	325° 32' 2	11.9	23.6	1.1		30°	04:13	04:46	05:13	17:00	17:45	18.28						
	21	68° 15' 7	137° 44' 0	23.1	231° 40' 9	32.5	322° 37' 4	48.7	198° 39' 5	59.4	Bellatrix	278° 31' 3	6° 21' 5 N	132° 47' 7	22.4	340° 03' 1	12.0	22.5	1.2	54.1	35°	03:57	04:32	05:01	17:10	17:55	18.37						
	22	83° 18' 1	152° 48' 0	22.8	246° 42' 5	32.8	337° 40' 3	48.7	213° 41' 8	59.5	Betelgeuse	271° 00' 5	7° 24' 3 N	147° 47' 5	22.0	354° 34' 1	12.0	21.3	1.3		40°	03:36	04:16	04:48	17:22	18:07	18.47						
23	98° 20' 6	167° 52' 1	22.6	261° 44' 0	33.2	352° 43' 1	48.7	228° 44' 1	59.5				162° 47' 3	21.5	9° 05' 1	12.0	20.0	1.4		45°	03:09	03:56	04:32	17:36	18:20	18.59							
Tuesday	00	113° 23' 1	182° 56' 2	16° 22' 3 S	276° 45' 6	4° 33' 5 S	7° 45' 9	22° 48' 8 N	243° 46' 4	15° 59' 5 S	Canopus	263° 55' 4	52° 42' 5 S	177° 47' 0	21° 21' 1 S	23° 36' 1	12.0	19° 18' 6 N	1.4	54.1	S 50°	02:31	03:30	04:12	17:54	18:37	19:14						
	01	128° 25' 2	198° 00' 3	22.1	291° 47' 1	33.9	22° 48' 7	48.8	258° 48' 6	59.6	Capella	280° 33' 4	46° 00' 6 N	192° 46' 8	20.7	38° 07' 1	12.0	17.2	1.6		52°	02:10	03:17	04:02	18:02	18:44	19:21						
	02	143° 28' 0	213° 04' 3	21.9	306° 48' 7	34.2	37° 51' 5	48.9	273° 50' 9	59.6	Deneb	49° 31' 6	45° 20' 0 N	207° 46' 6	20.2	52° 38' 1	12.0	15.6	1.6		54°	01:43	03:02	03:52	18:11	18:53	19.28						
	03	158° 30' 5	228° 08' 4	21.6	321° 50' 2	34.5	52° 54' 4	48.9	288° 53' 2	59.7	Denebola	182° 33' 1	14° 29' 4 N	222° 46' 4	19.8	67° 09' 1	12.1	14.0	1.8		56°	00:56	02:44	03:40	18:22	19:03	19.37						
	04	173° 32' 9	243° 12' 5	21.4	336° 51' 8	34.9	67° 57' 2	48.9	303° 55' 5	59.7	Diphda	348° 55' 6	17° 54' 7 S	237° 46' 1	19.3	81° 40' 2	12.1	12.2	1.8		58°	-	02:22	03:25	18:33	19:14	19.46						
	05	188° 35' 4	258° 16' 5	21.1	351° 53' 3	35.2	83° 00' 0	49.0	318° 57' 7	59.7				252° 45' 9	18.9	96° 11' 3	12.0	10.4	1.9		S 60°	-	01:52	03:09	18:47	19:26	19.57						
	06	203° 37' 9	273° 20' 6	20.9	6° 54' 9	35.6	98° 02' 8	49.0	334° 00' 0	59.8	Dubhe	193° 50' 9	61° 40' 1 N	267° 45' 7	18.5	110° 42' 3	12.2	08.5	2.0		S 62°	-	01:01	02:48	19:03	19:41	20:10						
	07	218° 40' 3	288° 24' 7	20.7	21° 56' 4	35.9	113° 05' 6	49.1	349° 02' 3	59.8	Elinath	278° 11' 7	28° 37' 0 N	282° 45' 4	18.0	125° 13' 5	12.1	06.5	2.5														
	08	233° 42' 8	303° 28' 7	20.4	36° 58' 0	36.2	128° 08' 4	49.1	4° 04' 6	59.9	Eltanin	90° 46' 4	51° 29' 3 N	297° 45' 2	17.6	139° 44' 6	12.1	04.4	2.2														
	09	248° 45' 3	318° 32' 8	20.2	51° 59' 6	36.6	143° 11' 3	49.1	19° 06' 8	59.9	Enif	33° 47' 0	9° 56' 5 S	312° 45' 0	17.1	154° 15' 7	12.2	02.2	2.3														
	10	263° 47' 7	333° 36' 8	19.9	67° 01' 1	36.9	158° 14' 1	49.2	34° 09' 1	16° 00' 0 S	Fomalhaut	15° 23' 8	29° 32' 9 S	327° 44' 8	16.7	168° 46' 9	12.2	18° 59' 9 N	2.3														
	11	278° 50' 2	348° 40' 9	19.7	82° 02' 7	37.3	173° 16' 9	49.2	49° 11' 4	00.0				342° 44' 5	16.2	183° 18' 1	12.2	57.6	2.5														
	12	293° 52' 6	3° 45' 0	16° 19' 5 S	97° 04' 2	4° 37' 6 S	188° 19' 7	22° 49' 3 N	64° 13' 7	16° 00' 0 S	Gacrux	172° 00' 2	57° 11' 3 S	357° 44' 3	21° 15' 8 S	197° 49' 3	12.2	18° 55' 1 N	2.5	54.0	N 70°	-	14:58	16:31	08:58	09:26	09:33						
	13	308° 55' 1	18° 49' 0	19.2	112° 05' 8	38.																											

2014 January 16, 17, 18 (Thur, Fri, Sat)

GMT	ARIES			VENUS -4.2			MARS +0.6			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil	16	17	18							
Thurs day	00	115° 21'.4	186° 09.7	16° 11'.6 S	278° 00'.6	4° 49'.7 S	10° 01'.1	22° 50'.7 N	245° 35'.6	16° 01'.5 S	Acamar	315° 17.9	40° 15'.2 S	177° 36'.4	20° 59'.3 S	0° 48'.4	13.1	16° 32'.4 N	5.3	53.9	N 72°	07:56	09:43	-	14:41	16:28	18:09					
	01	130° 23'.8	201° 13.7	11'.4	293° 02'.2	50.0	25° 03.9	50.7	260° 37.9	01.5	Achernar	335° 26.5	57° 10.3 S	192° 36.2	58.8	15° 20.5	13.2	27.1	5.5	68°	07:30	08:12	11:42	15:16	16:50	18:22						
	02	145° 26'.3	216° 17.7	11.2	308° 03.8	50.4	40° 06.7	50.8	275° 40.2	01.6	Acruz	173° 08.5	63° 10.4 S	207° 36.0	58.3	29° 52.7	13.2	21.6	5.6	66°	07:21	08:30	09:47	16:00	17:20	18:41						
	03	160° 28'.7	231° 21.6	11.0	323° 05.4	50.7	55° 09.5	50.8	290° 42.5	01.6	Adhara	255° 11.8	28° 59.7 S	222° 35.8	57.9	44° 24.9	13.2	16.0	5.6	64°	07:12	08:16	09:21	16:15	17:31	18:48						
	04	175° 31'.2	246° 25.6	10.8	338° 07.0	51.0	70° 12.3	50.9	305° 44.8	01.7	Aldebaran	290° 48.6	16° 32.1 N	237° 35.5	57.4	58° 57.1	13.2	10.4	5.7	62°	07:05	08:03	09:01	16:28	17:40	18:55						
	05	190° 33'.7	261° 29.6	10.6	353° 08.5	51.4	85° 15.1	50.9	320° 47.0	01.7		166° 20.3	55° 52.7 N	252° 35.3	56.9	73° 29.3	13.3	04.7	5.7	60°	06:59	07:52	08:45	16:39	17:48	19:00						
	06	205° 36'.1	276° 33.5	10.4	8° 10'.1	51.7	100° 17.9	50.9	335° 49.3	01.7	Alioth	290° 20.3	55° 52.7 N	267° 35.1	56.4	88° 01'.6	13.3	15° 59.0 N	5.8	N 58°	06:53	07:43	08:31	16:48	17:55	19:05						
	07	220° 38'.6	291° 37.5	10.2	23° 11'.7	52.0	115° 20.8	51.0	350° 51.6	01.8	Alkaid	152° 58.6	49° 14.3 N	282° 34.9	56.0	102° 33.9	13.3	53.2	5.9	56°	06:48	07:35	08:19	16:56	18:02	19:09						
	08	235° 41'.1	306° 41.5	10.0	38° 13.3	52.4	130° 23'.6	51.0	5° 53'.9	01.8	Alnair	27° 43'.6	46° 53'.6 E	297° 34.7	55.5	117° 06.2	13.4	47.3	6.0	54°	06:43	07:27	08:09	17:03	18:07	19:12						
	09	250° 43'.5	321° 45.4	09.8	53° 14.8	52.7	145° 26.4	51.1	20° 56'.2	01.9	Alnilam	275° 45.6	1° 11'.8 S	312° 34.5	55.0	131° 38'.6	13.4	41.3	6.0	52°	06:38	07:21	07:59	17:13	18:12	19:16						
	10	265° 46'.0	336° 49.4	09.6	68° 16.4	53.0	160° 29'.2	51.1	35° 58'.4	01.9	Alphard	217° 55.4	8° 43'.4 S	327° 34.3	54.5	146° 11'.0	13.4	35.3	6.1	50°	06:34	07:14	07:51	17:16	18:17	19:19						
	11	280° 48'.5	351° 53.4	09.4	83° 18'.0	53.3	175° 32'.0	51.1	51° 00'.7	01.9		196° 20.3	55° 52.7 N	342° 34.1	54.1	160° 43.4	13.4	29.2	6.2	45°	06:25	07:01	07:34	17:28	18:26	19:26						
	12	295° 50'.9	6° 57'.3	16° 09'.2 S	98° 19.6	4° 53'.7 S	190° 34.8	22° 51'.2 N	66° 03'.0	16° 02'.0 S	Alphecca	126° 10.8	26° 40'.0 N	357° 33.8	20° 53'.6 S	175° 15.8	13.5	15° 23'.0 N	6.2	53.9	N 40°	06:16	06:50	07:19	17:39	18:35	19:31					
	13	310° 53'.4	22° 01'.3	09.0	113° 21'.2	54.0	205° 37'.6	51.2	81° 05'.3	02.0	Alpheratz	357° 43.2	29° 10'.2 N	12° 33'.6	53.1	189° 48.3	13.5	16.8	6.3	35°	06:09	06:40	07:07	17:47	18:41	19:36						
	14	325° 55'.9	37° 05'.2	08.8	128° 22'.8	54.3	220° 40'.4	51.3	96° 07'.6	02.1	Altair	62° 08'.2	8° 54'.5 S	27° 33'.4	52.6	204° 20'.8	13.5	10.5	6.4	30°	06:01	06:31	06:56	17:55	18:48	19:40						
	15	340° 58'.3	52° 09'.2	08.6	143° 24'.3	54.7	235° 43'.3	51.3	111° 09'.9	02.1	Ankaa	353° 15.5	42° 14'.0 S	42° 33'.2	52.1	218° 53.3	13.6	04.1	6.4	54.0	20°	05:47	06:14	06:38	18:09	18:58	19:47					
	16	356° 00'.8	67° 13'.1	08.4	158° 25'.9	55.0	250° 46'.1	51.3	126° 12'.1	02.1	Antares	112° 26.0	26° 27'.6 S	57° 33'.0	51.7	233° 25.9	13.6	14° 57'.7 N	6.5	N 10°	05:33	05:59	06:22	18:20	19:07	19:54						
	17	1° 03'.2	82° 17'.1	08.3	173° 27'.5	55.3	265° 48'.9	51.4	141° 14'.4	02.2		72° 32.8	51.2	247° 58.5	51.2	247° 58.5	13.6	51'.2	6.6	0°	05:19	05:44	06:06	18:31	19:16	19:59						
	18	26° 05'.7	97° 21'.0	08.1	188° 29'.1	55.7	280° 51'.7	51.4	156° 16.7	02.2	Arcturus	145° 55.4	19° 06.4 N	87° 32.6	50.7	262° 31.1	13.6	44.6	6.6	S 10°	05:02	05:28	05:51	18:42	19:24	20:05						
	19	41° 08'.2	112° 24'.9	07.9	203° 30'.7	56.0	295° 54'.5	51.5	171° 19'.0	02.3	Atria	107° 27.8	69° 02'.8 S	102° 32.4	50.2	277° 03.7	13.7	38.0	6.7	20°	04:42	05:10	05:34	18:54	19:34	20:12						
	20	56° 10'.6	127° 28'.9	07.7	218° 32'.3	56.3	310° 57'.3	51.5	186° 21'.3	02.3	Avia	234° 17.1	59° 33'.4 S	117° 32.2	49.7	291° 36.4	13.7	31.3	6.7	30°	04:16	04:49	05:15	19:07	19:44	20:19						
	21	71° 13'.1	142° 32'.8	07.5	233° 33'.8	56.6	326° 00'.1	51.5	201° 23'.5	02.3	Bellatrix	278° 31.3	6° 21'.5 N	132° 32'.0	49.2	306° 09.1	13.7	24.6	6.9	35°	04:00	04:35	05:04	19:15	19:50	20:23						
	22	86° 15'.6	157° 36'.7	07.3	248° 35'.4	57.0	341° 02'.9	51.6	216° 25'.8	02.4	Betelgeuse	271° 00'.5	7° 24'.3 N	147° 31'.8	48.8	320° 41'.8	13.7	17.7	6.8	40°	03:40	04:19	04:51	19:23	19:57	20:28						
23	101° 18'.0	172° 40'.7	07.1	263° 37'.0	57.3	356° 05'.7	51.6	231° 28'.1	02.4		162° 31.5	48.3	335° 14.5	13.8	10.9	7.0		45°	03:14	04:00	04:35	19:34	20:05	20:33								
Fri day	00	116° 20'.5	187° 44'.6	16° 06'.9 S	278° 38'.6	4° 57'.6 S	11° 08'.6	22° 51'.7 N	246° 30'.4	16° 02'.4 S	Canopus	263° 55.4	52° 42'.5 S	177° 31.3	20° 47.8 S	349° 47.3	13.8	14° 03'.9 N	7.0	54.0	S 50°	02:38	03:35	04:16	19:46	20:14	20:39					
	01	131° 23'.0	202° 45'.5	06.8	293° 40.2	57.9	26° 11.4	51.7	261° 32'.7	02.5	Capella	280° 33.4	46° 00'.6 N	192° 31.1	47.3	4° 20.1	13.9	13° 56'.9 N	7.0	52°	02:18	03:23	04:07	19:51	20:18	20:42						
	02	146° 25'.4	217° 52.4	06.6	308° 41.8	58.3	41° 14.2	51.7	276° 35.0	02.5	Deneb	49° 31'.6	45° 20'.0 N	207° 30.9	46.8	18° 53.0	13.8	49.9	7.1	54°	01:53	03:08	03:57	19:58	20:23	20:46						
	03	161° 27.9	232° 56'.3	06.4	323° 43.4	58.6	56° 17'.0	51.8	291° 37.2	02.6	Denebola	182° 33.1	14° 29.4 N	222° 30.7	46.3	33° 25.8	13.9	42.8	7.2	56°	01:15	02:51	03:45	20:05	20:28	20:49						
	04	176° 30'.4	248° 00'.2	06.2	338° 44.9	58.9	71° 19'.8	51.8	306° 39.5	02.6	Diphda	348° 55.6	17° 54'.7 S	237° 30.5	45.8	47° 58.7	13.9	35.6	7.2	58°	-	02:30	03:32	20:12	20:34	20:53						
	05	191° 32'.8	263° 04'.2	06.0	353° 46.5	59.2	86° 22'.6	51.8	321° 41.8	02.6		252° 30.3	45.3	252° 30.3	45.3	62° 31'.6	14.0	28.4	7.3	S 60°	-	02:03	03:16	20:21	20:41	20:58						
	06	206° 35'.3	278° 08'.1	05.9	8° 48'.1	59.6	110° 25'.4	51.9	336° 44'.1	02.7	Dubhe	193° 50.8	61° 40'.1 N	267° 30.1	44.8	77° 04.6	13.9	21.1	7.4	S 62°	-	01:21	02:57	20:31	20:49	21:03						
	07	221° 37.7	293° 12'.0	05.7	23° 49.7	59.9	116° 28.2	51.9	351° 46.4	02.7	Elinath	278° 11.7	28° 37.0 N	282° 29.9	44.3	91° 37.5	14.0	13.7	7.4													
	08	236° 40'.2	308° 15.9	05.5	38° 51.3	5° 00'.2 S	131° 31'.0	52.0	6° 48.7	02.8	Eltanin	90° 46.4	51° 29.2 N	297° 29.7	43.9	106° 10.5	14.0	06.3	7.4													
	09	251° 42'.7	323° 19.8	05.3	53° 52.9	00.5	146° 33'.9	52.0	21° 50'.9	02.8	Enif	33° 47.0	9° 56'.5 S	312° 29.5	43.4	120° 43.5	14.1	12° 58'.9 N	7.5													
	10	266° 45'.1	338° 23.7	05.1	68° 54.5	00.9	161° 36.7	52.0	36° 53'.2	02.8	Fomalhaut	15° 27.8	29° 32'.9 S	327° 29.3	42.9	135° 16.6	14.0	51.4	7.6													
	11	281° 47'.6	353° 27'.6	05.0	83° 56.1	01.2	176° 39'.5	52.1	51° 55.5	02.9		342° 29.1	42.4	149° 49.6	42.4	149° 49.6	14.1	43.8	7.6													
	12	296° 50'.1	8° 31'.5	16° 04'.8 S	98° 57.7	5° 01'.5 S	191° 42.3	22° 52'.1 N	66° 57'.8	16° 02'.9 S	Gacrux	172° 00'.1	57° 11'.3 S	357° 28.9	20° 41.9 S	164° 22.7	14.1	12° 36'.2 N	7.7	54.0	N 70°	12:38	15:09	16:39	09:34	09:33	09:31					
	13	311° 52'.5	23° 35'.3	04.6	113° 59.3	01.8	206° 45.1	52.2	82° 00.1	03.0	Giennah	175° 51.7	17° 37'.2 S	12° 28.7	41.4	178° 55.8	14.2	28.5	7.8	68°	13:57	15:32	16:59	09:31	09:08	09:15						
	14	326° 55'.0	38° 39'.2	04.5	129° 00.9	02.2	221° 47.9	52.2	97° 02.4	03.0	Hadar	148° 47.2	60° 26'.1 S	27° 28.5	40.9	193° 29.0	14															

2014 January 19, 20, 21 (Sun, Mon, Tue)

GMT	ARIES			VENUS -4.3			MARS +0.5			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise					
Sunday		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:48	09:31	-	19:48	21:26	23:05								
	00	118° 18'8"	190° 49'5"	15° 59'1" S	279° 55'3"	5° 13'0" S	13° 23'3"	22° 53'5" N	248° 20'1"	16° 04'3" S	Acamar	315° 17'9"	40° 15'2" S	177° 21'7"	20° 23'6" S	328° 28'1"	14.8	7° 30'0" N	9.2	54.3	N 70°	07:35	09:02	11:05	19:54	21:26	22:59								
	01	133° 21'2"	205° 53'3"	58.9	294° 56'9"	13.3	28° 26'1"	53.5	263° 22'4"	04.3	Achernar	335° 26'6"	57° 10'3" S	192° 21'5"	23.1	343° 01'9"	14.8	20.8	9.3	68°	68°	07:24	08:41	10:10	19:59	21:26	22:54								
	02	148° 23'7"	220° 57'1"	58.8	309° 58'5"	13.6	43° 28'9"	53.6	278° 24'7"	04.3	Acruz	173° 08'4"	63° 10'4" S	207° 21'3"	22.5	357° 35'7"	14.8	11.5	9.3	66°	66°	07:16	08:24	09:37	20:03	21:26	22:50								
	03	163° 26'2"	236° 00'8"	58.7	325° 00'2"	13.9	58° 31'7"	53.6	293° 27'0"	04.4	Adhara	255° 11'8"	28° 59'8" S	222° 21'2"	22.0	12° 09'5"	14.8	02.2	9.4	64°	64°	07:08	08:10	09:14	20:07	21:26	22:46								
	04	178° 28'6"	251° 04'6"	58.5	340° 01'8"	14.3	73° 34'5"	53.6	308° 29'3"	04.4	Aldebaran	290° 48'6"	16° 32'1" N	237° 21'0"	21.5	26° 43'3"	14.8	6° 52'8" N	9.4	54.4	62°	07:01	07:58	08:55	20:10	21:26	22:43								
	05	193° 31'1"	266° 08'4"	58.4	355° 03'4"	14.6	88° 37'3"	53.7	323° 31'6"	04.5		196° 20'2"	55° 52'7" N	252° 20'8"	21.0	41° 17'1"	14.9	43.4	9.4	60°	60°	06:55	07:48	08:39	20:12	21:26	22:40								
	06	208° 33'6"	281° 12'1"	58.2	10° 05'0"	14.9	103° 40'1"	53.7	338° 33'9"	04.5	Alioth	260° 20'2"	55° 52'7" N	267° 20'6"	20.4	55° 51'0"	14.8	34.0	9.4	N 58°	58°	06:50	07:39	08:26	20:15	21:26	22:38								
	07	223° 36'0"	296° 15'9"	58.1	25° 06'6"	15.2	118° 42'9"	53.8	353° 36'2"	04.5	Alkaid	152° 58'6"	49° 14'3" N	282° 20'4"	19.9	70° 24'8"	14.8	24.6	9.5	56°	56°	06:45	07:31	08:15	20:17	21:26	22:36								
	08	238° 38'5"	311° 19'6"	58.0	40° 08'2"	15.5	133° 45'7"	53.8	8° 38'5"	04.6	Alnair	27° 43'6"	46° 53'6" E	297° 20'2"	19.4	84° 58'6"	14.9	15.1	9.5	54°	54°	06:40	07:24	08:05	20:19	21:26	22:34								
	09	253° 40'9"	326° 23'4"	57.8	55° 09'8"	15.8	148° 48'5"	53.8	23° 40'8"	04.6	Anilim	275° 45'6"	1° 11'8" S	312° 20'0"	18.9	99° 32'6"	14.9	05.9	9.5	52°	52°	06:36	07:18	07:56	20:20	21:26	22:32								
	10	268° 43'4"	341° 27'1"	57.7	70° 11'4"	16.1	163° 51'4"	53.9	38° 43'0"	04.6	Alphard	217° 55'3"	8° 43'4" S	327° 19'8"	18.3	114° 06'4"	14.8	5° 56'1" N	9.5	50°	50°	06:32	07:12	07:48	20:22	21:26	22:31								
	11	283° 45'9"	356° 30'9"	57.6	85° 13'1"	16.5	178° 54'2"	53.9	53° 45'3"	04.7		290° 20'2"	55° 52'7" N	342° 19'6"	17.8	128° 40'2"	14.9	46.6	9.6	45°	45°	06:23	06:59	07:32	20:25	21:26	22:27								
	12	298° 48'3"	11° 34'6"	15° 57.4 S	100° 14.7	5° 16.8 S	193° 57.0	22° 53.9 N	68° 47.6	16° 04.7 S	Alphecca	126° 10.8	26° 39.9 N	357° 19.4	20° 17.3 S	143° 14.1	14.9	5° 37.0 N	9.6	54.5	N 40°	06:15	06:48	07:18	20:28	21:26	22:24								
	13	313° 50'8"	26° 38'3"	57.3	115° 16'3"	17.1	208° 59'8"	54.0	83° 49'9"	04.8	Alpheratz	357° 43'2"	29° 10'2" N	12° 19'3"	16.8	157° 48'0"	14.8	27.4	9.7	35°	35°	06:08	06:39	07:06	20:30	21:26	22:22								
	14	328° 53'3"	41° 42'1"	57.2	130° 17'9"	17.4	224° 02'6"	54.0	98° 52'2"	04.8	Altair	62° 08'1"	8° 54'5" N	27° 19'1"	16.2	172° 21'8"	14.9	17.7	9.6	30°	30°	06:01	06:30	06:56	20:33	21:26	22:20								
	15	343° 55'7"	56° 45'8"	57.0	145° 19'5"	17.7	239° 05'4"	54.1	113° 54'5"	04.8	Ankaa	353° 15'5"	42° 14'0" S	42° 18'9"	15.7	186° 55'7"	14.9	08.1	9.7	20°	20°	05:47	06:14	06:38	20:36	21:26	22:16								
	16	358° 58'2"	71° 49'5"	56.9	160° 21'2"	18.0	254° 08'2"	54.1	128° 56'8"	04.9	Antares	112° 25'9"	26° 27'6" S	57° 18'7"	15.2	201° 29'6"	14.9	4° 58'4" N	9.7	N 10°	10°	05:34	06:00	06:22	20:40	21:26	22:13								
	17	14° 00'7"	86° 53'2"	56.8	175° 22'8"	18.3	269° 11'0"	54.1	143° 59'1"	04.9		72° 18'5"	14.6	72° 18'5"	14.6	216° 03'5"	14.9	48.7	9.7	0°	0°	05:20	05:45	06:07	20:43	21:26	22:10								
	18	29° 03'1"	101° 57'0"	56.6	190° 24'4"	18.6	284° 13'8"	54.2	159° 01'4"	04.9	Arcturus	145° 55'4"	19° 06'4" N	87° 18'3"	14.1	230° 37'4"	14.8	39.0	9.8	S 10°	10°	05:04	05:30	05:52	20:46	21:26	22:07								
	19	44° 05'6"	117° 00'7"	56.5	205° 26'0"	18.9	299° 16'6"	54.2	174° 03'7"	05.0	Atria	107° 27'7"	69° 02'8" S	102° 18'1"	13.6	245° 11'2"	14.9	29.2	9.8	54.6	20°	20°	04:44	05:13	05:36	20:49	21:26	22:04							
	20	59° 08'1"	132° 04'4"	56.4	220° 27'6"	19.3	314° 19'4"	54.2	189° 06'0"	05.0	Avior	234° 17'1"	59° 33'4" S	117° 17'9"	13.0	259° 45'1"	14.9	19.4	9.8	30°	30°	04:19	04:51	05:18	20:53	21:26	22:00								
	21	74° 10'5"	147° 08'1"	56.3	235° 29'3"	19.6	329° 22'2"	54.3	204° 08'3"	05.0	Bellatrix	278° 31'3"	6° 21'5" N	132° 17'8"	12.5	274° 19'0"	14.9	09.6	9.8	35°	35°	04:04	04:38	05:07	20:55	21:26	21:58								
22	89° 13'0"	162° 11'8"	56.1	250° 30'9"	19.9	344° 25'0"	54.3	219° 10'5"	05.1	Betelgeuse	271° 00'5"	7° 24'3" N	147° 17'6"	12.0	288° 52'9"	14.9	3° 59'8" N	9.8	40°	40°	03:44	04:23	04:54	20:57	21:26	21:56									
23	104° 15'4"	177° 11'5"	56.0	265° 32'5"	20.2	359° 27'8"	54.4	234° 12'8"	05.1		162° 17.4	11.4	162° 17.4	11.4	303° 26'8"	14.9	50.0	9.9	45°	45°	03:19	04:04	04:39	21:00	21:26	21:53									
Monday	00	119° 17'9"	192° 19'2"	15° 55.9 S	280° 34.1	5° 20.5 S	14° 30'6"	22° 54'4" N	249° 15'1"	16° 05'1" S	Canopus	263° 55'4"	52° 42'5" S	177° 17'2"	20° 10'9" S	318° 00'7"	14.8	3° 40'1" N	9.9	54.6	S 50°	02:45	03:40	04:21	21:03	21:26	21:50								
	01	134° 20'4"	207° 22'9"	55.8	295° 35'7"	20.8	29° 33'4"	54.4	264° 17'4"	05.2	Capella	280° 33'4"	46° 00'6" N	192° 17'0"	10.4	332° 34'5"	14.9	30.2	9.9	52°	52°	02:27	03:29	04:12	21:05	21:26	21:49								
	02	149° 22'8"	222° 26'6"	55.6	310° 37'4"	21.1	44° 36'2"	54.5	279° 19'7"	05.2	Deneb	49° 31'6"	45° 20'0" N	207° 16'8"	09.8	347° 08'4"	14.9	20.3	9.9	54.7	54°	02:03	03:15	04:03	21:06	21:27	21:47								
	03	164° 25'3"	237° 30'2"	55.5	325° 39'0"	21.4	59° 39'0"	54.5	294° 22'0"	05.3	Denebola	182° 33'1"	14° 29'4" S	222° 16'6"	09.3	1° 42'3"	14.8	10.4	9.9	56°	56°	01:30	02:59	03:51	21:08	21:27	21:45								
	04	179° 27'8"	252° 33'9"	55.4	340° 40'6"	21.7	74° 41'8"	54.5	309° 24'0"	05.3	Diphda	348° 55'6"	17° 54'7" S	237° 16'5"	08.7	16° 16'1"	14.9	00.5	10.0	58°	58°	01:30	02:39	03:39	21:10	21:27	21:43								
	05	194° 30'2"	267° 37'6"	55.3	355° 42'2"	22.0	89° 44'6"	54.6	324° 26'6"	05.3				252° 16'3"	08.2	30° 50'0"	14.8	2° 50'5" N	9.9	S 60°	60°	-	02:14	03:24	21:13	21:27	21:41								
	06	209° 32'7"	282° 41'3"	55.2	10° 43'9"	22.3	104° 47'4"	54.6	339° 28'9"	05.4	Dubhe	193° 50'8"	61° 40'1" N	267° 16'1"	07.7	45° 23'8"	14.9	40.6	10.0	54.8	S 62°	62°	-	01:38	03:06	21:15	21:27	21:39							
	07	224° 35'2"	297° 45'0"	55.0	25° 45'5"	22.6	119° 50'2"	54.6	354° 31'2"	05.4	Elinath	278° 11'8"	28° 37'0" N	282° 15'9"	07.1	59° 57'7"	14.8	30.6	10.0																
	08	239° 37'6"	312° 48'6"	54.9	40° 47'1"	23.0	134° 53'0"	54.7	9° 33'5"	05.4	Eltanin	90° 46'4"	51° 29'2" N	297° 15'7"	06.6	74° 31'5"	14.8	20.6	10.0																
	09	254° 40'1"	327° 52'3"	54.8	55° 48'7"	23.3	149° 55'8"	54.7	24° 35'8"	05.4	Fomalhaut	33° 47'0"	9° 56'5" S	312° 15'5"	06.0	89° 05'3"	14.9	10.6	10.1																
	10	269° 42'6"	342° 55'9"	54.7	70° 50'4"	23.6	164° 58'6"	54.8	39° 38'1"	05.5	Enif	15° 23'8"	29° 32'9" S	327° 15'4"	05.5	103° 39'2"	14.8	00.5	10.0																
	11	284° 45'0"	357° 59'6"	54.6	85° 52'0"	23.9	180° 01'4"	54.8	54° 40'4"	05.5				342° 15'2"	05.0	118° 13'0"	14.8	1° 50'5" N	10.1	N 72°	72°	-	14:52	16:35	09:37	09:29	09:29	09:21							
	12	299° 47'5"	13° 03'2"	15° 54.5 S	100° 53.6	5° 24.2 S	195° 04.2	22° 54.8 N	69° 42.7	16° 05.6 S	Gacrux	172° 00'1"	57° 11'3" S	357° 15'0"																					

2014 January 22, 23, 24 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.4			MARS +0.4			JUPITER -2.7			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	Nautical	Civil	22	23	24	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d		HP	N 72°		07:39	09:18	-
22	00	121° 16' 2"	195° 12' 1"	15° 50' 9" S	281° 52' 6"	5° 35' 0" S	16° 44' 8"	22° 56' 1" N	251° 05' 4"	16° 06' 8" S	Acamar	315° 17' 9"	40° 15' 2" S	177° 08' 7"	19° 44' 4" S	296° 50' 4"	13' 9"	4° 24' 8" S	10' 1"	55' 6"	N 70°	07:28	08:52	10:41	-	-	00:36	02:18			
	01	136° 18' 6"	210° 15' 6"	50' 8"	296° 54' 3"	35' 3"	31° 47' 6"	56' 2"	266° 07' 7"	06' 9"	Achernar	335° 26' 6"	57° 10' 3" S	192° 08' 5"	43' 8"	311° 23' 3"	13' 8"	34' 9"	10' 1"	68°	07:18	08:33	09:57	-	-	00:25	02:00				
	02	151° 21' 1"	225° 19' 1"	50' 7"	311° 55' 9"	35' 6"	46° 50' 4"	56' 2"	281° 10' 0"	06' 9"	Acruz	173° 08' 4"	63° 10' 4" S	207° 08' 3"	43' 3"	325° 56' 1"	13' 9"	45' 0"	10' 0"	66°	07:10	08:17	09:27	-	-	00:16	01:45				
	03	166° 23' 6"	240° 22' 6"	50' 6"	326° 57' 6"	35' 9"	61° 53' 2"	56' 2"	296° 12' 3"	06' 9"	Adhara	255° 11' 8"	28° 59' 8" S	222° 08' 2"	42' 7"	340° 29' 0"	13' 7"	55' 0"	10' 1"	55' 7"	64°	07:03	08:04	09:06	-	-	00:09	01:33			
	04	181° 26' 0"	255° 26' 1"	50' 6"	341° 59' 2"	36' 2"	76° 56' 0"	56' 3"	311° 14' 6"	07' 0"	Aldebaran	290° 48' 6"	16° 32' 1" N	237° 08' 0"	42' 1"	355° 01' 7"	13' 8"	5° 05' 1" S	10' 0"	62°	06:57	07:53	08:48	-	-	00:02	01:23				
	05	196° 28' 5"	270° 29' 6"	50' 5"	357° 00' 9"	36' 5"	91° 58' 8"	56' 3"	326° 16' 9"	07' 0"					252° 07' 8"	41' 6"	9° 34' 5"	13' 7"	15' 1"	10' 0"	60°	06:51	07:43	08:34	23:57	-	-	01:15			
	06	211° 31' 0"	285° 33' 1"	50' 4"	12° 02' 5"	36' 8"	107° 01' 6"	56' 3"	341° 19' 2"	07' 0"	Alioth	166° 20' 2"	55° 52' 7" N	267° 07' 7"	41' 0"	24° 07' 2"	13' 6"	25' 1"	10' 0"	55' 8"	N 58°	06:46	07:35	08:21	23:52	-	-	01:07			
	07	226° 33' 4"	300° 36' 6"	50' 8"	27° 04' 2"	37' 1"	122° 04' 4"	56' 4"	356° 21' 5"	07' 1"	Alkaid	152° 58' 6"	49° 14' 3" N	282° 07' 5"	40' 4"	38° 39' 8"	13' 6"	35' 1"	10' 0"	56°	06:41	07:28	08:11	23:47	-	-	01:01				
	08	241° 35' 9"	315° 40' 1"	50' 2"	42° 05' 8"	37' 4"	137° 07' 1"	56' 4"	11° 23' 8"	07' 1"	Alnair	27° 43' 7"	46° 53' 6" S	297° 07' 3"	39' 8"	53° 12' 4"	13' 6"	45' 1"	10' 0"	54°	06:37	07:21	08:01	23:44	-	-	00:55				
	09	256° 38' 4"	330° 43' 6"	50' 2"	57° 07' 5"	37' 7"	152° 09' 9"	56' 5"	26° 26' 2"	07' 1"	Alnilam	275° 45' 7"	1° 11' 8" S	312° 07' 2"	39' 3"	61° 50' 4"	13' 5"	55' 1"	9' 9"	52°	06:33	07:15	07:53	23:40	-	-	00:50				
	10	271° 40' 8"	345° 47' 0"	50' 1"	72° 09' 1"	38' 0"	167° 12' 7"	56' 5"	41° 28' 4"	07' 2"	Alphard	217° 55' 3"	8° 43' 4" S	327° 07' 0"	38' 7"	82° 17' 5"	13' 5"	6° 05' 0" S	10' 0"	55' 9"	50°	06:30	07:09	07:45	23:37	-	-	00:45			
	11	286° 43' 3"	0° 50' 5"	50' 0"	87° 10' 8"	38' 3"	182° 15' 5"	56' 5"	56° 30' 7"	07' 2"					342° 06' 8"	38' 1"	96° 50' 0"	13' 4"	15' 0"	9' 9"	45°	06:21	06:57	07:29	23:30	-	-	00:35			
	12	301° 45' 8"	15° 53' 9"	15° 49' 9" S	102° 12' 4"	5° 38' 6" S	197° 18' 3"	22° 56' 6" N	71° 33' 0"	16° 07' 2" S	Alphecca	126° 10' 8"	26° 39' 9" N	357° 06' 7"	19° 37' 5" S	111° 22' 4"	13' 3"	6° 24' 9" S	9' 9"	55' 9"	N 40°	06:14	06:47	07:16	23:24	-	-	00:26			
	13	316° 48' 2"	30° 57' 4"	49' 9"	117° 14' 1"	38' 9"	212° 21' 1"	56' 6"	86° 35' 3"	07' 3"	Alpheratz	357° 43' 2"	29° 10' 2" N	12° 06' 5"	37' 0"	125° 54' 7"	13' 4"	34' 8"	9' 8"	35°	06:07	06:37	07:05	23:19	-	-	00:19				
	14	331° 50' 7"	46° 00' 9"	49' 8"	132° 15' 7"	39' 2"	227° 23' 9"	56' 6"	101° 37' 6"	07' 3"	Altair	62° 08' 1"	8° 54' 5" S	27° 06' 3"	36' 4"	140° 27' 1"	13' 2"	44' 6"	9' 9"	56' 0"	30°	06:00	06:29	06:55	23:15	-	-	00:13			
	15	346° 53' 1"	61° 04' 3"	49' 7"	147° 17' 4"	39' 5"	242° 26' 7"	56' 7"	116° 39' 9"	07' 3"	Ankaa	353° 15' 5"	42° 14' 0" S	42° 06' 2"	35' 8"	154° 59' 3"	13' 3"	54' 5"	9' 8"	20°	05:47	06:14	06:37	23:08	-	-	00:02				
	16	1° 55' 6"	76° 07' 8"	49' 6"	162° 19' 1"	39' 7"	257° 29' 5"	56' 7"	131° 42' 2"	07' 4"	Antares	112° 25' 9"	26° 27' 6" S	57° 06' 0"	35' 2"	169° 31' 6"	13' 2"	7° 04' 3" S	9' 8"	N 10°	05:35	06:00	06:22	23:01	23:52	24:46					
	17	16° 58' 1"	91° 11' 2"	49' 6"	177° 20' 7"	40' 0"	272° 32' 3"	56' 7"	146° 44' 5"	07' 4"					72° 05' 8"	34' 7"	184° 03' 8"	13' 1"	14' 1"	9' 8"	56' 1"	0°	05:21	05:46	06:08	22:55	23:43	24:34			
	18	32° 00' 5"	106° 14' 6"	49' 5"	192° 22' 4"	40' 3"	287° 35' 1"	56' 8"	161° 46' 8"	07' 4"	Arcturus	145° 55' 4"	19° 06' 4" N	87° 05' 7"	34' 1"	198° 35' 9"	13' 0"	23' 9"	9' 7"	S 10°	05:05	05:31	05:54	22:49	23:34	24:23					
	19	47° 03' 0"	121° 18' 1"	49' 4"	207° 24' 0"	40' 6"	302° 37' 8"	56' 8"	176° 49' 1"	07' 5"	Atria	107° 27' 7"	69° 02' 8" S	102° 05' 5"	33' 5"	213° 07' 9"	13' 1"	33' 6"	9' 8"	20°	04:47	05:15	05:38	22:43	23:25	24:11					
	20	62° 05' 5"	136° 21' 5"	49' 4"	222° 25' 7"	40' 9"	317° 40' 6"	56' 8"	191° 51' 4"	07' 5"	Avior	234° 17' 1"	59° 33' 5" S	117° 05' 3"	32' 9"	227° 40' 0"	12' 9"	43' 4"	9' 7"	30°	04:23	04:54	05:20	22:36	23:14	23:57					
	21	77° 07' 9"	151° 24' 9"	49' 3"	237° 27' 3"	41' 2"	332° 43' 4"	56' 9"	206° 53' 7"	07' 5"	Bellatrix	278° 31' 3"	6° 21' 5" S	132° 05' 2"	32' 3"	242° 11' 9"	12' 9"	53' 1"	9' 7"	56' 2"	35°	04:07	04:42	05:10	22:32	23:08	23:49				
	22	92° 10' 4"	166° 28' 3"	49' 2"	252° 29' 0"	41' 5"	347° 46' 2"	56' 9"	221° 56' 0"	07' 6"	Betelgeuse	271° 00' 5"	7° 24' 3" N	147° 05' 0"	31' 8"	256° 43' 8"	12' 9"	8° 02' 8" S	9' 6"	40°	03:49	04:27	04:58	22:27	23:01	23:40					
23	107° 12' 9"	181° 31' 8"	49' 2"	267° 30' 7"	41' 8"	2° 49' 0"	56' 9"	236° 58' 3"	07' 6"					162° 04' 9"	31' 2"	271° 15' 7"	12' 8"	12' 4"	9' 6"	45°	03:25	04:09	04:44	22:22	22:53	23:29					
23	00	122° 15' 3"	196° 35' 2"	15° 49' 1" S	282° 32' 3"	5° 42' 1" S	17° 51' 8"	22° 57' 0" N	252° 00' 6"	16° 07' 6" S	Canopus	263° 55' 4"	52° 42' 5" S	177° 04' 7"	19° 30' 6" S	285° 47' 5"	12' 7"	8° 22' 0" S	9' 6"	56' 3"	S 50°	02:52	03:46	04:26	22:15	22:44	23:17				
	01	137° 17' 8"	211° 38' 6"	49' 0"	297° 34' 0"	42' 4"	32° 54' 6"	57' 0"	267° 02' 9"	07' 7"	Capella	280° 33' 4"	46° 00' 6" N	192° 04' 5"	30' 0"	300° 19' 2"	12' 7"	31' 6"	9' 6"	52°	02:35	03:35	04:18	22:12	22:39	23:11					
	02	152° 20' 3"	226° 42' 0"	49' 0"	312° 35' 7"	42' 7"	47° 57' 4"	57' 0"	282° 05' 2"	07' 7"	Deneb	49° 31' 6"	45° 20' 0" N	207° 04' 4"	29' 4"	314° 50' 9"	12' 6"	41' 2"	9' 5"	54°	02:13	03:22	04:08	22:09	22:34	23:04					
	03	167° 22' 7"	241° 45' 4"	48' 9"	327° 37' 3"	42' 9"	63° 00' 1"	57' 1"	297° 07' 5"	07' 8"	Denebola	182° 33' 0"	14° 29' 4" S	222° 04' 2"	28' 8"	329° 22' 5"	12' 6"	50' 7"	9' 5"	56' 4"	56°	01:44	03:07	03:58	22:06	22:29	22:57				
	04	182° 25' 2"	256° 48' 8"	48' 8"	342° 39' 0"	43' 2"	78° 02' 9"	57' 1"	312° 09' 5"	07' 7"	Diphda	348° 55' 6"	17° 54' 7" S	237° 04' 1"	28' 3"	343° 54' 1"	12' 5"	9° 00' 2" S	9' 5"	58°	00:54	02:48	03:46	22:02	22:23	22:49					
	05	197° 27' 6"	271° 52' 2"	48' 8"	357° 40' 6"	43' 5"	93° 05' 7"	57' 2"	327° 12' 1"	07' 8"					252° 03' 9"	27' 7"	358° 25' 6"	12' 5"	09' 7"	9' 4"	S 60°	-	02:25	03:32	21:57	22:16	22:40				
	06	212° 30' 1"	286° 55' 5"	48' 7"	12° 42' 3"	43' 8"	108° 08' 5"	57' 2"	342° 14' 4"	07' 8"	Dubhe	193° 50' 8"	61° 40' 1" N	267° 03' 7"	27' 1"	12° 57' 1"	12' 3"	19' 1"	9' 4"	S 62°	-	01:54	03:15	21:52	22:08	22:29					
	07	227° 32' 6"	301° 58' 9"	48' 7"	27° 44' 0"	44' 1"	123° 11' 3"	57' 2"	357° 16' 7"	07' 9"	Elnath	278° 11' 8"	28° 37' 0" N	282° 03' 6"	26' 5"	27° 28' 4"	12' 4"	28' 5"	9' 3"	56' 5"											
	08	242° 35' 0"	317° 02' 3"	48' 6"	42° 45' 6"	44' 4"	138° 14' 1"	57' 3"	12° 19' 0"	07' 9"	Eltanin	90° 46' 4"	51° 29' 2" N	297° 03' 4"	25' 9"	41° 59' 8"	12' 2"	37' 8"	9' 4"												
	09	257° 37' 5"	332° 05' 7"	48' 5"	57° 47' 3"	44' 7"	153° 16' 9"	57' 3"	27° 21' 3"	07' 9"	Fomalhaut	33° 47' 0"	9° 56' 5" S	312° 03' 3"	25' 3"	56° 31' 0"	12' 2"	47' 2"	9' 3"												
	10	272° 40' 0"	347° 09' 0"	48' 5"	72° 49' 0"	45' 0"	168° 19' 7"	57' 3"	42° 23' 7"	08' 0"	Fomalhaut	15° 23' 8"	29° 32' 9" S	327° 03' 1"	24' 7"	71° 02' 2"	12' 2"	56' 5"	9' 2"	56' 6"											
	11	287° 42' 4"	2° 12' 4"	48' 4"	87° 50' 6"	45' 3"	183° 22' 4"	57' 4"	57° 26' 0"	08' 0"					342° 02' 9"	24' 1"	85° 33' 4"	12' 0"	10° 05' 7" S	9' 2"	N 72°	-	15:07	16:46	09:13	09:04	08:52				
	12	302°																													

2014 January 25, 26, 27 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.5			MARS +0.4			JUPITER -2.6			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	25	26	27	Equ. of Time	Mer. Pass.	Mer. Upper	Mer. Lower	Age/Vis																					
25 S a t u r d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:30	09:05	11:40	04:47	-	-					
	124° 13'6"	199° 13'8"	15° 46'8" S	283° 52'7"	5° 55'7" S	20° 05'4"	22° 58'6" N	253° 51'4"	16° 09'2" S	Acamar	315° 18'0"	40° 15'2" S	176° 57'3"	19° 01'9" S	261° 54'4"	9.2	15° 12'2" S	7.1	57.9	N 70°	07:20	08:42	10:21	04:06	05:58	07:43					
	139° 16'1"	214° 17'0"	46.8	298° 54'4"	56.0	35° 08'2"	58.6	268° 53'7"	09.2	Achernar	335° 26'6"	57° 10'3" S	191° 57'2"	01.3	276° 22'6"	9.2	19.3	7.0	68°	68°	07:11	08:24	09:43	03:37	05:14	06:40					
	154° 18'5"	229° 20'2"	46.8	313° 56'1"	56.3	50° 11'0"	58.7	283° 56'0"	09.2	Acruz	173° 08'4"	63° 10'4" S	206° 57'0"	00.7	290° 50'8"	9.1	26.3	6.9	58.0	66°	66°	07:04	08:10	09:17	03:16	04:45	06:04				
	169° 21'0"	244° 23'4"	46.8	328° 57'8"	56.6	65° 13'7"	58.7	298° 58'3"	09.2	Adhara	255° 11'8"	28° 59'8" S	221° 56'9"	00.1	305° 18'9"	9.0	33.2	6.8	64°	64°	06:57	07:57	08:57	02:59	04:23	05:39					
	184° 23'5"	259° 26'6"	46.7	343° 59'5"	56.8	80° 16'5"	58.7	314° 00'6"	09.3	Aldebaran	290° 47'7"	16° 32'1" N	236° 56'7"	18° 59'5" S	319° 46'9"	8.9	40.0	6.8	58.1	62°	62°	06:51	07:47	08:41	02:46	04:06	05:19				
	199° 25'9"	274° 29'8"	46.7	359° 01'2"	57.1	95° 19'3"	58.8	329° 02'9"	09.3				251° 56'6"	58.8	334° 14'8"	8.9	46.8	6.7	60°	60°	06:46	07:38	08:27	02:34	03:51	05:03					
	214° 28'4"	289° 33'0"	46.7	14° 02'9"	57.4	110° 22'1"	58.8	344° 05'2"	09.3	Alioth	166° 20'2"	55° 52'7" N	266° 56'4"	58.2	348° 42'7"	8.7	53.5	6.6	58.2	N 58°	06:42	07:30	08:16	02:24	03:39	04:49					
	229° 30'8"	304° 36'1"	46.7	29° 04'6"	57.7	125° 24'8"	58.8	359° 07'5"	09.4	Alkaid	152° 58'5"	49° 14'3" N	281° 56'3"	57.6	3° 10'4"	8.7	16° 00'1" S	6.5	58.2	56°	06:38	07:23	08:06	02:15	03:28	04:37					
	244° 33'3"	319° 39'3"	46.6	44° 06'3"	57.9	140° 27'6"	58.9	14° 09'8"	09.4	Alnilam	27° 43'7"	46° 53'6" E	296° 56'2"	57.0	17° 38'1"	8.6	06.6	6.4	54°	54°	06:34	07:17	07:57	02:07	03:19	04:27					
	259° 35'8"	334° 42'5"	46.6	59° 08'0"	58.2	155° 30'4"	58.9	29° 12'2"	09.4	Alnair	275° 45'7"	1° 11'8" S	311° 56'0"	56.4	32° 05'7"	8.5	13.0	6.0	52°	52°	06:30	07:11	07:49	02:00	03:11	04:18					
	274° 38'2"	349° 45'6"	46.6	74° 09'7"	58.5	170° 33'2"	58.9	44° 14'5"	09.5	Alphard	217° 55'3"	8° 43'4" S	326° 55'9"	55.8	46° 33'2"	8.4	19.3	6.3	58.3	50°	06:27	07:06	07:42	01:54	03:03	04:09					
	289° 40'7"	358° 48'8"	46.6	89° 11'4"	58.8	185° 36'0"	59.0	59° 16'8"	09.5				341° 55'9"	55.1	61° 00'6"	8.3	25.6	6.1	45°	45°	06:19	06:55	07:26	01:41	02:47	03:52					
	304° 43'2"	19° 51'9"	15° 46'5" S	104° 13'0"	5° 59'0" S	200° 38'7"	22° 59'0" N	74° 19'1"	16° 09'5" S	Alphecca	126° 10'8"	26° 39'9" N	356° 55'6"	18° 54'5" S	75° 27'9"	8.3	16° 31'7" S	6.1	58.4	N 40°	06:12	06:45	07:14	01:30	02:34	03:38					
	319° 45'6"	34° 55'1"	46.5	119° 14'7"	59.3	215° 41'5"	59.0	89° 21'4"	09.5	Alpheratz	357° 43'2"	29° 10'2" N	11° 55'4"	53.9	89° 55'2"	8.1	37.8	6.0	35°	35°	06:05	06:36	07:03	01:20	02:23	03:26					
	334° 48'1"	49° 58'2"	46.5	134° 16'4"	59.6	230° 44'3"	59.1	104° 27'3"	09.6	Altair	62° 08'1"	8° 54'4" N	26° 55'3"	53.3	104° 22'3"	8.1	43.8	5.9	30°	30°	05:59	06:28	06:53	01:12	02:13	03:15					
	349° 50'6"	65° 01'3"	46.5	149° 18'1"	59.9	245° 47'1"	59.1	119° 26'0"	09.6	Ankaa	353° 15'5"	42° 14'0" S	41° 55'2"	52.7	118° 49'4"	8.0	49.7	5.8	58.5	20°	05:47	06:14	06:37	00:58	01:57	02:57					
	4° 53'0"	80° 04'5"	46.5	164° 19'8"	60° 00'1" S	260° 49'8"	59.1	134° 28'3"	09.6	Antares	112° 25'9"	26° 27'6" S	56° 55'0"	52.0	133° 16'4"	7.9	55.5	5.7	N 10°	10°	05:35	06:00	06:23	00:46	01:42	02:41					
	19° 55'5"	95° 07'6"	46.4	179° 21'5"	60.4	275° 52'6"	59.2	149° 30'7"	09.7				71° 54'9"	51.4	147° 43'3"	7.9	17° 01'2" S	5.6	58.6	0°	05:22	05:47	06:09	00:34	01:29	02:27					
	34° 58'0"	110° 10'7"	46.4	194° 23'2"	60.7	290° 55'4"	59.2	164° 33'0"	09.7	Arcturus	145° 55'3"	19° 06'4" N	86° 54'7"	50.8	162° 10'2"	7.7	06.8	5.5	S 10°	10°	05:07	05:33	05:55	00:23	01:15	02:12					
	50° 00'4"	125° 13'8"	46.4	209° 24'9"	61.0	305° 58'2"	59.2	179° 35'3"	09.7	Atria	107° 27'7"	69° 02'8" S	101° 54'6"	50.2	176° 36'9"	7.7	12.3	5.4	20°	20°	04:49	05:17	05:40	00:11	01:01	01:56					
	65° 02'9"	140° 17'0"	46.4	224° 26'6"	61.2	321° 00'9"	59.3	194° 37'6"	09.8	Avia	234° 17'1"	59° 33'5" S	116° 54'5"	49.5	191° 03'6"	7.5	17.7	5.3	58.7	30°	04:26	04:57	05:23	-	00:45	01:39					
	80° 05'3"	155° 20'1"	46.4	239° 28'3"	61.5	336° 03'7"	59.3	209° 39'9"	09.8	Bellatrix	278° 31'3"	6° 21'5" N	131° 54'3"	48.9	205° 30'1"	7.5	23.0	5.2	35°	35°	04:11	04:45	05:13	-	00:35	01:28					
95° 07'8"	170° 23'2"	46.4	254° 30'0"	61.8	351° 06'5"	59.3	224° 42'2"	09.8	Betelgeuse	271° 00'5"	7° 24'3" N	146° 54'2"	48.3	219° 56'6"	7.4	28.2	5.1	40°	40°	03:53	04:31	05:02	-	00:24	01:16						
110° 10'3"	185° 26'3"	46.4	269° 31'7"	62.0	6° 09'3"	59.4	239° 44'5"	09.8				161° 54'0"	47.7	234° 23'0"	7.4	33.3	5.0	58.8	45°	03:30	04:14	04:48	-	00:12	01:02						
26 S u n d a y	125° 12'7"	200° 29'4"	15° 46'3" S	284° 33'4"	6° 02'3" S	21° 12'0"	22° 59'4" N	254° 46'9"	16° 09'9" S	Canopus	263° 55'5"	52° 42'5" S	176° 53'9"	18° 47'0" S	248° 49'4"	7.2	17° 38'3" S	4.9	58.8	S 50°	02:59	03:52	04:31	23:57	-	00:46					
	140° 15'2"	215° 32'4"	46.3	299° 35'2"	62.6	36° 14'8"	59.4	269° 49'2"	09.9	Capella	280° 33'4"	46° 00'6" N	191° 53'8"	46.4	263° 15'6"	7.2	43.2	4.8	58.9	52°	02:43	03:41	04:23	23:49	-	00:38					
	155° 17'7"	230° 35'5"	46.3	314° 36'9"	62.9	51° 17'6"	59.5	284° 51'5"	09.9	Deneb	49° 31'6"	45° 20'0" N	206° 53'6"	45.8	277° 41'8"	7.0	48.0	4.7	54°	54°	02:23	03:29	04:14	23:42	-	00:29					
	170° 20'1"	245° 38'6"	46.3	329° 38'6"	63.1	66° 20'4"	59.5	299° 53'8"	10.0	Denebola	182° 33'0"	14° 29'4" N	221° 53'5"	45.2	292° 07'8"	7.1	52.7	4.6	56°	56°	01:58	03:15	04:04	23:33	-	00:19					
	185° 22'6"	260° 41'7"	46.3	344° 40'3"	63.4	81° 23'1"	59.5	314° 56'1"	10.0	Diphda	348° 55'6"	17° 54'7" S	236° 53'4"	44.5	306° 33'9"	6.9	57.3	4.5	59.0	58°	01:19	02:57	03:53	23:23	-	00:07					
	200° 25'1"	275° 44'8"	46.3	359° 42'0"	63.7	96° 25'9"	59.6	329° 58'4"	10.0				251° 53'2"	43.9	320° 59'8"	6.8	18° 01'8" S	4.4		S 60°	-	02:36	03:40	23:11	23:54	24:52					
	215° 27'5"	290° 47'8"	46.3	14° 43'7"	63.9	111° 28'7"	59.6	345° 00'7"	10.1	Dubhe	193° 50'7"	61° 40'2" N	266° 53'1"	43.3	335° 25'6"	6.8	06.2	4.2		S 62°	-	02:09	03:24	22:58	23:39	24:37					
	230° 30'0"	305° 50'9"	46.3	29° 45'4"	64.2	126° 31'5"	59.6	0° 03'1"	10.1	Elinath	278° 11'8"	28° 37'0" S	281° 52'9"	42.6	349° 51'4"	6.7	10.4	4.2	59.1												
	245° 32'5"	320° 54'0"	46.3	44° 47'1"	64.5	141° 34'2"	59.7	15° 05'4"	10.1	Eltanin	90° 46'4"	51° 29'2" N	296° 52'8"	42.0	4° 17'1"	6.6	14.6	4.0													
	260° 34'9"	335° 57'0"	46.3	59° 48'8"	64.7	156° 37'0"	59.7	30° 07'7"	10.1	Fomalhaut	33° 47'0"	9° 56'5" S	311° 52'7"	41.4	18° 42'7"	6.5	18.6	3.9	59.2	Lat	Sunset	Twilight		Moonset							
	275° 37'4"	351° 00'1"	46.3	74° 50'5"	65.0	171° 39'8"	59.7	45° 10'0"	10.2	Enif	15° 23'8"	29° 32'9" S	326° 52'5"	40.7	33° 08'2"	6.4	22.5	3.9													
	290° 39'8"	6° 03'1"	46.2	89° 52'2"	65.3	186° 42'5"	59.8	60° 12'3"	10.2				341° 52'4"	40.1	47° 33'6"	6.4	26.4	3.7		N 72°	12:46	15:21	16:56	08:34	-	-					
	305° 42'3"	21° 06'1"	15° 46'2" S	104° 53'9"	65° 05'6" S	201° 45'3"	22° 59'8" N	75° 14'6"	16° 10'2" S	Gacrux	172° 00'0"	57° 11'4" S	356° 52'3"	18° 39'5" S	61° 59'0"	6.3	18° 30'1" S	3.5	59.3	N 70°	14:05	15:44	17:07	09:17	09:19	09:37					
	320° 44'8"	36° 09'2"	46.2	119° 55'6"	65.8	216° 48'1"	59.8	90° 17'0"	10.3	Giennah	175° 51'6"	17° 37'2" S	11° 52'1"	38.8	76° 24'3"	6.3	33.6	3.5	68°	68°	14:43	16:02	17:15	09:46	10:03	10:40					
	335° 47'2"	51° 12'2"	46.2	134° 57'4"	66.1	231° 50'9"	59.9	105° 19'3"	10.3																						

2014 Jan 31, Feb. 1, 2 (Fri, Sat, Sun)

GMT	ARIES			VENUS -4.6			MARS +0.2			JUPITER -2.6			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	31		Moonrise	
	GHA	GHA	Dec	GHA	Dec	31	GHA	Dec	31	GHA	Dec	31	GHA	Dec	31	Name	SHA	Dec	GHA	Dec	31	GHA	v	Dec		d	HP		Nautical	Civil	31	MOON
31 F r i d a y	00	130° 08'.4	206° 07'.8	15° 49'.4 S	288° 02'.4	6° 32'.9 S	26° 43'.3	23° 03'.1 N	259° 25'.7	16° 13'.1 S	274° 28'.0	13.2	Acamar	315° 18'.0	40° 15'.3 S	176° 39'.8	17° 27'.7 S	176° 39'.9	5.8	12° 20'.4 S	10.0	61.3	N 72°	07:10	08:39	10:28	09:01	08:51	08:42			
	01	145° 10'.9	221° 10'.3	49.4	303° 04'.2	33.1	41° 46.0	03.1	274° 28'.0	13.2	303° 04'.2	33.1	Acamar	335° 26'.7	57° 10'.2 S	191° 39'.7	27.0	191° 04'.7	5.8	10.4	10.0	68°	06:55	08:05	09:18	08:29	08:34	08:39				
	02	160° 13'.4	236° 12'.9	49.5	318° 06'.0	33.3	56° 48.7	03.2	289° 30'.4	13.2	289° 30'.4	13.2	Acru	173° 08'.3	63° 10'.5 S	206° 39'.6	26.3	205° 29'.5	5.9	00'.4	10.1	66°	06:49	07:53	08:56	08:17	08:28	08:36				
	03	175° 15'.8	251° 15'.4	49.6	333° 07'.8	33.6	71° 51'.5	03.2	304° 32'.7	13.2	304° 32'.7	13.2	Adhara	255° 11'.8	28° 59'.8 S	221° 39'.6	25.6	219° 54'.4	6.0	11° 50'.3 S	10.2	64°	06:44	07:43	08:40	08:08	08:22	08:34				
	04	190° 18'.3	266° 17'.9	49.6	348° 09'.6	33.8	86° 54'.2	03.2	319° 35'.0	13.2	319° 35'.0	13.2	Aldebaran	290° 48'.7	16° 32'.1 N	236° 39'.5	24.9	234° 19'.4	6.0	40.1	10.2	62°	06:40	07:34	08:26	07:59	08:18	08:33				
	05	205° 20'.8	281° 20'.5	49.7	3° 11'.4	34.0	101° 57'.0	03.2	334° 37'.4	13.3	334° 37'.4	13.3		251° 39'.4	24.2	251° 39'.4	24.2	248° 44'.4	6.1	29.9	10.4	60°	06:36	07:27	08:14	07:52	08:14	08:32				
	06	220° 23'.2	296° 23'.0	49.7	18° 13'.1	34.3	116° 59'.7	03.3	349° 39'.7	13.3	349° 39'.7	13.3	Alioth	160° 20'.1	55° 52'.7 N	266° 39'.3	23.5	263° 09'.5	6.1	19.5	10.4	N 58°	06:32	07:20	08:04	07:46	08:10	08:31				
	07	235° 25'.7	311° 25'.5	49.8	33° 14'.9	34.5	132° 02'.5	03.3	4° 42'.0	13.3	4° 42'.0	13.3	Alkaid	152° 58'.5	49° 14'.3 N	281° 39.2	22.8	277° 34'.6	6.3	09.1	10.5	56°	06:29	07:14	07:55	07:40	08:07	08:30				
	08	250° 28'.2	326° 28'.0	49.9	48° 16'.7	34.7	147° 05'.2	03.3	19° 44'.4	13.3	19° 44'.4	13.3	Alnair	27° 43'.6	46° 53'.6 E	296° 39'.1	22.1	291° 59'.9	6.2	10° 58'.6 S	10.5	54°	06:26	07:08	07:47	07:35	08:04	08:30				
	09	265° 30'.6	341° 30'.5	49.9	63° 18'.5	35.0	162° 08'.0	03.4	34° 46'.7	13.4	34° 46'.7	13.4	Alnilam	275° 45.7	1° 11'.9 S	311° 39.0	21.4	306° 25'.1	6.3	48.1	10.6	52°	06:23	07:03	07:40	07:30	08:01	08:29				
	10	280° 33'.1	356° 33'.1	50.0	78° 20'.3	35.2	177° 10'.7	03.4	49° 49'.0	13.4	49° 49'.0	13.4	Alphard	217° 55'.3	8° 43'.4 S	326° 38'.9	20.7	320° 50'.4	6.4	37.5	10.7	61.2	50°	06:20	06:59	07:34	07:26	07:59	08:28			
	11	295° 35'.5	371° 35'.6	50.0	93° 22'.1	35.5	192° 13'.4	03.4	64° 51'.4	13.4	64° 51'.4	13.4		341° 38.8	20.0	341° 38.8	20.0	335° 15'.8	6.5	26.8	10.8	45°	06:14	06:49	07:20	07:17	07:53	08:27				
	12	310° 38'.0	26° 38'.1	15° 50'.1 S	108° 23'.9	6° 35'.7 S	207° 16'.2	23° 03'.4 N	79° 53'.7	16° 13'.4 S	79° 53'.7	16° 13'.4 S	Alphecca	126° 10'.7	26° 39'.9 N	356° 38'.7	17° 19'.3 S	349° 41'.3	6.5	10° 16'.0 S	10.8	61.2	N 40°	06:08	06:40	07:09	07:09	07:49	08:26			
	13	325° 40'.5	41° 40'.5	50.2	123° 25'.7	35.9	222° 18'.9	03.5	94° 56'.0	13.5	94° 56'.0	13.5	Alpheratz	357° 43'.2	29° 10'.2 N	11° 38'.6	18.6	4° 06'.8	6.6	05'.2	10.9	35°	06:02	06:32	06:59	07:02	07:45	08:25				
	14	340° 42'.9	56° 43'.0	50.2	138° 27'.5	36.2	237° 21'.7	03.5	109° 58'.4	13.5	109° 58'.4	13.5	Altair	62° 08'.1	8° 54'.4 N	26° 38'.5	17.9	18° 32'.4	6.6	9° 54'.3 S	10.9	30°	05:57	06:25	06:50	06:57	07:42	08:24				
	15	355° 45'.4	71° 45'.5	50.3	153° 29'.2	36.4	252° 24'.4	03.5	125° 00'.7	13.5	125° 00'.7	13.5	Ankaa	353° 15'.5	42° 14'.0 S	41° 38'.4	17.2	32° 58'.0	6.7	43.4	11.0	20°	05:46	06:13	06:36	06:46	07:36	08:23				
	16	10° 47'.9	86° 48'.0	50.4	168° 31'.0	36.6	267° 27'.1	03.6	140° 03'.1	13.5	140° 03'.1	13.5	Antares	112° 25'.8	26° 27'.6 S	56° 38'.3	16.5	47° 23'.7	6.7	32.4	11.1	61.1	N 10°	05:35	06:01	06:22	06:38	07:31	08:21			
	17	25° 50'.3	101° 50'.5	50.4	183° 32'.8	36.9	282° 29'.9	03.6	155° 05'.4	13.5	155° 05'.4	13.5		71° 38'.3	15.8	71° 38'.3	15.8	61° 49'.4	6.9	21'.3	11.1	0°	05:23	05:48	06:10	06:29	07:26	08:20				
	18	40° 52'.8	116° 52'.9	50.5	198° 34'.6	37.1	297° 32'.6	03.6	170° 07'.7	13.6	170° 07'.7	13.6	Arcturus	145° 55'.3	19° 06'.4 N	86° 38'.2	15.1	76° 15'.3	6.8	10'.2	11.1	S 10°	05:10	05:35	05:58	06:21	07:21	08:19				
	19	55° 55'.3	131° 55'.4	50.6	213° 36'.4	37.3	312° 35'.4	03.6	185° 10'.1	13.6	185° 10'.1	13.6	Atria	107° 27'.5	69° 02'.8 S	101° 38'.1	14.4	90° 41'.1	7.0	8° 59'.1 S	11.2	20°	04:53	05:21	05:44	06:12	07:16	08:18				
	20	70° 57'.7	146° 57'.9	50.6	228° 38'.2	37.5	327° 38'.1	03.7	200° 12'.4	13.6	200° 12'.4	13.6	Avior	234° 17'.1	59° 33'.5 S	116° 38.0	13.7	105° 07'.1	7.0	47.9	11.3	30°	04:32	05:03	05:28	06:02	07:10	08:16				
	21	86° 00'.2	162° 00'.3	50.7	243° 40'.0	37.8	342° 40'.9	03.7	215° 14'.7	13.6	215° 14'.7	13.6	Bellatrix	278° 31'.3	6° 21'.5 N	131° 37.9	12.9	119° 33'.1	7.0	36.6	11.3	61.0	35°	04:18	04:52	05:19	05:56	07:07	08:15			
	22	101° 02'.7	177° 02'.8	50.8	258° 41'.8	38.0	357° 43'.6	03.7	230° 17'.1	13.7	230° 17'.1	13.7	Betelgeuse	271° 00'.5	7° 24'.3 N	146° 37.8	12.2	133° 59'.1	7.2	25.3	11.4	40°	04:02	04:39	05:09	05:49	07:03	08:14				
23	116° 05'.1	192° 05'.2	50.8	273° 43'.6	38.2	12° 46.3	03.8	245° 19'.4	13.7	245° 19'.4	13.7		161° 37.7	11.5	161° 37.7	11.5	148° 25'.3	7.1	13.9	11.4	45°	03:41	04:23	04:57	05:41	06:58	08:13					
1 S a t u r d a y	00	131° 07'.6	207° 07'.7	15° 50'.9 S	288° 45'.4	6° 38'.5 S	27° 49'.1	23° 03'.8 N	260° 21'.7	16° 13'.7 S	260° 21'.7	16° 13'.7 S	Canopus	263° 55'.5	52° 42'.6 S	176° 37'.6	17° 10'.8 S	162° 51'.4	7.3	8° 02'.5 S	11.5	61.0	S 50°	03:14	04:03	04:41	05:32	06:53	08:12			
	01	146° 10'.0	222° 10'.1	51.0	303° 47.2	38.7	42° 51'.8	03.8	275° 24'.1	13.7	275° 24'.1	13.7	Capella	280° 33'.4	46° 00'.7 N	191° 37'.5	10.1	177° 17.7	7.3	7° 51'.0 S	11.4	52°	03:00	03:54	04:34	05:27	06:50	08:12				
	02	161° 12'.5	237° 12'.6	51.1	318° 49.0	38.9	57° 54'.5	03.8	290° 26'.4	13.8	290° 26'.4	13.8	Deneb	49° 31'.6	45° 20'.0 N	206° 37.5	09.4	194° 40'.0	7.4	39.6	11.6	60.9	54°	02:43	03:43	04:27	05:23	06:48	08:11			
	03	176° 15'.0	252° 15'.0	51.1	333° 50'.8	39.2	72° 57'.3	03.9	305° 28'.8	13.8	305° 28'.8	13.8	Denebola	182° 33'.0	14° 29'.4 N	221° 37.4	08.7	206° 10'.4	7.4	28.0	11.6	56°	02:22	03:30	04:18	05:17	06:45	08:10				
	04	191° 17'.4	267° 17.4	51.2	348° 52'.6	39.4	88° 00'.0	03.9	320° 31'.1	13.8	320° 31'.1	13.8	Diphda	348° 55'.6	17° 54'.7 S	236° 37.3	08.0	220° 36.8	7.5	16.4	11.6	58°	01:54	03:16	04:08	05:11	06:41	08:09				
	05	206° 19'.9	282° 19'.8	51.3	3° 54.4	39.6	103° 02'.8	03.9	335° 33'.4	13.8	335° 33'.4	13.8		251° 37.2	07.3	251° 37.2	07.3	235° 03'.3	7.5	04.8	11.6	S 60°	01:10	02:58	03:56	05:04	06:37	08:09				
	06	221° 22'.4	297° 22.3	51.3	18° 56'.2	39.8	118° 05'.5	04.0	350° 35'.8	13.9	350° 35'.8	13.9	Dubhe	193° 50'.7	61° 40'.2 N	266° 37'.1	06.6	249° 29.7	7.6	6° 53'.2 S	11.7	60.8	S 62°	-	02:36	03:42	04:57	06:33	08:08			
	07	236° 24'.8	312° 24'.7	51.4	33° 58'.0	40.1	133° 08'.2	04.0	5° 38'.1	13.9	5° 38'.1	13.9	El Nath	278° 11'.8	28° 37'.0 S	281° 37.0	05.9	263° 56.4	7.7	41.5	11.7											
	08	251° 27'.3	327° 27.1	51.5	48° 59'.8	40.3	148° 11'.0	04.0	20° 40'.4	13.9	20° 40'.4	13.9	Eltanin	90° 46'.3	51° 29'.2 N	296° 36.9	05.2	278° 23'.1	7.7	29.8	11.8											
	09	266° 29'.8	342° 29'.5	51.6	64° 01'.6	40.5	163° 13'.7	04.0	35° 42'.8	13.9	35° 42'.8	13.9	Enif	33° 47.0	9° 56'.5 S	311° 36.9	04.4	292° 49.8	7.8	18.0	11.7											
	10	281° 32'.2	357° 31.9	51.6	79° 03'.4	40.8	178° 16'.4	04.1	50° 45'.1	13.9	50° 45'.1	13.9	Fomalhaut	15° 23'.8	29° 32'.9 S	326° 36.8	03.7	307° 16.6	7.8	06.3	11.8	60.7										
	11	296° 34'.7	12° 34.3	51.7	94° 05'.2	41.0																										

2014 February 3, 4, 5 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.6			MARS +0.2			JUPITER -2.6			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	MOON		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil		3	4		5		
Monday	00	133° 05'9	209° 00'0	15° 54'7 S	290° 12'5	6° 49'2 S	30° 00'2	23° 05'1 N	262° 14'1	16° 14'8 S	277° 16'5	14'8	Acamar	315° 18'0	40° 15'3 S	176° 33'8	16° 36'3 S	136° 54'2	9.7	1° 28'1 N	11'8	59.5	N 72°	06:59	08:25	10:04	08:33	08:25	08:16			
	01	148° 08'3	224° 02'2	54'8	305° 14'4	49'4	45° 03'0	05'1	277° 16'5	14'8	277° 16'5	14'8	Achernar	335° 26'7	57° 10'2 S	191° 33'8	35'5	151° 22'9	9.8	39.9	11'8	59.4	N 70°	06:52	08:09	09:29	08:37	08:35	08:34			
	02	163° 10'8	239° 04'4	54'9	320° 16'2	49'6	60° 05'7	05'1	292° 18'8	14'8	292° 18'8	14'8	Acruz	173° 08'3	63° 10'5 S	206° 33'7	34'8	165° 51'7	9.8	51.7	11'7	66°	66°	06:42	07:45	08:46	08:43	08:51	09:01			
	03	178° 13'2	254° 06'7	55'0	335° 18'0	49'8	75° 08'4	05'2	307° 21'2	14'8	307° 21'2	14'8	Adhara	255° 11'8	28° 59'8 S	221° 33'6	34'1	180° 20'5	9.9	2° 03'4 N	11'7	64°	64°	06:37	07:35	08:30	08:46	08:58	09:11			
	04	193° 15'7	269° 08'9	55'1	350° 19'9	50'0	90° 11'1	05'2	322° 23'5	14'9	322° 23'5	14'9	Aldebaran	290° 48'7	16° 32'1 N	236° 33'6	33'3	194° 49'4	9.9	15.1	11'7	59'3	62°	62°	06:34	07:27	08:18	08:48	09:03	09:20		
	05	208° 18'2	284° 11'1	55'2	5° 21'7	50'2	105° 13'9	05'2	337° 25'8	14'9	337° 25'8	14'9		196° 20'1	55° 52'7 N	251° 33'5	32'6	209° 18'3	9.9	26'8	11'6	60°	60°	06:30	07:20	08:07	08:50	09:08	09:27			
	06	223° 20'6	299° 13'3	55'2	20° 23'5	50'5	120° 16'6	05'3	352° 28'2	14'9	352° 28'2	14'9	Alioth	260° 20'1	55° 52'7 N	266° 33'4	31'9	223° 47'2	10'0	38.4	11'6	59'2	N 58°	06:27	07:14	07:57	08:51	09:12	09:34			
	07	238° 23'1	314° 15'5	55'3	35° 25'4	50'7	135° 19'3	05'3	7° 30'5	14'9	7° 30'5	14'9	Alkaid	152° 58'4	49° 14'3 N	281° 33'4	31'1	238° 16'2	10'0	50'0	11'6	56°	56°	06:24	07:09	07:49	08:53	09:15	09:40			
	08	253° 25'6	329° 17'7	55'4	50° 27'2	50'9	150° 22'0	05'3	22° 32'9	15'0	22° 32'9	15'0	Alnair	27° 43'7	46° 53'6 S	296° 33'3	30'4	252° 45'2	10'1	3° 01'6 N	11'5	54°	54°	06:21	07:04	07:42	08:54	09:19	09:45			
	09	268° 28'0	344° 19'9	55'5	65° 29'1	51'1	165° 24'8	05'3	33° 35'9	15'0	33° 35'9	15'0	Alnilam	275° 45'7	1° 11'9 S	311° 33'2	29'7	267° 14'3	10'1	13'1	11'5	59'1	52°	62°	06:19	06:59	07:35	08:55	09:22	09:50		
	10	283° 30'5	359° 22'1	55'6	80° 30'9	51'3	180° 27'5	05'4	52° 37'6	15'0	52° 37'6	15'0	Alphard	217° 55'3	8° 43'4 S	326° 33'1	28'9	281° 43'4	10'1	24'6	11'5	50°	50°	06:16	06:55	07:29	08:57	09:25	09:54			
	11	298° 33'0	14° 24'3	55'7	95° 32'7	51'5	195° 30'2	05'4	67° 39'9	15'0	67° 39'9	15'0		260° 20'1	55° 52'7 N	341° 33'1	28'2	296° 12'5	10'1	36'1	11'4	59'0	45°	45°	06:10	06:45	07:16	08:59	09:31	10:03		
	12	313° 35'4	29° 26'5	15° 55'8 S	110° 34'6	6° 51'7 S	210° 32'9	23° 05'4 N	82° 42'3	16° 15'0 S	82° 42'3	16° 15'0 S	Alphecca	126° 10'7	26° 39'9 N	356° 33'0	16° 27'4 S	310° 41'6	10'2	3° 47'5 N	11'4	59'0	N 40°	06:05	06:37	07:06	09:01	09:36	10:11			
	13	328° 37'9	44° 28'7	55'9	125° 36'4	51'9	225° 35'6	05'4	97° 44'6	15'1	97° 44'6	15'1	Alpheratz	357° 43'2	29° 10'2 N	11° 32'9	26'7	325° 10'8	10'2	58'9	11'4	35°	35°	06:00	06:30	06:57	09:03	09:40	10:18			
	14	343° 40'4	59° 30'9	56'0	140° 38'3	52'2	240° 38'4	05'5	112° 47'0	15'1	112° 47'0	15'1	Altair	62° 08'1	8° 54'4 N	26° 32'9	26'0	339° 40'0	10'3	4° 10'3 N	11'3	58'9	30°	30°	05:55	06:24	06:49	09:04	09:44	10:24		
	15	358° 42'8	74° 33'0	56'1	155° 40'1	52'4	255° 41'1	05'5	127° 49'3	15'1	127° 49'3	15'1	Ankaa	353° 15'6	42° 14'0 S	41° 32'8	25'2	354° 09'3	10'3	21'6	11'2	20°	20°	05:45	06:12	06:34	09:07	09:51	10:34			
	16	1° 45'3	89° 35'2	56'2	170° 42'0	52'6	270° 43'8	05'5	142° 51'7	15'1	142° 51'7	15'1	Antares	112° 25'8	26° 27'6 S	56° 32'8	24'5	8° 38'6	10'3	32'8	11'3	58'8	N 10°	05:35	06:00	06:22	09:10	09:57	10:44			
	17	28° 47'7	104° 37'4	56'3	185° 43'8	52'8	285° 46'5	05'5	157° 54'0	15'1	157° 54'0	15'1		260° 20'1	55° 52'7 N	71° 32'7	23'7	23° 07'9	10'3	44'1	11'2	20°	0°	05:24	05:49	06:10	09:12	10:03	10:52			
	18	43° 50'2	119° 39'5	56'4	200° 45'6	53'0	300° 49'3	05'6	172° 56'4	15'2	172° 56'4	15'2	Arcturus	145° 55'3	19° 06'4 N	86° 32'6	23'0	37° 37'2	10'4	55'3	11'1	10°	S 10°	05:11	05:37	05:59	09:14	10:08	11:01			
	19	58° 52'7	134° 41'7	56'4	215° 47'5	53'2	315° 52'0	05'6	187° 58'7	15'2	187° 58'7	15'2	Atria	107° 27'5	69° 02'8 S	101° 32'6	22'3	52° 06'6	10'4	5° 06'4 N	11'1	58'7	20°	20°	04:55	05:23	05:46	09:17	10:15	11:10		
	20	73° 55'1	149° 43'9	56'5	230° 49'3	53'4	330° 54'7	05'6	203° 01'1	15'2	203° 01'1	15'2	Avia	234° 17'1	59° 33'5 S	116° 32'5	21'5	66° 36'0	10'4	17'5	11'1	30°	30°	04:55	05:05	05:31	09:20	10:22	11:21			
	21	88° 57'6	164° 46'0	56'6	245° 51'2	53'6	345° 57'4	05'6	218° 03'4	15'2	218° 03'4	15'2	Bellatrix	278° 31'3	6° 21'5 N	131° 32'4	20'8	81° 05'4	10'5	28'6	11'0	58'6	35°	35°	04:22	04:55	05:22	09:22	10:26	11:27		
	22	104° 00'1	179° 48'2	56'7	260° 53'0	53'8	1° 00'1	05'7	233° 05'7	15'2	233° 05'7	15'2	Betelgeuse	271° 00'6	7° 24'3 N	146° 32'4	20'0	95° 34'9	10'5	39'6	10'9	40°	40°	04:07	04:43	05:13	09:24	10:30	11:34			
23	119° 02'5	194° 50'3	56'8	275° 54'9	54'0	16° 02'9	05'7	248° 08'1	15'3	248° 08'1	15'3		161° 32'3	19'3	110° 04'4	10'5	50'5	10'9	45°	45°	03:47	04:28	05:01	09:26	10:36	11:43						
Tuesday	00	134° 05'0	209° 52'4	15° 56'9 S	290° 56'7	6° 54'3 S	31° 05'6	23° 05'7 N	263° 10'4	16° 15'3 S	263° 10'4	16° 15'3 S	Canopus	263° 55'5	52° 42'6 S	176° 32'2	16° 18'6 S	124° 33'9	10'5	6° 01'4 N	10'9	58'5	S 50°	03:21	04:09	04:47	09:29	10:42	11:53			
	01	149° 07'0	224° 54'6	57'0	305° 58'6	54'5	46° 08'3	05'7	278° 12'8	15'3	278° 12'8	15'3	Capella	280° 33'5	46° 00'7 N	191° 32'2	17'8	139° 03'4	10'6	12'3	10'8	58'4	52°	52°	03:08	04:00	04:40	09:30	10:45	11:57		
	02	164° 09'9	239° 56'7	57'1	321° 00'4	54'7	61° 11'0	05'8	293° 15'1	15'3	293° 15'1	15'3	Deneb	49° 31'6	45° 19'9 N	206° 32'1	17'1	153° 33'0	10'6	23'1	10'8	58'4	54°	54°	02:52	03:50	04:33	09:31	10:49	12:03		
	03	179° 12'4	254° 58'8	57'2	336° 02'3	54'9	76° 13'7	05'8	308° 17'8	15'3	308° 17'8	15'3	Denebola	182° 33'0	14° 29'4 N	221° 32'1	16'3	168° 02'6	10'6	33'9	10'7	56°	56°	02:33	03:38	04:24	09:33	10:53	12:08			
	04	194° 14'8	270° 00'9	57'3	351° 04'1	55'1	91° 16'4	05'8	323° 19'5	15'4	323° 19'5	15'4	Diphda	348° 55'6	17° 54'7 S	236° 32'0	15'6	182° 32'2	10'6	44'6	10'6	58°	58°	02:09	03:25	04:15	09:35	10:57	12:15			
	05	209° 17'3	285° 03'1	57'4	6° 06'0	55'3	106° 19'2	05'8	338° 22'2	15'4	338° 22'2	15'4		263° 55'5	52° 42'6 S	251° 31'9	14'8	197° 01'8	10'7	55'2	10'6	58'3	S 60°	01:34	03:09	04:04	09:37	11:01	12:22			
	06	224° 19'8	300° 05'2	57'5	21° 07'8	55'5	121° 21'9	05'9	353° 24'5	15'4	353° 24'5	15'4	Dubhe	193° 50'7	61° 40'2 N	266° 31'9	14'3	211° 31'5	10'7	7° 05'8 N	10'6	58'2	S 62°	-	02:48	03:52	09:39	11:07	12:30			
	07	239° 22'2	315° 07'3	57'6	36° 09'7	55'7	136° 24'6	05'9	8° 26'9	15'4	8° 26'9	15'4	Elinath	278° 11'8	28° 37'0 N	281° 31'8	13'1	226° 01'2	10'7	16'4	10'5	58'2										
	08	254° 24'7	330° 09'4	57'7	51° 11'6	55'9	151° 27'3	05'9	23° 29'2	15'4	23° 29'2	15'4	Eltanin	90° 46'3	51° 29'2 N	296° 31'8	12'6	240° 30'9	10'7	26'9	10'4											
	09	269° 27'2	345° 11'5	57'8	66° 13'4	56'1	166° 30'0	06'0	38° 31'6	15'5	38° 31'6	15'5	Enif	33° 47'0	9° 56'5 S	311° 31'7	11'8	255° 00'6	10'8	37'3	10'4	58'1										
	10	284° 29'6	0° 13'6	57'9	81° 15'3	56'3	181° 32'8	06'0	53° 33'9	15'5	53° 33'9	15'5																				

2014 February 6, 7, 8 (Thur, Fri, Sat)

GMT	ARIES			VENUS -4.6			MARS +0.1			JUPITER -2.6			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	6		Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	6		8	7	8	
Thurs day	00	136° 03.3	211° 30.3	16° 01.8 S	292° 26.4	7° 03.9 S	33° 15.7	23° 06.9 N	265° 03.4	16° 16.2 S	Acamar	315° 18.0	40° 15.3 S	176° 29.7	15° 42.3 S	100° 32.8	11.3	13° 33.7 N	7.7	56.6	N 72°	06:47	08:12	09:43	08:04	07:46	-	-				
	01	151° 05.7	226° 32.2	01.9	307° 28.3	04.1	48° 18.5	06.9	280° 05.7	16.2	Achernar	335° 26.7	57° 10.2 S	191° 29.6	41.5	115° 03.1	11.3	41.4	7.6	68°	60°	06:42	07:57	09:14	08:34	08:35	08:43	08:27				
	02	166° 08.2	241° 34.2	02.0	322° 30.2	04.3	63° 21.2	07.0	295° 08.1	16.2	Acruz	173° 08.2	63° 10.5 S	206° 29.6	40.7	129° 33.4	11.3	49.0	7.6	66°	64°	06:38	07:45	08:52	08:56	09:07	09:27	09:27				
	03	181° 10.7	256° 36.1	02.1	337° 32.1	04.5	78° 23.9	07.0	310° 10.5	16.2	Adhara	255° 11.8	28° 59.8 S	221° 29.6	40.0	144° 03.7	11.2	56.6	7.4	56.5	64°	60:30	07:27	08:21	09:27	09:27	09:49	10:19				
	04	196° 13.1	271° 38.0	02.2	352° 34.0	04.7	93° 26.6	07.0	325° 12.8	16.3	Aldebaran	290° 48.7	16° 32.1 N	236° 29.5	39.2	158° 33.9	11.3	14° 04.0 N	7.4	62°	62°	06:27	07:20	08:09	09:39	10:04	10:37	10:37				
	05	211° 15.6	286° 40.0	02.3	7° 35.9	04.9	108° 29.3	07.0	340° 15.2	16.3				251° 29.5	38.4	173° 04.2	11.4	11.4	7.2	56.4	60°	06:24	07:14	07:59	09:50	10:17	10:51	10:51				
	06	226° 18.1	301° 41.9	02.4	22° 37.8	05.0	123° 32.0	07.1	355° 17.5	16.3	Alioth	196° 20.0	55° 52.7 N	266° 29.4	37.7	187° 34.6	11.3	18.6	7.2	56.4	N 58°	06:21	07:08	07:51	09:59	10:28	11:04	11:04				
	07	241° 20.5	316° 43.8	02.5	37° 39.7	05.2	138° 34.7	07.1	10° 19.9	16.3	Alkaid	152° 58.4	49° 14.3 N	281° 29.4	36.9	202° 04.9	11.3	25.8	7.2	56.4	56°	06:19	07:03	07:43	10:07	10:38	11:15	11:15				
	08	256° 23.0	331° 45.7	02.6	52° 41.6	05.4	153° 37.4	07.1	25° 22.2	16.3	Alnair	27° 43.7	46° 53.5 S	296° 29.3	36.1	216° 35.2	11.3	33.0	7.0	56.3	54°	06:16	06:58	07:36	10:14	10:46	11:25	11:25				
	09	271° 25.4	346° 47.6	02.7	67° 43.4	05.6	168° 40.1	07.1	40° 24.6	16.4	Alnilam	275° 45.7	1° 11.9 N	311° 29.3	35.4	231° 05.5	11.3	40.0	7.0	56.3	52°	06:14	06:54	07:30	10:20	10:54	11:33	11:33				
	10	286° 27.9	1° 49.5	02.9	82° 45.3	05.8	183° 42.8	07.2	55° 27.0	16.4	Alphard	217° 55.3	8° 43.5 S	326° 29.3	34.6	245° 35.8	11.4	47.0	6.8	56.2	50°	06:12	06:50	07:25	10:26	11:01	11:41	11:41				
	11	301° 30.4	16° 51.4	03.0	97° 47.2	06.0	198° 45.5	07.2	70° 29.3	16.4				341° 29.2	33.8	260° 06.2	11.3	53.8	6.8	56.2	45°	06:07	06:42	07:13	10:38	11:16	11:57	11:57				
	12	316° 32.8	31° 53.3	16° 03.1 S	112° 49.1	7° 06.2 S	213° 48.2	23° 07.2 N	85° 31.7	16° 16.4 S	Alphecca	126° 10.7	26° 39.9 N	356° 29.2	15° 33.0 S	274° 36.5	11.4	15° 00.6 N	6.7	56.2	N 40°	06:02	06:34	07:03	10:48	11:28	12:11	12:11				
	13	331° 35.3	46° 55.2	03.2	127° 51.0	06.4	228° 50.9	07.2	100° 34.0	16.4	Alpheratz	357° 43.2	29° 10.2 N	11° 29.1	32.3	289° 06.9	11.3	07.3	6.7	56.2	35°	05:58	06:28	06:54	10:57	11:38	12:22	12:22				
	14	346° 37.8	61° 57.1	03.3	142° 52.9	06.6	243° 53.6	07.2	115° 36.4	16.4	Altair	62° 08.1	8° 54.4 N	26° 29.1	31.5	303° 37.2	11.4	14.0	6.5	56.1	30°	05:53	06:22	06:46	11:05	11:48	12:32	12:32				
	15	1° 40.2	76° 59.0	03.4	157° 54.8	06.8	258° 56.3	07.3	130° 38.8	16.5	Ankaa	353° 15.6	42° 14.0 S	41° 29.1	30.7	318° 07.6	11.3	20.5	6.5	56.1	20°	05:44	06:11	06:33	11:18	12:03	12:50	12:50				
	16	16° 42.7	92° 00.9	03.5	172° 56.7	06.9	273° 59.0	07.3	145° 41.1	16.5	Antares	112° 25.8	26° 27.6 S	56° 29.0	30.0	332° 37.9	11.4	27.0	6.3	56.0	N 10°	05:35	06:00	06:22	11:30	12:17	13:05	13:05				
	17	31° 45.2	107° 02.8	03.6	187° 58.6	07.1	289° 01.7	07.3	160° 43.5	16.5				71° 29.0	29.2	347° 08.3	11.4	33.3	6.3	56.0	0°	05:24	05:49	06:11	11:41	12:30	13:19	13:19				
	18	46° 47.6	122° 04.6	03.7	203° 00.5	07.3	304° 04.4	07.3	175° 45.8	16.5	Arcturus	145° 55.2	19° 06.4 N	86° 28.9	28.4	1° 38.7	11.3	39.6	6.2	55.8	S 10°	05:12	05:38	06:00	11:53	12:43	13:33	13:33				
	19	61° 50.1	137° 06.5	03.8	218° 02.4	07.5	319° 07.1	07.4	190° 48.2	16.6	Atira	107° 27.4	69° 02.8 S	101° 28.9	27.6	16° 09.0	11.4	45.8	6.1	55.9	20°	04:57	05:24	05:48	12:05	12:57	13:49	13:49				
	20	76° 52.6	152° 08.4	03.9	233° 04.3	07.7	334° 09.8	07.4	205° 50.7	16.6	Avia	234° 17.1	59° 33.6 S	116° 28.9	26.8	30° 39.4	11.4	51.9	6.1	55.9	30°	04:38	05:08	05:34	12:18	13:14	14:06	14:06				
	21	91° 55.0	167° 10.2	04.1	248° 06.2	07.9	349° 12.5	07.4	220° 52.9	16.6	Bellatrix	278° 31.3	6° 21.5 N	131° 28.8	26.1	45° 09.8	11.4	58.0	5.9	55.8	35°	04:26	04:58	05:26	12:26	13:23	14:16	14:16				
	22	106° 57.5	182° 12.1	04.2	263° 08.1	08.1	4° 15.2	07.4	235° 55.3	16.6	Betelgeuse	271° 00.6	7° 24.3 N	146° 28.8	25.3	59° 40.2	11.4	16° 03.9 N	5.9	55.8	40°	04:11	04:47	05:16	12:36	13:34	14:28	14:28				
23	121° 59.9	197° 13.9	04.3	278° 10.0	08.3	19° 17.9	07.5	250° 57.6	16.6				161° 28.8	24.5	74° 10.6	11.4	09.8	5.8	55.8	45°	03:52	04:33	05:05	12:46	13:46	14:42	14:42					
Fri day	00	137° 02.4	212° 15.8	16° 04.4 S	293° 12.0	7° 08.4 S	34° 20.6	23° 07.5 N	266° 00.0	16° 16.6 S	Canopus	263° 55.5	52° 42.6 S	176° 28.7	15° 23.7 S	88° 41.0	11.4	16° 15.6 N	5.6	55.8	S 50°	03:28	04:15	04:52	12:59	14:02	14:59	14:59				
	01	152° 04.9	227° 17.6	04.5	308° 13.9	08.6	49° 23.3	07.5	281° 02.4	16.7	Capella	280° 33.5	46° 00.7 N	191° 28.7	23.0	103° 11.4	11.4	21.2	5.6	55.8	52°	03:16	04:07	04:46	13:06	14:09	15:07	15:07				
	02	167° 07.3	242° 19.5	04.6	323° 15.8	08.8	64° 26.0	07.6	296° 04.7	16.6	Deneb	49° 31.6	45° 19.9 N	206° 28.7	22.2	117° 41.8	11.4	26.8	5.5	55.7	54°	03:02	03:57	04:39	13:12	14:17	15:16	15:16				
	03	182° 09.8	257° 21.3	04.7	338° 17.7	09.0	79° 28.7	07.6	311° 09.5	16.7	Denebola	182° 32.9	14° 29.4 N	221° 28.6	21.4	132° 12.2	11.4	32.3	5.5	55.7	56°	02:44	03:46	04:31	13:20	14:26	15:25	15:25				
	04	197° 12.3	272° 23.2	04.8	353° 19.6	09.2	94° 31.4	07.6	326° 09.1	16.7	Diphda	348° 55.6	17° 54.7 S	236° 28.6	20.6	146° 42.6	11.4	37.8	5.3	55.7	58°	02:23	03:34	04:23	13:28	14:36	15:37	15:37				
	05	212° 14.7	287° 25.0	04.9	8° 21.5	09.4	109° 34.1	07.6	341° 11.8	16.7				251° 28.5	19.8	161° 13.0	11.4	43.1	5.3	55.7	S 60°	01:53	03:19	04:13	13:38	14:48	15:50	15:50				
	06	227° 17.2	302° 26.8	05.0	23° 23.4	09.5	124° 36.8	07.6	356° 14.2	16.7	Dubhe	193° 50.6	61° 40.2 N	266° 28.5	19.1	175° 43.4	11.5	48.4	5.1	55.6	S 62°	01:04	03:01	04:01	13:49	15:02	16:06	16:06				
	07	242° 19.7	317° 28.6	05.2	38° 25.3	09.7	139° 39.4	07.6	11° 16.5	16.7	Elinath	278° 11.8	28° 37.0 N	281° 28.5	18.3	190° 13.9	11.4	53.5	5.1	55.6												
	08	257° 22.1	332° 30.5	05.3	53° 27.2	09.9	154° 42.1	07.7	26° 18.9	16.8	Eltanin	90° 46.3	51° 29.1 N	296° 28.4	17.5	204° 44.3	11.4	58.6	5.0	55.6												
	09	272° 24.6	347° 32.3	05.4	68° 29.1	10.1	169° 44.8	07.7	41° 21.3	16.8	Enif	33° 47.0	9° 56.5 S	311° 28.4	16.7	219° 14.7	11.5	17° 03.6 N	4.9	55.5												
	10	287° 27.0	2° 34.1	05.5	83° 31.1	10.3	184° 47.5	07.7	56° 23.6	16.8	Fomalhaut	15° 23.8	29° 32.9 S	326° 28.4	15.9	233° 45.2	11.4	08.5	4.8	55.5												
	11	302° 29.5	17° 35.9	05.6	98° 33.0	10.5	199° 50.2	07.7	71° 26.0	16.8				341° 28.3	15.2	248° 15.6	11.4	13.3	4.7	55.5	N 72°	14:46	16:18	17:43	02:39	04:40	-	-				
	12	317° 32.0	32° 37.7	16° 05.7 S	113° 34.9	7° 10.6 S	214° 52.9	23° 07.8 N	86° 28.3	16° 16.8 S	Gacrux	171° 59.9	57° 11.4 S	356° 28.3	15° 14.4 S	262° 46.0	11.5	17° 18.0 N	4.6	55.5	N 70°	15:16	16:33	17:48	02:11	03:51	05:25	05:25				
	13	332° 34.4	47° 39.5	05.8	128° 36.8	10.8	229° 55.6	07.8	101° 30.7	16.8	Giennah	175° 51.6	17° 37.3 S	11° 28.3	13.6	277° 16.5	11.4	22.6	4.6	55.4	68°	15:37	16:44	17:52	01:49	03:20	04:41	04:41				
	14	347° 36.9	62° 41.3	05.9	143° 38.7	11.0	244° 58.3	07.8	116° 33.1	16.9	Hadar	148° 46.9	60° 26.2 S	26° 28.3	12.8	291° 46.9	11.5	27.2	4.4	55.4	66°	15:54	16:54	17:56	01:33	02:57	04:12	04:12				
	15	2° 39.4	77° 43.1	06.1	158° 40.6	11.2	260° 01.0	07.8	131° 35.4	16.9	Hamal	328° 00.3	23° 31.7 N	41° 28.2	12.0	306° 17.4	11.5	31.6	4.4	55.4	64°	16:08	17:									

2014 February 9, 10, 11 (Sun, Mon, Tue)

GMT	ARIES			VENUS -4.6			MARS +0.0			JUPITER -2.6			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	9		Moonrise	
	GHA	GHA	Dec	GHA	Dec	7° 17.0 S	GHA	Dec	23° 08'6 N	GHA	Dec	16° 17.4 S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:36	07:58	09:24	-	-	09:58				
S u n d a y	00	139° 00.7	213° 40.2	16° 09.8 S	294° 44.4	7° 17.0 S	36° 29.7	23° 08'6 N	267° 53.5	16° 17.4 S	Acamar	315° 18.0	40° 15.3 S	176° 27.4	14° 45.9 S	65° 05.7	11.7	19° 07.5 N	1.4	54.6	N 70°	06:32	07:45	08:59	09:06	10:03	11:27						
	01	154° 03.1	228° 41.9	09.9	309° 46.3	17.2	51° 32.4	08.6	282° 55.9	17.4	Achernar	335° 26.7	57° 10.2 S	191° 27.4	45.1	79° 36.4	11.7	08.9	1.2	68°	06:28	07:35	08:39	10:01	10:55	12:06							
	02	169° 05.6	243° 43.6	10.0	324° 48.3	17.3	66° 35.1	08.6	297° 58.3	17.4	Acruz	173° 08.2	63° 10.5 S	206° 27.4	44.3	94° 07.1	11.7	10.1	1.2	66°	06:25	07:26	08:24	10:35	11:27	12:33							
	03	184° 08.1	258° 45.2	10.1	339° 50.2	17.5	81° 37.7	08.6	313° 00.6	17.4	Adhara	255° 11.8	28° 59.8 S	221° 27.3	43.5	108° 37.8	11.7	11.3	1.1	64°	06:22	07:19	08:11	10:59	11:51	12:53							
	04	199° 10.5	273° 46.9	10.2	354° 52.2	17.7	96° 40.4	08.6	328° 03.0	17.4	Aldebaran	290° 48.7	16° 32.1 N	236° 27.3	42.7	123° 08.5	11.7	12.4	1.0	62°	06:20	07:12	08:01	11:18	12:10	13:10							
	05	214° 13.0	288° 48.5	10.4	9° 54.1	17.8	111° 43.1	08.7	343° 05.4	17.5		196° 07.4		251° 27.3	41.9	137° 39.2	11.7	13.4	0.9	54.5	60°	06:17	07:07	07:52	11:34	12:25	13:24						
	06	229° 15.5	303° 50.2	10.5	24° 56.1	18.0	126° 45.8	08.7	358° 07.7	17.5	Alioth	260° 20.0	55° 52.7 N	266° 27.3	41.1	152° 09.9	11.8	14.3	0.8	N 58°	06:15	07:02	07:44	11:47	12:38	13:36							
	07	244° 17.9	318° 51.8	10.6	39° 58.0	18.2	141° 48.5	08.7	13° 10.1	17.5	Alkaid	152° 58.4	49° 14.3 N	281° 27.3	40.3	166° 40.7	11.8	15.1	0.7	56°	06:13	06:57	07:37	11:59	12:49	13:46							
	08	259° 20.4	333° 53.5	10.7	55° 00.0	18.3	156° 51.1	08.7	28° 12.5	17.5	Alnair	27° 43.6	46° 53.5 S	296° 27.3	39.5	181° 11.5	11.7	15.8	0.6	54°	06:11	06:53	07:30	12:09	12:59	13:55							
	09	274° 22.9	348° 55.1	10.8	70° 01.9	18.5	171° 53.8	08.8	43° 14.9	17.5	Alnilam	275° 45.7	1° 11.9 S	311° 27.2	38.7	195° 42.2	11.8	16.4	0.5	52°	06:09	06:49	07:25	12:18	13:08	14:03							
	10	289° 25.3	3° 56.8	10.9	85° 03.9	18.7	186° 56.5	08.8	58° 17.2	17.5	Alphard	217° 55.3	8° 43.5 S	326° 27.2	37.9	210° 13.0	11.8	16.9	0.5	50°	06:08	06:46	07:20	12:26	13:16	14:10							
	11	304° 27.8	18° 58.4	11.0	100° 05.8	18.8	201° 59.2	08.8	73° 19.6	17.5		260° 07.4		341° 27.2	37.1	224° 43.8	11.8	17.4	0.3	45°	06:03	06:38	07:08	12:43	13:33	14:26							
	12	319° 30.3	34° 00.0	16° 11.2 S	115° 07.8	7° 19.0 S	217° 01.9	23° 08'8 N	88° 22.0	16° 17.6 S	Alphecca	126° 10.6	26° 39.9 N	356° 27.2	14° 36.3 S	239° 14.6	11.8	19° 17.7 N	0.3	54.4	N 40°	05:59	06:31	06:59	12:57	13:46	14:39						
	13	334° 32.7	49° 01.7	11.3	130° 09.7	19.2	232° 04.5	08.8	103° 24.3	17.6	Alpheratz	357° 43.2	29° 10.2 N	11° 27.2	35.5	253° 45.4	11.9	18.0	0.1	35°	05:55	06:25	06:51	13:09	13:58	14:49							
	14	349° 35.2	64° 03.3	11.4	145° 11.7	19.3	247° 07.2	08.9	118° 26.7	17.6	Altair	62° 08.1	8° 54.4 N	26° 27.2	34.7	268° 16.3	11.8	18.1	0.1	30°	05:51	06:20	06:44	13:19	14:08	14:59							
	15	4° 37.6	79° 04.9	11.5	160° 13.7	19.5	262° 09.9	08.9	133° 29.1	17.6	Ankaa	353° 15.6	42° 14.0 S	41° 27.2	33.9	282° 21.1	11.9	18.2	0.0	20°	05:43	06:09	06:32	13:37	14:26	15:15							
	16	19° 40.1	94° 06.5	11.6	175° 15.6	19.7	277° 12.6	08.9	148° 31.5	17.6	Antares	112° 25.8	26° 27.6 S	56° 27.1	33.0	297° 18.0	11.9	18.2	0.1	N 10°	05:34	05:59	06:21	13:53	14:41	15:29							
	17	34° 42.6	109° 08.1	11.7	190° 17.6	19.8	292° 15.2	08.9	163° 33.8	17.6		163° 33.8		71° 27.1	32.2	311° 48.9	11.9	18.1	0.2	0°	05:25	05:49	06:11	14:08	14:55	15:42							
	18	49° 45.0	124° 09.7	11.8	205° 19.5	20.0	307° 17.9	08.9	178° 36.2	17.6	Arcturus	145° 55.2	19° 06.4 N	86° 27.1	31.4	326° 19.8	11.9	17.9	0.3	S 10°	05:13	05:39	06:00	14:22	15:10	15:56							
	19	64° 47.5	139° 11.3	12.0	220° 21.5	20.2	322° 20.6	09.0	193° 38.6	17.7	Atria	107° 27.4	69° 02.8 S	101° 27.1	30.6	340° 50.7	11.9	17.6	0.4	54.3	20°	04:59	05:26	05:49	14:38	15:25	16:10						
	20	79° 50.0	154° 12.9	12.1	235° 23.5	20.3	337° 23.3	09.0	208° 41.0	17.7	Avior	234° 17.1	59° 33.6 S	116° 27.1	29.8	355° 21.6	11.9	17.2	0.4	30°	04:41	05:11	05:36	14:56	15:42	16:26							
	21	94° 52.4	169° 14.5	12.2	250° 25.4	20.5	352° 25.9	09.0	223° 43.3	17.7	Bellatrix	278° 31.3	6° 21.5 S	131° 27.1	29.0	9° 52.5	12.0	16.8	0.6	35°	04:29	05:02	05:29	15:06	15:53	16:35							
	22	109° 54.9	184° 16.1	12.3	265° 27.4	20.6	7° 28.6	09.0	238° 45.7	17.7	Betelgeuse	271° 00.6	7° 24.3 N	146° 27.1	28.2	24° 23.5	12.0	16.2	0.6	40°	04:15	04:51	05:20	15:18	16:04	16:46							
23	124° 57.4	199° 17.7	12.4	280° 29.3	20.8	22° 31.3	09.1	253° 48.1	17.7		161° 27.0	27.4	161° 27.0	27.4	38° 54.5	11.9	15.6	0.8	45°	03:58	04:38	05:10	15:33	16:18	16:59								
M o n d a y	00	139° 59.8	214° 19.3	16° 12.5 S	295° 31.3	7° 21.0 S	37° 34.0	23° 09.1 N	268° 50.4	16° 17.7 S	Canopus	263° 55.5	52° 42.6 S	176° 27.0	14° 26.6 S	53° 25.4	12.0	19° 14.8 N	0.8	54.3	S 50°	03:35	04:21	04:57	15:50	16:35	17:14						
	01	155° 02.3	229° 20.9	12.6	310° 33.3	21.1	52° 36.6	09.1	283° 52.8	17.7	Capella	280° 33.5	46° 00.7 N	191° 27.0	25.8	67° 56.4	12.0	14.0	0.9	52°	03:24	04:13	04:52	15:58	16:43	17:21							
	02	170° 04.8	244° 22.5	12.8	325° 35.2	21.3	67° 39.3	09.1	298° 55.2	17.8	Deneb	49° 31.6	45° 19.9 N	206° 27.0	25.0	82° 27.4	12.1	13.1	1.0	54°	03:10	04:04	04:45	16:07	16:51	17:29							
	03	185° 07.2	259° 24.1	12.9	340° 37.2	21.5	82° 42.0	09.1	313° 57.2	17.8	Denebola	182° 32.9	14° 29.4 N	221° 27.0	24.2	96° 58.5	12.0	12.1	1.1	54.2	56°	02:55	03:54	04:38	16:17	17:01	17:38						
	04	200° 09.7	274° 25.6	13.0	355° 39.2	21.6	97° 44.7	09.2	328° 59.9	17.8	Diphda	348° 55.6	17° 54.7 S	236° 27.0	23.3	111° 29.5	12.1	11.0	1.2	58°	02:35	03:43	04:30	16:29	17:12	17:48							
	05	215° 12.1	289° 27.2	13.1	10° 41.1	21.8	112° 47.3	09.2	344° 02.3	17.8		251° 27.0	22.5	251° 27.0	22.5	126° 00.6	12.1	09.8	1.2	60°	02:10	03:29	04:21	16:43	17:25	17:59							
	06	230° 14.6	304° 28.8	13.2	25° 43.1	21.9	127° 50.0	09.2	359° 04.7	17.8	Dubhe	193° 50.6	61° 40.2 N	266° 27.0	21.7	140° 31.7	12.1	08.6	1.4	64°	01:53	03:12	04:10	16:59	17:40	18:12							
	07	245° 17.1	319° 30.3	13.3	40° 45.1	22.1	142° 52.7	09.2	14° 07.1	17.8	Elinath	278° 11.8	28° 37.0 N	281° 27.0	20.9	155° 02.8	12.1	07.2	1.4	62°	01:33	03:12	04:10	16:59	17:40	18:12							
	08	260° 19.5	334° 31.9	13.4	55° 47.1	22.3	157° 55.4	09.2	29° 09.4	17.8	Eltanin	90° 46.3	51° 29.1 N	296° 27.0	20.1	169° 33.9	12.1	05.8	1.5														
	09	275° 22.0	349° 33.4	13.6	70° 49.0	22.4	172° 58.0	09.3	44° 11.8	17.8	Enif	33° 47.0	9° 56.4 N	311° 27.0	19.3	184° 05.0	12.2	04.3	1.7														
	10	290° 24.5	4° 35.0	13.7	85° 51.0	22.6	188° 00.7	09.3	59° 14.2	17.9	Fomalhaut	15° 23.8	29° 32.9 S	326° 26.9	18.5	198° 36.2	12.1	02.6	1.7														
	11	305° 26.9	19° 36.5	13.8	100° 53.0	22.7	203° 03.4	09.3	74° 16.6	17.9		341° 26.9	17.7	341° 26.9	17.7	213° 07.3	12.2	00.9	1.8														
	12	320° 29.4	34° 38.1	16° 13.9 S	115° 55.0	7° 22.9 S	218° 06.0	23° 09.3 N	89° 18.9	16° 17.9 S	Gacrux	171° 59.9	57° 11.4 S	356° 26.9	14° 16.8 S	227° 38.5	12.2	18° 59.1 N	1.8	54.2	N 70°	15:31	16:45	17:59	06:43	07:26	07:40						
	13	335° 31.9	49° 39.6	14.0	130° 56.9	23.1	233° 08.7	09.3	104° 21.3	17.9	Giennah	175° 51.5	17° 37.3 S	11° 26.9	16.0	242° 09.7	12.3	57.3	2.0	54.1	68°	15:50	16:55	18:02	05:48	06:34	07:01						
	14	350° 34.3	64° 41.2	14.1	145° 58.9	23.2	248° 11.4	09.4	119° 23.7	17.9	Hadar	148° 46.9	60° 26.2 S	26° 26.9	15.2	256° 41.0	12.2	55.3	2.1	66°	16:06	17:03	18:05	05:15	06:01	06:33							
	15	5° 36.8	79° 42.7	14.2	161° 00.9	23.4	263° 14.1	09.4	134° 26.1	17.9	Hamal	328° 00.3	23° 31.7 N	41° 26.9	14.4	271° 12.2	12.3	53.2	2.1	64°	16:18	17:11	18:07	04:50	05:38	06:12							
	16	20° 39.3	94° 44.2	14.3	176° 02.9	23.5	278° 16.7	09.4	149° 28.4	17.9	Kaus Aust.	83° 43.5	34° 22.4 S	56° 26.9	13.6	285° 43.5	12.3	51.1	2.2	62°	16:29	17:17	18:10	04:31	05:19	05:56							
	17	35° 41.7	109° 45.8	14.5	191° 04.8	23.7	293° 19.4	09.4	164° 30.8	18.0		71° 26.9	12.8																				

2014 February 12, 13, 14 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.6			MARS -0.1			JUPITER -2.5			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:23	07:44	09:06	12:18	14:06	15:48			
Wednesday	00	141° 58'.1	215° 31'.5	16° 17'.9 S	297° 06'.6	7° 28'.4 S	39° 42'.0	23° 10'.0 N	270° 44'.6	16° 18'.3 S	Acamar	315° 18'.1	40° 15'.3 S	176° 26'.9	13° 47'.3 S	30° 35'.5	13.0	16° 59'.0 N	4.8	54.0	N 70°	06:21	07:33	08:44	12:58	14:31	16:04					
	01	157° 00'.6	230° 32'.9	18.1	312° 08'.6	28.5	54° 44'.6	10.1	285° 46'.9	18.4	Achernar	335° 26'.8	57° 10'.2 S	191° 26'.9	46.4	45° 07'.5	13.0	54.2	4.8	68°	06:18	07:24	08:27	13:26	14:50	16:16						
	02	172° 03'.0	245° 34'.3	18.2	327° 10'.7	28.7	69° 47'.3	10.1	300° 49'.3	18.4	Acruz	173° 08'.2	63° 10'.5 S	206° 26'.9	45.6	59° 39'.5	13.1	49.4	5.0	66°	06:16	07:17	08:13	13:47	15:06	16:26						
	03	187° 05'.5	260° 35'.7	18.3	342° 12'.7	28.8	84° 50'.0	10.1	315° 51'.7	18.4	Adhara	255° 11'.8	28° 59'.9 S	221° 26'.9	44.8	74° 11'.6	13.1	44.4	5.0	64°	06:14	07:10	08:02	14:03	15:18	16:35						
	04	202° 08'.0	275° 37'.1	18.4	357° 14'.7	29.0	99° 52'.6	10.1	330° 54'.1	18.4	Aldebaran	290° 48'.7	16° 32'.1 N	236° 26'.9	44.0	88° 43'.7	13.1	39.4	5.1	62°	06:12	07:04	07:52	14:17	15:29	16:42						
	05	217° 10'.4	290° 38'.5	18.5	12° 16'.7	29.1	114° 55'.3	10.1	345° 56'.5	18.4				251° 26'.9	43.1	103° 15'.8	13.1	34.3	5.2	60°	06:11	06:59	07:44	14:29	15:37	16:48						
	06	232° 12'.9	305° 40'.0	18.6	27° 18'.7	29.2	129° 57'.9	10.2	0° 58'.9	18.4	Alioth	166° 20'.0	55° 52'.7 N	266° 26'.9	42.3	117° 47'.9	13.1	29.1	5.3	N 58°	06:09	06:55	07:37	14:39	15:45	16:54						
	07	247° 15'.4	320° 41'.4	18.7	42° 20'.7	29.4	145° 00'.6	10.2	16° 01'.2	18.4	Alkaid	152° 58'.4	49° 14'.3 N	281° 27'.0	41.5	132° 20'.0	13.2	23.8	5.3	56°	06:07	06:51	07:30	14:47	15:52	16:59						
	08	262° 17'.8	335° 42'.8	18.8	57° 22'.7	29.5	160° 03'.2	10.2	31° 03'.6	18.4	Alnair	27° 43'.6	46° 53'.5 S	296° 27'.0	40.6	146° 52'.2	13.2	18.5	5.4	54°	06:06	06:47	07:24	14:55	15:58	17:03						
	09	277° 20'.3	350° 44'.1	18.9	72° 24'.7	29.7	175° 05'.9	10.2	46° 06'.0	18.4	Alnilam	275° 45'.7	1° 11'.9 S	311° 27'.0	39.8	161° 24'.4	13.3	13.1	5.4	52°	06:04	06:44	07:19	15:02	16:04	17:07						
	10	292° 22'.7	5° 45'.5	19.1	87° 26'.8	29.8	190° 08'.6	10.2	61° 08'.4	18.5	Alphard	217° 55'.3	8° 43'.5 S	326° 27'.0	39.0	175° 56'.7	13.2	07.7	5.6	50°	06:03	06:41	07:14	15:08	16:09	17:11						
	11	307° 25'.2	20° 46'.9	19.2	102° 28'.8	30.0	205° 11'.2	10.3	76° 10'.8	18.5				341° 27'.0	38.1	190° 28'.9	13.3	02.1	5.6	45°	05:59	06:34	07:04	15:22	16:19	17:18						
	12	322° 27'.7	35° 48'.3	16° 19'.3 S	117° 30'.8	7° 30'.1 S	220° 13'.9	23° 10'.3 N	91° 13'.1	16° 18'.5 S	Alphecca	126° 10'.6	26° 39'.9 N	356° 27'.0	13° 37'.3 S	205° 01'.2	13.3	15° 56'.5 N	5.7	54.0	N 40°	05:56	06:28	06:56	15:33	16:28	17:25					
	13	337° 30'.1	50° 49'.7	19.4	132° 32'.8	30.2	235° 16'.5	10.3	106° 15'.5	18.5	Alpheratz	357° 43'.2	29° 10'.2 N	11° 27'.0	36.5	219° 33'.5	13.3	50.8	5.7	35°	05:53	06:22	06:48	15:42	16:36	17:30						
	14	352° 32'.6	65° 51'.1	19.5	147° 34'.8	30.4	250° 19'.2	10.3	121° 17'.9	18.5	Altair	62° 08'.1	8° 54'.4 N	26° 27'.0	35.6	234° 05'.8	13.4	45.1	5.8	30°	05:49	06:17	06:42	15:50	16:43	17:35						
	15	7° 35'.1	80° 52'.5	19.6	162° 36'.8	30.5	265° 21'.8	10.3	136° 20'.3	18.5	Ankaa	353° 15'.6	42° 14'.0 S	41° 27'.0	34.8	248° 38'.2	13.4	39.3	5.9	20°	05:42	06:08	06:30	16:05	16:54	17:44						
	16	22° 37'.5	95° 53'.8	19.7	177° 38'.9	30.7	280° 24'.5	10.4	151° 22'.7	18.5	Antares	112° 25'.7	26° 27'.6 S	56° 27'.0	34.0	263° 10'.6	13.4	33.4	6.0	N 10°	05:34	05:59	06:20	16:17	17:04	17:51						
	17	37° 40'.0	110° 55'.2	19.8	192° 40'.9	30.8	295° 27'.1	10.4	166° 25'.1	18.5				71° 27'.0	33.1	277° 43.0	13.4	27.4	6.0	0°	05:25	05:50	06:11	16:29	17:14	17:58						
	18	52° 42'.5	125° 56'.6	19.9	207° 42'.9	31.0	310° 29'.8	10.4	181° 27'.5	18.5	Arcturus	145° 55'.2	19° 06'.4 N	86° 27'.1	32.3	292° 15'.4	13.4	21.4	6.1	S 10°	05:14	05:39	06:01	16:40	17:23	18:05						
	19	67° 44'.9	140° 57'.9	20.0	222° 44'.9	31.1	325° 32'.4	10.4	196° 29'.8	18.6	Atria	107° 27'.3	69° 02'.8 S	101° 27'.1	31.5	306° 47'.8	13.5	15.3	6.1	20°	05:01	05:28	05:51	16:52	17:33	18:12						
	20	82° 47'.4	155° 59'.3	20.1	237° 47'.0	31.2	340° 35'.1	10.4	211° 32'.2	18.6	Avior	234° 17'.1	59° 33'.6 S	116° 27'.1	30.6	321° 20'.3	13.5	09.2	6.2	30°	04:44	05:14	05:39	17:06	17:44	18:20						
	21	97° 49'.9	171° 00'.6	20.3	252° 49'.0	31.4	355° 37'.7	10.4	226° 34'.6	18.6	Bellatrix	278° 31'.3	6° 21'.5 N	131° 27'.1	29.8	335° 52'.8	13.5	02.9	6.2	35°	04:33	05:05	05:32	17:15	17:51	18:25						
	22	112° 52'.3	186° 02'.0	20.4	267° 51'.0	31.5	10° 40'.4	10.5	241° 37'.0	18.6	Betelgeuse	271° 00'.6	7° 24'.3 N	146° 27'.1	28.9	350° 25'.3	13.6	14° 56'.7 N	6.4	40°	04:20	04:55	05:24	17:24	17:58	18:30						
23	127° 54'.8	201° 03'.3	20.5	282° 53'.0	31.6	25° 43'.0	10.5	256° 39'.4	18.6				161° 27'.1	28.1	4° 57'.9	13.5	50.3	6.4	45°	04:03	04:42	05:14	17:35	18:07	18:37							
Thursday	00	142° 57'.2	216° 04'.7	16° 20'.6 S	297° 55'.1	7° 31'.8 S	40° 45'.7	23° 10'.5 N	271° 41'.8	16° 18'.6 S	Canopus	263° 55'.5	52° 42'.6 S	176° 27'.1	13° 27'.3 S	19° 30'.4	13.6	14° 43'.9 N	6.5	54.0	S 50°	03:42	04:27	05:03	17:48	18:17	18:44					
	01	157° 59'.7	231° 06'.0	20.7	312° 57'.1	31.9	55° 48'.3	10.5	286° 44'.2	18.6	Capella	280° 33'.5	46° 00'.7 N	191° 27'.1	26.4	34° 03'.0	13.6	37.4	6.6	52°	03:31	04:20	04:57	17:54	18:22	18:48						
	02	173° 02'.2	246° 07'.4	20.8	327° 59'.1	32.1	70° 51'.0	10.5	301° 46'.5	18.6	Deneb	49° 31'.6	45° 19'.9 N	206° 27'.2	25.6	48° 35'.6	13.7	30.8	6.6	54°	03:19	04:11	04:52	18:00	18:28	18:51						
	03	188° 04'.6	261° 08'.7	20.9	343° 01'.2	32.2	85° 53'.6	10.6	316° 48'.9	18.6	Denebola	182° 32'.9	14° 29'.4 N	221° 27'.2	24.8	67° 08'.3	13.6	24.2	6.6	56°	03:05	04:02	04:45	18:08	18:33	18:56						
	04	203° 07'.1	276° 10'.1	21.0	358° 03'.2	32.3	100° 56'.3	10.6	331° 51'.3	18.6	Diphda	348° 55'.6	17° 54'.7 S	236° 27'.2	23.9	73° 40'.9	13.7	17.6	6.8	58°	02:47	03:51	04:38	18:16	18:40	19:00						
	05	218° 09'.6	291° 11'.4	21.1	13° 05'.2	32.5	115° 58'.9	10.6	346° 53'.7	18.7				251° 27'.2	23.1	92° 13'.6	13.7	10.8	6.8	S 60°	02:25	03:39	04:29	18:26	18:47	19:05						
	06	233° 12'.0	306° 12'.7	21.2	28° 07'.2	32.6	131° 01'.6	10.6	1° 56'.1	18.7	Dubhe	193° 50'.6	61° 40'.2 N	266° 27'.2	22.2	106° 46'.3	13.8	04.0	6.8	S 62°	01:55	03:24	04:20	18:37	18:56	19:11						
	07	248° 14'.5	321° 14'.0	21.3	43° 09'.3	32.7	146° 04'.2	10.6	16° 58'.5	18.7	Elinor	278° 11'.8	28° 37'.0 N	281° 27'.2	21.4	121° 19'.1	13.7	13° 57'.2 N	7.0													
	08	263° 17'.0	336° 15'.4	21.4	58° 11'.3	32.9	161° 06'.9	10.7	32° 00'.9	18.7	Eltanin	90° 46'.2	51° 29'.1 N	296° 27'.2	20.6	135° 51'.8	13.8	50.2	7.0													
	09	278° 19'.4	351° 16'.7	21.5	73° 13'.4	33.0	176° 09'.5	10.7	47° 03'.2	18.7	Enif	33° 47'.0	9° 56'.4 N	311° 27'.3	19.7	150° 52'.6	13.8	43.2	7.0													
	10	293° 21'.9	6° 18'.0	21.6	88° 15'.4	33.1	191° 12'.2	10.7	62° 05'.6	18.7	Fomalhaut	15° 23'.8	29° 32'.9 S	326° 27'.3	18.9	164° 57'.4	13.8	36.2	7.1	54.1												
	11	308° 24'.3	21° 19'.3	21.8	103° 17'.4	33.3	206° 14'.8	10.7	77° 08'.0	18.7				341° 27'.3	18.0	179° 30'.2	13.9	29.1	7.2													
	12	323° 26'.8	36° 20'.6	16° 21'.9 S	118° 19'.5	7° 33'.4 S	221° 17'.5	23° 10'.7 N	92° 10'.4	16° 18'.7 S	Gacrux	171° 59'.8	57° 11'.4 S	356° 27'.3	13° 17'.2 S	194° 03'.1	13.8	13° 21'.9 N	7.2	54.1	N 70°	15:46	16:57	18:10	07:45	07:45	07:45					
	13	338° 29'.3	51° 21'.9	22.0	133° 21'.5	33.5	236° 20'.1	10.7	107° 12'.8	18.7	Giennah	175° 51'.5	17° 37'.3 S	11° 27'.3	16.3	208° 35'.9	13.9	14.7	7.3	68°	16:03	17:06	18:12	07:16	07:16	07:31						
	14	353° 31'.7	66° 23'.2	22.1	148° 23'.5	33.7	251° 22'.8	10.8	122° 15'.2	18.8	Hadar	148° 46'.9	60° 26'.2 S	26° 27'.3	15.5	223° 08'.8																

2014 February 15, 16, 17 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.6			MARS -0.1			JUPITER -2.5			SATURN +0.5			STARS			SUN		MOON				Lat	Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:11	07:30	08:48	17:27	19:06	20:45				
Saturday	00	144° 55'.5	217° 05'.7	16° 25'.5 S	299° 33'.5	7° 38'.0 S	42° 52'.5	23° 11'.4 N	273° 36'.5	16° 19'.1 S	Acamar	315° 18'.1	40° 15'.2 S	176° 28'.1	12° 46'.6 S	357° 58'.3	14.5	8° 29'.1 N	9.0	54.3	N 70°	06:09	07:21	08:29	17:36	19:08	20:41					
	01	159° 58'.0	232° 06'.9	25.6	314° 35'.6	38'.1	57° 55'.2	11'.4	288° 38'.9	19.1	Achernar	335° 26'.8	57° 10'.2 S	191° 288°	45.8	12° 31'.8	14.5	20.1	9.0	54.4	68°	06:08	07:13	08:14	17:43	19:10	20:37					
	02	175° 00'.4	247° 08'.1	25.7	329° 37'.6	38'.2	72° 57'.8	11'.4	303° 41'.3	19.1	Acruz	173° 08'.1	63° 10'.5 S	206° 28'.2	44.9	27° 05'.3	14.5	11.1	9.0		66°	06:07	07:07	08:02	17:48	19:11	20:35					
	03	190° 02'.9	262° 09'.3	25.8	344° 39'.7	38.4	88° 00'.4	11'.4	318° 43'.7	19.1	Adhara	255° 11'.9	28° 59'.9 S	221° 28'.2	44.0	41° 38'.8	14.5	02.1	9.1		64°	06:06	07:01	07:52	17:53	19:12	20:32					
	04	205° 05'.4	277° 10'.5	25.9	359° 41'.8	38.5	103° 03'.1	11'.4	333° 46'.1	19.1	Aldebaran	290° 48'.7	16° 32'.1 N	236° 28'.3	43.2	56° 12'.3	14.5	7° 53'.0 N	9.2		62°	06:04	06:56	07:43	17:57	19:13	20:30					
	05	220° 07'.8	292° 11'.7	26.0	14° 43'.9	38.6	118° 05'.7	11'.4	348° 48'.5	19.1		196° 00'.4		251° 28'.3	42.3	70° 45'.8	14.6	43.8	9.1		60°	06:03	06:52	07:36	18:01	19:14	20:29					
	06	235° 10'.3	307° 12'.9	26.1	29° 45'.9	38.7	133° 08'.3	11'.5	3° 50'.9	19.1	Alioth	260° 20'.0	55° 52'.7 N	266° 28'.3	41.5	85° 19'.4	14.5	34.7	9.2		N 58°	06:02	06:48	07:29	18:04	19:15	20:27					
	07	250° 12'.8	322° 14'.1	26.2	44° 48'.0	38.8	148° 11'.0	11'.5	18° 53'.2	19.1	Alkaid	152° 58'.3	49° 14'.3 N	281° 28'.3	40.6	99° 52'.9	14.6	25.5	9.2		56°	06:01	06:45	07:23	18:07	19:16	20:26					
	08	265° 15'.2	337° 15'.2	26.3	59° 50'.1	39.0	163° 13'.6	11'.5	33° 55'.6	19.1	Alnair	27° 43'.6	46° 53'.5 S	296° 28'.4	39.8	114° 26'.5	14.5	16.3	9.3		54°	06:00	06:41	07:18	18:09	19:16	20:24					
	09	280° 17'.7	352° 16'.4	26.4	74° 52'.2	39.1	178° 16'.2	11'.5	48° 58'.0	19.1	Alnilam	275° 45'.7	1° 11'.9 S	311° 28'.4	38.9	129° 00'.0	14.6	07.0	9.0		52°	05:59	06:38	07:13	18:12	19:17	20:23					
	10	295° 20'.2	7° 17'.6	26.5	89° 54'.3	39.2	193° 18'.9	11'.5	64° 00'.4	19.1	Alphard	217° 55'.3	8° 43'.5 S	326° 28'.4	38.0	143° 33'.6	14.6	6° 57'.7 N	9.3	54.5	50°	05:58	06:36	07:09	18:14	19:18	20:22					
	11	310° 22'.6	22° 18'.7	26.6	104° 56'.3	39.3	208° 21'.5	11'.6	79° 02'.8	19.2		290° 00'.4		341° 28'.5	37.2	158° 07'.2	14.6	48.4	9.4		45°	05:55	06:30	07:00	18:18	19:19	20:20					
	12	325° 25'.1	37° 19'.9	16° 26'.7 S	119° 58'.4	7° 39'.4 S	223° 24'.1	23° 11'.6 N	94° 05'.2	16° 19'.2 S	Alphecca	126° 10'.6	26° 39'.9 N	356° 28'.5	12° 36'.3 S	172° 40'.8	14.5	6° 39'.0 N	9.4	54.5	N 40°	05:52	06:24	06:52	18:22	19:20	20:18					
	13	340° 27'.6	52° 21'.1	26.8	135° 00'.5	39.6	238° 26'.8	11'.6	109° 07'.6	19.2	Alpheratz	357° 43'.2	29° 10'.2 N	11° 28'.5	35.5	187° 14'.3	14.6	29.6	9.4		35°	05:50	06:19	06:45	18:25	19:21	20:17					
	14	355° 30'.0	67° 22'.2	26.9	150° 02'.6	39.7	253° 29'.4	11'.6	124° 10'.0	19.2	Altair	62° 08'.0	8° 54'.4 N	26° 28'.6	34.6	201° 47'.9	14.6	20.2	9.4		30°	05:47	06:15	06:39	18:28	19:21	20:15					
	15	10° 32'.5	82° 23'.4	27.0	165° 04'.7	39.8	268° 32'.0	11'.6	139° 12'.4	19.2	Ankaa	353° 15'.6	42° 13'.9 S	41° 28'.6	33.7	216° 21'.5	14.6	10.8	9.5		20°	05:40	06:06	06:29	18:33	19:23	20:13					
	16	25° 34'.9	97° 24'.5	27.1	180° 06'.8	39.9	283° 34'.7	11'.6	154° 14'.8	19.2	Antares	112° 25'.7	26° 27'.6 S	56° 28'.6	32.9	230° 55'.1	14.7	01.3	9.5		N 10°	05:33	05:58	06:19	18:37	19:24	20:11					
	17	40° 37'.4	112° 25'.7	27.2	195° 08'.9	40.0	298° 37'.3	11'.7	169° 17'.2	19.2		169° 17'.2		71° 28'.9	32.0	245° 28'.8	14.6	5° 51'.8 N	9.6		0°	05:25	05:49	06:11	18:41	19:25	20:09					
	18	55° 39'.9	127° 26'.8	27.3	210° 10'.9	40.1	313° 39'.9	11'.7	184° 19'.6	19.2	Arcturus	145° 55'.2	19° 06'.4 N	86° 28'.7	31.2	260° 02'.4	14.6	42.2	9.5	54.6	S 10°	05:15	05:40	06:02	18:46	19:26	20:07					
	19	70° 42'.3	142° 28'.0	27.4	225° 13'.0	40.2	328° 42'.5	11'.7	199° 22'.0	19.2	Atria	107° 27'.3	69° 02'.8 S	101° 28'.7	30.3	274° 36'.0	14.6	32.7	9.6		20°	05:03	05:29	05:52	18:50	19:27	20:05					
	20	85° 44'.8	157° 29'.1	27.5	240° 15'.1	40.4	343° 45'.2	11'.7	214° 24'.4	19.2	Avior	234° 17'.2	59° 33'.6 S	116° 28'.8	29.4	289° 09'.6	14.6	23.1	9.1		30°	04:47	05:16	05:41	18:55	19:29	20:03					
	21	100° 47'.3	172° 30'.3	27.5	255° 17'.2	40.5	358° 47'.8	11'.7	229° 26'.8	19.2	Bellatrix	278° 31'.3	6° 21'.5 N	131° 28'.8	28.6	303° 43'.2	14.7	13.4	9.6		35°	04:36	05:08	05:35	18:58	19:29	20:01					
	22	115° 49'.7	187° 31'.4	27.6	270° 19'.3	40.6	13° 50'.4	11'.7	244° 29'.2	19.2	Betelgeuse	271° 00'.6	7° 24'.3 N	146° 28'.8	27.7	318° 16'.9	14.6	03.8	9.7		40°	04:24	04:59	05:27	19:01	19:30	20:00					
23	130° 52'.2	202° 32'.5	27.7	285° 21'.4	40.7	28° 53'.0	11'.8	259° 31'.6	19.2		161° 28'.9		161° 28'.9	26.8	332° 50'.5	14.6	4° 54'.1 N	9.7		45°	04:09	04:47	05:18	19:05	19:31	19:58						
Sunday	00	145° 54'.7	217° 33'.7	16° 27'.8 S	300° 23'.5	7° 40'.8 S	43° 55'.7	23° 11'.8 N	274° 34'.0	16° 19'.3 S	Canopus	263° 55'.6	52° 42'.6 S	176° 28'.9	12° 26'.0 S	347° 24'.1	14.6	4° 44'.4 N	9.7	54.6	S 50°	03:49	04:33	05:08	19:09	19:33	19:56					
	01	160° 57'.1	232° 34'.8	27.9	315° 25'.6	40.9	58° 58'.3	11'.8	289° 36'.4	19.3	Capella	280° 33'.5	46° 00'.7 N	191° 29.0	25.1	1° 57'.7	14.7	34.7	9.7		52°	03:39	04:26	05:03	19:11	19:33	19:55					
	02	175° 59'.6	247° 35'.9	28.0	330° 27'.7	41.0	74° 00'.9	11'.8	304° 38'.8	19.3	Deneb	49° 31'.5	45° 19'.9 N	206° 29.0	24.2	16° 31'.4	14.6	25.0	9.8	54.7	54°	03:28	04:18	04:58	19:13	19:34	19:55					
	03	191° 02'.0	262° 37'.1	28.1	345° 29.8	41.2	89° 03'.6	11'.8	319° 41'.2	19.3	Denebola	182° 32'.9	14° 29'.4 N	221° 29.0	23.4	31° 05'.0	14.6	15.2	9.8		56°	03:14	04:10	04:52	19:16	19:35	19:53					
	04	206° 04'.5	277° 38'.2	28.2	0° 31'.9	41.3	104° 06'.2	11'.8	334° 43'.6	19.3	Diphda	348° 55'.6	17° 54'.7 S	236° 29.1	22.5	45° 38'.6	14.6	05.4	9.8		58°	02:59	04:00	04:45	19:18	19:35	19:52					
	05	221° 07.0	292° 39'.3	28.3	15° 34'.0	41.4	119° 08'.8	11'.8	349° 46'.0	19.3				251° 29.1	21.6	60° 12.2	14.6	3° 55'.6 N	9.8		S 60°	02:39	03:48	04:37	19:21	19:36	19:51					
	06	236° 09'.4	307° 40'.4	28.4	30° 36'.1	41.5	134° 11'.4	11'.9	4° 48'.4	19.3	Dubhe	193° 50'.6	61° 40'.2 N	266° 29.1	20.8	74° 45'.8	14.7	45.8	9.9		S 62°	02:14	03:35	04:29	19:25	19:37	19:49					
	07	251° 11'.9	322° 41'.5	28.5	45° 38'.2	41.6	149° 14'.1	11'.9	19° 50'.8	19.3	Elinath	278° 11'.8	28° 37'.0 N	281° 29.2	19.9	89° 19'.5	14.6	35.9	9.8													
	08	266° 14'.4	337° 42'.6	28.5	60° 40'.3	41.7	164° 16.7	11'.9	34° 53'.2	19.3	Eltanin	90° 46'.2	51° 29'.1 N	296° 29.2	19.0	103° 53'.1	14.6	26.1	9.9													
	09	281° 16'.8	352° 43'.7	28.6	75° 42'.4	41.8	179° 19'.3	11'.9	49° 55'.6	19.3	Enif	33° 47.0	9° 56'.4 N	311° 29.3	18.2	118° 26'.7	14.6	16.2	9.9	54.8												
	10	296° 19'.3	7° 44'.8	28.7	90° 44'.5	41.9	194° 21'.9	11'.9	64° 58'.0	19.3	Fomalhaut	15° 23'.8	29° 32'.9 S	326° 29.3	17.3	133° 00'.3	14.6	06.3	10.0													
	11	311° 21'.8	22° 45'.9	28.8	105° 46.6	42.0	209° 24'.5	11'.9	80° 00'.4	19.3				341° 29.3	16.4	147° 33'.9	14.6	2° 56'.3 N	9.9		N 72°	15:41	17:00	18:20	07:53	07:46	07:38					
	12	326° 24'.2	37° 47'.0	16° 28'.9 S	120° 48'.7	7° 42'.1 S	224° 27'.2	23° 12.0 N	95° 02'.8	16° 19'.3 S	Gacrux	171° 59'.8	57° 11'.5 S	356° 29.4	12° 15'.6 S	162° 07'.5	14.6	2° 46'.4 N	10.0	54.8	N 70°	16:00	17:09	18:21	07:43	07:41	07:39					
	13	341° 26'.7	52° 48'.1	29.0	135° 50'.8	42.2	239° 29'.8	12.0	110° 05'.2	19.3	Giennah	175° 51'.5	17° 37'.3 S	11° 29.4	14.7	176° 41'.1	14.6	36.4	9.9													

2014 February 18, 19, 20 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.6			MARS -0.2			JUPITER -2.5			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	18	19	20	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:57	07:16	08:31	22:27		-	00:14				
18 T u e s d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:57	07:16	08:31	22:27	-	00:14						
	147° 52.9	218° 24.7	16° 31.9 S	302° 05.2	7° 45.8 S	46° 01.3	23° 12.5 N	276° 29.3	16° 19.6 S	Acamar	315° 18.1	40° 15.2 S	176° 31.0	11° 44.1 S	326° 08.3	14.0	3° 17.0 S	10.1	55.4	N 70°	05:57	07:08	08:15	22:16	23:55	25:37						
	162° 55.4	233° 25.7	32.0	317° 07.4	45.9	61° 03.9	12.5	291° 31.7	19.6	Achernar	335° 26.8	57° 10.2 S	191° 31.1	43.2	340° 41.3	14.0	27° 1.1	10.1	68°	68°	05:57	07:02	08:02	22:07	23:39	25:14						
	177° 57.9	248° 26.7	32.0	332° 09.5	46.0	76° 06.6	12.5	306° 34.1	19.6	Acruz	173° 08.1	63° 10.6 S	206° 31.1	42.3	355° 14.3	13.9	37.2	10.0	66°	66°	05:57	06:57	07:51	22:00	23:27	24:56						
	193° 00.3	263° 27.7	32.1	347° 11.7	46.1	91° 09.2	12.6	321° 36.5	19.6	Adhara	255° 11.9	28° 59.9 S	221° 31.2	41.5	9° 47.2	13.9	47.2	10.1	55.5	64°	05:57	06:52	07:42	21:54	23:17	24:41						
	208° 02.8	278° 28.7	32.2	2° 13.8	46.2	106° 11.8	12.6	336° 38.9	19.6	Aldebaran	290° 48.7	16° 32.1 N	236° 31.2	40.6	24° 20.1	13.8	57.3	10.0	62°	62°	05:56	06:48	07:34	21:49	23:09	24:29						
	223° 05.3	293° 29.7	32.3	17° 15.9	46.3	121° 14.4	12.6	351° 41.4	19.6				251° 31.3	39.7	38° 52.9	13.9	4° 07.3 S	10.1	60°	60°	05:56	06:44	07:27	21:44	23:01	24:18						
	238° 07.7	308° 30.7	32.3	32° 18.1	46.4	136° 17.0	12.6	6° 43.8	19.6	Alioth	196° 19.9	55° 52.7 N	266° 31.3	38.8	53° 25.8	13.8	17.4	10.0	N 58°	58°	05:55	06:41	07:21	21:40	22:55	24:10						
	253° 10.2	323° 31.7	32.4	47° 20.2	46.5	151° 19.6	12.6	21° 46.2	19.6	Alkaid	152° 58.3	49° 14.3 N	281° 31.4	37.9	67° 58.6	13.7	27.4	10.0	56°	56°	05:55	06:38	07:16	21:37	22:49	24:02						
	268° 12.6	338° 32.6	32.5	62° 22.4	46.6	166° 22.2	12.6	36° 48.6	19.6	Alnair	27° 43.6	46° 53.5 S	296° 31.4	37.0	82° 31.3	13.8	37.4	10.0	55.6	54°	05:54	06:35	07:12	21:34	22:44	23:55						
	283° 15.1	353° 33.6	32.6	77° 24.5	46.7	181° 24.8	12.7	51° 51.0	19.6	Anilam	275° 45.7	1° 11.9 N	311° 31.5	36.2	97° 20.1	13.7	47.4	10.0	52°	52°	05:53	06:33	07:07	21:31	22:39	23:48						
	298° 17.6	8° 34.6	32.6	92° 26.7	46.7	196° 27.4	12.7	66° 53.4	19.6	Alphard	217° 55.3	8° 43.5 S	326° 31.5	35.3	111° 36.8	13.6	57.4	9.9	50°	50°	05:53	06:30	07:03	21:28	22:35	23:43						
	313° 20.0	23° 35.6	32.7	107° 28.9	46.8	211° 30.0	12.7	81° 55.8	19.6				341° 31.6	34.3	126° 09.4	13.7	5° 07.3 S	9.9	45°	45°	05:51	06:25	06:55	21:23	22:26	23:31						
	328° 22.5	38° 36.5	16° 32.8 S	122° 31.0	7° 46.9 S	226° 32.6	23° 12.7 N	96° 58.2	16° 19.6 S	Alphecca	126° 10.6	26° 39.9 N	356° 31.6	11° 33.5 S	140° 42.1	13.6	5° 17.2 S	10.0	55.6	N 40°	40°	05:49	06:20	06:48	21:18	22:19	23:20					
	343° 25.0	53° 37.5	32.8	137° 33.2	47.0	241° 35.2	12.7	112° 00.6	19.6	Alpheratz	357° 43.3	29° 10.2 N	11° 31.7	32.6	155° 14.7	13.5	27.2	9.9	55.7	35°	35°	05:46	06:16	06:42	21:14	22:12	23:12					
	358° 27.4	68° 38.5	32.9	152° 35.3	47.1	256° 37.8	12.7	127° 03.0	19.6	Altair	62° 08.0	8° 54.4 N	26° 31.7	31.7	169° 47.2	13.5	37.1	9.9	30°	30°	05:44	06:12	06:36	21:10	22:07	23:04						
	1° 23.9	83° 39.4	33.0	167° 37.5	47.2	271° 40.4	12.7	142° 05.4	19.6	Ankaa	353° 15.6	42° 13.9 S	41° 31.8	30.9	184° 19.7	13.5	47.0	9.8	20°	20°	05:39	06:04	06:27	21:04	21:57	22:52						
	28° 32.4	98° 40.4	33.1	182° 39.6	47.3	286° 43.0	12.8	157° 07.9	19.6	Antares	112° 25.7	26° 27.6 S	56° 31.9	30.0	198° 52.2	13.5	56.8	9.9	N 10°	10°	05:32	05:57	06:18	20:59	21:49	22:40						
	43° 34.8	113° 41.3	33.1	197° 41.8	47.4	301° 45.6	12.8	172° 10.3	19.6				71° 31.9	29.1	213° 24.7	13.4	6° 06.7 S	9.8	0°	0°	05:25	05:49	06:10	20:54	21:41	22:30						
	58° 37.3	128° 42.3	33.2	212° 44.0	47.5	316° 48.2	12.8	187° 12.7	19.6	Arcturus	145° 55.2	19° 06.4 N	86° 32.0	28.2	227° 57.1	13.4	16.5	9.8	55.8	S 10°	10°	05:16	05:41	06:02	20:49	21:33	22:19					
	73° 39.7	143° 43.2	33.3	227° 46.1	47.6	331° 50.8	12.8	202° 15.1	19.6	Atira	107° 27.2	69° 02.8 S	101° 32.0	27.3	242° 29.5	13.3	26.3	9.8	20°	20°	05:04	05:31	05:54	20:44	21:25	22:08						
	88° 42.2	158° 44.2	33.3	242° 48.3	47.6	346° 53.5	12.8	217° 17.5	19.7	Avior	234° 17.2	59° 33.6 S	116° 32.1	26.4	257° 01.8	13.3	36.1	9.7	30°	30°	04:49	05:19	05:43	20:38	21:15	21:56						
	103° 44.7	173° 45.1	33.4	257° 50.4	47.7	1° 56.1	12.8	232° 19.9	19.7	Bellatrix	278° 31.4	6° 21.5 S	131° 32.1	25.5	271° 34.1	13.2	45.8	9.8	35°	35°	04:40	05:11	05:37	20:35	21:10	21:49						
118° 47.1	188° 46.1	33.5	272° 52.6	47.8	16° 58.7	12.8	247° 22.3	19.7	Betelgeuse	271° 00.6	7° 24.3 N	146° 32.2	24.7	286° 06.3	13.2	55.6	9.7	40°	40°	04:28	05:02	05:31	20:31	21:04	21:40							
133° 49.6	203° 47.0	33.5	287° 54.8	47.9	32° 01.3	12.9	262° 24.7	19.7				161° 32.2	23.8	300° 38.5	13.2	7° 05.3 S	9.6	55.9	45°	45°	04:14	04:52	05:23	20:26	20:57	21:31						
19 W e d n e s d a y	148° 52.1	218° 48.0	16° 33.6 S	302° 56.9	7° 48.0 S	47° 03.9	23° 12.9 N	277° 27.1	16° 19.7 S	Canopus	263° 55.6	52° 42.6 S	176° 32.3	11° 22.9 S	315° 10.7	13.1	7° 14.9 S	9.7	55.9	S 50°	50°	03:55	04:38	05:13	20:21	20:48	21:19					
	163° 54.5	233° 48.9	33.7	317° 59.1	48.1	62° 06.5	12.9	292° 25.9	19.7	Capella	280° 33.5	46° 00.7 N	191° 32.4	22.0	329° 42.8	13.1	24.6	9.6	52°	52°	03:46	04:32	05:09	20:19	20:45	21:14						
	178° 57.0	248° 49.8	33.7	333° 01.3	48.2	77° 09.1	12.9	307° 32.0	19.7	Deneb	49° 31.5	45° 19.9 N	206° 32.4	21.1	344° 14.9	13.1	34.2	9.6	54°	54°	03:36	04:25	05:04	20:16	20:40	21:08						
	193° 59.5	263° 50.8	33.8	348° 03.4	48.2	92° 11.7	12.9	322° 34.4	19.7	Denebola	182° 32.9	14° 29.4 N	221° 32.5	20.2	358° 47.0	13.0	43.8	9.6	56.0	56°	03:24	04:17	04:58	20:13	20:36	21:02						
	209° 01.9	278° 51.7	33.9	3° 05.6	48.3	107° 14.3	12.9	337° 36.8	19.7	Diphda	348° 55.7	17° 54.7 S	236° 32.5	19.3	13° 19.0	12.9	53.4	9.5	58°	58°	03:09	04:08	04:52	20:10	20:30	20:54						
	224° 04.4	293° 52.6	33.9	18° 07.8	48.4	122° 16.9	12.9	352° 39.2	19.7				251° 32.6	18.4	27° 50.9	12.9	8° 02.9 S	9.5		S 60°	60°	02:52	03:58	04:45	20:07	20:25	20:46					
	239° 06.9	308° 53.5	34.0	33° 10.0	48.5	137° 19.5	13.0	7° 41.0	19.7	Dubhe	193° 50.6	61° 40.2 N	266° 32.7	17.5	42° 22.8	12.9	12.4	9.5		S 62°	62°	02:30	03:45	04:38	20:03	20:18	20:37					
	254° 09.3	323° 54.5	34.1	48° 12.1	48.6	152° 22.1	13.0	22° 44.0	19.7	Elinath	278° 11.8	28° 37.0 N	281° 32.7	16.7	56° 54.7	12.8	21.9	9.4														
	269° 11.8	338° 55.4	34.1	63° 14.3	48.7	167° 24.7	13.0	37° 46.4	19.7	Eltanin	90° 46.2	51° 29.1 N	296° 32.8	15.8	71° 26.5	12.7	31.3	9.4	56.1													
	284° 14.2	353° 56.3	34.2	78° 16.5	48.8	182° 27.3	13.0	52° 48.8	19.7	Enif	33° 47.0	9° 56.4 N	311° 32.8	14.9	85° 58.2	12.7	40.7	9.4														
	299° 16.7	8° 57.2	34.3	93° 18.7	48.8	197° 29.8	13.0	67° 51.3	19.7	Fomalhaut	15° 27.8	29° 32.9 S	326° 32.9	14.0	100° 29.9	12.7	50.1	9.3														
	314° 19.2	23° 58.1	34.3	108° 20.8	48.9	212° 32.4	13.0	82° 53.7	19.7				341° 33.0	13.1	115° 01.6	12.6	59.4	9.3														
	329° 21.6	38° 59.0	16° 34.4 S	123° 23.0	7° 49.0 S	227° 35.0	23° 13.0 N	97° 56.1	16° 19.7 S	Gacrux	171° 59.8	57° 11.5 S	356° 33.0	11° 12.2 S	129° 33.2	12.6	9° 08.7 S	9.3	56.2	N 72°	72°	15:58	17:13	18:32	07:31	07:23	07:14					
	344° 24.1	53° 59.9	34.5	138° 25.2	49.1	242° 37.6	13.1	112° 58.5	19.7	Giennah	175° 51.5	17° 37.3 S	11° 33.1	11.3	144° 04.8	12.5	18															

2014 February 24, 25, 26 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.6			MARS -0.4			JUPITER -2.5			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	Nautical		Civil		24		25		26		24		25		26																
Monday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:30	06:48	07:58	-	-	07:35					
	153° 47.8	220° 23.5	16° 38.5 S	307° 24.7	7° 55.6 S	52° 13.4	23° 14.4 N	282° 17.8	16° 19.8 S	Acamar	315° 18.1	40° 15.2 S	176° 41.2	9° 34.2 S	252° 28.1	6.1	19° 10.0 S	0.1	59.2	N 70°	05:33	06:43	07:46	06:22	06:47	06:53					
	168° 50.2	235° 24.1	38.5	322° 27.0	55.7	67° 15.9	14.4	297° 20.2	19.8	Achernar	335° 26.9	57° 10.2 S	191° 41.3	33.3	266° 53.2	6.1	10.1	0.0	68°	05:35	06:39	07:37	05:23	06:04	06:25						
	183° 52.7	250° 24.8	38.5	337° 29.3	55.7	82° 18.5	14.4	312° 22.6	19.8	Acruz	173° 08.0	63° 10.6 S	206° 41.4	32.4	281° 18.3	6.0	10.1	0.1	59.3	66°	05:37	06:36	07:28	04:49	05:34	06:03					
	198° 55.2	265° 25.5	38.5	352° 31.6	55.8	97° 21.0	14.4	327° 25.1	19.8	Adhara	255° 11.9	28° 59.9 S	221° 41.5	31.4	295° 43.3	5.9	10.0	0.3	64°	05:38	06:33	07:22	04:24	05:12	05:46						
	213° 57.6	280° 26.1	38.5	7° 33.9	55.8	112° 23.6	14.4	342° 27.5	19.8	Aldebaran	290° 48.8	16° 32.1 N	236° 41.6	30.5	310° 08.2	6.0	09.7	0.4	62°	05:39	06:30	07:16	04:05	04:55	05:32						
	229° 00.1	295° 26.8	38.5	22° 36.2	55.8	127° 26.2	14.4	357° 29.9	19.8		196° 19.9	55° 52.7 N	266° 41.7	28.7	338° 58.1	5.8	08.8	0.6	59.4	60°	05:40	06:28	07:10	03:49	04:40	05:19					
	244° 02.5	310° 27.4	38.5	37° 38.5	55.9	142° 28.7	14.4	12° 32.4	19.8	Alioth	260° 19.9	55° 52.7 N	266° 41.7	28.7	338° 58.1	5.8	08.8	0.6	59.4	N 58°	05:41	06:26	07:06	03:35	04:27	05:09					
	259° 05.0	325° 28.1	38.5	52° 40.8	55.9	157° 31.3	14.4	27° 34.8	19.8	Alkaid	152° 58.3	49° 14.3 N	281° 41.8	27.7	352° 22.9	5.9	08.2	0.8	56°	05:41	06:24	07:02	03:23	04:16	05:00						
	274° 07.5	340° 28.7	38.5	67° 43.1	55.9	172° 33.8	14.4	42° 37.2	19.8	Alnair	27° 43.6	46° 53.5 S	296° 41.9	26.8	7° 47.8	5.8	07.4	0.9	54°	05:41	06:22	06:58	03:13	04:07	04:52						
	289° 09.9	355° 29.4	38.5	82° 45.4	56.0	187° 36.4	14.4	57° 39.7	19.8	Alnilam	275° 45.7	1° 11.9 S	311° 42.0	25.9	22° 12.6	5.8	06.5	0.0	59.5	52°	05:42	06:21	06:55	03:04	03:58	04:44					
	304° 12.4	10° 30.0	38.5	97° 47.7	56.0	202° 38.9	14.5	72° 42.1	19.8	Alphard	217° 55.3	8° 43.5 S	326° 42.1	25.0	36° 37.4	5.7	05.5	1.2	50°	05:42	06:19	06:52	02:56	03:50	04:38						
	319° 14.9	25° 30.7	38.6	112° 50.0	56.1	217° 41.5	14.5	87° 44.1	19.8		290° 48.8	16° 32.1 N	341° 42.2	24.1	51° 02.1	5.7	04.3	1.3	45°	05:41	06:15	06:45	02:39	03:34	04:23						
	334° 17.3	40° 31.3	16° 38.6 S	127° 52.3	7° 56.1 S	232° 44.0	23° 14.5 N	102° 47.0	16° 19.8 S	Alphecca	126° 10.5	26° 39.9 N	356° 42.3	9° 23.1 S	65° 26.8	5.7	19° 03.0 S	1.4	59.5	N 40°	05:41	06:12	06:40	02:24	03:20	04:12					
	349° 19.8	55° 31.9	38.6	142° 54.6	56.1	247° 46.6	14.5	117° 49.4	19.8	Alpheratz	357° 43.3	29° 10.1 N	11° 42.4	22.2	79° 51.5	5.7	01.6	1.5	59.6	35°	05:40	06:09	06:35	02:12	03:09	04:02					
	4° 22.3	70° 32.6	38.6	157° 56.9	56.2	262° 49.1	14.5	132° 51.8	19.8	Altair	62° 08.0	8° 54.4 N	26° 42.5	21.3	94° 16.2	5.6	00.1	1.7	30°	05:38	06:06	06:30	02:02	02:59	03:53						
	19° 24.7	85° 33.2	38.6	172° 59.2	56.2	277° 51.7	14.5	147° 54.3	19.8	Ankaa	353° 15.6	42° 13.9 S	41° 42.6	20.4	108° 40.8	5.6	18° 58.4 S	1.8	20°	05:35	06:01	06:23	01:44	02:42	03:38						
	34° 27.2	100° 33.8	38.6	188° 01.6	56.2	292° 54.2	14.5	162° 56.7	19.8	Antares	112° 25.6	26° 27.6 S	56° 42.7	19.4	123° 05.4	5.6	56.6	1.9	N 10°	05:30	05:55	06:16	01:28	02:27	03:24						
	49° 29.7	115° 34.5	38.6	203° 03.9	56.3	307° 56.8	14.5	177° 59.1	19.8		115° 34.5	38.6	137° 30.0	5.6	54.7	2.1	59.7	0°	05:24	05:49	06:10	01:14	02:12	03:12							
	64° 32.1	130° 35.1	38.6	218° 06.2	56.3	322° 59.3	14.5	193° 01.6	19.8	Arcturus	145° 55.1	19° 06.4 N	86° 42.9	17.6	151° 54.6	5.5	52.6	2.2	S 10°	05:17	05:42	06:03	00:59	01:58	02:59						
	79° 34.6	145° 35.7	38.6	233° 08.5	56.3	338° 01.9	14.5	208° 00.4	19.8	Atria	107° 27.1	69° 02.8 S	101° 43.0	16.6	166° 19.1	5.6	50.4	2.3	20°	05:07	05:34	05:56	00:43	01:43	02:46						
	94° 37.0	160° 36.4	38.6	248° 10.8	56.4	353° 04.4	14.6	223° 06.4	19.8	Avior	234° 17.2	59° 33.7 S	116° 43.1	15.7	180° 43.7	5.5	48.1	2.5	59.8	30°	04:55	05:23	05:48	00:26	01:26	02:31					
	109° 39.5	175° 37.0	38.6	263° 13.2	56.4	8° 07.0	14.6	238° 08.9	19.8	Bellatrix	278° 31.4	6° 21.5 N	131° 43.1	14.8	195° 08.2	5.5	45.6	2.6	35°	04:46	05:17	05:43	00:15	01:16	02:22						
	124° 42.4	190° 37.6	38.6	278° 15.5	56.4	23° 09.5	14.6	253° 11.3	19.8	Betelgeuse	271° 00.6	7° 24.3 N	146° 43.2	13.9	209° 32.7	5.5	43.0	2.7	40°	04:36	05:10	05:38	00:03	01:05	02:12						
139° 44.4	205° 38.2	38.6	293° 17.8	56.5	38° 12.1	14.6	268° 13.8	19.8		161° 43.3	12.9	223° 57.2	5.4	40.3	2.8			45°	04:24	05:01	05:31	-	00:51	02:00							
Tuesday	154° 46.9	220° 38.8	16° 38.6 S	308° 20.1	7° 56.5 S	53° 14.6	23° 14.6 N	283° 16.2	16° 19.8 S	Canopus	263° 55.6	52° 42.7 S	176° 43.4	9° 12.0 S	238° 21.6	5.5	18° 37.5 S	3.0	59.9	S 50°	04:08	04:50	05:24	-	00:35	01:45					
	169° 49.4	235° 39.5	38.6	323° 22.4	56.5	68° 17.2	14.6	298° 18.6	19.8	Capella	280° 33.6	46° 00.7 N	191° 43.5	11.1	252° 46.1	5.4	34.5	3.1	52°	04:00	04:44	05:20	-	00:27	01:38						
	184° 51.8	250° 40.1	38.6	338° 24.8	56.6	83° 19.7	14.6	313° 21.1	19.8	Deneb	49° 31.5	45° 19.8 N	206° 43.6	10.2	267° 10.5	5.4	31.4	3.2	54°	03:51	04:38	05:16	-	00:18	01:31						
	199° 54.3	265° 40.7	38.6	353° 27.1	56.6	98° 22.3	14.6	328° 23.5	19.8	Denebola	182° 32.9	14° 29.3 S	221° 43.7	09.2	281° 34.9	5.5	28.2	3.4	56°	03:41	04:32	05:12	-	00:08	01:22						
	214° 56.8	280° 41.3	38.5	8° 29.4	56.6	113° 24.8	14.6	343° 25.9	19.8	Diphda	348° 55.7	17° 54.7 S	236° 43.8	08.3	295° 59.4	5.4	24.8	3.5	60.0	58°	03:29	04:24	05:07	23:57	-	01:13					
	229° 59.2	295° 41.9	38.5	23° 31.8	56.6	128° 27.4	14.6	358° 28.4	19.8		251° 43.9	07.4	310° 23.8	5.4	21.3	3.6			S 60°	03:15	04:16	05:01	23:45	-	01:02						
	245° 01.7	310° 42.5	38.5	38° 34.1	56.7	143° 29.9	14.7	13° 30.8	19.8	Dubhe	193° 50.5	61° 40.3 N	266° 44.0	06.4	324° 48.2	5.4	17.7	3.8	S 62°	02:58	04:06	04:55	23:30	-	00:49						
	260° 04.1	325° 43.1	38.5	53° 36.4	56.7	158° 32.5	14.7	28° 33.3	19.8	El Nath	278° 11.9	28° 37.0 N	281° 44.1	05.3	339° 12.6	5.4	13.9	3.8													
	275° 06.6	340° 43.7	38.5	68° 38.8	56.7	173° 35.0	14.7	43° 35.7	19.8	Eltanin	90° 46.1	51° 29.1 N	296° 44.2	04.6	353° 37.0	5.4	10.1	4.0	60.1												
	290° 09.1	355° 44.3	38.5	83° 41.1	56.8	188° 37.6	14.7	58° 38.1	19.8	Enif	33° 46.9	9° 56.4 N	311° 44.3	03.6	8° 01.4	5.3	06.1	4.2													
	305° 11.5	10° 44.9	38.5	98° 43.4	56.8	203° 40.1	14.7	73° 40.6	19.8	Fomalhaut	15° 23.8	29° 32.9 S	325° 44.4	02.7	22° 25.7	5.4	01.9	4.2													
	320° 14.0	25° 45.5	38.5	113° 45.8	56.8	218° 42.7	14.7	88° 43.0	19.8		341° 44.5	01.8	36° 50.1	5.4	17° 57.7 S	S 4.4			N 72°	16:29	17:41	18:59	-	-	11:30						
	335° 16.5	40° 46.1	16° 38.5 S	128° 48.1	7° 56.8 S	233° 45.2	23° 14.7 N	103° 45.5	16° 19.8 S	Gacrux	171° 59.8	57° 11.5 S	356° 44.6	9° 00.9 S	51° 14.5	5.4	17° 53.3 S	4.5	60.1	N 70°	16:41	17:45	18:56	08:35	10:13	12:11					
	350° 18.9	55° 46.7	38.5	143° 50.4	56.9	248° 47.7	14.7	118° 47.9	19.8	Giennah	175° 51.5	17° 37.4 S	11° 44.7	8° 59.9 S	65° 38.9	5.4	48.8	4.7	60.2	68°	16:51	17:49	18:53	09:33	10:56	12:38					
	5° 21.4	70° 47.3	38.5	158° 52.8	56.9	263° 50.3	14.7	133° 50.3	19.8	Hadar	148° 46.7	60° 26.3 S	26° 44.8	59.0	80° 03.3	5.4	44.1	4.7	66°	16:59	17:52	18:51	10:07	11:25	12:59						
	20° 23.9	85° 47.9	38.5	173° 55.1	56.9	278° 52.8	14.7																								

2014 Feb 27, 28, Mar. 1 (Thur, Fri, Sat)

GMT	ARIES			VENUS -4.6			MARS -0.5			JUPITER -2.4			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		27	28		1	
27 Th ur s d a y	00	166° 45.2	221° 06.3	16° 37.8 S	310° 13.0	7° 57.5 S	55° 16.6	23° 15.0 N	285° 13.4	16° 19.6 S	285° 13.4	16° 19.6 S	Acamar	315° 18.1	40° 15.2 S	176° 48.3	8° 27.2 S	210° 00.5	6.0	13° 55.6 S	8.6	60.7	N 72°	05:15	06:33	07:43	07:18	07:08	06:59	
	01	171° 47.6	236° 06.8	37.7	325° 15.4	57.5	70° 19.1	15.0	300° 15.8	19.6	300° 15.8	19.6	Achernar	335° 26.9	57° 10.2 S	191° 48.4	26.3	224° 25.5	6.1	47.0	8.8	60.8	N 70°	05:20	06:30	07:32	06:55	06:54	06:53	
	02	186° 50.1	251° 07.3	37.7	340° 17.8	57.5	85° 21.6	15.1	315° 18.3	19.6	315° 18.3	19.6	Acruz	173° 08.0	63° 10.6 S	206° 48.5	25.3	238° 50.6	6.1	38.2	8.8	60.8	68°	05:23	06:27	07:24	06:36	06:43	06:48	
	03	201° 52.6	266° 07.9	37.7	355° 20.2	57.5	100° 24.1	15.1	330° 20.7	19.6	330° 20.7	19.6	Adhara	255° 11.9	28° 59.9 S	221° 48.6	24.4	253° 15.7	6.2	29.4	8.9	60.8	66°	05:28	06:25	07:17	06:22	06:34	06:44	
	04	216° 55.0	281° 08.4	37.6	10° 22.6	57.6	115° 26.7	15.1	345° 23.2	19.6	345° 23.2	19.6	Aldebaran	290° 48.8	16° 32.1 N	236° 48.7	23.4	267° 40.9	6.1	20.5	9.0	60.8	64°	05:28	06:23	07:11	06:09	06:27	06:40	
	05	231° 57.5	296° 08.9	37.6	25° 24.9	57.6	130° 29.2	15.1	0° 25.6	19.6	0° 25.6	19.6				251° 48.9	22.5	282° 06.0	6.3	11.5	9.1	60.8	62°	05:30	06:21	07:06	05:59	06:20	06:37	
	06	247° 00.0	311° 09.4	37.6	40° 27.3	57.6	145° 31.7	15.1	15° 28.1	19.6	15° 28.1	19.6	Alioth	196° 19.9	55° 52.7 N	266° 49.0	21.6	296° 31.3	6.2	02.4	9.2	60.8	60°	05:32	06:20	07:02	05:50	06:14	06:35	
	07	262° 02.4	326° 09.9	37.5	55° 29.7	57.6	160° 34.3	15.1	30° 30.5	19.6	30° 30.5	19.6	Alkaid	152° 58.2	49° 14.3 N	281° 49.1	20.6	310° 56.5	6.3	12° 53.2 S	9.3	60.8	58°	05:34	06:17	06:54	05:35	06:04	06:30	
	08	277° 04.9	341° 10.4	37.5	70° 32.1	57.6	175° 36.8	15.1	45° 33.0	19.6	45° 33.0	19.6	Alnair	27° 43.6	46° 53.5 S	296° 49.2	19.7	325° 21.8	6.3	43.9	9.4	60.8	54°	05:35	06:16	06:51	05:29	06:00	06:28	
	09	292° 07.4	356° 11.0	37.4	85° 34.5	57.6	190° 39.3	15.1	60° 35.4	19.6	60° 35.4	19.6	Alnilam	275° 45.8	1° 11.9 S	311° 49.3	18.7	339° 47.1	6.4	34.5	9.4	60.8	52°	05:35	06:14	06:48	05:23	05:57	06:26	
	10	307° 09.8	11° 11.5	37.4	100° 36.9	57.6	205° 41.8	15.1	75° 37.8	19.6	75° 37.8	19.6	Alphard	217° 55.3	8° 43.5 S	326° 49.4	17.8	354° 12.5	6.4	25.1	9.6	60.8	50°	05:36	06:13	06:46	05:18	05:53	06:25	
	11	322° 12.3	26° 12.0	37.4	115° 39.3	57.6	220° 44.4	15.1	90° 40.3	19.6	90° 40.3	19.6				341° 49.5	16.9	8° 37.9	6.4	15.5	9.6	60.8	45°	05:37	06:10	06:40	05:07	05:46	06:21	
	12	337° 14.7	41° 12.5	16° 37.3 S	130° 41.7	7° 57.6 S	235° 46.9	23° 15.1 N	105° 42.7	16° 19.6 S	105° 42.7	16° 19.6 S	Alphecca	126° 10.5	26° 39.9 N	356° 49.6	8° 15.9 S	23° 03.3	6.5	12° 05.9 S	9.7	60.8	N 40°	05:37	06:08	06:35	04:58	05:40	06:18	
	13	352° 17.2	56° 13.0	37.3	145° 44.1	57.6	250° 49.4	15.1	120° 45.2	19.6	120° 45.2	19.6	Alpheratz	357° 43.3	29° 10.1 N	11° 49.7	15.0	37° 28.8	6.5	11° 56.2 S	9.8	60.8	35°	05:36	06:06	06:31	04:50	05:34	06:16	
	14	7° 19.7	71° 13.5	37.3	160° 46.5	57.6	265° 51.9	15.2	135° 47.6	19.6	135° 47.6	19.6	Altair	62° 08.0	8° 54.4 N	26° 49.8	14.0	51° 54.3	6.5	46.4	9.9	60.8	30°	05:35	06:03	06:27	04:43	05:30	06:14	
	15	22° 22.1	86° 14.0	37.2	175° 48.9	57.6	280° 54.5	15.2	150° 50.1	19.6	150° 50.1	19.6	Ankaa	353° 15.6	42° 13.9 S	41° 50.0	13.1	66° 19.8	6.6	36.5	10.0	60.8	20°	05:33	05:59	06:21	04:31	05:21	06:10	
	16	37° 24.6	101° 14.5	37.2	190° 51.3	57.6	295° 57.0	15.2	165° 52.5	19.6	165° 52.5	19.6	Antares	112° 25.6	26° 27.6 S	56° 50.1	12.1	80° 45.4	6.7	26.5	10.0	60.8	N 10°	05:29	05:54	06:15	04:20	05:14	06:06	
	17	52° 27.1	116° 15.0	37.1	205° 53.7	57.6	310° 59.5	15.2	180° 55.0	19.6	180° 55.0	19.6				71° 50.2	11.2	95° 11.1	6.6	16.5	10.1	60.8	0°	05:24	05:48	06:09	04:10	05:08	06:03	
	18	67° 29.5	131° 15.5	37.1	220° 56.1	57.7	326° 02.0	15.2	195° 57.4	19.6	195° 57.4	19.6	Arcturus	145° 55.1	19° 06.4 N	86° 50.3	10.3	109° 36.7	6.7	06.4	10.2	60.8	S 10°	05:18	05:42	06:03	04:00	05:01	06:00	
	19	82° 32.0	146° 16.0	37.0	235° 58.5	57.7	341° 04.6	15.2	210° 59.9	19.6	210° 59.9	19.6	Atria	107° 27.0	69° 02.8 S	101° 50.4	09.3	124° 02.4	6.8	10° 56.2 S	10.2	60.8	20°	05:09	05:35	05:57	03:50	04:54	05:56	
	20	97° 34.5	161° 16.5	37.0	251° 00.9	57.7	356° 07.1	15.2	226° 02.3	19.6	226° 02.3	19.6	Avior	234° 17.2	59° 33.7 S	116° 50.5	08.4	138° 28.2	6.8	46.0	10.4	60.8	30°	04:57	05:26	05:50	03:38	04:45	05:52	
	21	112° 36.9	176° 17.0	37.0	266° 03.3	57.7	11° 09.6	15.2	241° 04.8	19.5	241° 04.8	19.5	Bellatrix	278° 31.4	6° 21.5 S	131° 50.6	07.4	152° 54.0	6.8	35.6	10.4	60.8	35°	04:49	05:20	05:46	03:31	04:41	05:50	
	22	127° 39.4	191° 17.5	36.9	281° 05.7	57.7	26° 12.1	15.2	256° 07.2	19.5	256° 07.2	19.5	Betelgeuse	271° 00.6	7° 24.3 N	146° 50.7	06.5	167° 19.8	6.8	25.2	10.4	60.8	40°	04:40	05:13	05:41	03:23	04:35	05:48	
23	142° 41.9	206° 18.0	36.9	296° 08.1	57.7	41° 14.7	15.2	271° 09.7	19.5	271° 09.7	19.5				161° 50.8	05.5	181° 45.6	6.9	14.8	10.6	60.8	45°	04:29	05:05	05:35	03:13	04:29	05:45		
28 F r i d a y	00	157° 44.3	221° 18.5	16° 36.8 S	311° 10.5	7° 57.7 S	56° 17.2	23° 15.2 N	286° 12.1	16° 19.5 S	286° 12.1	16° 19.5 S	Canopus	263° 55.7	52° 42.7 S	176° 51.0	8° 04.6 S	196° 11.5	7.0	10° 04.2 S	10.6	60.8	S 50°	04:14	04:55	05:29	03:02	04:21	05:41	
	01	172° 46.8	236° 18.9	36.8	326° 12.9	57.7	71° 19.7	15.2	301° 14.6	19.5	301° 14.6	19.5	Capella	280° 33.6	46° 00.7 N	191° 51.1	03.7	210° 37.5	7.0	9° 53.6 S	10.6	60.8	52°	04:07	04:50	05:22	02:56	04:18	05:40	
	02	187° 49.2	251° 19.4	36.7	341° 15.3	57.7	86° 22.2	15.2	316° 17.0	19.5	316° 17.0	19.5	Deneb	49° 31.5	45° 19.8 N	206° 51.2	02.7	225° 03.5	7.0	43.0	10.8	60.8	54°	03:59	04:45	05:26	02:51	04:14	05:38	
	03	202° 51.7	266° 19.9	36.7	356° 17.7	57.7	101° 24.7	15.3	331° 19.5	19.5	331° 19.5	19.5	Denebola	182° 32.8	14° 29.3 S	221° 51.3	01.8	239° 29.5	7.1	32.2	10.8	60.8	56°	03:50	04:39	05:18	02:44	04:10	05:36	
	04	217° 54.2	281° 20.4	36.6	11° 20.2	57.7	116° 27.3	15.3	346° 21.9	19.5	346° 21.9	19.5	Diphda	348° 55.7	17° 54.7 S	236° 51.4	00.8	253° 55.6	7.1	21.4	10.8	60.8	58°	03:39	04:32	05:14	02:37	04:05	05:34	
	05	232° 56.6	296° 20.9	36.6	26° 22.6	57.7	131° 29.8	15.3	1° 24.4	19.5	1° 24.4	19.5				251° 51.5	7° 59.9 S	268° 21.7	7.1	10.6	10.9	60.8	S 60°	03:26	04:24	05:09	02:28	03:59	05:31	
	06	247° 59.1	311° 21.3	36.5	41° 25.0	57.7	146° 32.3	15.3	16° 26.8	19.5	16° 26.8	19.5	Dubhe	193° 50.5	61° 40.3 N	266° 51.6	58.9	282° 47.8	7.2	8° 59.7 S	11.0	60.8	S 62°	03:11	04:15	05:04	02:19	03:53	05:28	
	07	263° 01.6	326° 21.8	36.5	56° 27.4	57.7	161° 34.8	15.3	31° 29.3	19.5	31° 29.3	19.5	Elinath	278° 11.9	28° 37.0 N	281° 51.8	58.0	297° 14.0	7.3	48.7	11.0	60.8								
	08	278° 04.0	341° 22.3	36.4	71° 29.8	57.7	176° 37.3	15.3	46° 31.7	19.5	46° 31.7	19.5	Eltanin	90° 46.1	51° 29.1 N	296° 51.9	57.0	311° 40.3	7.2	37.7	11.1	60.8								
	09	293° 06.5	356° 22.8	36.4	86° 32.2	57.7	191° 39.9	15.3	61° 34.2	19.5	61° 34.2	19.5	Enif	13° 36.9	9° 56.4 N	311° 52.0	56.1	326° 06.5	7.4	26.6	11.1	60.8								
	10	308° 09.0	11° 23.2	36.3	101° 34.7	57.7	206° 42.4	15.3	76° 36.6	19.5	76° 36.6	19.5	Fomalhaut	15° 23.8	29° 32.8 S	326° 52.1	55.2	340° 32.9	7.3	15.5	11.2									

2014 March 5, 6, 7 (Wed, Thur, Fri)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	5		6	7				
Wednesday	00	162° 40.0	222° 05.7	16° 26.4 S	316° 08.4	7° 54.9 S	61° 17.1	23° 15.9 N	291° 07.5	16° 18.6 S	Acamar	315° 18.2	40° 15.2 S	177° 06.1	6° 10.0 S	132° 04.1	10.3	12° 06.4 N	8.6	57.7	N 72°	04:45	06:04	07:11	06:26	06:14	05:47				
	01	177° 42.5	237° 06.0	26.3	331° 11.0	54.9	76° 19.6	16.0	306° 09.9	18.6	Achernar	335° 26.9	57° 10.1 S	192° 06.2	09.0	146° 33.4	10.2	15.0	8.5	68°	68°	04:59	06:03	06:59	07:07	07:18	07:35				
	02	192° 44.9	252° 06.3	26.2	346° 13.6	54.8	91° 22.1	16.0	321° 12.4	18.6	Acruz	173° 08.0	63° 10.6 S	207° 06.3	08.1	161° 02.6	10.3	23.5	8.5	57.6	66°	05:04	06:03	06:54	07:22	07:38	08:01				
	03	207° 47.4	267° 06.6	26.0	1° 16.1	54.8	106° 24.1	16.0	336° 14.9	18.5	Adhara	255° 11.9	28° 59.9 S	222° 06.5	07.1	175° 31.9	10.3	32.0	8.3	64°	64°	05:08	06:03	06:51	07:34	07:54	08:21				
	04	222° 49.9	282° 06.9	25.9	16° 18.7	54.8	121° 27.0	16.0	351° 17.4	18.5	Aldebaran	290° 48.8	16° 32.1 N	237° 06.6	06.1	190° 01.2	10.3	40.3	8.3	62°	62°	05:12	06:03	06:47	07:44	08:08	08:38				
	05	237° 52.3	297° 07.2	25.8	31° 21.2	54.7	136° 29.5	16.0	6° 19.8	18.5				252° 06.8	05.2	204° 30.5	10.2	48.6	8.2	57.5	60°	05:15	06:03	06:44	07:53	08:19	08:52				
	06	252° 54.8	312° 07.5	25.7	46° 23.8	54.7	151° 32.0	16.0	21° 22.3	18.5	Alioth	166° 19.8	55° 52.7 N	267° 06.9	04.2	218° 59.7	10.4	56.8	8.1	58°	N 58°	05:17	06:02	06:42	08:01	08:29	09:04				
	07	267° 57.3	327° 07.8	25.5	61° 26.4	54.6	166° 34.4	16.0	36° 24.8	18.5	Alkaid	152° 58.2	49° 14.3 N	282° 07.0	03.2	233° 29.1	10.3	13° 04.9 N	8.0	57.4	56°	05:19	06:02	06:39	08:08	08:38	09:14				
	08	282° 59.7	342° 08.1	25.4	76° 28.9	54.6	181° 36.9	16.0	51° 27.2	18.5	Alnair	27° 43.6	46° 53.4 S	297° 07.2	02.3	247° 58.4	10.3	12.9	8.0	54°	54°	05:21	06:02	06:37	08:14	08:46	09:23				
	09	298° 02.2	357° 08.4	25.2	91° 31.5	54.5	196° 39.4	16.0	66° 29.7	18.5	Anilim	275° 45.8	1° 11.9 S	312° 07.3	01.3	262° 27.7	10.3	20.9	7.8	52°	52°	05:22	06:01	06:35	08:19	08:53	09:31				
	10	313° 04.6	12° 08.7	25.1	106° 34.1	54.4	211° 41.9	16.0	81° 32.2	18.5	Alphard	217° 55.3	8° 43.5 S	327° 07.5	00.3	276° 57.0	10.4	28.7	7.8	57.3	50°	05:24	06:01	06:33	08:25	08:59	09:38				
	11	328° 07.1	27° 09.0	25.0	121° 36.7	54.4	226° 44.3	16.0	96° 34.7	18.5				342° 07.6	5° 59.4 S	291° 26.4	10.3	36.5	7.7	45°	45°	05:26	06:00	06:29	08:35	09:13	09:54				
	12	343° 09.6	42° 09.3	16° 24.8 S	136° 39.2	7° 54.3 S	241° 46.8	23° 16.0 N	111° 37.1	16° 18.4 S	Alphecca	126° 10.5	26° 39.9 N	357° 07.7	5° 58.4 S	305° 55.7	10.4	13° 44.2 N	7.6	57.2	N 40°	05:28	05:59	06:26	08:45	09:24	10:07				
	13	358° 12.0	57° 09.6	24.7	151° 41.8	54.3	256° 49.3	16.0	126° 39.6	18.4	Alpheratz	357° 43.3	29° 10.1 N	12° 07.9	57.4	320° 25.1	10.4	51.8	7.5	35°	35°	05:29	05:58	06:23	08:52	09:34	10:18				
	14	13° 14.5	72° 09.9	24.6	166° 44.4	54.2	271° 51.7	16.0	141° 42.1	18.4	Altair	62° 08.0	8° 54.4 N	27° 08.0	56.5	334° 54.5	10.4	59.3	7.5	30°	30°	05:29	05:57	06:21	08:59	09:43	10:28				
	15	28° 17.0	87° 10.2	24.4	181° 46.9	54.2	286° 54.2	16.0	156° 44.6	18.4	Ankaa	353° 15.6	42° 13.9 S	42° 08.2	55.5	349° 23.9	10.4	14° 06.8 N	7.3	57.1	20°	05:28	05:54	06:16	09:11	09:57	10:44				
	16	43° 19.4	102° 10.4	24.3	196° 49.5	54.1	301° 56.7	16.0	171° 47.0	18.4	Antares	112° 25.6	26° 27.6 S	57° 08.3	54.5	3° 53.3	10.4	14.1	7.3	N 10°	N 10°	05:26	05:51	06:12	09:22	10:10	10:59				
	17	58° 21.9	117° 10.7	24.1	211° 52.1	54.1	316° 59.2	16.0	186° 49.5	18.4				72° 08.4	53.6	18° 22.7	10.4	21.4	7.2	0°	0°	05:23	05:47	06:08	09:32	10:22	11:12				
	18	73° 24.4	132° 11.0	24.0	226° 54.7	54.0	332° 01.6	16.0	201° 52.0	18.4	Arcturus	145° 55.1	19° 06.4 N	87° 08.6	52.6	32° 52.1	10.4	28.6	7.1	57.0	S 10°	05:18	05:43	06:04	09:42	10:35	11:26				
	19	88° 26.8	147° 11.3	23.9	241° 57.3	54.0	347° 04.1	16.0	216° 54.5	18.4	Atria	107° 26.9	69° 02.8 S	102° 08.7	51.6	47° 21.5	10.4	35.7	7.0	20°	20°	05:11	05:37	05:59	09:53	10:48	11:41				
	20	103° 29.3	162° 11.6	23.7	256° 59.8	53.9	362° 06.6	16.0	231° 56.9	18.4	Avio	234° 17.3	59° 33.7 S	117° 08.9	50.7	61° 50.9	10.5	42.7	6.9	30°	30°	05:02	05:30	05:54	10:05	11:03	11:58				
	21	118° 31.7	177° 11.9	23.6	272° 02.4	53.9	17° 09.0	16.0	246° 59.4	18.3	Bellatrix	278° 31.4	6° 21.5 N	132° 09.0	49.7	76° 20.4	10.4	49.6	6.8	56.9	35°	04:55	05:26	05:51	10:12	11:11	12:07				
	22	133° 34.2	192° 12.1	23.4	287° 05.0	53.8	32° 11.5	16.0	262° 01.9	18.3	Betelgeuse	271° 00.7	7° 24.3 N	147° 09.2	48.7	90° 49.8	10.5	56.4	6.8	40°	40°	04:48	05:20	05:48	10:20	11:21	12:19				
23	148° 36.7	207° 12.4	23.3	302° 07.6	53.7	47° 14.0	16.0	277° 04.4	18.3				162° 09.3	47.8	105° 19.3	10.5	15° 03.2 N	6.6	56.8	45°	04:38	05:14	05:44	10:30	11:33	12:32					
Thursday	00	163° 39.1	222° 12.7	16° 23.1 S	317° 10.2	7° 53.7 S	62° 16.4	23° 16.0 N	292° 06.8	16° 18.3 S	Canopus	263° 55.7	52° 42.7 S	177° 09.4	5° 46.8 S	119° 48.8	10.5	15° 09.8 N	6.6	56.8	S 50°	04:26	05:06	05:39	10:41	11:47	12:48				
	01	178° 41.6	237° 13.0	23.0	332° 12.8	53.6	77° 18.9	16.0	307° 09.3	18.3	Capella	280° 33.6	46° 00.7 N	192° 09.6	45.8	134° 18.3	10.5	16.4	6.4	52°	52°	04:20	05:02	05:37	10:47	11:54	12:56				
	02	193° 44.1	252° 13.3	22.9	347° 15.4	53.6	92° 21.4	16.0	322° 11.8	18.3	Deneb	49° 31.5	45° 19.8 N	207° 09.7	44.9	148° 47.8	10.5	22.8	6.4	56.7	54°	04:13	04:58	05:34	10:53	12:02	13:04				
	03	208° 46.5	267° 13.5	22.7	2° 18.0	53.5	107° 23.8	16.0	337° 14.3	18.3	Denebola	182° 32.8	14° 29.3 S	222° 09.9	43.9	163° 17.3	10.5	29.2	6.3	56°	56°	04:05	04:53	05:31	10:59	12:10	13:14				
	04	223° 49.0	282° 13.8	22.6	17° 20.5	53.5	122° 26.3	16.0	352° 16.7	18.3	Diphda	348° 55.7	17° 54.7 S	237° 10.0	42.9	177° 46.8	10.5	35.5	6.2	58°	58°	03:57	04:47	05:28	11:07	12:19	13:24				
	05	238° 51.5	297° 14.1	22.4	32° 23.1	53.4	137° 28.8	16.1	7° 19.2	18.2				252° 10.2	41.9	192° 16.3	10.6	41.7	6.1	56.6	S 60°	03:46	04:41	05:25	11:15	12:30	13:37				
	06	253° 53.9	312° 14.3	22.3	47° 25.7	53.3	152° 31.2	16.1	22° 21.7	18.2	Dubhe	193° 50.5	61° 40.3 N	267° 10.3	41.0	206° 45.9	10.5	47.8	6.1	61°											
	07	268° 56.4	327° 14.6	22.1	62° 28.3	53.3	167° 33.7	16.1	37° 24.2	18.2	Elinath	278° 11.9	28° 37.0 N	282° 10.4	40.0	221° 15.4	10.6	53.9	5.9												
	08	283° 58.9	342° 14.9	22.0	77° 30.9	53.2	182° 36.2	16.1	52° 26.7	18.2	Eltanin	90° 46.0	51° 29.1 N	297° 10.6	39.0	235° 45.0	10.6	59.8	5.8	56.5											
	09	299° 01.3	357° 15.1	21.8	92° 33.5	53.1	197° 38.6	16.1	67° 29.1	18.2	Enif	33° 46.9	9° 56.4 N	312° 10.7	38.1	250° 14.6	10.5	16° 05.6 N	5.8												
	10	314° 03.8	12° 15.4	21.6	107° 36.1	53.1	212° 41.1	16.1	82° 31.6	18.2	Fomalhaut	15° 23.8	29° 32.8 S	327° 10.9	37.1	264° 44.1	10.6	11.4	5.7	56.4											
	11	329° 06.2	27° 15.7	21.5	122° 38.7	53.0	227° 43.6	16.1	97° 34.1	18.2				342° 11.0	36.1	279° 13.7	10.6	17.1	5.5												
	12	344° 08.7	42° 15.9	16° 21.3 S	137° 41.3	7° 53.0 S	242° 46.0	23° 16.1 N	112° 36.6	16° 18.2 S	Gacrux	171° 59.7	57° 11.6 S	357° 11.2	5° 35.2 S	293° 43.3	10.7	16° 22.6 N	5.5	56.4	N 70°	17:20	18:21	19:33	-	01:16	02:54				
	13	359° 11.2	57° 16.2	21.2	152° 43.9	52.9	257° 48.5	16.1	127° 39.0	18.2	Giennah	175° 51.4	17° 37.4 S	12° 11.3	34.2	308° 13.0	10.6	28.1	5.4	56.3	68°	17:25	18:21	19:26	-	00:50	02:18				
	14	14° 13.6	72° 16.5																												

2014 March 8, 9, 10 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.5			MARS -0.7			JUPITER -2.4			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:29	05:49	06:56	-	-	-		
Saturday	00	165° 37.4	222° 24'.6	16° 15'.3 S	319° 15.9	7° 50'.4 S	64° 14'.5	23° 16'.2 N	294° 05'.9	16° 17'.7 S	309° 08'.4	17.7	Acamar	315° 18'.2	40° 15'.2 S	177° 16'.5	5° 00'.2 S	95° 37'.8	11'.1	18° 40'.6 N	2.1	55.3	N 70°	04:38	05:50	06:51	07:15	07:59	09:13		
	01	180° 39.9	237° 24.8	15.1	334° 18.5	50.4	79° 16.9	16.2	309° 08.4	17.7	335° 26.9	57° 10.1 S	192° 16.7	4° 59.2 S	110° 07.9	11.1	42.7	2.0	68°	04:46	05:51	06:46	08:04	08:50	09:55						
	02	195° 42.3	252° 25.0	14.9	349° 21.2	50.3	94° 19.4	16.2	324° 10.9	17.7	347° 08.0	63° 10.7 S	207° 16.8	58.2	124° 38.0	11.2	44.7	1.9	55.2	66°	04:52	05:52	06:43	08:35	09:22	10:23					
	03	210° 44.8	267° 25.3	14.7	4° 23.8	50.2	109° 21.8	16.2	339° 13.4	17.7	359° 11.9	28° 59.9 S	222° 17.0	57.2	139° 08.2	11.2	46.6	1.8	64°	04:58	05:53	06:40	08:58	09:46	10:44						
	04	225° 47.3	282° 25.5	14.5	19° 26.5	50.1	124° 24.3	16.2	354° 15.8	17.6	225° 40.8	16° 32.1 N	237° 17.1	56.3	153° 38.4	11.2	48.4	1.7	62°	05:02	05:53	06:37	09:16	10:04	11:02						
	05	240° 49.7	297° 25.7	14.4	34° 29.1	50.1	139° 26.7	16.2	9° 18.3	17.6	252° 17.3	55.3	168° 08.6	11.2	50.1	1.6	60°	05:06	05:54	06:35	09:32	10:20	11:16								
	06	255° 52.2	312° 25.9	14.2	49° 31.8	50.0	154° 29.2	16.2	24° 20.8	17.6	267° 17.4	54.3	182° 38.8	11.2	51.7	1.5	55.1	N 58°	05:09	05:54	06:33	09:44	10:33	11:28							
	07	270° 54.7	327° 26.1	14.0	64° 34.4	49.9	169° 31.6	16.2	39° 23.3	17.6	282° 17.6	53.3	197° 09.0	11.3	53.2	1.5	56°	05:11	05:54	06:31	09:56	10:44	11:39								
	08	285° 57.1	342° 26.3	13.8	79° 37.1	49.8	184° 34.1	16.2	54° 25.8	17.6	297° 17.7	52.4	211° 39.3	11.2	54.7	1.3	54°	05:14	05:55	06:30	10:05	10:54	11:48								
	09	300° 59.6	357° 26.5	13.6	94° 39.7	49.7	199° 36.5	16.2	69° 23.7	17.6	312° 17.9	51.4	226° 09.5	11.3	56.0	1.2	52°	05:16	05:55	06:28	10:14	11:03	11:56								
	10	316° 02.1	12° 26.7	13.4	109° 42.4	49.6	214° 38.9	16.2	84° 30.8	17.6	327° 18.0	50.4	240° 39.8	11.4	57.2	1.2	55.0	50°	05:17	05:55	06:27	10:22	11:11	12:04							
	11	331° 04.5	27° 27.0	13.2	124° 45.1	49.6	229° 41.4	16.2	99° 33.2	17.6	342° 18.2	49.4	255° 10.2	11.3	58.4	1.0	45°	05:21	05:55	06:24	10:39	11:27	12:20								
	12	346° 07.0	42° 27.2	16° 13.0 S	139° 47.7	7° 49.5 S	244° 43.8	23° 16.2 N	114° 35.7	16° 17.5 S	357° 18.3	4° 48.5 S	269° 40.5	11.3	18° 59.4 N	1.0	55.0	N 40°	05:23	05:54	06:21	10:53	11:41	12:33							
	13	1° 09.5	57° 27.4	12.8	154° 50.4	49.4	259° 46.3	16.2	129° 38.2	17.5	12° 18.5	47.5	284° 10.8	11.4	19° 00.4 N	0.9	35°	05:25	05:54	06:19	11:04	11:53	12:44								
	14	16° 11.9	72° 27.6	12.7	169° 53.1	49.3	274° 48.7	16.2	144° 40.7	17.5	12° 18.5	47.5	284° 10.8	11.4	19° 00.4 N	0.9	35°	05:25	05:54	06:19	11:04	11:53	12:44								
	15	31° 14.4	87° 27.8	12.5	184° 55.7	49.2	289° 51.2	16.2	159° 43.2	17.5	27° 17.7	46.5	298° 41.2	11.4	01.3	0.7	54.9	30°	05:26	05:53	06:17	11:14	12:03	12:53							
	16	46° 16.8	102° 28.0	12.3	199° 58.4	49.2	304° 53.6	16.2	174° 45.7	17.5	42° 18.8	45.5	313° 11.6	11.4	02.0	0.7	30°	05:26	05:52	06:14	11:22	12:11	13:10								
	17	61° 19.3	117° 28.2	12.1	215° 01.1	49.1	319° 56.1	16.2	189° 48.2	17.5	57° 19.0	44.6	327° 42.0	11.5	02.7	0.6	N 10°	05:25	05:49	06:10	11:47	12:36	13:24								
	18	76° 21.8	132° 28.4	11.9	230° 03.7	49.0	334° 58.5	16.2	204° 50.7	17.5	72° 19.1	43.6	342° 12.5	11.4	03.3	0.5	0°	05:22	05:47	06:07	12:02	12:50	13:38								
	19	91° 24.2	147° 28.6	11.7	245° 06.4	48.9	350° 00.9	16.2	219° 53.1	17.4	87° 19.3	42.6	356° 42.9	11.5	03.8	0.4	S 10°	05:18	05:43	06:04	12:16	13:05	13:51								
	20	106° 26.7	162° 28.8	11.5	260° 09.1	48.8	365° 03.4	16.2	234° 55.6	17.4	102° 19.4	41.6	11° 13.4	11.5	04.2	0.3	54.8	20°	05:13	05:38	06:00	12:32	13:20	14:06							
	21	121° 29.2	177° 29.0	11.3	275° 11.8	48.7	20° 05.8	16.2	249° 58.1	17.4	117° 19.6	40.7	25° 43.9	11.5	04.5	0.2	30°	05:04	05:32	05:56	12:49	13:38	14:22								
	22	136° 31.6	192° 29.2	11.1	290° 14.4	48.6	35° 08.3	16.2	265° 00.6	17.4	278° 31.4	6° 21.5 N	132° 19.7	39.7	40° 14.4	11.6	04.7	0.2	35°	04:58	05:28	05:54	13:00	13:48	14:32						
23	151° 34.1	207° 29.4	10.9	305° 17.1	48.6	50° 10.7	16.2	280° 03.1	17.4	147° 19.9	38.7	54° 45.0	11.5	04.9	0.0	40°	04:51	05:24	05:51	13:11	14:00	14:43									
										162° 20.0	37.7	69° 15.5	11.6	04.9	0.1	45°	04:43	05:18	05:48	13:25	14:13	14:56									
Sunday	00	166° 36.6	222° 29.6	16° 10.7 S	320° 19.8	7° 48.5 S	65° 13'.2	23° 16'.2 N	295° 05'.6	16° 17'.4 S	309° 08'.4	17.7	Canopus	263° 55'.7	52° 42'.7 S	177° 20'.2	4° 36'.8 S	83° 46'.1	11'.6	19° 04'.8 N	0'.1	54.7	S 50°	04:32	05:11	05:44	13:42	14:30	15:12		
	01	181° 39.0	237° 29.8	10.5	335° 22.5	48.4	80° 15.6	16.2	310° 08.1	17.4	192° 20.4	35.8	98° 16.7	11.7	04.7	0.2	52°	04:26	05:08	05:42	13:50	14:38	15:19								
	02	196° 41.5	252° 29.9	10.3	350° 25.2	48.3	95° 18.0	16.2	325° 10.6	17.3	207° 20.5	34.8	112° 47.4	11.6	04.5	0.4	54°	04:20	05:04	05:40	13:59	14:47	15:27								
	03	211° 43.9	267° 30.1	10.1	5° 27.8	48.2	110° 20.5	16.2	340° 13.1	17.3	222° 20.7	33.8	127° 18.0	11.7	04.1	0.4	56°	04:13	05:00	05:38	14:09	14:57	15:36								
	04	226° 46.4	282° 30.3	09.9	20° 30.5	48.1	125° 22.9	16.2	355° 15.5	17.3	237° 20.8	32.8	141° 48.7	11.7	03.7	0.5	58°	04:05	04:55	05:35	14:21	15:08	15:47								
	05	241° 48.9	297° 30.5	09.7	35° 33.2	48.0	140° 25.4	16.2	10° 18.0	17.3	252° 21.0	31.9	156° 19.4	11.8	03.2	0.6	54.6	S 60°	03:56	04:49	05:32	14:34	15:21	15:58							
	06	256° 51.3	312° 30.7	09.5	50° 35.9	47.9	155° 27.8	16.2	25° 20.5	17.3	267° 21.1	30.9	170° 50.2	11.7	02.6	0.7	S 62°	03:45	04:43	05:29	14:50	15:36	16:12								
	07	271° 53.8	327° 30.9	09.3	65° 38.6	47.8	170° 30.2	16.2	40° 23.0	17.3	282° 21.3	29.9	185° 20.9	11.8	01.9	0.8															
	08	286° 56.3	342° 31.1	09.1	80° 41.3	47.8	185° 32.7	16.2	55° 25.5	17.2	297° 21.5	28.9	199° 51.7	11.8	01.1	0.8															
	09	301° 58.7	357° 31.3	08.9	95° 44.0	47.7	200° 35.1	16.2	70° 28.0	17.2	312° 21.6	28.0	214° 22.5	11.8	00.3	1.0															
	10	317° 01.2	12° 31.4	08.6	110° 46.7	47.6	215° 37.5	16.2	85° 30.5	17.2	327° 21.8	27.0	228° 53.3	11.9	18° 59.3 N	1.0															
	11	332° 03.7	27° 31.6	08.4	125° 49.3	47.5	230° 40.0	16.2	100° 33.0	17.2	342° 21.9	26.0	243° 24.2	11.8	58.3	1.2	54.5	N 72°	17:28	18:35	19:56	-	-	-							
	12	347° 06.1	42° 31.8	16° 08.2 S	140° 52.0	7° 47.4 S	245° 42.4	23° 16.2 N	115° 35.5	16° 17.2 S	357° 22.1	4° 25.0 S	257° 55.0	11.9	18° 57.1 N	1.2	54.5	N 70°	17:32	18:33	19:46	04:20	05:18	05:43							
	13	2° 08.6	57° 32.0	08.0	155° 54.7	47.3	260° 44.9	16.2	130° 38.0	17.2	12° 22.2	24.0	272° 25.9	12.0	55.9	1.3	68°	17:36	18:32	19:38	03:32	04:27	05:01								
	14	17° 11.1	72° 32.2	07.8	170° 57.4	47.2	275° 47.3	16.2	145° 40.5	17.2	27° 22.4	23.1	286° 56.9	11.9	54.6	1.4	66°	17:40	18:31	19:31	03:01	03:55	04:33								
	15	32° 13.5	87° 32.3	07.6	186° 00.1	47.1	290° 49.7	16.2	160° 42.9	17.1	42° 26.2	22.1	301° 27.8	12.0	53.2	1.5	64°	17:42	18:30	19:25	02:38	03:31	04:11								
	16	47° 16.0	102° 32.5	07.4	201° 02.8	47.0	305° 52.2	16.2	175° 45.4	17.1	57° 22.7	21.1	315° 58.8	12.0	51.7	1.6	62°	17:45	18:29	19:21	02:20	03:12	03:53								
	17	62° 18.4	117° 32.7	07.2	216° 05.5	46.9	320° 54.6	16.2	190° 47.9	17.1	72° 22.9	20.1	330° 29.8	12																	

2014 March 11, 12, 13 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.5			MARS -0.8			JUPITER -2.3			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	11	12	13	Lat	Sunset	Twilight	Nautical	11	12	13	Mer. Pass.	Mer. Pass.	Mer. Pass.	Age/Vis														
Tuesday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:12	05:33	06:40	09:53	11:43	13:25					
	168° 34'.8	222° 37'.6	16° 00'.2 S	322° 29'.9	7° 43'.8 S	67° 09'.9	23° 16'.3 N	297° 05'.3	16° 16'.6 S	Acamar	315° 18'.2	40° 15'.2 S	177° 27'.9	3° 49'.8 S	60° 43'.7	12.9	17° 19'.7 N	4.2	54.1	N 70°	04:24	05:36	06:37	10:41	12:12	13:44					
	183° 37'.3	237° 37'.8	15° 59'.9 S	337° 32'.6	43'.7	82° 12'.3	16'.3	312° 07'.8	16'.6	Achernar	335° 26'.9	57° 10'.1 S	192° 28'.0	48'.8	75° 15'.6	12.8	15'.5	4'.3			68°	04:33	05:39	06:34	11:11	12:34	13:58				
	198° 39'.8	252° 37'.9	59'.7	352° 35'.4	43'.6	97° 14'.7	16'.3	327° 10'.3	16'.6	Acruz	173° 08'.0	63° 10'.7 S	207° 28'.2	47'.8	89° 47'.4	12.9	11'.2	4'.4			66°	04:40	05:41	06:32	11:34	12:51	14:10				
	213° 42'.2	267° 38'.1	59'.5	7° 38'.1	43'.5	112° 17'.2	16'.3	342° 12'.8	16'.6	Adhara	255° 12'.0	28° 59'.9 S	222° 28'.3	46'.8	104° 19'.3	13.0	06'.8	4'.4			64°	04:47	05:42	06:30	11:52	13:04	14:20				
	228° 44'.7	282° 38'.2	59'.2	22° 40'.9	43'.4	127° 19'.6	16'.3	357° 15'.3	16'.6	Aldebaran	290° 48'.8	16° 32'.1 N	237° 28'.5	45'.8	118° 51'.3	12.9	02'.4	4'.5			62°	04:52	05:44	06:28	12:06	13:16	14:28				
	243° 47'.2	297° 38'.4	59'.0	37° 43'.6	43'.3	142° 22'.0	16'.3	12° 17'.8	16'.5				252° 28'.7	44'.9	133° 23'.2	13.0	16° 57'.9 N	4'.6			60°	04:56	05:45	06:26	12:19	13:26	14:35				
	258° 49'.6	312° 38'.5	58'.7	52° 46'.3	43'.1	157° 24'.4	16'.3	27° 20'.3	16'.5	Alioth	166° 19'.8	55° 52'.8 N	267° 28'.8	43'.9	147° 55'.2	13.0	53'.3	4'.7			N 58°	05:00	05:46	06:25	12:29	13:34	14:42				
	273° 52'.1	327° 38'.6	58'.5	67° 49'.1	43'.0	172° 26'.9	16'.3	42° 22'.8	16'.5	Alkaid	152° 58'.1	49° 14'.3 N	282° 29'.0	42'.9	162° 27'.2	13.1	48'.6	4'.7			56°	05:03	05:47	06:24	12:38	13:42	14:47				
	288° 54'.5	342° 38'.8	58'.2	82° 51'.8	42'.9	187° 29'.3	16'.3	57° 25'.3	16'.5	Alnilam	27° 43'.6	46° 53'.4 S	297° 29'.2	41'.9	176° 59'.3	13.0	43'.9	4'.8			54°	05:06	05:47	06:23	12:46	13:48	14:52				
	303° 57'.0	357° 38'.9	58'.0	97° 54'.6	42'.8	202° 31'.7	16'.3	72° 27'.8	16'.5	Alnilam	275° 45'.8	1° 11'.9 S	312° 29'.3	40'.9	191° 31'.3	13.1	39'.1	4'.9			52°	05:09	05:48	06:21	12:54	13:54	14:57				
	318° 59'.5	12° 39'.0	57'.8	112° 57'.4	42'.7	217° 34'.1	16'.3	87° 30'.3	16'.5	Alphard	217° 55'.3	8° 43'.5 S	327° 29'.5	39'.9	206° 03'.4	13.1	34'.2	5'.0			50°	05:11	05:48	06:21	13:00	14:00	15:01				
	334° 01'.9	27° 39'.2	57'.5	128° 00'.1	42'.6	232° 36'.5	16'.3	102° 32'.8	16'.4				342° 29'.7	39'.0	220° 35'.5	13.2	29'.2	5'.0			45°	05:15	05:49	06:18	13:14	14:11	15:10				
	349° 04'.4	42° 39'.3	15° 57'.3 S	143° 02'.9	7° 42'.5 S	247° 39'.0	23° 16'.3 N	117° 35'.3	16° 16'.4 S	Alphecca	126° 10'.4	26° 39'.9 N	357° 29'.8	3° 38'.0 S	235° 07'.7	13.1	16° 24'.2 N	5'.1	54.1	N 40°	05:18	05:50	06:17	13:26	14:21	15:17					
	4° 06'.9	57° 39'.4	57'.0	158° 05'.6	42'.4	262° 41'.4	16'.3	132° 37'.8	16'.4	Alpheratz	357° 43'.3	29° 10'.1 N	12° 30'.0	37'.0	249° 39'.8	13.2	19'.1	5'.2			35°	05:21	05:50	06:15	13:36	14:29	15:23				
	19° 09'.3	72° 39'.6	56'.8	173° 08'.4	42'.3	277° 43'.8	16'.3	147° 40'.3	16'.4	Altair	62° 07'.9	8° 54'.4 N	27° 30'.2	36'.0	264° 12'.0	13.2	13'.9	5'.2			30°	05:22	05:50	06:14	13:44	14:36	15:29				
	34° 11'.8	87° 39'.7	56'.5	188° 11'.1	42'.1	292° 46'.2	16'.3	162° 42'.8	16'.4	Ankaa	353° 15'.6	42° 13'.9 S	42° 30'.3	35'.0	278° 44'.2	13.3	08'.7	5'.3			20°	05:24	05:49	06:11	13:59	14:49	15:38				
	49° 14'.3	102° 39'.8	56'.3	203° 13'.9	42.0	307° 48'.6	16'.3	177° 45'.3	16'.4	Antares	112° 25'.5	26° 27'.6 S	57° 30'.5	34'.1	293° 16'.5	13.2	03'.4	5'.4			N 10°	05:23	05:48	06:09	14:12	15:00	15:46				
	64° 16'.7	117° 40'.0	56'.0	218° 16'.7	41'.9	322° 51'.0	16'.3	192° 47'.8	16'.3				72° 30'.7	33'.1	307° 48'.7	13.3	15° 58'.0 N	5'.4			0°	05:22	05:46	06:06	14:24	15:10	15:54				
	79° 19'.2	132° 40'.1	55'.8	233° 19'.4	41'.8	337° 53'.5	16'.3	207° 50'.3	16'.3	Arcturus	145° 55'.0	19° 06'.4 N	87° 30'.8	32'.1	322° 21'.0	13.3	52'.6	5'.6			S 10°	05:19	05:43	06:04	14:36	15:20	16:02				
	94° 21'.7	147° 40'.2	55'.5	248° 22'.2	41'.7	352° 55'.9	16'.3	222° 52'.8	16'.3	Arcturus	107° 26'.8	69° 02'.8 S	102° 31'.0	31'.1	336° 53'.3	13.4	47'.0	5'.6			20°	05:14	05:39	06:01	14:49	15:31	16:10				
	109° 24'.1	162° 40'.3	55'.3	263° 25'.0	41'.6	7° 58'.3	16'.3	237° 55'.3	16'.3	Atira	234° 17'.3	59° 33'.7 S	117° 31'.1	30'.1	351° 25'.7	13.4	41'.4	5'.6			30°	05:06	05:34	05:58	15:04	15:43	16:20				
	124° 26'.6	177° 40'.5	55'.0	278° 27'.7	41'.5	23° 00'.7	16'.3	252° 57'.8	16'.3	Bellatrix	278° 31'.4	6° 21'.5 N	132° 31'.3	29'.1	5° 58'.1	13.4	35'.8	5'.8			35°	05:01	05:31	05:56	15:13	15:50	16:25				
139° 29'.0	192° 40'.6	54'.8	293° 30'.5	41'.3	38° 03'.1	16'.3	268° 00'.3	16'.2	Betelgeuse	271° 00'.7	7° 24'.3 N	147° 31'.5	28'.2	20° 30'.5	13.4	30'.0	5'.8			40°	04:55	05:27	05:54	15:22	15:58	16:31					
154° 31'.5	207° 40'.7	54'.5	308° 33'.3	41'.2	53° 05'.5	16'.3	283° 02'.8	16'.2				162° 31'.6	27'.2	35° 02'.9	13.4	24'.2	5'.8			45°	04:47	05:22	05:52	15:34	16:08	16:38					
Wednesday	169° 34'.0	222° 40'.8	15° 54'.2 S	323° 36'.0	7° 41'.1 S	68° 08'.0	23° 16'.3 N	298° 05'.3	16° 16'.2 S	Canopus	263° 55'.8	52° 42'.7 S	177° 31'.8	3° 26'.2 S	49° 35'.3	13.5	15° 18'.4 N	6'.0	54.1	S 50°	04:37	05:16	05:49	15:47	16:19	16:47					
	184° 36'.4	237° 41'.0	54'.0	338° 38'.8	41'.0	83° 10'.4	16'.3	313° 07'.8	16'.2	Capella	280° 33'.7	46° 00'.7 N	192° 32'.0	25'.2	64° 07'.8	13.5	12'.4	6'.0			52°	04:32	05:13	05:47	15:54	16:24	16:51				
	199° 38'.9	252° 41'.1	53'.7	353° 41'.6	40'.9	98° 12'.8	16'.3	328° 10'.3	16'.2	Deneb	49° 31'.4	45° 19'.8 N	207° 32'.1	24'.2	78° 40'.3	13.5	06'.4	6'.0			54°	04:27	05:10	05:46	16:01	16:30	16:55				
	214° 41'.4	267° 41'.2	53'.5	8° 44'.4	40'.7	113° 15'.2	16'.3	343° 12'.8	16'.1	Denebola	182° 32'.8	14° 29'.4 N	222° 32'.3	23'.2	93° 12'.8	13.5	00'.4	6'.2			56°	04:20	05:06	05:44	16:09	16:36	17:00				
	229° 43'.8	282° 41'.3	53'.2	23° 47'.1	40'.6	128° 17'.6	16'.3	358° 15'.3	16'.2	Diphda	348° 55'.7	17° 54'.7 S	237° 32'.5	22'.3	107° 45'.3	13.6	14° 54'.2 N	6'.2			58°	04:13	05:02	05:42	16:18	16:43	17:05				
	244° 46'.3	297° 41'.4	52'.9	38° 49'.9	40'.5	143° 20'.0	16'.3	13° 17'.8	16'.1				252° 32'.6	21'.3	122° 17'.9	13.6	48'.0	6'.2			S 60°	04:05	04:57	05:40	16:28	16:51	17:11				
	259° 48'.8	312° 41'.6	52'.7	53° 52'.7	40'.4	158° 22'.4	16'.2	28° 20'.3	16'.1	Dubhe	193° 50'.5	61° 40'.3 N	267° 32'.8	20'.3	136° 50'.5	13.6	41'.8	6'.4			S 62°	03:55	04:52	05:37	16:40	17:01	17:18				
	274° 51'.2	327° 41'.7	52'.4	68° 55'.5	40'.3	173° 24'.8	16'.2	43° 22'.8	16'.1	Einath	278° 11'.9	28° 37'.0 N	282° 33'.0	19'.3	151° 23'.1	13.6	35'.4	6'.4													
	289° 53'.7	342° 41'.8	52'.2	83° 58'.2	40'.2	188° 27'.3	16'.2	58° 25'.3	16'.1	Eltanin	90° 46'.0	51° 29'.1 N	297° 33'.1	18'.3	165° 55'.7	13.7	29'.0	6'.4													
	304° 56'.1	357° 41'.9	51'.9	99° 01'.0	40'.0	203° 29'.7	16'.2	73° 27'.8	16'.1	Enif	33° 46'.9	9° 56'.4 N	312° 33'.3	17'.3	180° 28'.4	13.7	22'.6	6'.5													
	319° 58'.6	12° 42'.0	51'.6	114° 03'.8	39'.9	218° 32'.1	16'.2	88° 30'.3	16'.0	Fomalhaut	15° 23'.8	29° 32'.8 S	327° 33'.5	16'.4	195° 01'.1	13.7	16'.1	6'.6													
	335° 01'.1	27° 42'.1	51'.4	129° 06'.6	39'.8	233° 34'.5	16'.2	103° 32'.8	16'.0				342° 33'.7	15'.4	209° 33'.8	13.7	09'.5	6'.7			N 72°	17:42	18:49	20:11	06:41	06:26	06:16				
	350° 03'.5	42° 42'.2	15° 51'.1 S	144° 09'.4	7° 39'.7 S	248° 36'.9	23° 16'.2 N	118° 35'.3	16° 16'.0 S	Gacrux	171° 59'.7	57° 11'.6 S	357° 33'.8	3° 14'.4 S	224° 06'.5	13.7	14° 02'.8 N	6'.7	54.1	N 70°	17:45	18:46	19:59	05:52	05:55	05:56					
	5° 06'.0	57° 42'.3	50'.8	159° 12'.2	39'.5	263° 39'.3	16'.2	133° 37'.8	16'.0	Giennah	175° 51'.4	17° 37'.4 S	12° 34'.0	13'.4	238° 39'.2	13.8	13° 56'.1 N	6'.7			68°	17:47	18:43	19:49	05:21	05:33	05:40				
	20° 08'.5	72° 42'.5</																													

2014 March 14, 15, 16 (Fri, Sat, Sun)

GMT	ARIES			VENUS -4.4			MARS -0.9			JUPITER -2.3			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:54	05:18	06:25	15:05	16:43	18:23	
Friday	00	171° 32.2	222° 45.7	15° 41.0 S	325° 50.5	7° 35.0 S	70° 03.4	23° 16.2 N	300° 05.5	16° 15.3 S	Acamar	315° 18.2	40° 15.2 S	177° 40.0	2° 38.9 S	27° 56.7	14.4	9° 26.1 N	8.6	54.4	N 70°	04:08	05:22	06:23	15:16	16:48	18:21			
	01	186° 34.7	237° 45.7	40.7	340° 53.4	34.9	85° 05.8	16.2	315° 08.1	15.3	Achernar	335° 27.0	57° 10.1 S	192° 40.1	38.0	42° 30.1	14.3	17.5	8.7	68°	68°	04:19	05:26	06:21	15:24	16:51	18:19			
	02	201° 37.2	252° 45.8	40.4	355° 56.2	34.7	100° 08.2	16.2	330° 10.6	15.3	Acruz	173° 07.9	63° 10.7 S	207° 40.3	37.0	57° 03.4	14.3	08.8	8.7	66°	64°	04:28	05:29	06:20	15:32	16:54	18:18			
	03	216° 39.6	267° 45.9	40.1	10° 59.0	34.6	115° 10.6	16.2	345° 13.1	15.3	Adhara	255° 12.0	28° 59.9 S	222° 40.5	36.0	71° 36.7	14.4	00.1	8.7	64°	64°	04:36	05:32	06:19	15:38	16:57	18:17			
	04	231° 42.1	282° 46.0	39.8	26° 01.9	34.5	130° 13.0	16.2	0° 15.6	15.2	Aldebaran	290° 48.8	16° 32.1 N	237° 40.6	35.0	86° 10.1	14.3	8° 51.4 N	8.8	54.5	62°	04:42	05:34	06:18	15:43	16:59	18:16			
	05	246° 44.6	297° 46.0	39.5	41° 04.7	34.3	145° 15.4	16.2	15° 18.1	15.2				252° 40.8	34.0	100° 43.4	14.4	42.6	8.9	60°	60°	04:47	05:36	06:17	15:47	17:01	18:15			
	06	261° 47.0	312° 46.1	39.2	56° 07.6	34.2	160° 17.8	16.2	30° 20.6	15.2	Alioth	166° 19.8	55° 52.8 N	267° 41.0	33.0	115° 16.8	14.4	33.7	8.8	N 58°	58°	04:51	05:38	06:16	15:51	17:02	18:14			
	07	276° 49.5	327° 46.2	38.9	71° 10.4	34.0	175° 20.2	16.2	45° 23.1	15.2	Alkaid	152° 58.1	49° 14.3 N	282° 41.2	32.0	129° 50.2	14.4	24.9	8.9	56°	56°	04:55	05:39	06:16	15:55	17:04	18:14			
	08	291° 52.0	342° 46.3	38.6	86° 13.2	33.9	190° 22.6	16.2	60° 25.6	15.2	Alnair	27° 43.5	46° 53.4 S	297° 41.3	31.1	144° 23.6	14.4	16.0	9.0	54°	54°	04:59	05:40	06:15	15:58	17:05	18:13			
	09	306° 54.4	357° 46.3	38.3	101° 16.1	33.8	205° 25.0	16.2	75° 28.1	15.1	Alnilam	275° 45.8	1° 11.9 N	312° 41.5	30.1	158° 57.0	14.3	07.0	9.0	52°	52°	05:02	05:41	06:15	16:01	17:06	18:13			
	10	321° 56.9	12° 46.4	38.0	116° 18.9	33.6	220° 27.4	16.2	90° 30.7	15.1	Alphard	217° 55.3	8° 43.5 S	327° 41.7	29.1	173° 30.3	14.4	7° 58.0 N	9.0	50°	50°	05:04	05:42	06:14	16:03	17:07	18:12			
	11	336° 59.4	27° 46.5	37.7	131° 21.8	33.5	235° 29.8	16.2	105° 33.2	15.1				342° 41.9	28.1	188° 03.7	14.4	49.0	9.0	45°	45°	05:10	05:44	06:13	16:09	17:10	18:11			
	12	352° 01.8	42° 46.6	15° 37.4 S	146° 24.6	7° 33.3 S	250° 32.2	23° 16.2 N	120° 35.7	16° 15.1 S	Alphecca	126° 10.4	26° 39.9 N	357° 42.0	2° 27.1 S	202° 37.1	14.5	7° 40.0 N	9.1	54.6	N 40°	05:13	05:45	06:12	16:14	17:12	18:10			
	13	7° 04.3	57° 46.6	37.1	161° 27.5	33.2	265° 34.6	16.2	135° 38.2	15.1	Alpheratz	357° 43.3	29° 10.1 N	12° 42.2	26.1	217° 10.6	14.4	30.9	9.2	35°	35°	05:16	05:46	06:11	16:18	17:13	18:10			
	14	22° 06.7	72° 46.7	36.8	176° 30.3	33.1	280° 37.0	16.2	150° 40.7	15.0	Altair	62° 07.9	8° 54.4 N	27° 42.4	25.1	231° 44.0	14.4	21.7	9.1	30°	30°	05:19	05:46	06:10	16:21	17:15	18:09			
	15	37° 09.2	87° 46.8	36.5	191° 33.2	32.9	295° 39.3	16.2	165° 43.2	15.0	Ankaa	353° 15.7	42° 13.8 S	42° 42.6	24.2	246° 17.4	14.4	12.6	9.3	20°	20°	05:21	05:47	06:09	16:28	17:18	18:08			
	16	52° 11.7	102° 46.8	36.2	206° 36.0	32.8	310° 41.7	16.2	180° 45.7	15.0	Antares	112° 25.5	26° 27.6 S	57° 42.7	23.2	260° 50.8	14.4	03.3	9.2	N 10°	10°	05:22	05:46	06:07	16:33	17:20	18:07			
	17	67° 14.1	117° 46.9	35.9	221° 38.9	32.6	325° 44.1	16.2	195° 48.2	15.0				72° 42.9	22.2	275° 24.2	14.5	6° 54.1 N	9.3	0°	0°	05:25	05:45	06:06	16:38	17:22	18:06			
	18	82° 16.6	132° 47.0	35.5	236° 41.7	32.5	340° 46.5	16.2	210° 50.8	15.0	Arcturus	145° 55.0	19° 06.4 N	87° 43.1	21.2	289° 57.7	14.4	44.8	9.3	S 10°	10°	05:19	05:43	06:04	16:43	17:24	18:05			
	19	97° 19.1	147° 47.0	35.2	251° 44.6	32.3	355° 48.9	16.2	225° 53.3	14.9	Atria	107° 26.7	69° 02.8 S	102° 43.3	20.2	304° 31.1	14.4	35.5	9.3	20°	20°	05:15	05:40	06:02	16:49	17:27	18:05			
	20	112° 21.5	162° 47.1	34.9	266° 47.5	32.2	10° 51.3	16.2	240° 55.8	14.9	Avior	234° 17.3	59° 33.7 S	117° 43.4	19.2	319° 04.5	14.4	26.2	9.4	54.7	30°	30°	05:08	05:36	06:00	16:55	17:29	18:04		
	21	127° 24.0	177° 47.2	34.6	281° 50.3	32.0	25° 53.7	16.2	255° 58.3	14.9	Bellatrix	278° 31.5	6° 21.5 S	132° 43.6	18.2	333° 37.9	14.5	16.8	9.4	35°	35°	05:04	05:34	05:59	16:58	17:31	18:03			
	22	142° 26.5	192° 47.2	34.3	296° 53.2	31.9	40° 56.1	16.1	271° 00.8	14.9	Betelgeuse	271° 00.7	7° 24.3 N	147° 43.8	17.3	348° 11.4	14.4	07.4	9.4	40°	40°	04:58	05:30	05:57	17:02	17:32	18:02			
23	157° 28.9	207° 47.3	34.0	311° 56.0	31.8	55° 58.5	16.1	286° 03.3	14.9				162° 44.0	16.3	2° 44.8	14.4	5° 58.0 N	9.5	45°	45°	04:51	05:26	05:56	17:07	17:34	18:02				
Saturday	00	172° 31.4	222° 47.3	15° 33.7 S	326° 58.9	7° 31.6 S	71° 00.9	23° 16.1 N	301° 05.8	16° 14.8 S	Canopus	263° 55.8	52° 42.7 S	177° 44.1	2° 15.3 S	17° 18.2	14.4	5° 48.5 N	9.5	54.7	S 50°	04:42	05:21	05:54	17:12	17:37	18:01			
	01	187° 33.8	237° 47.4	33.4	342° 01.8	31.5	86° 03.2	16.1	316° 08.4	14.8	Capella	280° 33.7	46° 00.7 N	192° 44.3	14.3	31° 51.6	14.5	39.0	9.5	52°	52°	04:38	05:19	05:53	17:15	17:38	18:01			
	02	202° 36.3	252° 47.5	33.0	357° 04.6	31.3	101° 05.6	16.1	331° 10.9	14.8	Deneb	49° 31.4	45° 19.8 N	207° 44.5	13.3	46° 25.1	14.4	29.5	9.6	54.8	54°	04:33	05:16	05:51	17:18	17:39	18:00			
	03	217° 38.8	267° 47.5	32.7	12° 07.5	31.2	116° 08.0	16.1	346° 13.4	14.8	Denebola	182° 32.8	14° 29.4 N	222° 44.7	12.3	60° 58.5	14.4	19.9	9.6	56°	56°	04:28	05:13	05:50	17:21	17:40	18:00			
	04	232° 41.2	282° 47.6	32.4	27° 10.4	31.0	131° 10.4	16.1	1° 15.9	14.8	Diphda	348° 55.7	17° 54.7 S	237° 44.8	11.3	75° 31.9	14.4	10.3	9.6	58°	58°	04:21	05:09	05:49	17:24	17:42	17:59			
	05	247° 43.7	297° 47.6	32.1	42° 13.2	30.9	146° 12.8	16.1	16° 18.4	14.7				252° 45.0	10.3	90° 05.3	14.4	00.7	9.6	S 60°	60°	04:14	05:05	05:47	17:28	17:43	17:59			
	06	262° 46.2	312° 47.7	31.8	57° 16.1	30.7	161° 15.2	16.1	31° 20.9	14.7	Dubhe	193° 50.5	61° 40.3 N	267° 45.2	09.4	104° 38.7	14.4	4° 51.1 N	9.7	54.9	S 62°	62°	04:05	05:01	05:46	17:32	17:45	17:58		
	07	277° 48.6	327° 47.7	31.4	72° 19.0	30.6	176° 17.6	16.1	46° 23.4	14.7	Elinath	278° 12.0	28° 37.0 N	282° 45.4	08.4	119° 12.1	14.5	41.4	9.7											
	08	292° 51.1	342° 47.8	31.1	87° 21.9	30.4	191° 20.0	16.1	61° 26.0	14.7	Eltanin	90° 45.9	51° 29.1 N	297° 45.5	07.4	133° 45.6	14.4	31.7	9.7											
	09	307° 53.6	357° 47.9	30.8	102° 24.7	30.3	206° 22.3	16.1	76° 28.5	14.7	Enif	15° 46.9	9° 56.4 N	312° 45.7	06.4	148° 19.0	14.3	22.0	9.8											
	10	322° 56.0	12° 47.9	30.5	117° 27.6	30.1	221° 24.7	16.1	91° 31.0	14.6	Fomalhaut	33° 23.8	29° 32.8 S	327° 45.9	05.4	162° 52.3	14.4	12.0	9.7											
	11	337° 58.5	27° 48.0	30.2	132° 30.5	30.0	236° 27.1	16.1	106° 33.5	14.6				342° 46.1	04.4	177° 25.7	14.4	02.5	9.8											
	12	353° 01.0	42° 48.0	15° 29.8 S	147° 33.4	7° 29.8 S	251° 29.5	23° 16.1 N	121° 36.0	16° 14.6 S	Gacrux	171° 59.7	57° 11.6 S	357° 46.2	2° 03.4 S	191° 59.1	14.4	3° 52.7 N	9.8	54.9	N 70°	04:42	05:21	05:54	17:12	17:37	18:01			
	13	8° 03.4	57° 48.1	29.5	162° 36.2	29.7	266° 31.9	16.1	136° 38.5	14.6	Giennah	175° 51.4	17° 37.4 S	12° 46.4	02.4	206° 52.5	14.3	42.9	9.8	68°	68°	04:3								

GMT	ARIES			VENUS -4.4			MARS -1.1			JUPITER -2.3			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:15	04:46	05:54	-	01:48	-	
Thurs day	00	177° 27.1	222° 49.5	14° 50.0 S	332° 51.5	7° 11.2 S	75° 44.9	23° 15.6 N	306° 08.8	16° 12.1 S	Acamar	315° 18.3	40° 15.2 S	178° 05.8	0° 16.7 S	321° 29.7	10.5	13° 22.0 S	7.8	7.6	57.0	N 70°	03:35	04:54	05:55	-	01:01	02:44		
	01	192° 29.5	237° 49.5	49.6	347° 54.5	11.0	90° 47.3	15.6	321° 11.3	12.1	Achernar	335° 27.0	57° 10.1 S	193° 06.0	15.8	335° 59.2	10.5	29.8	7.6	68°	68°	03:50	05:00	05:56	-	00:30	02:00			
	02	207° 32.0	252° 49.5	49.2	2° 57.6	10.8	105° 49.6	15.6	336° 13.8	12.1	Acruz	173° 07.9	63° 10.7 S	208° 06.2	14.8	350° 28.7	10.5	37.4	7.6	57.1	66°	04:02	05:06	05:57	-	00:08	01:30			
	03	222° 34.5	267° 49.5	48.8	18° 00.6	10.6	120° 52.0	15.6	351° 16.4	12.0	Adhara	255° 12.0	28° 59.9 S	223° 06.3	13.8	4° 58.2	10.3	45.0	7.5	64°	64°	04:12	05:10	05:58	23:50	-	01:08			
	04	237° 36.9	282° 49.4	48.4	33° 03.6	10.4	135° 54.3	15.6	6° 18.9	12.0	Aldebaran	290° 48.9	16° 32.1 N	238° 06.5	12.8	19° 27.5	10.4	52.5	7.5	62°	62°	04:21	05:14	05:59	23:36	-	00:51			
	05	252° 39.4	297° 49.4	48.0	48° 06.6	10.3	150° 56.6	15.6	21° 21.4	12.0						253° 06.7	11.8	33° 56.9	10.2	00.0	7.4	60°	04:28	05:18	05:59	23:23	-	00:36		
	06	267° 41.9	312° 49.4	47.5	63° 09.6	10.1	165° 59.0	15.6	36° 24.0	12.0	Alioth	166° 19.8	55° 52.8 N	268° 06.9	10.8	48° 26.1	10.3	14° 07.4 S	7.3	7.2	57.2	N 58°	04:34	05:20	06:00	23:13	-	00:24		
	07	282° 44.3	327° 49.4	47.1	78° 12.6	09.9	181° 01.3	15.6	51° 26.5	11.9	Alkaid	152° 58.1	49° 14.4 N	283° 07.1	09.8	62° 55.4	10.1	14.7	7.2	57.2	56°	04:39	05:23	06:00	23:04	-	00:13			
	08	297° 46.8	342° 49.3	46.7	93° 15.7	09.7	196° 03.7	15.6	66° 29.0	11.9	Alnair	27° 43.5	46° 53.4 S	298° 07.3	08.8	77° 24.5	10.1	21.9	7.2	54°	54°	04:43	05:25	06:00	22:56	-	00:03			
	09	312° 49.2	357° 49.3	46.3	108° 18.7	09.5	211° 06.0	15.6	81° 31.6	11.9	Alnilam	275° 45.9	1° 11.9 S	313° 07.5	07.8	91° 53.6	10.1	29.1	7.0	52°	52°	04:47	05:27	06:01	22:48	23:55	24:57			
	10	327° 51.7	372° 49.3	45.9	123° 21.7	09.3	226° 08.4	15.6	96° 34.1	11.9	Alphard	217° 55.3	8° 43.5 S	328° 07.6	06.9	106° 22.7	9.9	36.1	7.1	50°	50°	04:51	05:29	06:01	22:42	23:47	24:49			
	11	342° 54.2	387° 49.3	45.5	138° 24.7	09.1	241° 10.7	15.6	111° 36.7	11.8						343° 07.8	05.9	120° 51.6	10.0	43.2	6.9	45°	04:58	05:32	06:02	22:28	23:31	24:32		
	12	357° 56.6	402° 49.2	44.5	153° 27.8	7° 08.9 S	256° 13.1	23° 15.6 N	126° 39.2	16° 11.8 S	Alphecca	126° 10.4	26° 39.9 N	358° 08.0	0° 04.9 S	135° 20.6	9.8	14° 50.1 S	6.9	57.3	N 40°	05:04	05:35	06:02	22:16	23:18	24:18			
	13	12° 59.1	57° 49.2	44.6	168° 30.8	08.7	271° 15.4	15.6	141° 41.7	11.8	Alpheratz	357° 43.3	29° 10.1 N	13° 08.2	03.9	149° 49.4	9.9	57.0	6.7	35°	35°	05:08	05:37	06:03	22:07	23:07	24:06			
	14	28° 01.6	72° 49.2	44.2	183° 33.8	08.5	286° 17.7	15.6	156° 44.3	11.8	Altair	62° 07.9	8° 54.4 N	28° 08.4	02.9	164° 18.3	9.7	15° 03.7 S	6.8	30°	30°	05:11	05:39	06:03	21:58	22:57	23:56			
	15	43° 04.0	87° 49.2	43.8	198° 36.9	08.3	301° 20.1	15.6	171° 46.8	11.7	Ankaa	353° 15.7	42° 13.8 S	43° 08.6	01.9	178° 47.0	9.7	10.5	6.6	20°	20°	05:16	05:41	06:03	21:43	22:40	23:38			
	16	58° 06.5	102° 49.1	43.3	213° 39.9	08.1	316° 22.4	15.5	186° 49.3	11.7	Antares	112° 25.5	26° 27.6 S	58° 08.8	00.9	193° 15.7	9.7	17.1	6.5	N 10°	10°	05:18	05:43	06:04	21:31	22:26	23:22			
	17	73° 09.0	117° 49.1	42.9	228° 42.9	07.9	331° 24.8	15.5	201° 51.9	11.7						73° 08.9	0° 00.1 N	207° 44.4	9.5	23.6	6.5	57.4	0°	05:19	05:43	06:04	21:19	22:12	23:08	
	18	88° 11.4	132° 49.1	42.5	243° 45.9	07.7	346° 27.1	15.5	216° 54.4	11.7	Arcturus	145° 55.0	19° 06.4 N	88° 09.1	01.0	222° 12.9	9.6	30.1	6.4	S 10°	10°	05:19	05:43	06:04	21:07	21:59	22:54			
	19	103° 13.9	147° 49.0	42.1	258° 49.0	07.5	1° 29.4	15.5	231° 56.9	11.6	Atria	107° 26.6	69° 02.8 S	103° 09.3	02.0	236° 41.5	9.4	36.5	6.3	20°	20°	05:16	05:42	06:04	20:54	21:44	22:38			
	20	118° 16.4	162° 49.0	41.6	273° 52.0	07.3	16° 31.8	15.5	246° 59.5	11.6	Avior	234° 17.4	59° 33.8 S	118° 09.5	03.0	251° 09.9	9.4	42.8	6.2	30°	30°	05:12	05:40	06:04	20:40	21:28	22:21			
	21	133° 18.8	177° 49.0	41.2	288° 55.1	07.1	31° 34.1	15.5	262° 02.0	11.6	Bellatrix	278° 31.5	6° 21.5 N	133° 09.7	04.0	265° 38.3	9.4	49.0	6.1	35°	35°	05:09	05:39	06:04	20:32	21:18	22:10			
	22	148° 21.3	192° 48.9	40.8	303° 58.1	06.9	46° 36.5	15.5	277° 04.6	11.6	Betelgeuse	271° 00.7	7° 24.3 N	148° 09.9	05.0	280° 06.7	9.3	55.1	6.1	57.5	40°	05:05	05:37	06:04	20:22	21:07	21:59			
	23	163° 23.7	207° 48.9	40.3	319° 01.1	06.7	61° 38.8	15.5	292° 07.1	11.5						163° 10.1	06.0	294° 35.0	9.2	16° 01.2 S	5.9	45°	05:00	05:34	06:03	20:11	20:55	21:45		
Fri day	00	178° 26.2	222° 48.9	14° 39.9 S	334° 04.2	7° 06.5 S	76° 41.1	23° 15.5 N	307° 09.6	16° 11.5 S	Canopus	263° 55.9	52° 42.7 S	178° 10.2	0° 07.0 N	309° 03.2	9.2	16° 07.1 S	5.9	57.5	S 50°	04:53	05:31	06:03	19:58	20:39	21:28			
	01	193° 28.7	237° 48.8	39.5	349° 07.2	06.3	91° 43.5	15.5	322° 12.2	11.5	Capella	280° 33.7	46° 00.7 N	193° 10.4	08.0	323° 31.4	9.2	13.0	5.8	52°	52°	04:49	05:29	06:03	19:52	20:32	21:20			
	02	208° 31.1	252° 48.8	39.0	4° 10.3	06.1	106° 45.8	15.5	337° 14.7	11.5	Deneb	49° 31.4	45° 19.8 N	208° 10.6	08.9	337° 59.6	9.0	18.8	5.7	54°	54°	04:46	05:27	06:03	19:45	20:24	21:12			
	03	223° 33.6	267° 48.8	38.6	19° 13.3	05.9	121° 48.1	15.5	352° 17.3	11.4	Denebola	182° 32.8	14° 29.4 S	223° 10.8	09.9	352° 27.6	9.1	24.5	5.6	57.6	56°	04:41	05:25	06:03	19:37	20:15	21:02			
	04	238° 36.1	282° 48.7	38.2	34° 16.3	05.7	136° 50.5	15.5	7° 19.8	11.4	Diphda	348° 55.7	17° 54.6 S	238° 11.0	10.9	6° 55.7	8.9	30.1	5.5	58°	58°	04:36	05:23	06:02	19:29	20:05	20:51			
	05	253° 38.5	297° 48.7	37.7	49° 19.4	05.5	151° 52.8	15.5	22° 22.3	11.4						253° 11.2	11.9	21° 23.6	8.9	35.6	5.4	S 60°	04:30	05:20	06:02	19:19	19:53	20:38		
	06	268° 41.0	312° 48.7	37.3	64° 22.4	05.3	166° 55.1	15.4	37° 24.9	11.4	Dubhe	193° 50.5	61° 40.4 N	268° 11.4	12.9	35° 51.5	8.9	41.0	5.3	S 62°	62°	04:24	05:17	06:02	19:08	19:40	20:23			
	07	283° 43.5	327° 48.6	36.9	79° 25.5	05.1	181° 57.5	15.4	52° 27.4	11.3	Elinath	278° 12.0	28° 37.0 N	283° 11.5	13.9	50° 19.4	8.8	46.3	5.3	57.7										
	08	298° 45.9	342° 48.6	36.4	94° 28.5	04.9	196° 59.8	15.4	67° 29.9	11.3	Eltanin	90° 45.9	51° 29.1 N	298° 11.7	14.9	64° 47.2	8.7	51.6	5.1											
	09	313° 48.4	357° 48.5	36.0	109° 31.6	04.7	212° 02.2	15.4	82° 32.5	11.3	Enif	15° 26.8	9° 56.4 N	313° 11.9	15.9	79° 14.9	8.7	56.7	5.1											
	10	328° 50.8	372° 48.5	35.5	124° 34.6	04.5	227° 04.5	15.4	97° 35.0	11.3	Fomalhaut	33° 43.8	29° 32.8 S	328° 12.1	16.8	93° 42.6	8.7	17° 01.8 S	4.9											
	11	343° 53.3	387° 48.5	35.1	139° 37.7	04.2	242° 06.8	15.4	112° 37.6	11.2						343° 12.3	17.8	108° 10.3	8.6	06.7	4.9	N 72°	18:23	19:32	21:04	05:21	05:04	-		
	12	358° 55.8	402° 48.4	34.7 S	154° 40.7	7° 04.0 S	257° 09.2	23° 15.4 N	127° 40.1	16° 11.2 S	Gacrux	171° 59.6	57° 11.6 S	358° 12.5	0° 18.8 N	122° 37.9	8.5	17° 11.6 S	4.7	57.8	N 70°	18:21	19:23	20:43	05:49	05:52	06:02			
	13	13° 58.2	57° 48.4	34.2	169° 43.8	03.8	272° 11.5	15.4	142° 42.6	11.2	Giennah	175° 51.4	17° 37.4 S	13° 12.7	19.8	137° 05.4	8.5	16.3	4.6	68°	68°	18:20	19:16	20:27</						

2014 March 26, 27, 28 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.3			MARS -1.2			JUPITER -2.2			SATURN +0.3			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	26	26	27	28	26	27	28	26	27	28	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		26	26		27	28	
26 W e d n e s d a y		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	02:30	04:12	05:23	05:33	05:22	05:14		
	00	183° 21'.9	222° 41'.4	13° 42'.3 S	340° 17'.3	6° 39'.8 S	81° 19'.2	23° 14'.5 N	312° 15'.4	16° 08'.1 S	312° 15'.4	16° 08'.1 S	Acamar	315° 18'.3	40° 15'.2 S	178° 32'.8	2° 05'.2 N	241° 30'.6	7.1	14° 51'.6 S	7.5	59.7	N 70°	02:58	04:24	05:27	05:04	05:05	05:05		
	01	198° 24'.4	237° 41'.3	41'.8	355° 20'.4	39'.6	96° 21'.5	14'.5	327° 18'.0	08'.1	193° 33'.0	06'.2	255° 56'.7	7.1	44'.1	7.6	68°	03:19	04:34	05:31	04:43	04:51	04:57	68°	03:19	04:34	05:31	04:43	04:51	04:57	
	02	213° 26'.8	252° 41'.2	41'.2	10° 23'.6	39'.3	111° 23'.8	14'.5	342° 20'.5	08'.1	208° 33'.1	07'.1	270° 22'.8	7.2	36'.5	7.7	66°	03:35	04:42	05:34	04:26	04:40	04:51	66°	03:35	04:42	05:34	04:26	04:40	04:51	
	03	228° 29'.3	267° 41'.1	40'.7	25° 26'.8	39'.1	126° 26'.1	14'.5	357° 23'.1	08'.1	223° 33'.3	08'.1	284° 49'.0	7.2	28'.8	7.8	64°	03:48	04:48	05:37	04:11	04:31	04:46	64°	03:48	04:48	05:37	04:11	04:31	04:46	
	04	243° 31'.8	282° 41'.0	40'.2	40° 30'.0	38'.9	141° 28'.4	14'.4	12° 25'.6	08'.0	238° 33'.5	09'.1	299° 15'.2	7.2	21'.0	7.9	62°	03:58	04:54	05:39	04:00	04:22	04:41	62°	03:58	04:54	05:39	04:00	04:22	04:41	
	05	258° 34'.2	297° 41'.0	39'.6	55° 33'.2	38'.6	156° 30'.7	14'.4	27° 28'.2	08'.0	253° 33'.7	10'.1	313° 41'.4	7.2	13'.1	8.0	59.8	60°	04:07	04:59	05:41	03:49	04:15	04:37	60°	04:07	04:59	05:41	03:49	04:15	04:37
	06	273° 36'.7	312° 40'.9	39'.1	70° 36'.3	38'.4	171° 33'.0	14'.4	42° 30'.7	08'.0	268° 33'.9	11'.1	328° 07'.6	7.2	05'.1	8.1	N 58°	04:15	05:03	05:43	03:41	04:09	04:33	N 58°	04:15	05:03	05:43	03:41	04:09	04:33	
	07	288° 39'.2	327° 40'.8	38'.6	85° 39'.5	38'.1	186° 35'.3	14'.4	57° 33'.3	07'.9	283° 34'.1	12'.1	342° 33'.8	7.3	13° 57'.0 S	8.1	56°	04:22	05:07	05:44	03:33	04:04	04:30	56°	04:22	05:07	05:44	03:33	04:04	04:30	
	08	303° 41'.6	342° 40'.7	38'.0	100° 42'.7	37'.9	201° 37'.6	14'.4	72° 35'.9	07'.9	298° 34'.3	13'.0	357° 00'.1	7.3	48'.9	8.3	54°	04:27	05:10	05:46	03:26	03:59	04:27	54°	04:27	05:10	05:46	03:26	03:59	04:27	
	09	318° 44'.1	357° 40'.6	37'.5	115° 45'.9	37'.6	216° 39'.9	14'.4	87° 38'.9	07'.9	313° 34'.5	14'.0	11° 26'.4	7.4	40'.6	8.3	52°	04:32	05:13	05:47	03:20	03:54	04:24	52°	04:32	05:13	05:47	03:20	03:54	04:24	
	10	333° 46'.5	12° 40'.5	37'.0	130° 49'.1	37'.4	231° 42'.2	14'.4	102° 41'.0	07'.8	328° 34'.7	15'.0	25° 52'.8	7.3	32'.3	8.5	50°	04:37	05:16	05:48	03:14	03:50	04:22	50°	04:37	05:16	05:48	03:14	03:50	04:22	
	11	348° 49'.0	27° 40'.4	36.4	145° 52.2	37.2	246° 44.4	14.4	117° 43.5	07.8	343° 34.8	16.0	40° 19.1	7.4	23.8	8.5	45°	04:46	05:21	05:50	03:02	03:41	04:17	45°	04:46	05:21	05:50	03:02	03:41	04:17	
	12	3° 51'.5	42° 40'.3	13° 35'.9 S	160° 55'.4	6° 36'.9 S	261° 46.7	23° 14.4 N	132° 46.1	16° 07.8 S	358° 35.0	2° 17.0 N	54° 45.5	7.4	13° 15.3 S	8.6	59.8	N 40°	04:53	05:25	05:52	02:51	03:34	04:12	N 40°	04:53	05:25	05:52	02:51	03:34	04:12
	13	18° 53'.9	57° 40'.2	35.4	175° 58.6	36.7	276° 49.0	14.4	147° 48.7	07.8	13° 35.2	17.9	69° 11.9	7.5	06.7	8.7	35°	04:59	05:29	05:54	02:43	03:27	04:08	35°	04:59	05:29	05:54	02:43	03:27	04:08	
	14	33° 56'.4	72° 40'.1	34.8	191° 01.8	36.4	291° 51.3	14.3	162° 51.2	07.7	28° 35.4	18.9	83° 38.4	7.5	12° 58.0 S	8.8	30°	05:04	05:32	05:56	02:35	03:21	04:05	30°	05:04	05:32	05:56	02:35	03:21	04:05	
	15	48° 58'.9	87° 40'.0	34.3	206° 05.0	36.2	306° 53.6	14.3	177° 53.8	07.7	43° 35.6	19.9	98° 04.9	7.5	49.2	8.9	20°	05:10	05:36	05:58	02:22	03:12	03:59	20°	05:10	05:36	05:58	02:22	03:12	03:59	
	16	64° 01'.3	102° 40.0	33.7	221° 08.2	35.9	321° 55.9	14.3	192° 56.9	07.6	58° 35.8	20.9	112° 31.4	7.5	40.3	8.9	59.9	N 10°	05:15	05:39	06.00	02.10	03.03	03.54	N 10°	05:15	05:39	06.00	02.10	03.03	03.54
	17	79° 03'.8	117° 39.9	33.2	238° 11.4	35.7	336° 58.2	14.3	207° 58.9	07.7	73° 36.0	21.9	126° 57.9	7.6	31.4	9.1		0°	05:17	05:41	06.02	01.59	02.55	03.49	0°	05:17	05:41	06.02	01.59	02.55	03.49
	18	94° 06'.3	132° 39'.8	32.7	251° 14.6	35.4	352° 00.5	14.3	223° 01.5	07.6	88° 36.2	22.8	141° 24.5	7.6	22.3	9.1	S 10°	05:19	05:43	06.04	01.48	02.47	03.44	S 10°	05:19	05:43	06.04	01.48	02.47	03.44	
	19	109° 08'.7	147° 39.7	32.1	266° 17.8	35.2	7° 02.8	14.3	238° 00.4	07.6	103° 36.3	23.8	155° 51.1	7.6	13.2	9.2	20°	05:18	05:44	06.06	01.36	02.38	03.39	20°	05:18	05:44	06.06	01.36	02.38	03.39	
	20	124° 11'.2	162° 39.6	31.6	281° 21.0	34.9	22° 05.1	14.3	253° 06.6	07.5	118° 36.5	24.8	170° 17.7	7.7	04.0	9.3	30°	05:16	05:44	06.08	01.23	02.28	03.33	30°	05:16	05:44	06.08	01.23	02.28	03.33	
	21	139° 13'.6	177° 39.5	31.0	296° 24.2	34.7	37° 07.4	14.3	268° 09.1	07.5	133° 36.7	25.8	184° 44.4	7.7	11° 54.7 S	9.3	35°	05:14	05:43	06.09	01.15	02.22	03.30	35°	05:14	05:43	06.09	01.15	02.22	03.30	
22	154° 16'.1	192° 39.4	30.5	311° 27.3	34.4	52° 09.7	14.3	283° 11.7	07.5	148° 36.9	26.8	199° 11.1	7.7	45.4	9.4	40°	05:11	05:43	06.10	01.06	02.16	03.26	40°	05:11	05:43	06.10	01.06	02.16	03.26		
23	169° 18'.6	207° 39.3	29.9	326° 30.5	34.2	67° 11.9	14.2	298° 14.3	07.4	163° 37.1	27.7	213° 37.8	7.8	36.0	9.5	45°	05:08	05:42	06.11	00.56	02.08	03.22	45°	05:08	05:42	06.11	00.56	02.08	03.22		
27 T h u r s d a y	00	184° 21'.0	222° 39.2	13° 29.4 S	341° 33.7	6° 33.9 S	82° 14.2	23° 14.2 N	313° 16.8	16° 07.4 S	313° 16.8	16° 07.4 S	Canopus	263° 55.9	52° 42.7 S	178° 37.3	2° 28.7 N	228° 04.6	7.8	11° 26.5 S	9.6	59.9	S 50°	05:03	05:40	06.13	00.43	01.59	03.16		
	01	199° 23'.5	237° 39.1	28.8	356° 36.9	33.7	97° 16.5	14.2	328° 19.4	07.4	193° 37.5	29.7	242° 31.4	7.8	16.9	9.7	52°	05:00	05:40	06.13	00.38	01.55	03.14	52°	05:00	05:40	06.13	00.38	01.55	03.14	
	02	214° 26'.0	252° 39.0	28.3	11° 40.1	33.5	112° 18.8	14.2	343° 21.9	07.4	208° 37.7	30.7	256° 52.7	7.8	07.2	9.7	54°	04:57	05:39	06.14	00.31	01.50	03.11	54°	04:57	05:39	06.14	00.31	01.50	03.11	
	03	229° 28'.4	267° 38.9	27.7	26° 43.3	33.2	127° 21.1	14.2	358° 24.5	07.3	223° 37.9	31.7	271° 25.0	7.9	10° 57.5 S	9.8	56°	04:54	05:38	06.15	00.24	01.45	03.08	56°	04:54	05:38	06.15	00.24	01.45	03.08	
	04	244° 30'.9	282° 38.8	27.2	41° 46.5	33.0	142° 23.4	14.2	13° 27.1	07.3	238° 38.0	32.6	285° 51.9	7.9	47.7	9.9	58°	04:51	05:37	06.16	00.16	01.39	03.05	58°	04:51	05:37	06.16	00.16	01.39	03.05	
	05	259° 33'.4	297° 38.7	26.6	56° 49.7	32.7	157° 25.7	14.2	28° 29.6	07.3	253° 38.2	33.6	300° 18.8	8.0	37.8	9.9	S 60°	04:46	05:35	06.17	00.06	01.32	03.01	S 60°	04:46	05:35	06.17	00.06	01.32	03.01	
	06	274° 35'.8	312° 38.6	26.1	71° 52.9	32.5	172° 28.0	14.2	43° 32.2	07.2	268° 38.4	34.6	314° 45.8	7.9	27.9	10.0															
	07	289° 38'.3	327° 38.5	25.5	86° 56.2	32.2	187° 30.2	14.2	58° 34.8	07.2	283° 38.6	35.6	329° 12.7	8.0	17.9	10.1	S 62°	04:41	05:34	06.18	-	01:25	02:56	S 62°	04:41	05:34	06.18	-	01:25	02:56	
	08	304° 40'.8	342° 38.4	25.0	101° 59.4	32.0	202° 32.5	14.1	73° 37.3	07.2	298° 38.8	36.6	343° 39.7	8.1	07.8	10.1															
	09	319° 43'.2	357° 38.3	24.4	117° 02.6	31.7	217° 34.8	1																							

2014 March 29, 30, 31 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.3			MARS -1.3			JUPITER -2.2			SATURN +0.3			STARS			SUN		MOON				Lat	Twilight		Sunrise	29		Moonrise					
	GHA			Dec			GHA			Dec			GHA			Dec			Name	SHA	Dec	GHA	Dec	GHA		v	Dec		d	HP	Nautical	Civil	29	30	31	
29	00	186° 19.3	222° 34.2	13° 02.3 S	344° 08.3	6° 21.7 S	84° 03.7	23° 13.7 N	315° 19.9	16° 05.9 S	315° 18.3	40° 15.2 S	178° 46.3	3° 15.6 N	202° 03.2	9.1	2° 45.2 S	11.7	59.8	N 72°	02:02	03:54	05:07	05:06	04:59	04:52										
	01	201° 21.8	237° 34.1	01.7	359° 11.6	21.4	99° 06.0	13.7	330° 22.5	05.9	335° 27.0	57° 10.0 S	193° 46.5	16.6	216° 31.3	9.1	33.5	11.7	68°	02:37	04:09	05:13	05:04	05:03	05:02											
	02	216° 24.2	252° 34.0	01.1	14° 14.8	21.2	114° 08.3	13.7	345° 25.1	05.8	Acruv	173° 07.9	63° 10.8 S	208° 46.7	17.6	230° 59.4	9.1	21.8	11.7	66°	03:20	04:29	05:22	05:00	05:08	05:18										
	03	231° 26.7	267° 33.9	00.5	29° 18.1	20.9	129° 10.5	13.6	0° 27.7	05.8	Adhara	255° 12.1	28° 59.9 S	223° 46.9	18.6	245° 27.5	9.2	10.1	11.7	64°	03:35	04:37	05:26	04:58	05:11	05:24										
	04	246° 29.2	282° 33.8	12° 59.9 S	44° 21.3	20.7	144° 12.8	13.6	15° 30.2	05.8	Aldebaran	190° 48.9	16° 32.1 N	238° 47.1	19.5	259° 55.7	9.2	1° 58.4 S	11.7	62°	03:47	04:44	05:29	04:57	05:13	05:29										
	05	261° 31.6	297° 33.7	59.3	59° 24.6	20.4	159° 15.1	13.6	30° 32.8	05.7					253° 47.3	20.5	274° 23.9	9.2	46.7	11.8	60°	03:57	04:49	05:32	04:56	05:14	05:33									
	06	276° 34.1	312° 33.6	58.8	74° 27.8	20.1	174° 17.4	13.6	45° 35.4	05.7	Alioth	196° 19.7	55° 52.8 N	268° 47.4	21.5	288° 52.1	9.2	34.9	11.7	59.7	N 58°	04:05	04:54	05:34	04:55	05:16	05:37									
	07	291° 36.6	327° 33.5	58.2	89° 31.1	19.9	189° 19.6	13.6	60° 37.9	05.7	Alkaid	152° 58.1	49° 14.4 N	283° 47.6	22.5	303° 20.3	9.2	23.2	11.7	56°	04:13	04:59	05:36	04:54	05:17	05:41										
	08	306° 39.9	342° 33.3	57.6	104° 34.3	19.6	204° 21.9	13.6	75° 40.5	05.6	Alnair	27° 43.5	46° 53.3 S	298° 47.8	23.4	317° 48.5	9.3	11.5	11.8	54°	04:19	05:02	05:38	04:53	05:18	05:44										
	09	321° 41.5	357° 33.2	57.0	119° 37.6	19.3	219° 24.2	13.6	90° 43.1	05.6	Anilim	275° 45.9	1° 11.9 S	313° 48.0	24.4	332° 16.8	9.2	0° 59.7 S	11.7	52°	04:25	05:06	05:40	04:52	05:20	05:47										
	10	336° 44.0	12° 33.1	56.4	134° 40.8	19.1	234° 26.4	13.6	105° 45.6	05.6	Alphard	217° 55.3	8° 43.5 S	328° 48.2	25.4	346° 45.0	9.3	48.0	11.8	50°	04:30	05:09	05:41	04:52	05:21	05:50										
	11	351° 46.4	27° 33.0	55.8	149° 44.1	18.8	249° 28.7	13.5	120° 48.2	05.5					343° 48.4	26.4	1° 13.3	9.3	36.2	11.7	45°	04:40	05:15	05:45	04:50	05:23	05:56									
	12	6° 48.9	42° 32.9	12° 55.2 S	164° 47.3	6° 18.6 S	264° 31.0	23° 13.5 N	135° 50.8	16° 05.5 S	Alphecca	126° 10.3	26° 39.9 N	358° 48.6	3° 27.3 N	15° 41.6	9.4	0° 24.5 S	11.7	59.7	N 40°	04:48	05:20	05:48	04:49	05:25	06:01									
	13	21° 51.3	57° 32.8	54.6	179° 50.6	18.3	279° 33.2	13.5	150° 53.4	05.5	Alpheratz	357° 43.3	29° 10.1 N	13° 48.8	28.3	30° 10.0	9.3	12.8	11.8	35°	04:55	05:25	05:50	04:48	05:26	06:05										
	14	36° 53.8	72° 32.7	54.0	194° 53.8	18.0	294° 35.5	13.5	165° 55.9	05.4	Altair	62° 07.8	8° 54.4 N	28° 48.9	29.3	44° 38.3	9.3	01.0	11.7	59.6	30°	05:00	05:28	05:52	04:47	05:28	06:09									
	15	51° 56.3	87° 32.5	53.4	209° 57.1	17.8	309° 37.8	13.5	180° 58.5	05.4	Ankaa	353° 15.6	42° 13.8 S	43° 49.1	30.2	59° 06.6	9.4	0° 10.7 N	11.7	20°	05:08	05:33	05:56	04:45	05:30	06:15										
	16	66° 58.7	102° 32.4	52.8	225° 00.3	17.5	324° 40.1	13.5	196° 01.1	05.4	Antares	112° 25.4	26° 27.7 S	58° 49.3	31.2	73° 35.0	9.4	22.4	11.8	N 10°	05:13	05:37	05:59	04:44	05:33	06:21										
	17	82° 01.2	117° 32.3	52.2	240° 03.6	17.2	339° 42.3	13.5	211° 03.6	05.3					73° 49.5	32.2	88° 03.4	9.4	34.2	11.7	0°	05:16	05:40	06:01	04:42	05:35	06:27									
	18	97° 03.7	132° 32.2	51.7	255° 06.9	17.0	354° 44.6	13.5	226° 06.2	05.3	Arcturus	145° 54.9	19° 06.4 N	88° 49.7	33.2	102° 31.8	9.4	45.9	11.7	S 10°	05:18	05:43	06:04	04:41	05:37	06:32										
	19	112° 06.1	147° 32.1	51.1	270° 10.1	16.7	9° 46.9	13.4	241° 08.8	05.3	Atria	107° 26.5	69° 02.8 S	103° 49.9	34.1	117° 00.2	9.4	57.6	11.6	20°	05:19	05:44	06:06	04:40	05:39	06:38										
	20	127° 08.6	162° 32.0	50.5	285° 13.4	16.4	24° 49.1	13.4	256° 11.3	05.2	Avia	234° 17.5	59° 33.8 S	118° 50.1	35.1	131° 28.6	9.5	1° 09.2 N	11.7	59.5	30°	05:18	05:45	06:09	04:38	05:42	06:45									
	21	142° 11.1	177° 31.9	49.9	300° 16.6	16.2	39° 51.4	13.4	271° 13.9	05.2	Bellatrix	278° 31.5	6° 21.5 N	133° 50.2	36.1	145° 57.1	9.4	20.9	11.7	35°	05:16	05:46	06:11	04:37	05:44	06:49										
	22	157° 13.5	192° 31.7	49.3	315° 19.9	15.9	54° 53.7	13.4	286° 16.5	05.2	Betelgeuse	271° 00.8	7° 24.3 N	148° 50.4	37.1	160° 25.5	9.5	32.6	11.6	40°	05:14	05:46	06:13	04:36	05:46	06:54										
23	172° 16.0	207° 31.6	48.7	330° 23.2	15.6	69° 55.9	13.4	301° 19.1	05.1					163° 50.6	38.0	174° 54.0	9.5	44.2	11.6	45°	05:12	05:46	06:15	04:36	05:48	06:59										
30	00	187° 18.5	222° 31.5	12° 48.1 S	345° 26.4	6° 15.4 S	84° 58.2	23° 13.4 N	316° 21.6	16° 05.1 S	Canopus	263° 55.9	52° 42.7 S	178° 50.8	3° 39.0 N	189° 22.5	9.5	1° 55.8 N	11.6	59.5	S 50°	05:08	05:45	06:17	04:34	05:50	07:06									
	01	202° 20.9	237° 31.4	47.5	0° 29.7	15.1	100° 00.4	13.4	331° 24.2	05.1	Capella	280° 33.8	46° 00.7 N	193° 51.0	40.0	203° 51.0	9.5	2° 07.4 N	11.6	52°	05:05	05:45	06:18	04:33	05:51	07:09										
	02	217° 23.4	252° 31.3	46.9	15° 33.0	14.8	115° 02.7	13.4	346° 26.8	05.0	Deneb	49° 31.1	45° 19.7 N	208° 51.2	40.9	218° 51.5	9.5	19.0	11.6	59.4	54°	05:03	05:44	06:20	04:32	05:53	07:12									
	03	232° 25.8	267° 31.2	46.2	30° 36.2	14.6	130° 05.0	13.3	1° 29.4	05.0	Denebola	182° 32.8	14° 29.4 N	223° 51.4	41.9	232° 48.0	9.5	30.6	11.5	56°	05:00	05:44	06:21	04:31	05:54	07:15										
	04	247° 28.3	282° 31.0	45.6	45° 39.5	14.3	145° 07.2	13.3	16° 31.9	05.0	Diphda	348° 55.7	17° 54.6 S	238° 51.6	42.9	247° 16.5	9.5	42.1	11.5	58°	04:57	05:43	06:22	04:31	05:56	07:19										
	05	262° 30.8	297° 30.9	45.0	60° 42.8	14.0	160° 09.5	13.3	31° 34.5	04.9					253° 51.7	43.9	261° 45.0	9.6	53.6	11.5	S 60°	04:54	05:42	06:24	04:30	05:58	07:24									
	06	277° 33.2	312° 30.8	44.4	75° 46.0	13.8	175° 11.8	13.3	46° 37.1	04.9	Dubhe	193° 50.5	61° 40.4 N	268° 51.9	44.8	276° 13.6	9.6	3° 05.1 N	11.5	59.3	S 62°	04:50	05:42	06:26	04:28	06:00	07:29									
	07	292° 35.7	327° 30.7	43.8	90° 49.3	13.5	190° 14.0	13.3	61° 39.6	04.9	Elinath	278° 12.0	28° 37.0 N	283° 52.1	45.8	290° 42.2	9.5	16.6	11.4																	
	08	307° 38.2	342° 30.6	43.2	105° 52.6	13.2	205° 16.3	13.3	76° 42.2	04.8	Eltanin	90° 45.8	51° 29.1 N	298° 52.3	46.8	305° 10.7	9.6	28.0	11.5																	
	09	322° 40.6	357° 30.4	42.6	120° 55.8	13.0	220° 18.6	13.3	91° 44.8	04.8	Enif	13° 26.8	9° 56.4 N	313° 52.5	47																					

2014 April 1, 2, 3 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.3			MARS -1.4			JUPITER -2.2			SATURN +0.3			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		1	2		3		
Tuesday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	01:26	03:36	04:51	04:44	04:35	04:20					
	189° 16.7	222° 25.6	12° 18.3 S	348° 04.0	6° 02.3 S	86° 46.6	23° 12.7 N	318° 25.3	16° 03.5 S	Acamar	315° 18.3	40° 15.1 S	178° 59.7	4° 25.5 N	164° 18.6	9.7	10° 30.6 N	9.3	58.3	N 70°	02:14	03:53	04:59	05:02	05:04	05:09					
	204° 19.2	237° 25.7	17.7	3° 07.3	02.1	101° 48.8	12.7	333° 27.8	03.4	Achernar	335° 27.0	57° 10.0 S	193° 59.9	26.5	178° 47.3	9.8	39.9	9.4	58.2	68°	02:43	04:06	05:06	05:17	05:26	05:40					
	219° 21.7	252° 25.4	17.1	18° 10.6	01.8	116° 51.1	12.7	348° 30.4	03.4	Acruz	173° 07.9	63° 10.8 S	209° 00.1	27.5	193° 16.1	9.8	49.3	9.2	66°	66°	03:05	04:17	05:11	05:29	05:43	06:03					
	234° 24.1	267° 25.2	16.4	33° 13.9	01.5	131° 53.3	12.7	3° 33.0	03.4	Adhara	255° 12.1	28° 59.9 S	224° 00.3	28.4	207° 44.9	9.8	58.5	9.2	64°	64°	03:21	04:26	05:15	05:38	05:57	06:21					
	249° 26.6	282° 25.1	15.8	48° 17.2	01.2	146° 55.6	12.7	18° 35.6	03.3	Aldebaran	290° 48.9	16° 32.1 N	239° 00.5	29.4	222° 13.7	9.7	11° 07.7 N	9.1	58.1	62°	03:35	04:33	05:19	05:47	06:09	06:36					
	264° 29.0	297° 25.0	15.1	63° 20.5	00.9	161° 57.8	12.6	33° 38.2	03.3				254° 00.7	30.4	236° 42.4	9.8	16.8	9.0	60°	60°	03:46	04:40	05:23	05:54	06:19	06:49					
	279° 31.5	312° 24.8	14.5	78° 23.8	00.7	177° 00.0	12.6	48° 40.7	03.2	Alioth	166° 19.7	55° 52.9 N	269° 00.9	31.3	251° 11.2	9.8	25.8	9.0	N 58°	58°	03:56	04:45	05:26	06:01	06:28	07:00					
	294° 34.0	327° 24.7	13.9	93° 27.1	00.4	192° 02.3	12.6	63° 43.3	03.2	Alkaid	152° 58.1	49° 14.4 N	284° 01.0	32.3	265° 40.0	9.8	34.8	8.8	56°	64°	04:04	04:50	05:28	06:07	06:36	07:10					
	309° 36.4	342° 24.6	13.2	108° 30.4	00.1	207° 04.5	12.6	78° 45.9	03.2	Alnair	27° 43.4	46° 53.3 S	299° 01.2	33.2	280° 08.8	9.8	43.6	8.8	58.0	54°	04:11	04:55	05:31	06:12	06:43	07:18					
	324° 38.9	357° 24.5	12.6	123° 33.7	5° 59.8 S	222° 06.8	12.6	93° 48.5	03.1	Alnilam	275° 45.9	1° 11.9 S	314° 01.4	34.2	294° 37.6	9.8	52.4	8.8	52°	62°	04:17	04:59	05:33	06:17	06:49	07:26					
	339° 41.4	12° 24.3	11.9	138° 37.0	59.6	237° 09.0	12.6	108° 51.1	03.1	Alphard	217° 55.3	8° 43.5 S	329° 01.6	35.2	309° 06.4	9.7	12° 01.2 N	8.6	50°	50°	04:23	05:02	05:35	06:21	06:55	07:33					
	354° 43.8	27° 24.2	11.3	153° 40.3	59.3	252° 11.3	12.6	123° 53.6	03.1				344° 01.8	36.1	323° 35.1	9.8	09.8	8.6	57.9	45°	04:34	05:10	05:39	06:30	07:07	07:47					
	9° 46.3	42° 24.1	12° 10.6 S	168° 43.6	5° 59.0 S	267° 13.5	23° 12.5 N	138° 56.2	16° 03.0 S	Alphecca	126° 10.3	26° 39.9 N	359° 02.0	4° 37.1 N	338° 03.9	9.8	12° 18.4 N	8.5	57.9	N 40°	04:43	05:15	05:43	06:38	07:17	08:00					
	24° 48.8	57° 23.9	10.0	183° 46.9	58.7	282° 15.8	12.5	153° 58.8	03.0	Alpheratz	357° 43.3	29° 10.0 N	14° 02.1	38.1	352° 32.7	9.8	26.9	8.4	35°	35°	04:50	05:20	05:46	06:45	07:26	08:10					
	39° 51.2	72° 23.8	09.4	198° 50.2	58.4	297° 18.0	12.5	169° 01.4	03.0	Altair	62° 07.8	8° 54.4 N	29° 02.3	39.0	7° 01.5	9.8	35.3	8.3	57.8	30°	04:56	05:24	05:48	06:51	07:34	08:19					
	54° 53.7	87° 23.7	08.7	213° 53.5	58.2	312° 20.3	12.5	184° 00.4	02.9	Ankaa	353° 15.6	42° 13.8 S	44° 02.5	40.0	21° 30.3	9.8	43.6	8.3	30°	20°	05:05	05:31	05:53	07:01	07:47	08:35					
	69° 56.2	102° 23.6	08.1	228° 56.8	57.9	327° 22.5	12.5	199° 06.6	02.9	Antares	112° 25.4	26° 27.7 S	59° 02.7	41.0	35° 59.1	9.8	51.9	8.1	N 10°	10°	05:11	05:36	05:57	07:10	07:59	08:49					
	84° 58.6	117° 23.4	07.4	244° 00.2	57.6	342° 24.8	12.5	214° 09.1	02.9				74° 02.9	41.9	50° 27.9	9.8	13° 00.0 N	8.1	57.7	0°	05:15	05:40	06:00	07:19	08:10	09:02					
	100° 01.1	132° 23.3	06.8	259° 03.5	57.3	357° 27.0	12.5	229° 11.7	02.8	Arcturus	145° 54.9	19° 06.4 N	89° 03.1	42.9	64° 56.7	9.9	08.1	8.0	S 10°	10°	05:18	05:43	06:04	07:27	08:21	09:15					
	115° 03.5	147° 23.2	06.1	274° 06.8	57.0	12° 29.2	12.4	244° 13.3	02.8	Atria	107° 26.4	69° 02.8 S	104° 03.3	43.9	79° 25.6	9.8	16.1	8.0	20°	20°	05:20	05:45	06:07	07:36	08:33	09:29					
	130° 06.0	162° 23.0	05.5	289° 10.1	56.8	27° 31.5	12.4	259° 16.9	02.8	Avia	234° 17.5	59° 33.8 S	119° 03.4	44.8	93° 54.4	9.8	24.1	7.8	57.6	30°	05:20	05:47	06:11	07:47	08:47	09:45					
	145° 08.5	177° 22.9	04.8	304° 13.4	56.5	42° 33.7	12.4	274° 19.5	02.7	Bellatrix	278° 31.5	6° 21.5 N	134° 03.6	45.8	108° 23.2	9.8	31.9	7.8	35°	35°	05:19	05:48	06:13	07:53	08:55	09:54					
	160° 10.9	192° 22.8	04.2	319° 16.7	56.2	57° 36.0	12.4	289° 22.0	02.7	Betelgeuse	271° 00.8	7° 24.3 N	149° 03.8	46.7	122° 52.0	9.8	39.7	7.6	40°	40°	05:17	05:49	06:16	08:00	09:04	10:05					
175° 13.4	207° 22.6	03.5	334° 20.0	55.9	72° 38.2	12.4	304° 24.6	02.6				164° 04.0	47.7	137° 20.8	9.9	47.3	7.6	57.5	45°	05:15	05:49	06:19	08:09	09:15	10:17						
190° 15.9	222° 22.5	12° 02.8 S	349° 23.4	5° 55.6 S	87° 40.5	23° 12.4 N	319° 27.2	16° 02.6 S	Canopus	263° 56.0	52° 42.7 S	179° 04.2	4° 48.7 N	151° 49.7	9.8	13° 54.9 N	7.5	57.5	S 50°	05:12	05:50	06:22	08:18	09:28	10:32						
205° 18.3	237° 22.4	02.2	4° 26.7	55.4	102° 42.7	12.3	334° 29.8	02.6	Capella	280° 33.8	46° 00.7 N	194° 04.4	49.6	166° 18.5	9.8	14° 02.4 N	7.4	57.4	52°	05:11	05:50	06:23	08:23	09:34	10:40						
220° 20.8	252° 22.2	01.5	19° 30.0	55.1	117° 44.9	12.3	349° 32.4	02.5	Cornubia	49° 31.5	43° 19.3 S	209° 04.5	50.6	180° 47.3	9.9	09.8	7.3	57.4	54°	05:09	05:50	06:25	08:28	09:41	10:48						
235° 23.3	267° 22.1	00.9	34° 33.3	54.8	132° 47.2	12.3	4° 35.0	02.5	Denebola	182° 32.8	14° 29.4 N	224° 04.7	51.6	195° 16.2	9.8	17.1	7.3	56°	56°	05:07	05:50	06:27	08:34	09:48	10:57						
250° 25.7	282° 22.0	00.2	49° 36.6	54.5	147° 49.4	12.3	19° 37.5	02.5	Diphda	348° 55.7	17° 54.6 S	239° 04.9	52.5	209° 45.0	9.9	24.4	7.1	58°	58°	05:04	05:50	06:29	08:40	09:57	11:07						
265° 28.2	297° 21.8	11° 59.6 S	64° 39.9	54.2	162° 51.7	12.3	34° 40.1	02.4				254° 05.1	53.5	224° 13.9	9.8	31.5	7.1	57.3	S 60°	05:01	05:50	06:31	08:47	10:06	11:19						
280° 30.6	312° 21.7	58.9	79° 43.3	54.0	177° 53.9	12.3	49° 42.7	02.4	Dubhe	193° 50.5	61° 40.4 N	269° 05.3	54.4	238° 42.7	9.9	38.6	7.0	57.2	S 62°	04:58	05:49	06:34	08:56	10:18	11:32						
295° 33.1	327° 21.6	58.3	94° 46.6	53.7	192° 56.2	12.3	64° 45.3	02.4	Einath	278° 12.1	28° 37.0 N	284° 05.5	55.4	253° 11.6	9.8	45.6	6.8														
310° 35.6	342° 21.4	57.6	109° 49.9	53.4	207° 58.4	12.2	79° 47.9	02.3	Eltanin	90° 45.8	51° 29.1 N	299° 05.6	56.4	267° 40.4	9.9	52.4	6.8														
325° 38.0	357° 21.3	56.9	124° 53.2	53.1	223° 00.6	12.2	94° 50.5	02.3	Enif	15° 46.8	9° 56.4 N	314° 05.8	57.3	282° 09.3	9.9	59.2	6.7														
340° 40.5	12° 21.2	56.3	139° 56.5	52.8	238° 02.9	12.2	109° 53.0	02.3	Fomalhaut	33° 23.7	23° 32.7 S	329° 06.0	58.3	296° 38.2	9.8	15° 05.9 N	6.7														
355° 43.0	27° 21.0	55.6	154° 59.9	52.6	253° 05.1	12.2	124° 55.6	02.2				344° 06.2	59.2	311° 07.0	9.9	12.6	6.5	57.1	N 72°	19:19	20:36	22:54	23:05	-	01:07						
10° 45.4	42° 20.9	11° 54.9 S	170° 03.2	5° 52.3 S	268° 07.4	23° 12.2 N	139° 58.2	16° 02.2 S	Gacrux	171° 59.6	57° 11.7 S	359° 06.4	5° 00.2 N	325° 35.9	9.9	15° 19.1 N	6.4	57.1	N 70°	19:11	20:18	22:00	22:36	-	00:19						
25° 47.9	57° 20.8	54.3	185° 06.5	52.0	283° 09.6	12.2	155° 00.8	02.1	Giennah	175° 51.4	17° 37.4 S	14° 06.6	01.2	340° 04.8	9.9	25.5	6.3	68°	68°	19:04	20:04	21:29	22:16	23:48	25:11						
40° 50.4	72° 20.6	53.0	200° 09.8																												

2014 April 4, 5, 6 (Fri, Sat, Sun)

GMT	ARIES			VENUS -4.3			MARS -1.4			JUPITER -2.2			SATURN +0.3			STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	00:17	03:16	04:35	-	-	-
Friday	00	192° 14'.1	222° 15'.9	11° 30'.6 S	352° 03'.2	5° 42'.0 S	89° 27'.7	23° 11'.6 N	321° 31'.3	16° 00'.9 S	Acamar	315° 18'.3	40° 15'.1 S	179° 13'.0	5° 34'.7 N	127° 02'.4	10.4	18° 10'.6 N	3.0	56.0				N 72°	00:17	03:16	04:35	-	-	-	
	01	207° 16'.6	237° 15'.8	29.9	7° 06'.5	41.7	104° 30'.0	11.6	336° 33'.9	00.8	Achernar	335° 27'.0	57° 10'.0 S	194° 13'.1	35.6	141° 31'.8	10.3	13.6	2.8	68°	68°	02:23	03:52	04:53	06:04	06:43	07:41				
	02	222° 19'.1	252° 15'.7	29.3	22° 09'.9	41.5	119° 32'.2	11.6	351° 36'.5	00.8	Acruz	173° 07'.9	63° 10'.8 S	209° 13'.3	36.6	156° 01'.1	10.4	16.4	2.8	55.9	66°	66°	02:48	04:04	04:59	06:32	07:15	08:11			
	03	237° 21'.5	267° 15'.5	28.6	37° 13'.2	41.2	134° 34'.4	11.5	6° 39'.1	00.8	Adhara	255° 12'.1	28° 59'.9 S	224° 13'.5	37.6	170° 30'.5	10.4	19.2	2.7		64°	64°	03:07	04:14	05:05	06:54	07:38	08:33			
	04	252° 24'.0	282° 15'.4	27.9	52° 16'.6	40.9	149° 36'.7	11.5	21° 41'.7	00.7	Aldebaran	290° 48'.9	16° 32'.1 N	239° 13'.7	38.5	184° 59'.9	10.4	21.9	2.6		62°	62°	03:23	04:23	05:10	07:12	07:57	08:51			
	05	267° 26'.5	297° 15'.2	27.2	67° 19'.9	40.6	164° 38'.9	11.5	36° 44'.3	00.7				254° 13'.9	39.5	199° 29'.3	10.4	24.5	2.4	55.8	60°	60°	03:35	04:30	05:14	07:26	08:12	09:06			
	06	282° 28'.9	312° 15'.1	26.5	82° 23'.3	40.3	179° 41'.1	11.5	51° 46'.9	00.6	Alioth	196° 19'.7	55° 52'.9 N	269° 14'.0	40.4	213° 58'.7	10.5	26.9	2.4		N 58°	58°	03:46	04:37	05:17	07:39	08:25	09:18			
	07	297° 31'.4	327° 14'.9	25.8	97° 26'.6	40.0	194° 43'.3	11.5	66° 49'.5	00.6	Alkaid	152° 58'.0	49° 14'.4 N	284° 14'.2	41.4	228° 28'.2	10.5	29.3	2.3		56°	56°	03:55	04:42	05:21	07:50	08:36	09:29			
	08	312° 33'.9	342° 14'.8	25.1	112° 30'.0	39.7	209° 45'.6	11.5	81° 52'.0	00.6	Alnair	27° 43'.4	46° 53'.3 S	299° 14'.4	42.3	242° 57'.7	10.5	31.6	2.2	55.7	54°	54°	04:03	04:47	05:23	07:59	08:46	09:39			
	09	327° 36'.3	357° 14'.7	24.4	127° 33'.3	39.4	224° 47'.8	11.4	96° 54'.6	00.5	Anilim	275° 45'.9	1° 11'.9 S	314° 14'.6	43.3	257° 27'.5	10.5	33.8	2.1		52°	52°	04:09	04:52	05:26	08:08	08:55	09:47			
	10	342° 38'.8	12° 14'.5	23.7	142° 36'.7	39.2	239° 50'.0	11.4	111° 57'.2	00.5	Alphard	217° 55'.4	8° 43'.5 S	329° 14'.8	44.2	271° 56'.7	10.5	35.9	1.9		50°	50°	04:16	04:55	05:29	08:15	09:03	09:55			
	11	357° 41'.2	27° 14'.4	23.0	157° 40'.0	38.9	254° 52'.2	11.4	126° 59'.8	00.5				344° 14'.9	45.2	286° 26'.2	10.6	37.8	1.9		45°	45°	04:28	05:04	05:34	08:32	09:19	10:11			
	12	12° 43'.7	42° 14'.2	11° 22.3 S	172° 43'.3	5° 38'.6 S	269° 54'.5	23° 11.4 N	142° 02'.4	16° 00'.4 S	Alphecca	126° 10'.3	26° 39'.9 N	359° 15'.1	5° 46'.1 N	300° 55'.8	10.6	18° 39.7 N	1.8	55.6	N 40°	40°	04:38	05:11	05:38	08:45	09:33	10:24			
	13	27° 46'.2	57° 14'.1	21.6	187° 46'.7	38.3	284° 56'.7	11.4	157° 05'.0	00.4	Alpheratz	357° 43'.2	29° 10'.0 N	14° 15'.3	47.1	315° 25'.4	10.6	41.5	1.7		35°	35°	04:46	05:16	05:42	08:56	09:45	10:35			
	14	42° 48'.6	72° 14'.0	20.9	202° 50'.0	38.0	299° 58'.9	11.4	172° 07'.6	00.3	Altair	62° 07'.8	8° 54'.4 N	29° 15'.5	48.0	329° 55'.0	10.6	43.2	1.6		30°	30°	04:52	05:21	05:45	09:06	09:55	10:45			
	15	57° 51'.1	87° 13'.8	20.2	217° 53'.4	37.7	315° 01'.1	11.3	187° 10'.2	00.3	Ankaa	353° 15'.6	42° 13'.8 S	44° 15'.7	49.0	344° 24'.6	10.7	44.8	1.5		20°	20°	05:02	05:28	05:50	09:23	10:13	11:02			
	16	72° 53'.6	102° 13'.7	19.5	232° 56'.7	37.4	330° 03'.3	11.3	202° 12'.8	00.2	Antares	112° 25'.3	26° 27.7 S	59° 15'.8	49.9	358° 54'.3	10.6	46.3	1.4	55.5	N 10°	10°	05:09	05:34	05:55	09:38	10:28	11:17			
	17	87° 56'.0	117° 13'.5	18.5	248° 00'.1	37.1	345° 05'.6	11.3	217° 15'.4	00.3				74° 16'.0	50.9	13° 23.9	10.7	47.7	1.3		0°	0°	05:15	05:39	05:59	09:52	10:42	11:31			
	18	102° 58'.5	132° 13'.4	18.1	263° 03'.4	36.9	0° 07'.8	11.3	232° 18'.0	00.2	Arcturus	145° 54'.9	19° 06'.4 N	89° 16'.2	51.8	27° 53'.6	10.8	49.0	1.2		S 10°	10°	05:18	05:43	06:04	10:07	10:57	11:45			
	19	118° 01'.0	147° 13'.2	17.4	278° 06'.8	36.6	15° 10'.0	11.3	247° 20'.5	00.2	Atria	107° 26'.4	69° 02'.8 S	104° 16'.4	52.8	42° 23'.4	10.7	50.2	1.2		20°	20°	05:20	05:46	06:08	10:22	11:12	12:00			
	20	133° 03'.4	162° 13'.1	16.7	293° 10'.2	36.3	30° 12'.2	11.3	262° 23'.1	00.1	Avia	234° 17'.5	59° 33'.8 S	119° 16'.6	53.8	56° 53'.1	10.8	51.4	1.0	55.4	30°	30°	05:21	05:49	06:13	10:39	11:30	12:17			
	21	148° 05'.9	177° 13'.0	16.0	308° 13'.5	36.0	45° 14'.5	11.2	277° 25'.7	00.1	Bellatrix	278° 31'.5	6° 21'.5 N	134° 16'.7	54.7	71° 22.9	10.8	52.4	0.9		35°	35°	05:21	05:50	06:16	10:49	11:40	12:26			
	22	163° 08'.4	192° 12'.8	15.3	323° 16'.9	35.7	60° 16'.7	11.2	292° 28'.3	00.0	Betelgeuse	271° 00'.8	7° 24'.3 N	149° 16'.9	55.7	85° 52'.7	10.8	53.3	0.8		40°	40°	05:20	05:52	06:19	11:01	11:52	12:38			
23	178° 10'.8	207° 12.7	14.6	338° 20.2	35.4	75° 18.9	11.2	307° 30.9	00.0				164° 17.1	56.6	100° 22.5	10.9	54.1	0.8		45°	45°	05:19	05:53	06:22	11:14	12:06	12:51				
Saturday	00	193° 13'.3	222° 12'.5	11° 13'.9 S	353° 23'.6	5° 35'.1 S	90° 21'.1	23° 11.2 N	322° 33'.5	16° 00'.0 S	Canopus	263° 56'.0	52° 42'.7 S	179° 17'.3	5° 57.6 N	114° 52'.4	10.9	18° 54.9 N	0.6	55.3	S 50°	50°	05:17	05:54	06:27	11:31	12:22	13:07			
	01	208° 15'.7	237° 12'.4	13.2	8° 26'.9	34.8	105° 23'.3	11.2	337° 36'.1	15° 59'.9 S	Capella	280° 33'.8	46° 00'.7 N	194° 17'.5	58.5	129° 22'.3	10.9	55.5	0.5		52°	52°	05:16	05:55	06:29	11:39	12:30	13:15			
	02	223° 18'.2	252° 12'.2	12.5	23° 30'.3	34.5	120° 25'.6	11.2	352° 38'.7	59.9	Deneb	49° 31'.2	45° 19'.7 N	209° 17'.6	59.5	143° 52'.2	10.9	56.0	0.5		54°	54°	05:14	05:55	06:31	11:47	12:39	13:23			
	03	238° 20'.1	267° 12'.1	11.8	38° 33'.6	34.3	135° 27'.8	11.1	7° 41'.3	59.8	Denebola	182° 32'.8	14° 29'.4 N	224° 17'.8	6° 00'.4 N	158° 22'.1	11.0	56.5	0.3		56°	56°	05:13	05:56	06:33	11:57	12:49	13:32			
	04	253° 23'.1	282° 11'.9	11.1	53° 37.0	34.0	150° 30'.0	11.1	22° 43'.9	59.8	Diphda	348° 55'.7	17° 54'.6 S	239° 18'.0	01.4	172° 52'.1	11.0	56.8	0.3	55.2	58°	58°	05:11	05:56	06:36	12:09	13:01	13:43			
	05	268° 25'.6	297° 11'.8	10.4	68° 40'.3	33.7	165° 32'.2	11.1	37° 46'.5	59.8				254° 18'.2	02.3	187° 22'.1	11.0	57.1	0.1		S 60°	60°	05:08	05:57	06:38	12:21	13:14	13:55			
	06	283° 28'.1	312° 11'.7	09.7	83° 43'.7	33.4	180° 34'.4	11.1	52° 49'.1	59.7	Dubhe	193° 50'.6	61° 40'.4 N	269° 18'.4	03.3	201° 52'.1	11.1	57.2	0.1		S 62°	62°	05:06	05:57	06:42	12:37	13:29	14:10			
	07	298° 30'.5	327° 11'.5	09.0	98° 47'.1	33.1	195° 36.7	11.1	67° 51'.7	59.7	Elinath	278° 12'.1	28° 37.0 N	284° 18'.5	04.2	216° 22'.2	11.1	57.3	0.0												
	08	313° 33'.0	342° 11'.4	08.3	113° 50'.4	32.8	210° 38'.9	11.0	82° 54'.2	59.6	Eltanin	90° 45'.7	51° 29'.1 N	299° 18'.7	05.2	230° 52'.3	11.1	57.3	0.1	55.1											
	09	328° 35'.5	357° 11'.2	07.6	128° 53'.8	32.5	225° 41'.1	11.0	97° 56'.8	59.6	Enif	13° 46'.8	9° 56'.4 N	314° 18'.9	06.1	245° 22'.4	11.1	57.2	0.3												
	10	343° 37.9	12° 11'.1	06.8	143° 57'.1	32.2	240° 43'.3	11.0	112° 59'.4	59.6	Fomalhaut	35° 23'.7	23° 32.7 S	329° 19'.1	07.1	259° 52'.5	11.2	56.9	0.3												
	11	358° 40'.4	27° 10'.9	06.1	159° 00'.5	31.9	255° 45'.5	11.0	128° 02'.0																						

2014 April 7, 8, 9 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.3			MARS -1.5			JUPITER -2.2			SATURN +0.2			STARS			SUN			MOON				Lat	Twilight		Sunrise	7		Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	02:56	04:19	07:22	09:16	10:59				
Monday	00	195° 11'.6	222° 05'.5	10° 39'.3 S	356° 05'.0	5° 21'.2 S	92° 07'.3	23° 10'.3 N	324° 38'.1	15° 58'.1 S	324° 38'.1	15° 58'.1 S	Acamar	315° 18'.3	40° 15'.1 S	179° 25'.8	6° 43'.0 N	91° 21'.8	12.4	17° 42'.7 N	3.6	54.4	N 70°	01:11	03:19	04:31	08:20	09:50	11:21				
	01	210° 14'.0	237° 05'.3	38.6	11° 08'.4	20.9	107° 09'.6	10.3	339° 40'.7	58.1	339° 40'.7	58.1	Achernar	335° 27'.0	57° 10'.0 S	194° 26'.0	43.9	105° 53'.2	12.4	39.1	3.6	68°	02:01	03:37	04:40	08:54	10:14	11:38					
	02	225° 16'.5	252° 05'.2	37.9	26° 11'.8	20.6	122° 11'.8	10.3	354° 43'.3	58.1	354° 43'.3	58.1	Acruz	173° 07'.9	63° 10'.8 S	209° 26'.2	44.8	120° 24'.6	12.5	35.5	3.8	66°	02:31	03:51	04:48	09:19	10:33	11:51					
	03	240° 19'.0	267° 05'.0	37.1	41° 15'.1	20.3	137° 14'.0	10.3	9° 45'.9	58.0	224° 26'.4	45.8	Adhara	255° 12'.1	28° 59'.9 S	224° 26'.4	45.8	134° 56'.1	12.6	31.7	3.8	64°	02:53	04:03	04:54	09:38	10:48	12:03					
	04	255° 21'.4	282° 04'.9	36.4	56° 18'.5	20.0	152° 16'.2	10.2	24° 48'.5	58.0	239° 26'.5	46.7	Aldebaran	290° 48'.9	16° 32'.1 N	239° 26'.5	46.7	149° 27'.2	12.5	27.9	4.0	62°	03:10	04:12	05:00	09:53	11:01	12:12					
	05	270° 23'.9	297° 04'.7	35.6	71° 21'.9	19.7	167° 18'.4	10.2	39° 51'.1	57.9	254° 26'.7	47.7				254° 26'.7	47.7	163° 59'.2	12.6	23.9	3.9	60°	03:24	04:21	05:05	10:06	11:12	12:20					
	06	285° 26'.3	312° 04'.6	34.9	86° 25'.2	19.4	182° 20'.6	10.2	54° 53'.7	57.9	269° 26'.9	48.6	Alioth	166° 19'.7	55° 52'.9 N	269° 26'.9	48.6	178° 30'.8	12.7	20.0	4.1	N 58°	03:36	04:28	05:09	10:17	11:21	12:27					
	07	300° 28'.8	327° 04'.4	34.2	101° 28'.6	19.1	197° 22'.8	10.2	69° 56'.3	57.9	284° 27'.1	49.6	Alkaid	152° 58'.0	49° 14'.4 N	284° 27'.1	49.6	193° 02'.5	12.6	15.9	4.2	56°	03:46	04:34	05:13	10:27	11:29	12:34					
	08	315° 31'.3	342° 04'.3	33.4	116° 32'.0	18.9	212° 25'.0	10.2	84° 58'.9	57.8	299° 27'.2	50.5	Alnilam	27° 43'.4	46° 53'.3 S	299° 27'.2	50.5	207° 34'.1	12.7	11.7	4.2	54°	03:54	04:39	05:16	10:36	11:36	12:39					
	09	330° 33'.7	357° 04'.1	32.7	131° 35'.4	18.6	227° 27'.2	10.1	100° 01'.5	57.8	314° 27'.4	51.4	Alnair	275° 45'.9	1° 11'.9 S	314° 27'.4	51.4	222° 05'.8	12.8	07.5	4.3	54.3	52°	04:02	04:44	05:19	10:43	11:43	12:44				
	10	345° 36'.2	12° 04'.0	31.9	146° 38'.7	18.3	242° 29'.4	10.1	115° 04'.1	57.7	329° 27'.6	52.4	Alphard	217° 55'.4	8° 43'.6 S	329° 27'.6	52.4	236° 37'.6	12.7	03.2	4.4	50°	04:08	04:49	05:22	10:50	11:49	12:49					
	11	0° 38'.7	27° 03'.8	31.2	161° 42'.1	18.0	257° 31'.6	10.1	130° 06'.7	57.7	344° 27'.8	53.3				344° 27'.8	53.3	251° 09'.3	12.8	16° 58'.8 N	4.4	45°	04:22	04:58	05:28	11:05	12:01	12:59					
	12	15° 41'.1	42° 03'.7	10° 30'.5 S	176° 45'.5	5° 17'.7 S	272° 33'.8	23° 10'.1 N	145° 09'.3	15° 57'.7 S	359° 27.9	6° 54'.2 N	Alphecca	126° 10'.3	26° 39'.9 N	359° 27.9	6° 54'.2 N	265° 41'.1	12.9	16° 54'.4 N	4.5	54.3	N 40°	04:33	05:06	05:33	11:17	12:12	13:07				
	13	30° 43'.6	57° 03'.5	29.7	191° 48'.9	17.4	287° 36'.0	10.1	160° 11'.9	57.6	14° 28'.1	55.2	Alpheratz	357° 43'.2	29° 10'.0 N	14° 28'.1	55.2	280° 13'.0	12.8	49.9	4.6	35°	04:42	05:12	05:38	11:27	12:20	13:14					
	14	45° 46'.1	72° 03'.4	29.0	206° 52'.2	17.1	302° 38'.2	10.0	175° 14'.5	57.6	29° 28'.3	56.1	Altair	62° 07'.7	8° 54'.4 N	29° 28'.3	56.1	294° 44'.8	12.9	45.3	4.7	30°	04:49	05:17	05:41	11:36	12:28	13:20					
	15	60° 48'.5	87° 03'.2	28.2	221° 55'.6	16.8	317° 40'.4	10.0	190° 17'.1	57.5	44° 28'.5	57.1	Ankaa	353° 15'.6	42° 13'.7 S	44° 28'.5	57.1	309° 16'.7	13.0	40.6	4.7	20°	05:00	05:26	05:48	11:52	12:41	13:31					
	16	75° 51'.0	102° 03'.1	27.5	236° 59'.0	16.5	332° 42'.6	10.0	205° 19'.7	57.5	59° 28'.6	58.0	Antares	112° 25'.3	26° 27'.7 S	59° 28'.6	58.0	323° 48'.7	12.9	35.9	4.9	N 10°	05:08	05:32	05:53	12:06	12:53	13:40					
	17	90° 53'.4	117° 02'.9	26.7	252° 02'.4	16.2	347° 44'.8	10.0	220° 22'.3	57.5	74° 28'.8	58.9				74° 28'.8	58.9	338° 20'.6	13.0	31.0	4.9	0°	05:14	05:38	05:59	12:18	13:04	13:49					
	18	105° 55'.9	132° 02'.7	26.0	267° 05'.7	15.9	2° 47'.0	10.0	235° 24'.9	57.4	89° 29'.0	59.9	Arcturus	145° 54'.9	19° 06'.4 N	89° 29'.0	59.9	352° 52'.6	13.1	26.1	4.9	S 10°	05:18	05:42	06:04	12:31	13:15	13:57					
	19	120° 58'.4	147° 02'.6	25.2	282° 09'.1	15.6	17° 49'.2	09.9	250° 27'.5	57.4	104° 29'.2	7° 00'.8 N	Atria	107° 26'.3	69° 02'.8 S	104° 29'.2	7° 00'.8 N	7° 24'.7	13.0	21.2	5.1	20°	05:21	05:47	06:09	12:44	13:27	14:07					
	20	136° 00'.8	162° 02'.4	24.5	297° 12'.5	15.4	32° 51'.4	09.9	265° 30'.1	57.3	119° 29'.3	01.8	Avia	234° 17'.6	59° 33'.8 S	119° 29'.3	01.8	21° 56'.7	13.1	16.1	5.1	30°	05:23	05:51	06:15	13:00	13:40	14:17					
	21	151° 03'.3	177° 02'.3	23.7	312° 15'.9	15.1	47° 53'.6	09.9	280° 32'.7	57.3	134° 29'.5	02.7	Bellatrix	278° 31'.6	6° 21'.5 N	134° 29'.5	02.7	36° 28'.8	13.1	11.0	5.1	35°	05:23	05:53	06:18	13:09	13:47	14:23					
	22	166° 05'.8	192° 01'.1	23.0	327° 19'.3	14.8	62° 55'.8	09.9	295° 35'.3	57.3	149° 29'.7	03.6	Betelgeuse	271° 00'.8	7° 24'.3 N	149° 29'.7	03.6	51° 00'.9	13.2	05.9	5.3	40°	05:23	05:55	06:22	13:19	13:56	14:30					
23	181° 08'.2	207° 02'.0	22.2	342° 22'.6	14.5	77° 58'.0	09.9	310° 37.9	57.2	164° 29.9	04.6				164° 29.9	04.6	65° 33'.1	13.2	00.6	5.3	54.2	45°	05:23	05:57	06:26	13:31	14:06	14:38					
Tuesday	00	196° 10'.7	222° 01'.8	10° 21'.5 S	357° 26'.0	5° 14'.2 S	93° 00'.2	23° 09'.9 N	325° 40'.5	15° 57'.2 S	325° 40'.5	15° 57'.2 S	Canopus	263° 56'.0	52° 42'.7 S	179° 30'.0	7° 05'.5 N	80° 05'.3	13.2	15° 55'.3 N	5.4	54.2	S 50°	05:21	05:59	06:31	13:45	14:19	14:48				
	01	211° 13'.2	237° 01'.7	20.7	12° 29'.4	13.9	108° 02'.4	09.8	340° 43'.1	57.1	194° 30'.2	06.4	Capella	280° 33'.8	46° 00'.7 N	194° 30'.2	06.4	94° 37'.5	13.3	49.9	5.4	52°	05:21	06:00	06:34	13:52	14:24	14:52					
	02	226° 15'.6	252° 01'.5	20.0	27° 32'.8	13.6	123° 04'.6	09.8	355° 45'.7	57.1	209° 30'.4	07.4	Deneb	49° 31'.2	45° 19.7 N	209° 30'.4	07.4	109° 39'.8	13.2	44.5	5.6	54°	05:20	06:01	06:36	14:00	14:30	14:57					
	03	241° 18'.1	267° 01'.4	19.2	42° 36'.1	13.3	138° 06'.8	09.8	10° 48'.3	57.1	224° 30'.6	08.3	Denebola	182° 32'.8	14° 29'.4 N	224° 30'.6	08.3	123° 42.0	13.4	38.9	5.6	56°	05:19	06:02	06:39	14:08	14:37	15:02					
	04	256° 20'.6	282° 01'.2	18.5	57° 39'.5	13.0	153° 09'.0	09.8	25° 50'.9	57.0	239° 30'.7	09.2	Diphda	348° 55'.7	17° 54'.6 S	239° 30'.7	09.2	138° 14'.4	13.3	33.3	5.6	58°	05:17	06:03	06:42	14:17	14:45	15:08					
	05	271° 23'.0	297° 01'.1	17.7	72° 42'.9	12.7	168° 11'.2	09.8	40° 53'.5	57.0	254° 30.9	10.2				254° 30.9	10.2	152° 46.7	13.4	27.7	5.8	S 60°	05:16	06:04	06:46	14:28	14:54	15:15					
	06	286° 25'.5	312° 00'.9	17.0	87° 46'.3	12.4	183° 13'.4	09.7	55° 56'.1	57.0	269° 31'.1	11.1	Dubhe	193° 50'.6	61° 40'.4 N	269° 31'.1	11.1	167° 19'.1	13.4	21.9	5.7	S 62°	05:14	06:05	06:50	14:41	15:04	15:23					
	07	301° 27'.9	327° 00'.8	16.2	102° 49'.7	12.1	198° 15'.6	09.7	70° 57'.7	56.9	284° 31'.2	12.1	Elinath	278° 12'.1	28° 37.0 N	284° 31'.2	12.1	181° 51'.5	13.4	16.2	5.9												
	08	316° 30'.4	342° 00'.6	15.4	117° 53'.0	11.9	213° 17'.8	09.7	86° 01'.3	56.9	299° 31'.4	13.0	Eltanin	90° 45'.7	51° 29'.1 N	299° 31'.4	13.0	196° 23.9	13.5	10.3	5.9												
	09	331° 32'.9	357° 00'.5	14.7	132° 56'.4	11.6	228° 20'.0	09.7	101° 03'.9	56.8	314° 31'.6	13.9	Enif	15° 46'.8	9° 56'.4 N	314° 31'.6	13.9	210° 56'.4	13.5	04.4	6.0												
	10	346° 35'.3	12° 00'.3	13.9	147° 59'.8	11.3	243° 22'.2	09.7	116° 06'.5	56.8	329° 31.8	14.9	Fomalhaut	33° 23'.7	23° 32.7 S	329° 31.8	14.9	225° 28.9	13.5	14° 58.4 N	6.1												
	11	1° 37'.8	27° 00'.2	13.2	163° 03'.2	11.0	258° 24'.4	09.6	131° 09'.1	56.8	344° 31.9	15.8				344° 31.9	15.8	240° 01'.4	13.5	52'.3	6.1	N 72°											

2014 April 10, 11, 12 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																								Nautical		Civil	10		11	12	
10 Thurs day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	02:33	04:03	12:39	14:17	15:55		
	00	198° 09.0	221° 54.4	9° 44.6 S	0° 08.3	5° 00.2 S	94° 45.4	23° 08.9 N	327° 45.5	15° 55.3 S	Acamar	315° 18.3	40° 15.1 S	179° 38.3	7° 50.2 N	58° 21.5	14.4	10° 26.6 N	8.1	54.4		N 70°	01:34	03:01	04:16	12:52	14:23	15:56			
	01	213° 11.4	236° 54.3	43.9	15° 11.7	4° 59.9 S	109° 47.6	08.8	342° 48.1	55.2	Achernar	335° 27.0	57° 10.0 S	194° 38.4	51.1	72° 54.9	14.3	18.5	8.3			68°	02:12	03:22	04:27	13:03	14:29	15:56			
	02	228° 13.9	251° 54.1	43.1	30° 15.1	59.6	124° 49.8	08.8	357° 50.7	55.2	Acruz	173° 07.9	63° 10.9 S	209° 38.6	52.1	87° 28.2	14.4	10.2	8.3			66°	02:12	03:38	04:36	13:12	14:33	15:57			
	03	243° 16.4	266° 53.9	42.3	45° 18.5	59.3	139° 52.0	08.8	12° 53.3	55.1	Adhara	255° 12.1	28° 59.9 S	224° 38.8	53.0	102° 01.6	14.3	01.9	8.3			64°	02:37	03:51	04:44	13:19	14:37	15:57			
	04	258° 18.8	281° 53.8	41.5	60° 21.9	59.0	154° 54.2	08.8	27° 55.9	55.1	Aldebaran	290° 49.0	16° 32.1 N	239° 38.9	53.9	116° 34.9	14.4	9° 53.6 N	8.4			62°	02:57	04:02	04:50	13:26	14:41	15:57			
	05	273° 21.3	296° 53.6	40.7	75° 25.2	58.8	169° 56.4	08.8	42° 58.5	55.1				254° 39.1	54.8	131° 08.3	14.4	45.2	8.4			60°	03:12	04:11	04:56	13:31	14:43	15:57			
	06	288° 23.8	311° 53.5	39.9	90° 28.6	58.5	184° 58.5	08.7	58° 01.1	55.0	Alioth	166° 19.7	55° 52.9 N	269° 39.3	55.7	145° 41.7	14.4	36.8	8.5			N 58°	03:25	04:19	05:01	13:36	14:46	15:58			
	07	303° 26.2	326° 53.3	39.2	105° 32.0	58.2	200° 00.7	08.7	73° 03.7	55.0	Alkaid	152° 58.0	49° 14.5 N	284° 39.4	56.7	160° 15.1	14.4	28.3	8.5			56°	03:36	04:26	05:05	13:40	14:48	15:58			
	08	318° 28.7	341° 53.2	38.4	120° 35.4	57.9	215° 02.9	08.7	88° 06.3	54.9	Alnilam	27° 43.4	46° 53.3 S	299° 39.6	57.6	174° 48.5	14.5	19.8	8.5			54°	03:46	04:32	05:09	13:44	14:50	15:58			
	09	333° 31.2	356° 53.0	37.6	135° 38.8	57.6	230° 05.1	08.7	103° 08.9	54.9	Alnair	275° 46.0	1° 11.9 S	314° 39.8	58.5	189° 22.0	14.4	11.3	8.6	54.5		52°	03:54	04:37	05:13	13:48	14:52	15:58			
	10	348° 33.6	11° 52.8	36.8	150° 42.2	57.3	245° 07.3	08.7	118° 11.6	54.8	Alphard	217° 55.4	8° 43.6 S	329° 39.9	59.4	203° 55.4	14.4	02.7	8.6			50°	04:01	04:42	05:16	13:51	14:54	15:58			
	11	3° 36.1	26° 52.7	36.0	165° 45.6	57.0	260° 09.4	08.6	133° 14.2	54.8				344° 40.1	8° 00.4 N	218° 28.8	14.5	8° 54.1 N	8.7			45°	04:16	04:53	05:23	13:58	14:58	15:59			
	12	18° 38.5	41° 52.5	35.2 S	180° 48.9	4° 56.7 S	275° 11.6	23° 08.6 N	148° 16.8	15° 54.8 S	Alphecca	126° 10.2	26° 39.9 N	359° 40.3	8° 01.3 N	233° 02.3	14.4	8° 45.4 N	8.7	54.5		N 40°	04:28	05:01	05:29	14:03	15:01	15:59			
	13	33° 41.0	56° 52.4	34.4	195° 52.3	56.4	290° 13.8	08.6	163° 19.4	54.7	Alpheratz	357° 43.2	29° 10.0 N	14° 40.5	02.2	247° 35.7	14.5	36.7	8.8			35°	04:37	05:08	05:34	14:08	15:03	15:59			
	14	48° 43.5	71° 52.2	33.6	210° 55.7	56.1	305° 16.0	08.6	178° 22.0	54.7	Altair	62° 07.7	8° 54.4 N	29° 40.6	03.1	262° 09.2	14.5	27.9	8.8			30°	04:45	05:14	05:38	14:13	15:06	15:59			
	15	63° 45.9	86° 52.1	32.8	225° 59.1	55.9	320° 18.2	08.5	193° 24.6	54.6	Ankaa	353° 15.6	42° 13.7 S	44° 40.8	04.1	276° 42.6	14.5	19.1	8.8			20°	04:57	05:23	05:45	14:20	15:10	16:00			
	16	78° 48.4	101° 51.9	32.0	241° 02.5	55.6	335° 20.4	08.5	208° 27.2	54.6	Antares	112° 25.3	26° 27.7 S	59° 41.0	05.0	291° 16.1	14.5	10.3	8.9			N 10°	05:06	05:31	05:52	14:27	15:13	16:00			
	17	93° 50.9	116° 51.7	31.3	256° 05.9	55.3	350° 22.5	08.5	223° 29.8	54.6				74° 41.1	05.9	305° 49.6	14.5	01.4	8.9	54.6		0°	05:13	05:37	05:58	14:33	15:16	16:01			
	18	108° 53.3	131° 51.6	30.5	271° 09.3	55.0	5° 24.7	08.5	238° 32.4	54.5	Arcturus	145° 54.9	19° 06.4 N	89° 41.3	06.8	320° 23.1	14.5	7° 52.5 N	9.0			S 10°	05:18	05:42	06:04	14:39	15:20	16:01			
	19	123° 55.8	146° 51.4	29.7	286° 12.6	54.7	20° 26.9	08.5	253° 35.0	54.5	Atria	107° 26.3	69° 02.8 S	104° 41.5	07.7	334° 56.6	14.4	43.5	9.0			20°	05:22	05:48	06:10	14:45	15:23	16:01			
	20	138° 58.3	161° 51.3	28.9	301° 16.0	54.4	35° 29.1	08.4	268° 37.6	54.4	Avior	234° 17.6	59° 33.8 S	119° 41.6	08.7	349° 30.0	14.5	34.5	9.0			30°	05:25	05:52	06:17	14:53	15:27	16:02			
	21	154° 00.7	176° 51.1	28.1	316° 19.4	54.1	50° 31.3	08.4	283° 40.3	54.4	Bellatrix	278° 31.6	6° 21.5 N	134° 41.8	09.6	4° 03.5	14.5	25.5	9.1			35°	05:26	05:55	06:20	14:57	15:30	16:02			
	22	169° 03.2	191° 50.9	27.3	331° 22.8	53.8	65° 33.4	08.4	298° 42.9	54.4	Betelgeuse	271° 00.8	7° 24.3 N	149° 42.0	10.5	18° 37.0	14.5	16.4	9.1			40°	05:26	05:58	06:25	15:02	15:32	16:02			
23	184° 05.6	206° 50.8	26.5	346° 26.2	53.5	80° 35.6	08.4	313° 45.5	54.3				164° 42.1	11.4	33° 10.5	14.5	07.3	9.1			45°	05:26	06:00	06:30	15:07	15:35	16:03				
11 Fri day	00	199° 08.1	221° 50.6	9° 25.7 S	1° 29.6	4° 53.3 S	95° 37.8	23° 08.3 N	328° 48.1	15° 54.3 S	Canopus	263° 56.0	52° 42.7 S	179° 42.3	8° 12.4 N	47° 44.0	14.5	6° 58.2 N	9.2	54.7		S 50°	05:26	06:03	06:36	15:14	15:39	16:03			
	01	214° 10.6	236° 50.5	24.9	16° 32.9	53.0	110° 40.0	08.3	343° 50.7	54.2	Capella	280° 33.9	46° 00.7 N	194° 42.5	13.3	62° 17.5	14.5	49.0	9.2			52°	05:26	06:05	06:39	15:17	15:41	16:03			
	02	229° 13.0	251° 50.3	24.1	31° 36.3	52.7	125° 42.1	08.3	358° 53.3	54.2	Deneb	49° 31.2	45° 19.7 N	209° 42.6	14.2	76° 51.0	14.5	39.8	9.3			54°	05:25	06:06	06:42	15:21	15:42	16:04			
	03	244° 15.5	266° 50.2	23.3	46° 39.7	52.4	140° 44.3	08.3	373° 55.9	54.1	Denebola	182° 32.8	14° 29.4 N	224° 42.8	15.1	91° 24.5	14.5	30.5	9.3			56°	05:24	06:07	06:45	15:24	15:44	16:04			
	04	259° 18.0	281° 50.0	22.5	61° 43.1	52.1	155° 46.5	08.3	28° 58.5	54.1	Diphda	348° 55.7	17° 54.6 S	239° 43.0	16.0	105° 58.0	14.5	21.2	9.3			58°	05:24	06:09	06:49	15:28	15:47	16:04			
	05	274° 20.4	296° 49.8	21.7	76° 46.5	51.8	170° 48.7	08.2	44° 01.1	54.1				254° 43.1	16.9	120° 31.5	14.5	11.9	9.3			S 60°	05:22	06:11	06:53	15:33	15:49	16:04			
	06	289° 22.9	311° 49.7	20.9	91° 49.9	51.5	185° 50.9	08.2	59° 03.7	54.0	Dubhe	193° 50.6	61° 40.4 N	269° 43.3	17.9	135° 05.0	14.5	02.6	9.4	54.8		S 62°	05:21	06:12	06:57	15:38	15:52	16:05			
	07	304° 25.4	326° 49.5	20.1	106° 53.3	51.2	200° 53.0	08.2	74° 06.4	54.0	Elnath	278° 12.1	28° 37.0 N	284° 43.4	18.8	149° 38.5	14.4	5° 53.2 N	9.4				Lat	Sunset	Twilight		Moonset				
	08	319° 27.8	341° 49.4	19.3	121° 56.6	50.9	215° 55.2	08.2	89° 09.0	53.9	Eltanin	90° 45.7	51° 29.1 N	299° 43.6	19.7	164° 11.9	14.5	43.8	9.4				Civil	Nautical	10	11	12				
	09	334° 30.3	356° 49.2	18.5	137° 00.0	50.7	230° 57.4	08.1	104° 11.6	53.9	Enif	15° 46.7	9° 56.4 N	314° 43.8	20.6	178° 45.4	14.5	34.4	9.5												
	10	349° 32.8	11° 49.0	17.7	152° 03.4	50.4	245° 59.6	08.1	119° 14.2	53.9	Fomalhaut	33° 23.7	29° 32.7 S	329° 43.9	21.5	193° 18.9	14.5	24.9	9.5												
	11	4° 35.2	26° 48.9	16.9	167° 06.8	50.1	261° 01.7	08.1	134° 16.8	53.8				344° 44.1	22.5	207° 52.4	14.4	15.4	9.5			N 72°	20:03	21:35	-	04:22	04:15	04:08			
	12	19° 37.7	41° 48.7	16.1 S	182° 10.2	4° 49.8 S	276° 03.9	23° 08.1 N	149° 19.4	15° 53.8 S	Gacrux	171° 59.6	57° 11.7 S	359° 44.3	8° 23.4 N	222° 25.8	14.5	5° 05.9 N	9.6	54.9		N 70°	19:49	21:06	-	04:07	04:06	04:05			

2014 April 16, 17, 18 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.2			MARS -1.4			JUPITER -2.1			SATURN +0.2			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	16		17	18	
16 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								N 72°	-	01:39	03:28	23:15	-	01:50	
	204° 03'.8	221° 31'.2	7° 45'.9 S	8° 14'.9	4° 19'.5 S	99° 57'.2	23° 05'.5 N	334° 02'.0	15° 49'.1 S	Acamar	315° 18'.3	40° 15'.1 S	180° 01'.3	10° 00'.9 N	351° 53'.9	10.3	12° 25'.2	8.3	57.3	N 70°	-	02:21	03:47	22:36	-	02:23					
	219° 06'.3	236° 31'.0	45.0	23° 18'.3	19'.2	114° 59'.4	05.4	349° 04'.6	49.1	Achernar	335° 27'.0	57° 09'.9 S	195° 01'.5	01'.8	6° 23'.2	10.3	33.5	8.2	68°	68°	-	02:49	04:01	22:10	23:44	25:04					
	234° 08'.7	251° 30'.8	44.2	38° 21'.7	18.9	130° 01'.5	05.4	4° 07'.3	49.1	Acruz	173° 07'.9	63° 10'.9 S	210° 01'.6	02'.7	20° 52'.5	10.2	41.7	8.2	57.4	66°	01:25	03:10	04:13	21:50	23:16	24:32					
	249° 11'.2	263° 30'.7	43.3	53° 25'.0	18.6	145° 03'.7	05.4	19° 09'.9	49.0	Adhara	255° 12'.2	28° 59'.9 S	225° 01'.8	03'.6	35° 21'.7	10.1	49.9	8.1		64°	02:03	03:27	04:22	21:34	22:56	24:08					
	264° 13'.7	281° 30'.5	42.4	68° 28'.4	18.4	160° 05'.8	05.4	34° 12'.5	49.0	Aldebaran	290° 49'.0	16° 32'.1 N	240° 01'.9	04'.5	49° 50'.8	10.1	58.0	8.0		62°	02:29	03:40	04:31	21:20	22:39	23:49					
	279° 16'.1	296° 30'.3	41.6	83° 31'.8	18.1	175° 08'.0	05.3	49° 15'.1	48.9		196° 19'.7	55° 52'.9 N	255° 02'.0	05'.4	64° 19'.9	10.0	13° 06'.0 S	8.0		60°	02:48	03:51	04:38	21:09	22:25	23:34					
	294° 18'.6	311° 30'.2	40.7	98° 35'.1	17.8	190° 10'.1	05.3	64° 17'.8	48.9	Alioth	260° 19'.7	55° 52'.9 N	270° 02'.2	06'.3	78° 47'.9	10.0	14.0	7.9	57.5	N 58°	03:04	04:01	04:44	21:00	22:13	23:21					
	309° 21'.0	326° 30.0	39.8	113° 38'.5	17.6	205° 12'.3	05.3	79° 20'.4	48.8	Alkaid	152° 58'.0	49° 14'.5 N	285° 02'.3	07.1	93° 18'.9	9.9	21.9	7.8		56°	03:17	04:09	04:50	20:51	22:03	23:09					
	324° 23'.5	341° 29'.8	38.9	128° 41'.9	17.3	220° 14'.4	05.2	94° 23'.0	48.8	Alnair	27° 43'.3	46° 53'.3 S	300° 02'.5	08'.0	107° 46'.8	9.8	29.7	7.8		54°	03:28	04:17	04:55	20:44	21:54	22:59					
	339° 26'.0	356° 29'.7	38.1	143° 45'.2	17.0	235° 16'.5	05.2	109° 25'.6	48.7	Alnilam	275° 46'.0	1° 11'.9 S	315° 02'.6	08'.9	122° 15'.6	9.8	37.5	7.6		52°	03:38	04:23	04:59	20:37	21:46	22:51					
	354° 28'.4	11° 29'.5	37.2	158° 48'.6	16.8	250° 18'.7	05.2	124° 28'.3	48.7	Alphard	217° 55'.4	8° 43'.6 S	330° 02'.8	09'.8	136° 44'.4	9.7	45.1	7.7		50°	03:47	04:29	05:03	20:31	21:39	22:43					
	9° 30'.9	26° 29'.3	36.3	173° 51'.9	16.5	265° 20'.8	05.2	139° 30'.9	48.7		190° 19'.7	55° 52'.9 N	345° 02'.9	10.7	151° 13'.1	9.7	52.8	7.5	57.6	45°	04:04	04:41	05:12	20:18	21:23	22:26					
	24° 33'.4	41° 29'.2	7° 35'.5 S	188° 55'.3	4° 16'.2 S	280° 23'.0	23° 05'.1 N	154° 33'.5	15° 48'.6 S	Alphecca	126° 10'.2	26° 39'.9 N	0° 03'.1	10° 11'.6 N	165° 41'.8	9.6	14° 00'.3 S	7.5	57.6	N 40°	04:18	04:51	05:20	20:07	21:10	22:12					
	39° 35'.8	56° 29.0	34.6	203° 58'.7	15.9	295° 25'.1	05.1	169° 36'.1	48.6	Alpheratz	357° 43'.2	29° 10'.0 N	15° 03'.2	12'.5	180° 10'.4	9.5	07.8	7.4		35°	04:29	05:00	05:26	19:58	21:00	22:00					
	54° 38'.3	71° 28'.8	33.7	219° 02'.0	15.7	310° 27'.3	05.1	184° 38'.7	48.5	Altair	62° 07.7	8° 54'.4 N	30° 03'.4	13'.3	194° 38'.9	9.5	15.2	7.3		30°	04:38	05:07	05:31	19:50	20:50	21:50					
	69° 40'.8	86° 28'.7	32.8	234° 05'.4	15.4	325° 29'.4	05.1	199° 41'.4	48.5	Ankaa	353° 15'.6	42° 13'.7 S	45° 03'.5	14'.2	209° 07'.4	9.4	22.5	7.3	57.7	20°	04:52	05:18	05:41	19:36	20:34	21:33					
	84° 43'.2	101° 28'.5	32.0	249° 08'.7	15.1	340° 31'.5	05.0	214° 44'.0	48.4	Antares	112° 25'.3	26° 27'.7 S	60° 03'.7	15'.1	223° 35'.8	9.4	29.8	7.1		N 10°	05:02	05:27	05:49	19:24	20:20	21:17					
	99° 45'.7	116° 28'.3	31.1	264° 12'.1	14.9	355° 33'.7	05.0	229° 46'.6	48.4		116° 28'.3	31.1	75° 03'.8	16.0	238° 04'.2	9.3	36.9	7.1		0°	05:11	05:35	05:56	19:13	20:07	21:03					
	114° 48'.1	131° 28'.2	30.2	279° 15'.4	14.6	10° 35'.8	05.0	244° 49'.2	48.3	Arcturus	145° 54'.9	19° 06'.4 N	90° 04'.0	16'.9	252° 32'.5	9.2	44.0	7.1		S 10°	05:18	05:42	06:04	19:02	19:54	20:49					
	129° 50'.6	146° 28'.0	29.4	294° 18'.8	14.3	25° 38'.0	05.0	259° 51'.9	48.3	Arvis	107° 26'.2	69° 02'.8 S	105° 04'.1	17'.8	267° 00'.7	9.2	51.1	6.9		20°	05:23	05:49	06:11	18:50	19:40	20:34					
	144° 53'.1	161° 27'.8	28.5	309° 22'.2	14.1	40° 40'.1	04.9	274° 54'.5	48.3	Atia	234° 17.7	59° 33'.8 S	120° 04'.3	18'.6	281° 28'.9	9.1	58.0	6.9	57.8	30°	05:28	05:56	06:20	18:37	19:24	20:16					
	159° 55'.5	176° 27.7	27.6	324° 25'.5	13.8	55° 42'.3	04.9	289° 57'.1	48.2	Bellatrix	278° 31'.6	6° 21'.5 N	135° 04'.4	19'.5	295° 57.0	9.0	15° 04.9 S	6.7		35°	05:30	06:00	06:25	18:29	19:15	20:06					
174° 58'.0	191° 27'.5	26.7	339° 28'.9	13.5	70° 44'.4	04.9	304° 59'.7	48.2	Betelgeuse	271° 00'.8	7° 24'.3 N	150° 04'.6	20.4	310° 25.0	9.0	11'.6	6.7		40°	05:32	06:03	06:31	18:20	19:05	19:55						
190° 00'.5	206° 27.3	25.9	354° 32.2	13.3	85° 46.5	04.8	320° 02.4	48.1		165° 04.7	21.3	165° 04.7	21.3	324° 53.0	9.0	18.3	6.6		45°	05:33	06:07	06:37	18:10	18:52	19:41						
17 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								S 50°	05:35	06:12	06:45	17:58	18:38	19:25	
	205° 02'.9	221° 27.2	7° 25.0 S	9° 35.6	4° 13.0 S	100° 48.7	23° 04.8 N	335° 05.0	15° 48.1 S	Canopus	263° 56.1	52° 42.7 S	180° 04.9	10° 22.2 N	339° 21.0	8.8	15° 24.9 S	6.5	57.8	S 50°	05:35	06:12	06:45	17:58	18:38	19:25					
	220° 05'.4	236° 27.0	24.1	24° 38.9	12.7	115° 50.8	04.8	350° 07.6	48.0	Capella	280° 33.9	46° 00.6 N	195° 05.0	23.0	353° 48.8	8.9	31.4	6.5	57.9	52°	05:35	06:14	06:49	17:52	18:31	19:17					
	235° 07.9	251° 26.8	23.2	39° 42.3	12.5	130° 53.0	04.8	5° 10.2	48.0	Deneb	49° 31.1	45° 19.7 N	210° 05.1	23.9	8° 16.7	8.7	37.9	6.3		54°	05:35	06:16	06:53	17:46	18:23	19:09					
	250° 10.3	266° 26.7	22.3	54° 45.6	12.2	145° 55.1	04.7	20° 12.9	47.9	Denebola	182° 32.8	14° 29.4 N	225° 05.3	24.8	22° 44.4	8.7	44.2	6.3		56°	05:36	06:19	06:57	17:39	18:14	18:59					
	265° 12.8	281° 26.5	21.5	69° 49.0	11.9	160° 57.2	04.7	35° 15.5	47.9	Diphda	348° 55.7	17° 54.6 S	240° 05.4	25.7	37° 12.1	8.7	50.5	6.2		58°	05:36	06:21	07:02	17:31	18:05	18:48					
	280° 15.3	296° 26.3	20.6	84° 52.4	11.7	175° 59.4	04.7	50° 18.1	47.9				255° 05.6	26.6	51° 39.8	8.5	56.7	6.1		S 60°	05:36	06:24	07:07	17:22	17:54	18:36					
	295° 17.7	311° 26.2	19.7	99° 55.7	11.4	191° 01.5	04.6	65° 20.7	47.8	Dubhe	193° 50.6	61° 40.5 N	270° 05.7	27.5	66° 07.3	8.6	16° 02.8 S	6.0	58.0	S 62°	05:36	06:27	07:13	17:12	17:41	18:21					
	310° 20.2	326° 26.0	18.8	114° 59.1	11.1	206° 03.6	04.6	80° 23.4	47.8	Elinath	278° 12.1	28° 37.0 N	285° 05.9	28.3	80° 34.9	8.4	08.8	5.9													
	325° 22.6	341° 25.8	17.9	130° 02.4	10.9	221° 05.8	04.6	95° 26.0	47.7	Eltanin	90° 45.6	51° 29.1 N	300° 06.0	29.2	95° 02.3	8.5	14.7	5.8													
	340° 25.1	356° 25.7	17.1	145° 05.8	10.6	236° 07.9	04.6	110° 28.6	47.7	Enif	15° 46.7	9° 56.4 N	315° 06.2	30.1	109° 29.8	8.3	20.5	5.7													
	355° 27.6	11° 25.5	16.2	160° 09.1	10.3	251° 10.1	04.6	125° 31.2	47.6	Fomalhaut	33° 23.7	29° 32.7 S	330° 06.3	31.0	123° 57.1	8.3	26.2	5.6													
	10° 30'.0	26° 25.3	15.3	175° 12.5	10.1	266° 12.2	04.5	140° 33.9	47.6				345° 06.4	31.8	138° 24.4	8.3	31.8	5.5	58.1	N 72°	20:35	22:31	-	03:38	03:24	02:43					
	25° 32.5	41° 25.2	7° 14.4 S	190° 15.8	4° 09.8 S	281° 14.3	23° 04.5 N	155° 36.5	15° 47.5 S	Gacrux	171° 59.6	57° 11.8 S	0° 06.6	10° 32.7 N	152° 51.7	8.2	16° 37.3 S	5.5	58.1	N 70°	20:16	21:44									

2014 April 19, 20, 21 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.2			MARS -1.4			JUPITER -2.1			SATURN +0.2			STARS			SUN			MOON					Lat	Twilight		Sunrise		Moonrise												
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	N 72°	Nautical	Civil	19	20	21															
19 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	207° 01'.2	221° 19'.1	6° 42'.3 S	12° 16'.1	4° 00'.5 S	102° 31'.1	23° 03'.5 N	337° 11'.1	15° 45'.9 S	337° 11'.1	15° 45'.9 S	Acamar	315° 18'.4	40° 15'.1 S	180° 11'.7	11° 04'.1 N	312° 41'.8	6.7	18° 46'.6 S	1.5	58.7	N 72°	-	00:58	03:10	-	-	04:15																
	222° 03'.7	236° 18'.9	41'.4	27° 19'.4	00'.2	117° 33'.2	03'.5	352° 13'.7	45'.9	195° 11'.8	05'.0	327° 07'.5	6.7	48'.1	1'.3	68°	-	02:32	03:48	01:04	02:01	02:33	N 70°	-	01:58	03:31	01:57	02:51	03:10															
	237° 06'.1	251° 18'.8	40'.5	42° 22'.8	00'.0	132° 35'.4	03'.4	7° 16'.3	45'.8	210° 11'.9	05'.9	341° 33'.2	6.7	49'.4	1'.3	66°	00:50	02:56	04:01	00:32	01:29	02:08	64°	01:43	03:14	04:12	00:08	01:06	01:47															
	252° 08'.6	266° 18'.6	39'.6	57° 26'.1	3° 59'.7 S	147° 37'.5	03'.4	22° 19'.0	45'.8	225° 12'.1	06'.7	355° 58'.9	6.7	50'.7	1'.1	64°	01:43	03:14	04:12	00:08	01:06	01:47	62°	02:14	03:29	04:21	-	00:47	01:31															
	267° 11'.1	281° 18'.4	38'.7	72° 29'.4	59'.5	162° 39'.6	03'.4	72° 29'.4	45'.7	250° 49'.0	16° 32'.1 N	240° 12'.2	07'.6	10° 24'.6	6.6	51'.8	1'.1	62°	02:14	03:29	04:21	-	00:47	01:31	60°	02:36	03:41	04:29	-	00:32	01:17													
	282° 13'.5	296° 18'.3	37'.8	87° 32'.8	59'.2	177° 41'.7	03'.3	52° 24'.2	45'.7	255° 12'.3	08'.5	24° 50'.2	6.6	52'.9	0'.9	58°	-	03:52	04:36	05:07	00:19	01:06	56°	03:08	04:01	04:42	-	00:07	00:55															
	297° 16'.0	311° 18'.1	36'.9	102° 36'.1	59'.0	192° 43'.9	03'.3	67° 26'.8	45'.7	260° 19'.7	55° 52'.9 N	270° 12'.5	09'.3	39° 15'.8	6.6	53'.8	0'.7	58°	02:53	03:52	04:36	-	00:19	01:06	54°	03:20	04:09	04:48	23:57	-	00:46													
	312° 18'.5	326° 17'.9	36'.0	117° 39'.4	58'.7	207° 46'.0	03'.3	82° 29'.5	45'.6	285° 12'.6	10'.2	53° 41'.4	6.6	54'.5	0'.7	58°	02:53	03:52	04:36	-	00:19	01:06	52°	03:00	04:01	04:42	-	00:07	00:55															
	327° 20'.9	341° 17'.8	35'.1	132° 42'.7	58'.5	222° 48'.1	03'.3	97° 32'.1	45'.6	27° 43'.3	46° 53'.2 S	300° 12'.7	11'.1	68° 07'.0	6.5	55'.2	0'.5	58°	03:20	04:09	04:48	23:57	-	00:46	54°	03:20	04:09	04:48	23:57	-	00:46													
	342° 23'.4	356° 17'.6	34'.1	147° 46'.1	58'.2	237° 50'.2	03'.2	112° 34'.7	45'.5	315° 12'.9	11'.9	82° 32'.5	6.6	55'.7	0'.4	58°	03:20	04:09	04:48	23:57	-	00:46	52°	03:30	04:16	04:53	23:49	-	00:38															
	357° 25'.9	11° 17'.4	33'.2	162° 49'.4	58'.0	252° 52'.4	03'.2	127° 37'.4	45'.5	Alphard	217° 55'.4	8° 43'.6 S	330° 13'.0	12'.8	96° 58'.1	6.5	56'.1	0'.3	50°	03:39	04:23	04:57	23:41	-	00:31	45°	03:58	04:36	05:07	23:24	-	00:15												
	12	27° 30'.8	41° 17'.1	6° 31'.4 S	192° 56'.0	3° 57'.5 S	282° 56'.6	23° 03'.1 N	157° 42'.6	15° 45'.4 S	Alphecca	126° 10'.2	26° 40'.0 N	0° 13'.3	11° 14'.5 N	125° 49'.1	6.5	18° 56'.6 S	0.1	58.8	N 40°	04:13	04:47	05:15	23:10	-	00:03	35°	04:24	04:56	05:22	22:58	23:52	24:41										
	13	42° 33'.2	56° 16'.9	30'.5	207° 59'.4	57'.2	297° 58'.7	03'.1	172° 45'.3	45'.3	Alpheratz	357° 43'.2	29° 10'.0 N	15° 13'.4	15'.4	140° 14'.6	6.5	56'.7	0'.1	35°	04:24	04:56	05:22	22:58	23:52	24:41	30°	04:34	05:03	05:28	22:48	23:42	24:32											
	14	57° 35'.7	71° 16'.7	29'.6	223° 02'.7	57'.0	313° 00'.9	03'.1	187° 47'.9	45'.3	Altair	62° 07'.7	8° 54'.4 N	30° 13'.6	16'.2	154° 40'.1	6.5	56'.6	0'.2	30°	04:34	05:03	05:28	22:48	23:42	24:32	20°	04:49	05:16	05:38	22:30	23:26	24:18											
	15	72° 38'.2	86° 16'.6	28'.7	238° 06'.0	56'.7	328° 03'.0	03'.1	202° 50'.5	45'.2	Ankaa	353° 15'.6	42° 13'.7 S	45° 13'.7	17'.1	169° 05'.6	6.4	56'.4	0'.3	20°	04:49	05:16	05:38	22:30	23:26	24:18	10°	05:01	05:26	05:47	22:15	23:11	24:06											
	16	87° 40'.6	101° 16'.4	27'.8	253° 09'.3	56'.5	343° 05'.1	03'.0	217° 53'.1	45'.2	Antares	112° 25'.3	26° 27'.7 S	60° 13'.8	18'.0	183° 31'.0	6.5	56'.1	0'.5	58.9	N 10°	05:01	05:26	05:47	22:15	23:11	24:06	0°	05:10	05:34	05:56	22:00	22:58	23:54										
	17	102° 43'.1	116° 16'.2	26'.9	268° 12'.7	56'.2	358° 07'.2	03'.0	232° 55'.8	45'.2	Arcturus	145° 54'.9	19° 06'.4 N	90° 14'.1	19'.7	212° 21'.9	6.5	55'.1	0'.7	S 10°	05:18	05:42	06:04	21:46	22:44	23:43	20°	05:24	05:50	06:12	21:31	22:30	23:30											
	18	117° 45'.6	131° 16'.1	26'.0	283° 16'.0	56'.0	13° 09'.4	03'.0	247° 58'.4	45'.1	Atria	107° 26'.1	69° 02'.9 S	105° 14'.2	20'.5	226° 47'.4	6.4	54'.4	0'.8	20°	05:24	05:50	06:12	21:31	22:30	23:30	30°	05:30	05:58	06:22	21:13	22:13	23:16											
	19	132° 48'.0	146° 15'.9	25'.1	298° 19'.3	55'.7	28° 11'.5	02'.9	263° 01'.0	45'.1	Avia	234° 17'.7	59° 33'.8 S	120° 14'.4	21'.4	241° 12'.8	6.5	53'.6	0'.0	30°	05:30	05:58	06:22	21:13	22:13	23:16	21	162° 53'.0	176° 15'.5	23'.2	328° 25'.9	55'.2	58° 15'.7	02'.9	293° 06'.3	45'.0	308° 08'.9	44'.9	308° 08'.9	44'.9	323° 11'.6	44'.9		
	20	147° 50'.5	161° 15'.7	24'.2	313° 22'.6	55'.5	43° 13'.6	02'.9	278° 03'.7	45'.2	Bellatrix	278° 31'.6	6° 21'.5 S	135° 14'.5	22'.3	255° 38'.3	6.4	52'.6	1'.0	35°	05:32	06:02	06:28	21:03	22:04	23:08	40°	05:35	06:06	06:34	20:51	21:53	22:58											
	21	162° 53'.0	176° 15'.5	23'.2	328° 25'.9	55'.2	58° 15'.7	02'.9	293° 06'.3	45'.0	Betelgeuse	271° 00'.9	7° 24'.3 N	150° 14'.6	23'.1	270° 03'.7	6.4	51'.6	1'.2	40°	05:35	06:06	06:34	20:51	21:53	22:58	45°	05:37	06:11	06:41	20:38	21:40	22:47											
	22	177° 55'.4	191° 15'.4	22'.3	343° 29'.3	55'.0	73° 17'.8	02'.8	308° 08'.9	44'.9	Canopus	263° 56'.1	52° 42'.7 S	180° 14'.9	11° 24'.8 N	298° 54'.5	6.5	18° 49'.1 S	1'.4	58.9	S 50°	05:39	06:17	06:50	20:21	21:24	22:34	52°	05:40	06:19	06:54	20:13	21:17	22:27										
	23	192° 57'.9	206° 15'.2	21'.4	358° 32'.6	54'.7	88° 20'.0	02'.8	323° 11'.6	44'.9	Capella	280° 33'.9	46° 00'.6 N	195° 15'.0	25'.7	313° 20'.0	6.4	47'.7	1'.5	59.0	52°	05:40	06:19	06:54	20:13	21:17	22:27	54°	05:40	06:22	06:58	20:04	21:09	22:20										
01	208° 00'.4	221° 15'.0	6° 20'.5 S	13° 35'.9	3° 54'.5 S	103° 22'.1	23° 02'.8 N	338° 14'.2	15° 44'.8 S	Deneb	49° 31'.1	45° 19'.7 N	210° 15'.2	26'.6	327° 45'.4	6.4	46'.2	1'.7	59.0	54°	05:40	06:22	06:58	20:04	21:09	22:20	56°	05:41	06:24	07:03	19:54	20:59	22:13											
02	223° 02'.8	236° 14'.9	19'.6	28° 39'.2	54'.2	118° 24'.2	02'.8	353° 16'.8	44'.8	Denebola	182° 32'.8	14° 29'.4 N	225° 15'.3	27'.4	342° 10'.8	6.5	44'.5	1'.8	58°	05:42	06:24	07:03	19:54	20:59	22:13	58°	05:42	06:28	07:08	19:43	20:49	22:04												
03	237° 05'.3	251° 14'.7	18'.7	43° 42'.5	54'.0	133° 26'.3	02'.7	8° 19'.5	44'.7	Diphda	348° 55'.6	17° 54'.6 S	240° 15'.4	28'.3	356° 36'.3	6.4	42'.7	1'.9	58°	05:42	06:24	07:03	19:54	20:59	22:13	255° 15'.6	29'.1	11° 01'.7	6.4	40'.8	2'.0	S 60°	05:42	06:31	07:14	19:30	20:37	21:54						
04	253° 07'.2	266° 14'.5	17'.8	58° 45'.9	53'.7	148° 28'.5	02'.7	33° 22'.1	44'.7	Dubhe	193° 50'.6	61° 40'.5 N	270° 15'.7	30'.0	25° 27'.1	6.5	38'.8	2'.2	S 62°	05:43	06:35	07:21	19:15	20:23	21:42	28°	15'.1	103° 55'.8	53'.0	193° 34'.8	02'.6	68° 30'.0	44'.6	63° 32'.6	44'.5	51° 29'.1 N	300° 16'.0	31'.7	54° 18'.0	6.5	34'.4	2'.4		
05	268° 10'.2	281° 14'.4	16'.9	73° 49'.2	53'.5	163° 30'.6	02'.7	38° 24'.1	44'.7	Enif	35° 46'.7	9° 56'.4 N	315° 16'.1	32'.6	68° 43'.5	6.5	32'.0	2'.5	Lat	Sunset	Twilight		Moonset		21	11° 13'.3	11'.4	164° 09'.1	52'.0	253° 43'.3	02'.5	128° 40'.9	44'.4	Fomalhaut	13° 23'.7	29° 32'.7 S	345° 16'.3	34'.3	97° 34'.5	6.5	26'.8	2'.7		
06	283° 12'.7	296° 14'.2	15'.9	88° 52'.5	53'.2	178° 32'.7	02'.6	53° 27'.4	44'.6	Fomalhaut	13° 23'.7	29° 32'.7 S	345° 16'.3	34'.3	97° 34'.5	6.5	26'.8	2'.7	19	N 72°	20:52	23:20	-	-	-	06:17	12	28° 29'.5	26° 13'.2	10'.4	179° 12'.4	51'.8	268° 45'.4	02'.5	143° 43'.1	44'.3	171° 59'.6	57° 11'.8 S	158° 45'.8	15° 44'.3 S	171° 59'.6	57° 11'.8 S	158° 45'.8	15° 44'.3 S
07	298° 15'.1	311° 14'.0	15'.0	103° 55'.8	53'.0	193° 34'.8	02'.6	68° 30'.0	44'.6	Gacrux	171° 59'.6	57° 11'.8 S	0° 16'.5	11° 35'.1 N	112° 00'.0	6.5	18° 24'.1 S	2'.9	59.0	N 70°	20:30	22:07	-	04:35	05:40	07:21	13	313° 17'.6	326° 13'.8	14'.1	118° 59'.1	52'.8	208° 36'.9	02'.6	83° 32'.6	44'.5								

2014 April 22, 23, 24 (Tue, Wed, Thur)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	22	23		24					
Tuesday	22 00	209° 58'6	221° 06'8	5° 36'2 S	16° 14'4	3° 43'0 S	105° 03'6	23° 01'3 N	340° 20'6	15° 42'6 S	Acamar	315° 18'4	40° 15'1 S	180° 21'1	12° 05'7 N	271° 31'8	7.4	15° 29'0 S	6.9	59.3	N 72°	-	-	02:51	03:49	03:37	03:29					
	01	225° 01'1	236° 06'7	35.2	31° 17'7	42.7	120° 05'8	01'3	355° 23'2	42.6	Achernar	335° 27'0	57° 09'9 S	195° 21'2	06'5	285° 58'2	7.5	22.1	6.9	68°	-	01:31	03:16	03:15	03:17	03:17						
	02	240° 03'6	251° 06'5	34.3	46° 21'0	42.5	135° 07'9	01'3	10° 25'8	42.5	Acruz	173° 07'9	63° 10'9 S	210° 21'3	07'4	300° 24'7	7.5	15.2	7.0	66°	-	02:41	03:49	02:32	02:48	02:59						
	03	255° 06'0	266° 06'3	33.4	61° 24'3	42.3	150° 10'0	01'2	25° 28'5	42.5	Adhara	255° 12'2	28° 59'9 S	225° 21'4	08'2	314° 51'2	7.6	08.2	7.2	64°	01:19	03:01	04:02	02:16	02:37	02:53						
	04	270° 08'5	281° 06'1	32.4	76° 27'6	42.0	165° 12'1	01'2	40° 31'1	42.4	Aldebaran	290° 49'0	16° 32'1 N	240° 21'5	09'1	329° 17'8	7.5	01'0	7.2	62°	01:57	03:18	04:12	02:03	02:28	02:47						
	05	285° 11'0	296° 06'0	31.5	91° 30'9	41.8	180° 14'2	01'2	55° 33'7	42.4				255° 21'7	09'9	343° 44'3	7.7	14° 53'8 S	7.3	60°	02:23	03:32	04:21	01:52	02:20	02:42						
	06	300° 13'4	311° 05'8	30.6	106° 34'2	41.6	195° 16'3	01'1	70° 36'4	42.4	Alioth	266° 19'7	55° 53'0 N	270° 21'8	10'8	358° 11'0	7.6	46.5	7.4	N 58°	02:42	03:43	04:28	01:43	02:13	02:37						
	07	315° 15'9	326° 05'6	29.6	121° 37'4	41.4	210° 18'4	01'1	85° 39'0	42.3	Alkaid	152° 58'0	49° 14'5 N	285° 21'9	11'6	12° 37'6	7.7	39.1	7.5	56°	02:58	03:53	04:35	01:34	02:06	02:33						
	08	330° 18'3	341° 05'5	28.7	136° 40'7	41.1	225° 20'5	01'1	100° 41'7	42.3	Alnair	27° 43'3	46° 53'2 S	300° 22'0	12'4	27° 04'3	7.7	31'6	7.6	54°	03:11	04:02	04:41	01:27	02:01	02:30						
	09	345° 20'8	356° 05'3	27.8	151° 44'0	40.9	240° 22'6	01'1	115° 44'3	42.3	Alnilam	275° 46'0	1° 11'9 S	315° 22'2	13'3	41° 31'0	7.8	24.0	7.7	52°	03:22	04:10	04:47	01:20	01:56	02:26						
	10	0° 23'3	11° 05'1	26.8	166° 47'3	40.7	255° 24'7	01'0	130° 46'9	42.2	Alphard	217° 55'4	8° 43'6 S	330° 22'3	14'1	55° 57'8	7.8	16.3	7.7	50°	03:32	04:16	04:52	01:14	01:51	02:23						
	11	15° 25'2	26° 04'9	25.9	181° 50'6	40.4	270° 26'8	01'0	145° 49'6	42.1				345° 22'4	15'0	70° 24'6	7.9	08'6	7.9	45°	03:52	04:31	05:02	01:01	01:41	02:17						
	12	30° 28'2	41° 04'8	5° 24'9 S	196° 53'8	3° 40'2 S	285° 28'9	23° 01'0 N	160° 52'2	15° 42'1 S	Alphecca	126° 10'2	26° 40'0 N	0° 22'5	12° 15'8 N	84° 51'5	7.9	14° 00'7 S	7.9	59.3	N 40°	04:08	04:42	05:11	00:50	01:33	02:11					
	13	45° 30'7	56° 04'6	24.0	211° 57'1	40.0	300° 31'1	00'9	175° 54'8	42.0	Alpheratz	357° 43'2	29° 10'0 N	15° 22'6	16'6	99° 18'4	7.9	13° 52'8 S	8'0	35°	04:20	04:52	05:18	00:41	01:25	02:07						
	14	60° 33'1	71° 04'4	23.1	227° 00'4	39.8	315° 33'2	00'9	190° 57'5	42.0	Altair	62° 07'6	8° 54'4 N	30° 22'8	17'5	113° 45'3	7.9	44.8	8'2	30°	04:31	05:00	05:25	00:32	01:19	02:02						
	15	75° 35'6	86° 04'2	22.1	242° 03'7	39.5	330° 35'3	00'9	206° 00'1	41.9	Ankaa	353° 15'6	42° 13'7 S	45° 22'9	18'3	128° 12'2	8.0	36'6	8'2	20°	04:47	05:13	05:36	00:18	01:08	01:55						
	16	90° 38'1	101° 04'1	21.2	257° 06'9	39.3	345° 37'4	00'8	221° 02'7	41.9	Antares	112° 25'2	26° 27'7 S	60° 23'0	19'2	142° 39'2	8.1	28'4	8'2	N 10°	04:59	05:24	05:46	00:06	00:58	01:49						
	17	105° 40'5	116° 03'9	20.2	272° 10'2	39.1	3° 39'5	00'8	236° 05'4	41.8				75° 23'1	20'0	157° 06'3	8.1	20'2	8'4	0°	05:09	05:34	05:55	-	00:49	01:43						
	18	120° 43'0	131° 03'7	19.3	287° 13'5	38.9	15° 41'6	00'8	251° 08'0	41.8	Arcturus	145° 54'9	19° 06'4 N	90° 23'2	20'8	171° 33'4	8.1	11'8	8'4	S 10°	05:18	05:42	06:04	-	00:40	01:37						
	19	135° 45'9	146° 03'6	18.4	302° 16'8	38.6	30° 43'7	00'7	266° 10'6	41.7	Atria	107° 26'1	69° 02'9 S	105° 23'4	21'7	186° 00'5	8.1	03'4	8'6	20°	05:25	05:51	06:13	-	00:31	01:30						
	20	150° 47'5	161° 03'4	17.4	317° 20'0	38.4	45° 45'8	00'7	281° 13'3	41.7	Avior	234° 17'7	59° 33'8 S	120° 23'5	22'5	200° 27'6	8.2	12° 54'8 S	8'0	30°	05:31	05:59	06:24	-	00:19	01:23						
	21	165° 50'4	176° 03'2	16.5	332° 23'3	38.2	60° 47'9	00'7	296° 15'9	41.7	Bellatrix	278° 31'6	6° 21'5 S	135° 23'6	23'3	214° 54'8	8.3	46'2	8'6	35°	05:34	06:04	06:30	-	00:13	01:19						
	22	180° 52'8	191° 03'0	15.5	347° 26'6	38.0	75° 50'0	00'6	311° 18'6	41'6	Betelgeuse	271° 00'9	7° 24'3 N	150° 23'7	24'2	229° 22'1	8.2	37'6	8'8	40°	05:37	06:09	06:37	-	00:06	01:14						
	23	195° 55'3	206° 02'9	14.6	2° 29'8	37.7	90° 52'1	00'6	326° 21'2	41'6				165° 23'8	25'0	243° 49'3	8.3	28.8	8'8	45°	05:40	06:15	06:45	23:57	-	01:08						
Wednesday	23 00	210° 57'8	221° 02'7	5° 13'6 S	17° 33'1	3° 37'5 S	105° 54'2	23° 00'6 N	341° 23'8	15° 41'5 S	Canopus	263° 56'1	52° 42'7 S	180° 24'0	12° 25'8 N	258° 16'6	8.4	12° 20'0 S	8'9	59.3	S 50°	05:43	06:21	06:54	23:47	-	01:02					
	01	226° 00'2	236° 02'5	12.7	32° 36'4	37.3	120° 56'3	00'5	356° 26'5	41'5	Capella	280° 33'9	46° 00'6 N	195° 24'1	26'7	272° 44'0	8.4	11'1	9'0	52°	05:44	06:24	06:59	23:42	-	00:58						
	02	241° 02'7	251° 02'7	11.8	47° 39'6	37'1	135° 58'4	00'5	11° 29'1	41'4	Deneb	49° 31'1	45° 19'7 N	210° 24'2	27'5	287° 11'4	8.4	02'1	9'1	54°	05:45	06:27	07:04	23:37	-	00:55						
	03	256° 05'2	266° 02'2	10.8	62° 42'9	36.8	151° 00'5	00'5	26° 31'7	41'4	Denebola	182° 32'8	14° 29'4 N	225° 24'3	28'3	301° 38'8	8.5	11° 53'0 S	9'1	56°	05:46	06:30	07:09	23:31	-	00:51						
	04	271° 07'6	281° 02'0	09.9	77° 46'2	36.6	166° 02'6	00'4	41° 34'4	41'3	Diphda	348° 55'6	17° 54'5 S	240° 24'4	29'2	316° 06'3	8.5	43'9	9'2	58°	05:48	06:34	07:15	23:24	-	00:47						
	05	286° 10'1	296° 01'8	08.9	92° 49'4	36'4	181° 04'7	00'4	56° 37'0	41'3				255° 24'6	30'0	330° 33'8	8.5	34'7	9'3	S 60°	05:49	06:38	07:22	23:17	-	00:42						
	06	301° 12'6	311° 01'7	08.0	107° 52'7	36.2	196° 06'8	00'4	71° 39'7	41'2	Dubhe	193° 50'7	61° 40'5 N	270° 24'7	30'8	345° 01'3	8.6	25'4	9'3	S 62°	05:50	06:42	07:29	23:08	-	00:37						
	07	316° 15'0	326° 01'5	07.0	122° 56'0	36.0	211° 08'9	00'3	86° 42'3	41'2	Elinath	278° 12'1	28° 37'0 N	285° 24'8	31'7	359° 28'9	8.6	16'1	9'4													
	08	331° 17'5	341° 01'3	06.1	137° 59'2	35.7	226° 11'0	00'3	101° 44'9	41'1	Eltanin	90° 45'6	51° 29'1 N	300° 24'9	32'5	13° 56'5	8.7	06'7	9'5													
	09	346° 19'9	356° 01'1	05.1	153° 02'5	35.5	241° 13'1	00'3	116° 47'6	41'1	Enif	93° 46'7	9° 56'4 N	315° 25'0	33'3	28° 24'2	8.7	10° 57'2 S	9'5													
	10	1° 22'4	11° 01'0	04.2	168° 05'8	35.3	256° 15'2	00'3	131° 50'2	41'0	Fomalhaut	15° 23'6	29° 32'7 S	330° 25'1	34'2	42° 51'9	8.7	47'7	9'6													
	11	16° 24'9	26° 00'8	03'2	183° 09'0	35.1	271° 17'3	00'2	146° 52'8	41'0				345° 25'3	35'0	57° 19'6	8.8	38'1	9'7	N 72°	21:10	-	-	08:40	10:46	12:45						
	12	31° 27'3	41° 00'6	5° 02'3 S	198° 12'3	3° 34'9 S	286° 19'4	23° 00'2 N	161° 55'5	15° 41'0 S	Gacrux	171° 59'6	57° 11'8 S	0° 25'4	12° 35'8 N	71° 47'4	8.8	10° 28'4 S	9'7	59.3	N 70°	20:45	22:35	-	09:13	11:05	12:55					
	13	46° 29'8	56° 00'4	01'3	213° 15'5	34.6	301° 21'5	00'2	176° 58'1	40'9	Giennah	175° 51'4	17° 37'5 S	15° 25'5	36'8	86° 15'2	8.8	18'7	9'8	68°	20:25	21:49	-	09:36	11:19	13:02						
	14	61° 32'3	71° 00'3	00'4	228° 18'8	34.4	316° 23'6	00'1	192° 00'8	40'9	Hadar	148° 46'3	60° 26'5 S	30° 25'6	37'5	100° 43'0	8.9	08'9	9'9	66°	20:10	21:20	-	09:55	11:31	13:09						
	15	76° 34'7	86° 00'1	4° 59'4 S	243° 22'1	34.2	331°																									

2014 April 28, 29, 30 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.1			MARS -1.2			JUPITER -2.0			SATURN +0.1			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	Nautical	Civil		28	29	30	28	29	30	28	29	30	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	W		28	29		30	
Monday	00	215° 53'.5	220° 41'.7	3° 17'.6 S	23° 59'.1	3° 13'.5 S	110° 05'.0	22° 56'.5 N	346° 40'.7	15° 35'.8 S	Acamar	315° 18'.4	40° 15'.0 S	180° 36'.7	14° 03'.4 N	195° 54'.6	10.2	9° 04'.6 N	9.8	58.1	N 72°	-	-	02:09	03:00	02:51	02:40			
	01	230° 55'.9	235° 41'.5	16.6	39° 02'.2	13.4	125° 07'.1	56.4	1° 43'.4	35.8	Achernar	335° 27'.0	57° 09'.9 S	195° 36'.7	04.1	210° 23'.8	10.3	14.4	9.8	68°	-	01:28	03:07	03:26	03:33	03:44				
	02	245° 58'.4	250° 41'.3	15.7	54° 05'.4	13.2	140° 09'.2	56.4	16° 46'.0	35.7	Acruz	173° 07'.9	63° 10'.9 S	210° 36'.8	04.9	224° 53'.1	10.2	24.2	9.7	58.0	66°	-	02:08	03:26	03:35	03:48	04:05			
	03	261° 00'.9	265° 41'.1	14.7	69° 08'.5	13.0	155° 11'.3	56.3	31° 48'.6	35.7	Adhara	255° 12'.2	28° 59'.9 S	225° 36'.9	05.7	239° 22'.3	10.2	33.9	9.6	64°	-	02:35	03:41	03:43	04:00	04:21				
	04	276° 03'.3	280° 40'.9	13.7	84° 11'.7	12.8	170° 13'.3	56.3	46° 51'.3	35.6	Aldebaran	290° 49'.0	16° 32'.1 N	240° 37'.0	06.5	253° 51'.5	10.2	43.5	9.6	62°	01:17	02:55	03:53	03:50	04:10	04:35				
	05	291° 05'.8	295° 40'.8	12.7	99° 14'.8	12.7	185° 15'.4	56.3	61° 53'.9	35.6				255° 37'.1	07.3	268° 20'.7	10.2	53.1	9.5	60°	01:54	03:12	04:04	03:57	04:19	04:47				
	06	306° 08'.2	310° 40'.6	11.7	114° 18'.0	12.5	200° 17'.5	56.2	76° 56'.6	35.5	Alioth	266° 19'.8	55° 53'.0 N	270° 37'.2	08.1	282° 49'.9	10.2	10° 02'.6 N	9.5	57.9	N 58°	02:19	03:26	04:13	04:02	04:27	04:57			
	07	321° 10'.7	325° 40'.7	10.7	129° 21'.2	12.3	215° 19'.6	56.2	91° 59'.2	35.5	Alkaid	152° 58'.0	49° 14'.5 N	285° 37'.3	08.9	297° 19'.1	10.1	12.1	9.4	56°	02:38	03:37	04:21	04:07	04:34	05:06				
	08	336° 13'.2	340° 40'.2	09.7	144° 24'.3	12.2	230° 21'.6	56.2	107° 01'.9	35.4	Alnair	27° 43'.2	46° 53'.2 S	300° 37'.4	09.7	311° 48'.2	10.2	21.5	9.3	54°	02:54	03:47	04:28	04:11	04:40	05:13				
	09	351° 15'.6	355° 40'.1	08.7	159° 27'.5	12.0	245° 23'.7	56.1	122° 04'.5	35.4	Alnilam	275° 46'.0	1° 11'.9 S	315° 37'.5	10.4	326° 6'.4	10.1	30.8	9.3	52°	03:07	03:56	04:35	04:15	04:46	05:20				
	10	6° 18'.1	10° 39'.9	07.7	174° 30'.6	11.8	260° 25'.8	56.1	137° 07'.2	35.3	Alphard	217° 55'.4	8° 43'.5 S	330° 37'.6	11.2	340° 46'.5	10.2	40.1	9.2	50°	03:18	04:04	04:40	04:19	04:51	05:27				
	11	21° 20'.6	25° 39'.7	06.7	189° 33'.7	11.6	275° 27'.9	56.1	152° 09'.8	35.3				345° 37'.7	12.0	355° 15'.7	10.1	49.3	9.2	45°	03:41	04:21	04:53	04:26	05:02	05:41				
	12	36° 23'.0	40° 39'.5	3° 05'.8 S	204° 36'.9	3° 11'.5 S	290° 29'.9	22° 56'.0 N	167° 12'.4	15° 35'.3 S	Alphecca	126° 10'.2	26° 40'.0 N	0° 37'.7	14° 12'.8 N	9° 44'.8	10.2	10° 58'.5 N	9.0	57.8	N 40°	03:58	04:34	05:03	04:33	05:11	05:52			
	13	51° 25'.5	55° 39'.3	04.8	219° 40'.0	11.3	305° 32'.0	56.0	182° 15'.1	35.2	Alpheratz	357° 43'.1	29° 10'.0 N	15° 37'.8	13.6	24° 14.0	10.1	11° 07'.5 N	9.0	35°	04:12	04:45	05:12	04:39	05:19	06:02				
	14	66° 28'.0	70° 39'.2	03.8	234° 43'.2	11.1	320° 34'.1	55.9	197° 17'.7	35.2	Altair	62° 07'.6	8° 54'.4 N	30° 37'.9	14.4	38° 43'.1	10.1	16.5	9.0	30°	04:24	04:54	05:19	04:44	05:26	06.10				
	15	81° 30'.4	85° 39.0	02.8	249° 46.3	11.0	335° 36.2	55.9	212° 20.4	35.1	Ankaa	353° 15.6	42° 13.6 S	45° 38.0	15.2	53° 12.2	10.1	25.5	8.8	20°	04:42	05:09	05:32	04:52	05:38	06.25				
	16	96° 32'.9	100° 38.8	01.8	264° 49.5	10.8	350° 38.2	55.9	227° 23.0	35.1	Antares	112° 25.2	26° 27.7 S	60° 38.1	15.9	67° 41.3	10.1	34.3	8.8	57.7	N 10°	04:56	05:22	05:43	05:00	05:49	06.38			
	17	111° 35'.3	115° 38.6	00.8	279° 52.6	10.6	5° 40.3	55.8	242° 25.7	35.0				75° 38.2	16.7	82° 10.4	10.1	43.1	8.7	0°	05:08	05:33	05:54	05:07	05:59	06.50				
	18	126° 37.8	130° 38.5	2° 59'.8 S	294° 55.8	10.5	20° 42.4	55.8	257° 28.3	35.0	Arcturus	145° 54.9	19° 06.4 N	90° 38.3	17.5	96° 39.5	10.0	51.8	8.7	S 10°	05:18	05:43	06:04	05:15	06:09	07.02				
	19	141° 40'.7	145° 38.3	5.8	309° 58.9	10.3	35° 44.5	55.8	272° 31.0	34.9	Atria	107° 26.0	69° 02.9 S	105° 34.4	18.3	111° 08.5	10.1	12° 00.5 N	8.6	20°	05:26	05:53	06:15	05:23	06:20	07.16				
	20	156° 42.3	160° 38.1	5.7	325° 02.0	10.1	50° 46.5	55.7	287° 33.6	34.9	Avior	234° 17.8	59° 33.8 S	120° 38.5	19.1	125° 37.6	10.1	09.1	8.5	57.6	30°	05:35	06:03	06:28	05:32	06:32	07.31			
	21	171° 45'.2	175° 37.9	56.8	340° 05.2	10.0	65° 48.6	55.7	302° 36.2	34.8	Bellatrix	278° 31.6	6° 21.5 S	135° 38.5	19.8	140° 06.7	10.0	17.6	8.4	35°	05:39	06:09	06:35	05:37	06:39	07.39				
	22	186° 47.7	190° 37.7	55.8	355° 08.3	09.8	80° 50.7	55.6	317° 38.9	34.8	Betelgeuse	271° 00.9	7° 24.3 N	150° 38.6	20.6	154° 35.7	10.0	26.0	8.4	40°	05:43	06:15	06:43	05:43	06:47	07.49				
23	201° 50.1	205° 37.6	54.8	10° 11.4	09.6	95° 52.7	55.6	332° 41.5	34.7				165° 38.7	21.4	169° 04.7	10.1	34.4	8.2	45°	05:47	06:22	06:52	05:50	06:57	08.01					
Tuesday	00	216° 52'.6	220° 37.4	2° 53'.8 S	25° 14.6	3° 09'.5 S	110° 54'.8	22° 55'.6 N	347° 44'.2	15° 34'.7 S	Canopus	263° 56'.2	52° 42'.7 S	180° 38.8	14° 22.2 N	183° 33.8	10.0	12° 42'.6 N	8.2	57.5	S 50°	05:51	06:29	07:03	05:58	07:09	08.16			
	01	231° 55'.1	235° 37.2	52.8	40° 17.7	09.3	125° 56.9	55.5	2° 46.8	34.6	Capella	280° 33.9	46° 00'.6 N	195° 38.9	23.0	198° 02.8	10.0	50.8	8.2	52°	05:53	06:33	07:09	06:02	07:14	08.22				
	02	246° 57.5	250° 37.0	51.8	55° 20.8	09.2	140° 59.0	55.5	17° 49.5	34.6	Deneb	49° 31'.0	45° 19.8 N	210° 39.0	23.7	212° 31.8	10.0	59.0	8.0	54°	05:55	06:37	07:14	06:06	07:20	08.30				
	03	262° 00.0	265° 36.8	50.8	70° 24.0	09.0	156° 01'.0	55.4	32° 52'.1	34.5	Denebola	182° 32'.8	14° 29.4 S	225° 39.1	24.5	227° 00.8	10.0	13° 07'.0 N	8.0	56°	05:57	06:41	07:21	06:11	07:27	08.38				
	04	277° 02.5	280° 36.7	49.9	85° 27.1	08.8	171° 03'.1	55.5	47° 54.8	34.5	Diphda	348° 55'.6	17° 54'.5 S	240° 39.2	25.3	241° 29.8	10.0	15.0	7.9	58°	05:59	06:46	07:28	06:16	07:34	08.48				
	05	292° 04.9	295° 36.5	48.9	100° 30.2	08.7	186° 05'.2	55.4	62° 57.4	34.4				255° 39.2	26.1	255° 58.8	10.0	22.9	7.8	57.4	S 60°	06:01	06:51	07:36	06:23	07:43	08.59			
	06	307° 07.4	310° 36.3	47.9	115° 33.4	08.5	201° 07'.2	55.3	78° 00'.1	34.4	Dubhe	193° 50'.7	61° 40'.0 N	270° 39.3	26.9	270° 27.8	10.0	30.7	7.7	S 62°	06:04	06:56	07:45	06:29	07:53	09.11				
	07	322° 09.8	325° 36.1	46.9	130° 36.5	08.3	216° 09.3	55.3	93° 02.7	34.3	Elinath	278° 12'.2	28° 37.0 S	285° 39.4	27.6	284° 56.8	9.9	38.4	7.7											
	08	337° 12.3	340° 35.9	45.9	145° 39.6	08.2	231° 11'.4	55.3	108° 05'.4	34.3	Eltanin	90° 45'.5	51° 29.1 N	300° 39.5	28.4	299° 25.7	10.0	46.1	7.5											
	09	352° 14.8	355° 35.8	44.9	160° 42.7	08.0	246° 13'.4	55.2	123° 08'.6	34.2	Enif	153° 46'.6	9° 56'.4 N	315° 39.6	29.2	313° 54.7	9.9	53.6	7.5	57.3										
	10	7° 17'.2	10° 35.6	43.9	175° 45.9	07.9	261° 15.5	55.2	138° 10'.6	34.2	Fomalhaut	15° 23'.6	29° 32.6 S	330° 39.7	30.0	328° 23.6	10.0	14° 01'.1 N	7.4											
	11	22° 19.7	25° 35.4	42.9	190° 49.0	07.7	276° 17'.6	55.2	153° 13.3	34.1				345° 39.8	30.7	342° 52.6	9.9	08.5	7.3	N 72°	21:52	-	-	20:23	22:22	24:35				
	12	37° 22'.2	40° 35'.2	2° 41'.9 S	205° 52'.1	3° 07'.6 S	291° 19'.6	22° 55'.1 N	168° 15'.9	15° 34'.1 S	Gacrux	171° 59'.6	57° 11'.8 S	0° 39.8	14° 31.5 N	357° 21'.5	10.0	14° 15.8 N	7.2	57.3	N 70°	21:16	-	-	20:01	21:45	23:24			
	13	52° 24'.6	55° 35.0	40.9	220° 55.2	07.4	306° 21'.7	55.1	183° 18.6	34.0	Giennah	175° 51'.4	17° 37.5 S	15° 39.9	32.3	11° 50.5	9.9	23.0	7.2	57.2	68°	20:51	22:35	-	19:44	21:19	22:47			
	14	67° 27'.1	70° 34.9	39.9	235° 58.3	07.2	321° 23'.8	55.0	198° 21'.2	34.0	Hadar	148° 46'.3	60° 26.6 S	30° 40.0	33.1															

2014 May 1, 2, 3 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																										Nautical	Civil		1	2	3
Thurs day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	01:45	02:15	-	-		
	00	218° 50' 9"	220° 28' 7"	2° 05' 7" S	27° 43' 7"	3° 02' 2" S	112° 34' 0"	22° 53' 7" N	349° 51' 2"	15° 32' 4" S	349° 51' 2"	15° 32' 4" S	Acamar	315° 18' 4"	40° 15' 0" S	180° 42' 7"	14° 59' 1" N	158° 41' 8"	9.9	17° 39' 1" N	3.9	56.3	N 70°	-	-	02:26	03:26	03:48	04:38		
	01	233° 53' 3"	235° 28' 5"	04.7	42° 46' 8"	02.0	127° 36' 0"	53.7	4° 53' 9"	32.3	42° 46' 8"	02.0	Achernar	335° 27' 0"	57° 09' 8" S	195° 42' 8"	59.9	173° 10' 7"	10.0	43.0	3.8	68°	-	00:57	02:53	04:03	04:36	05:26			
	02	248° 55' 8"	250° 28' 4"	03.7	57° 49' 9"	01.9	142° 38' 1"	53.6	19° 56' 5"	32.3	57° 49' 9"	01.9	Acruz	173° 08' 0"	63° 11' 0" S	210° 42' 9"	15° 00' 7" N	187° 39' 7"	10.0	46.8	3.7	66°	-	01:50	03:14	04:30	05:06	05:57			
	03	263° 58' 3"	265° 28' 2"	02.7	72° 53' 0"	01.8	157° 40' 2"	53.6	34° 59' 2"	32.3	72° 53' 0"	01.8	Adhara	255° 12' 2"	28° 59' 9" S	225° 43' 0"	01.4	202° 08' 7"	9.9	50.5	3.6	56.2	64°	-	02:21	03:31	04:50	05:29	06:20		
	04	279° 00' 7"	280° 28' 0"	01.7	87° 56' 0"	01.6	172° 42' 2"	53.6	50° 01' 8"	32.2	87° 56' 0"	01.6	Aldebaran	290° 49' 0"	16° 32' 1" N	240° 43' 0"	02.2	216° 37' 6"	10.0	54.1	3.5	62°	00:50	02:44	03:44	05:07	05:48	06:39			
	05	294° 03' 2"	295° 27' 8"	00.7	102° 59' 1"	01.5	187° 44' 3"	53.5	65° 04' 5"	32.1	102° 59' 1"	01.5		255° 43' 1"	02.9	231° 06' 6"	10.0	57.6	3.4	60°	01:38	03:02	03:56	05:21	06:03	06:54					
	06	309° 05' 7"	310° 27' 6"	00' 59' 7" S	118° 02' 2"	01.3	202° 46' 3"	53.5	80° 07' 1"	32.1	118° 02' 2"	01.3	Alioth	266° 19' 8"	55° 53' 0" N	270° 43' 2"	03.7	245° 35' 6"	10.0	18° 01' 0" N	3.3	N 58°	02:06	03:17	04:06	05:32	06:16	07:07			
	07	324° 08' 1"	325° 27' 5"	58.7	133° 05' 3"	01.2	217° 48' 4"	53.4	95° 09' 8"	32.0	133° 05' 3"	01.2	Alkaid	152° 58' 0"	49° 14' 5" N	285° 43' 3"	04.4	260° 04' 6"	10.0	04.3	3.1	56.1	56°	02:28	03:29	04:14	05:43	06:27	07:18		
	08	339° 10' 6"	340° 27' 3"	57.7	148° 08' 3"	01.1	232° 50' 5"	53.4	110° 12' 4"	32.0	148° 08' 3"	01.1	Alnair	27° 43' 2"	46° 53' 2" S	300° 43' 3"	05.2	274° 33' 6"	10.1	07.4	3.1	54°	02:45	03:40	04:22	05:52	06:37	07:27			
	09	354° 13' 1"	355° 27' 1"	56.6	163° 11' 4"	00.9	247° 52' 5"	53.4	125° 15' 1"	31.9	163° 11' 4"	00.9	Anilim	275° 46' 0"	1° 11' 9" S	315° 43' 4"	06.0	289° 02' 7"	10.0	10.5	3.0	52°	02:59	03:50	04:29	06:00	06:45	07:36			
	10	9° 15' 5"	10° 26' 9"	55.6	178° 14' 5"	00.8	262° 54' 6"	53.3	140° 17' 7"	31.9	178° 14' 5"	00.8	Alphard	217° 55' 5"	8° 43' 5" S	330° 43' 5"	06.7	303° 31' 7"	10.1	13.5	2.9	50°	03:11	03:58	04:35	06:07	06:53	07:44			
	11	24° 18' 0"	25° 26' 7"	54.6	193° 17' 5"	00.7	277° 56' 6"	53.3	155° 20' 3"	31.8	193° 17' 5"	00.7		345° 43' 6"	07.5	318° 00' 8"	10.1	16.4	2.8	56.0	45°	03:35	04:16	04:48	06:23	07:10	08:00				
	12	39° 20' 4"	40° 26' 5"	1° 53' 6" S	208° 20' 6"	3° 00' 5" S	292° 58' 7"	22° 53' 2" N	170° 23' 0"	15° 31' 8" S	208° 20' 6"	3° 00' 5" S	Alphecca	126° 10' 2"	26° 40' 0" N	0° 43' 6"	15° 08' 2" N	332° 29' 9"	10.1	18° 19' 2" N	2.8	56.0	N 40°	03:54	04:30	04:59	06:36	07:24	08:14		
	13	54° 22' 9"	55° 26' 4"	52.6	223° 23' 7"	00.4	308° 00' 8"	53.2	185° 25' 6"	31.7	223° 23' 7"	00.4	Alpheratz	357° 43' 1"	29° 10' 0" N	15° 43' 7"	09.0	346° 59' 0"	10.1	22.0	2.6	35°	04:09	04:41	05:08	06:47	07:35	08:26			
	14	69° 25' 4"	70° 26' 2"	51.6	238° 26' 7"	00.3	323° 02' 8"	53.2	200° 28' 3"	31.7	238° 26' 7"	00.3	Altair	62° 07' 6"	8° 54' 4" N	30° 43' 8"	09.7	1° 28' 1"	10.1	24.6	2.5	30°	04:21	04:51	05:16	06:57	07:45	08:36			
	15	84° 27' 8"	85° 26' 0"	50.6	253° 29' 8"	00.1	338° 04' 9"	53.1	215° 30' 9"	31.6	253° 29' 8"	00.1	Ankaa	353° 15' 5"	42° 13' 6" S	45° 43' 9"	10.5	15° 57' 2"	10.1	27.1	2.4	55.9	20°	04:40	05:07	05:30	07:13	08:03	08:53		
	16	99° 30' 3"	100° 25' 8"	49.6	268° 32' 9"	00.0	353° 06' 9"	53.1	230° 33' 6"	31.6	268° 32' 9"	00.0	Antares	112° 25' 2"	26° 27' 7" S	60° 43' 9"	11.2	30° 26' 3"	10.2	29.5	2.3	N 10°	04:55	05:21	05:42	07:28	08:18	09:08			
	17	114° 32' 8"	115° 25' 6"	48.5	283° 35' 9"	2° 59' 9" S	8° 09' 0"	53.0	245° 36' 2"	31.5	283° 35' 9"	2° 59' 9" S		75° 44' 0"	12.0	44° 55' 5"	10.2	31.8	2.2	0°	05:07	05:32	05:54	07:42	08:33	09:22					
	18	129° 35' 2"	130° 25' 5"	47.5	298° 39' 0"	59.7	23° 11' 0"	53.0	260° 38' 9"	31.5	298° 39' 0"	59.7	Arcturus	145° 54' 9"	19° 06' 5" N	90° 44' 1"	12.7	59° 24' 7"	10.2	34.0	2.1	S 10°	05:18	05:43	06:05	07:55	08:47	09:37			
	19	144° 37' 7"	145° 25' 3"	46.5	313° 42' 0"	59.6	38° 13' 1"	53.0	275° 41' 5"	31.4	313° 42' 0"	59.6	Atria	107° 26' 0"	69° 02' 9" S	105° 44' 1"	13.5	73° 53' 9"	10.2	36.1	2.0	55.8	20°	05:27	05:53	06:16	08:10	09:02	09:52		
	20	159° 40' 2"	160° 25' 1"	45.5	328° 45' 1"	59.5	53° 15' 2"	52.9	290° 44' 2"	31.4	328° 45' 1"	59.5	Avia	234° 17' 8"	59° 33' 8" S	120° 44' 2"	14.2	88° 23' 1"	10.2	38.1	1.9	30°	05:36	06:05	06:29	08:20	09:10	10:09			
	21	174° 42' 6"	175° 24' 9"	44.5	343° 48' 1"	59.3	68° 17' 2"	52.9	305° 46' 8"	31.3	343° 48' 1"	59.3	Bellatrix	278° 31' 6"	6° 21' 5" S	135° 44' 3"	15.0	102° 52' 3"	10.2	40.0	1.8	35°	05:41	06:11	06:37	08:30	09:30	10:19			
	22	189° 45' 1"	190° 24' 7"	43.5	358° 51' 2"	59.2	83° 19' 3"	52.8	320° 49' 5"	31.3	358° 51' 2"	59.2	Betelgeuse	271° 00' 9"	7° 24' 3" N	150° 44' 4"	15.7	117° 21' 5"	10.3	41.8	1.7	40°	05:45	06:17	06:46	08:48	09:42	10:31			
23	204° 47' 5"	205° 24' 5"	42.5	13° 54' 3"	59.1	98° 21' 3"	52.8	335° 52' 1"	31.2	13° 54' 3"	59.1		165° 44' 4"	16.5	131° 50' 8"	10.3	43.5	1.6	55.7	45°	05:50	06:25	06:56	09:01	09:56	10:44					
Fri day	00	219° 50' 0"	220° 24' 4"	1° 41' 4" S	28° 57' 3"	2° 58' 9" S	113° 23' 4"	22° 52' 8" N	350° 54' 8"	15° 31' 2" S	350° 54' 8"	15° 31' 2" S	Canopus	263° 56' 2"	52° 42' 6" S	180° 44' 5"	15° 17' 2" N	146° 20' 1"	10.3	18° 45' 1" N	1.5	55.7	S 50°	05:55	06:34	07:08	09:17	10:13	11:01		
	01	234° 52' 5"	235° 24' 2"	40.4	44° 00' 4"	58.8	128° 25' 4"	52.7	5° 57' 4"	31.1	44° 00' 4"	58.8	Capella	280° 33' 9"	46° 00' 6" N	195° 44' 6"	18.0	160° 49' 4"	10.3	46.6	1.4	52°	05:57	06:37	07:13	09:25	10:21	11:09			
	02	249° 54' 9"	250° 24' 0"	39.4	59° 03' 4"	58.7	143° 27' 5"	52.7	21° 00' 1"	31.1	59° 03' 4"	58.7	Deneb	49° 31' 40"	45° 19' 8" N	210° 44' 6"	18.7	175° 18' 7"	10.4	48.0	1.4	54°	06:00	06:42	07:20	09:34	10:30	11:17			
	03	264° 57' 4"	265° 23' 8"	38.4	74° 06' 5"	58.6	158° 29' 6"	52.6	36° 02' 7"	31.0	74° 06' 5"	58.6	Denebola	182° 32' 8"	14° 29' 4" S	225° 44' 7"	19.5	189° 48' 1"	10.4	49.4	1.2	55.6	56°	06:02	06:46	07:27	09:43	10:40	11:27		
	04	279° 59' 9"	280° 23' 6"	37.4	89° 09' 5"	58.4	173° 31' 6"	52.6	51° 05' 4"	31.0	89° 09' 5"	58.4	Diphda	348° 55' 6"	17° 54' 5" S	240° 44' 8"	20.2	204° 17' 5"	10.4	50.6	1.1	58°	06:05	06:51	07:34	09:54	10:51	11:38			
	05	295° 02' 3"	295° 23' 4"	36.4	104° 12' 6"	58.3	188° 33' 7"	52.6	66° 08' 0"	30.9	104° 12' 6"	58.3		255° 44' 9"	21.0	218° 46' 9"	10.4	51.7	1.0	60°	06:07	06:57	07:43	10:06	11:04	11:51					
	06	310° 04' 8"	310° 23' 3"	35.4	119° 15' 6"	58.2	203° 35' 7"	52.5	81° 10' 7"	30.9	119° 15' 6"	58.2	Dubhe	193° 50' 7"	61° 40' 5" N	270° 44' 9"	21.7	233° 16' 3"	10.5	52.7	0.9	S 62°	06:10	07:04	07:53	10:21	11:20	12:06			
	07	325° 07' 3"	325° 23' 1"	34.3	134° 18' 6"	58.1	218° 37' 8"	52.5	96° 13' 3"	30.9	134° 18' 6"	58.1	Einath	278° 12' 2"	28° 37' 0" N	285° 45' 0"	22.5	247° 45' 8"	10.4	53.6	0.9	55.5									
	08	340° 09' 7"	340° 22' 9"	33.3	149° 21' 7"	57.9	233° 39' 8"	52.4	111° 16' 0"	30.8	149° 21' 7"	57.9	Eltanin	90° 45' 5"	51° 29' 2" N	300° 45' 1"	23.2	262° 15' 2"	10.5	54.5	0.7										
	09	355° 12' 2"	355° 22' 7"	32.3	164° 24' 7"	57.8	248° 41' 9"	52.4	126° 18' 6"	30.8	164° 24' 7"	57.8	Fomalhaut	9° 56' 4" S	9° 56' 4" S	315° 45' 1"	24.0	276° 44' 7"	10.6	55.2											

2014 May 10, 11, 12 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.1			MARS -0.9			JUPITER -2.0			SATURN +0.0			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		10	11	12	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	15:03		16:46	18:35				
10	00	227° 43'.1	219° 47'.6	1° 37'.1 N	38° 20'.6	2° 43'.6 S	119° 54'.5	22° 44'.3 N	359° 23'.8	15° 21'.9 S	Acamar	315° 18'.3	40° 15'.0 S	180° 53'.8	17° 32'.5 N	57° 12'.3	14.3	0° 37'.3 N	10.0	55.3	N 70°	-	-	01:24	15:00	16:36	18:17				
	01	242° 45'.6	234° 47'.4	38'.1	53° 23'.4	43'.6	134° 56'.5	44'.2	14° 26'.4	21.8	Achernar	335° 27'.0	57° 09'.8 S	195° 53'.8	33'.2	71° 45'.6	14.3	27'.3	10.0	68°	-	-	02:09	14:58	16:29	18:03					
	02	257° 48'.1	249° 47'.2	39'.2	68° 26'.2	43'.5	149° 58'.5	44'.2	29° 29'.1	21.8	Acruz	173° 08'.0	63° 11'.0 S	210° 53'.8	33'.8	86° 18'.9	14'.2	17'.3	10.1	66°	-	00:27	02:39	14:56	16:22	17:52					
	03	272° 50'.5	264° 47.0	40.2	83° 29.0	43.5	165° 00'.6	44.2	44° 31'.7	21.7	Adhara	255° 12'.3	28° 59'.9 S	225° 53'.8	34.5	100° 52'.1	14.2	07.2	10.0	55.4	64°	-	01:35	03:00	14:54	16:17	17:42				
	04	287° 53.0	279° 46.8	41.3	98° 31.8	43.5	180° 02.6	44.1	59° 34.4	21.7	Aldebaran	290° 49.0	16° 32.1 N	240° 53.9	35.1	115° 25.3	14.1	0° 02.8 S	10.1	62°	-	02:08	03:18	14:53	16:12	17:34					
	05	302° 55.4	294° 46.6	42.3	113° 34.6	43.4	195° 04.6	44.1	74° 37.0	21.6		196° 51.9	21.6	255° 53.9	35.8	129° 58.4	14.2	12.9	10.1	60°	00:23	02:33	03:32	14:52	16:08	17:27					
	06	317° 57.9	309° 46.4	43.4	128° 37.4	43.4	210° 06.6	44.0	89° 39.7	21.6	Alioth	260° 19.8	55° 53.0 N	270° 53.9	36.4	144° 31.6	14.1	23.0	10.1	N 58°	01:25	02:51	03:45	14:51	16:05	17:21					
	07	333° 00.4	324° 46.2	44.4	143° 40.2	43.4	225° 08.6	44.0	104° 42.3	21.5	Alkaid	152° 58.0	49° 14.6 N	285° 53.9	37.1	159° 04.7	14.1	33.1	10.1	55.5	56°	01:56	03:07	03:55	14:50	16:02	17:16				
	08	348° 02.8	339° 46.0	45.5	158° 43.0	43.4	240° 10.6	43.9	119° 45.0	21.5	Alnair	27° 43.1	46° 53.2 S	300° 54.0	37.8	173° 37.8	14.0	43.2	10.1	54°	02:18	03:20	04:04	14:49	15:59	17:11					
	09	3° 05'.3	354° 45.8	46.5	173° 45.8	43.3	255° 12.7	43.9	134° 47.6	21.4	Anilnim	275° 46.0	1° 11.8 S	315° 54.0	38.4	188° 10.8	14.0	53.3	10.1	52°	02:36	03:32	04:13	14:48	15:56	17:07					
	10	18° 07'.8	9° 45'.6	47.6	188° 48.6	43.3	270° 14.7	43.8	149° 50.3	21.4	Alphard	217° 55.5	8° 43.5 S	330° 54.0	39.1	202° 43.8	14.0	1° 03.4 S	10.1	50°	02:51	03:42	04:20	14:47	15:54	17:03					
	11	33° 10'.2	24° 45.4	48.6	203° 51.4	43.3	285° 16.7	43.8	164° 52.9	21.3		196° 19.8	21.3	345° 54.0	39.7	217° 16.8	14.0	13.5	10.1	55.6	45°	03:20	04:02	04:36	14:46	15:49	16:54				
	12	48° 12'.7	39° 45'.2	49.7 N	218° 54.2	2° 43.3 S	300° 18.7	22° 43.7 N	179° 55.6	15° 21.3 S	Alphecca	126° 10.1	26° 40.0 N	0° 54.0	17° 40.4 N	231° 49.8	13.9	1° 23.6 S	10.1	55.6	N 40°	03:41	04:19	04:49	14:44	15:45	16:47				
	13	63° 15'.2	54° 45.0	50.7	233° 57.0	43.2	315° 20.7	43.7	194° 58.2	21.2	Alpheratz	357° 43.1	29° 10.0 N	15° 54.1	41.0	246° 22.7	13.9	33.7	10.1	35°	03:58	04:32	05:00	14:43	15:41	16:41					
	14	78° 17'.6	69° 44.8	51.8	248° 59.8	43.2	330° 22.8	43.6	210° 00.9	21.2	Altair	62° 07.5	8° 54.4 N	30° 54.1	41.7	260° 55.6	13.8	43.8	10.1	55.7	30°	04:12	04:43	05:09	14:42	15:38	16:36				
	15	93° 20'.1	84° 44.6	52.8	264° 02.6	43.2	345° 24.8	43.6	225° 03.5	21.1	Ankaa	353° 15.5	42° 13.6 S	45° 54.1	42.3	275° 28.4	13.8	53.9	10.2	20°	04:35	05:02	05:26	14:41	15:33	16:27					
	16	108° 22'.5	99° 44.4	53.9	279° 05.4	43.2	0° 26.8	43.5	240° 06.2	21.0	Antares	112° 25.1	26° 27.7 S	60° 54.1	43.0	290° 01.2	13.8	2° 04.1 S	10.1	N 10°	04:52	05:18	05:40	14:39	15:28	16:19					
	17	123° 25'.0	114° 44.2	54.9	294° 08.2	43.1	15° 28.8	43.5	255° 08.8	21.0		75° 54.2	43.6	304° 34.0	33.7	14.2	10.1			0°	05:06	05:31	05:53	14:38	15:24	16:12					
	18	138° 27'.5	129° 44.0	56.0	309° 11.0	43.1	30° 30.8	43.4	270° 11.5	21.0	Arcturus	145° 54.9	19° 06.5 N	90° 54.2	44.3	319° 06.7	13.7	24.3	10.2	55.8	S 10°	05:18	05:44	06:06	14:37	15:19	16:04				
	19	153° 29'.9	144° 43.8	57.0	324° 13.8	43.1	45° 32.8	43.4	285° 14.1	20.9	Arcturus	107° 25.9	69° 02.9 S	105° 54.2	44.9	333° 39.4	13.7	34.5	10.1	20°	05:30	05:56	06:20	14:35	15:15	15:56					
	20	168° 32.4	159° 43.6	58.1	339° 16.6	43.1	60° 34.8	43.3	300° 16.8	20.9	Avior	234° 17.9	59° 33.8 S	120° 54.2	45.6	348° 12.1	13.6	44.6	10.1	30°	05:41	06:10	06:35	14:34	15:09	15:48					
	21	183° 34.9	174° 43.4	59.1	354° 19.3	43.1	75° 36.9	43.3	315° 19.4	20.8	Bellatrix	278° 31.6	6° 21.5 N	135° 54.2	46.2	2° 44.7	13.6	54.7	10.1	35°	05:47	06:17	06:44	14:33	15:06	15:43					
	22	198° 37.3	189° 43.2	60.2 N	9° 22.1	43.0	90° 38.9	43.2	330° 22.1	20.8	Betelgeuse	271° 00.9	7° 24.3 N	150° 54.3	46.9	17° 17.3	13.5	3° 04.8 S	10.2	55.9	40°	05:53	06:26	06:54	14:32	15:03	15:37				
23	213° 39.8	204° 42.9	01.2	24° 24.9	43.0	105° 40.9	43.2	345° 24.8	20.7		165° 54.3	47.5	31° 49.8	13.5	15.0	10.1			45°	05:59	06:35	07:06	14:31	14:59	15:30						
11	00	228° 42.3	219° 42.7	2° 02.3 N	39° 27.7	2° 43.0 S	120° 42.9	22° 43.1 N	0° 27.4	15° 20.7 S	Canopus	263° 56.3	52° 42.6 S	180° 54.3	17° 48.1 N	46° 22.3	13.4	3° 25.1 S	10.1	55.9	S 50°	06:07	06:46	07:21	14:29	14:55	15:22				
	01	243° 44.7	234° 42.5	03.3	54° 30.5	43.0	135° 44.9	43.1	15° 30.1	20.6	Capella	280° 34.0	46° 00.6 N	195° 54.3	48.8	60° 54.7	13.4	35.2	10.1	56.0	52°	06:10	06:51	07:28	14:29	14:52	15:19				
	02	258° 47.2	249° 42.3	04.4	69° 33.3	43.0	150° 46.9	43.0	30° 32.7	20.6	Deneb	49° 30.9	45° 19.8 N	210° 54.3	49.4	75° 27.1	13.4	45.3	10.1	54°	06:13	06:56	07:35	14:28	14:50	15:15					
	03	273° 49.7	264° 42.1	05.4	84° 36.0	43.0	165° 49.0	43.0	45° 35.4	20.5	Denebola	182° 32.9	14° 29.4 N	225° 54.4	50.1	89° 59.5	13.3	55.4	10.1	56°	06:16	07:02	07:44	14:27	14:48	15:10					
	04	288° 52.1	279° 41.9	06.5	99° 38.8	42.9	180° 51.0	42.9	60° 38.0	20.5	Diphda	348° 55.6	17° 54.5 S	240° 54.4	50.7	104° 51.8	13.3	4° 05.5 S	10.1	58°	06:20	07:08	07:53	14:26	14:45	15:06					
	05	303° 54.6	294° 41.7	07.5	114° 41.6	42.9	195° 53.0	42.9	75° 40.7	20.5		255° 54.4	51.4	255° 54.4	51.4	119° 04.1	13.2	15.6	10.1	56.1	S 60°	06:24	07:16	08:04	14:25	14:42	15:00				
	06	318° 57.0	309° 41.5	08.6	129° 44.4	42.9	210° 55.0	42.8	90° 43.3	20.4	Dubhe	193° 50.8	61° 40.5 N	270° 54.4	52.0	133° 36.3	13.2	25.7	10.0												
	07	333° 59.5	324° 41.3	09.6	144° 47.1	42.9	225° 57.0	42.8	105° 46.0	20.4	Elnasif	278° 12.2	28° 37.0 N	285° 54.4	52.6	148° 08.5	13.1	35.7	10.1												
	08	349° 02.0	339° 41.1	10.7	159° 49.9	42.9	240° 59.0	42.7	120° 48.6	20.3	Eltanin	90° 45.4	51° 29.2 N	300° 54.4	53.3	162° 40.6	13.1	45.8	10.0	56.2											
	09	4° 04'.4	354° 40.9	11.7	174° 52.7	42.9	256° 01.0	42.7	135° 51.3	20.3	Enif	15° 26.5	9° 56.5 S	315° 54.5	53.9	177° 12.7	13.0	55.8	10.1												
	10	19° 06'.9	9° 40.7	12.8	189° 55.4	42.9	271° 03.0	42.6	150° 53.9	20.2	Fomalhaut	33° 43.5	29° 32.6 S	330° 54.5	54.6	191° 44.7	13.0	5° 05.9 S	10.0												
	11	34° 09'.4	24° 40.5	13.8	204° 58.2	42.8	286° 05.1	42.6	165° 56.6	20.2		165° 56.6	20.2	345° 54.5	55.2	206° 16.7	12.9	15.9	10.0												
	12	49° 11.8	39° 40.3	2° 14.9 N	220° 01.0	2° 42.8 S	301° 07.1	22° 42.5 N	180° 59.2	15° 20.1 S	Gacrux	171° 59.7	57° 11.9 S	0° 54.5	17° 55.8 N	220° 48.6	12.9	5° 25.9 S	10.0	56.3	N 70°	22:36	-	-	02:17	02:15	02:14				
	13	64° 14.3	54° 40.1	15.9	235° 03.7	42.8	316° 09.1	42.5	196° 01.9	20.1	Gienah	175° 51.4	17° 37.5 S	15° 54.5	56.5	235° 20.5	12.8	35.9	10.0	68°	21:48	-	-	02:17	02:20	02:23					
	14	79° 16.8	69° 39.9	17.0	250° 06.5	42.8	331° 11.1	42.4	211° 04.5	20.0	Hadar	148° 46.3	60° 26.6 S	30° 54.6	57.1																

2014 May 13, 14, 15 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.0			MARS -0.9			JUPITER -1.9			SATURN +0.1			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	N 72°	-	-	20:33	22:48	-			
Tuesday	00	230° 40'5	219° 32'7	2° 52'.8 N	41° 39'7	2° 42'.7 S	122° 19'.4	22° 40'.7 N		2° 34'.7	15° 18'.4 S	17° 37'.4	18.3	Acamar	315° 18'.3	40° 15'.0 S	180° 55'.0	18° 18'.5 N	23° 19'.2	10.6	11° 09'.7 S	8'.9	57.4	N 70°	-	-	00:55	20:02	21:52	23:37		
	01	245° 43'.0	234° 32'.5	53.8	56° 42'.4	42'.7	137° 21'.4	40'.7		17° 37'.4	18.3	17° 37'.4	18.3	Achernar	335° 26'.9	57° 09'.8 S	195° 55'.0	19.1	37° 48'.8	10.6	18.6	8.8	68°	-	-	01:53	19:40	21:18	22:48			
	02	260° 45'.5	249° 32'.3	54.9	71° 45'.1	42.8	152° 23'.4	40'.6		32° 40'.0	18.3	32° 40'.0	18.3	Acruz	173° 08'.0	63° 11'.0 S	210° 55'.0	19.7	52° 18'.4	10.5	27.4	8.8	66°	-	-	02:27	19:23	20:54	22:17			
	03	275° 47'.9	264° 32'.1	55.9	86° 47'.8	42.8	167° 25'.4	40'.6		47° 42'.7	18.2	47° 42'.7	18.2	Adhara	255° 12'.3	28° 59'.9 S	225° 55'.0	20.4	66° 47'.9	10.4	36.2	8.7	57.5	64°	-	01:16	02:51	19:09	20:35	21:54		
	04	290° 50'.4	279° 31'.9	57.0	101° 50'.5	42.8	182° 27'.5	40'.5		62° 45'.3	18.2	62° 45'.3	18.2	Aldebaran	290° 49'.0	16° 32'.1 N	240° 55'.0	21.0	81° 17'.3	10.4	44.9	8.6	62°	-	01:56	03:10	18:57	20:20	21:36			
	05	305° 52'.9	294° 31'.6	58.0	116° 53'.2	42.8	197° 29'.5	40'.5		77° 48'.0	18.1	77° 48'.0	18.1		260° 55'.0	21.6	255° 55'.0	21.6	95° 46'.7	10.3	53.5	8.6	60°	-	02:23	03:25	18:47	20:07	21:21			
	06	320° 55'.3	309° 31'.4	59.1	131° 56'.0	42.8	212° 31'.5	40'.4		92° 50'.6	18.1	92° 50'.6	18.1	Alioth	196° 19'.8	55° 53'.0 N	270° 55'.0	22.2	110° 16'.0	10.2	12° 02'.1 S	8'.6	57.6	N 58°	01:08	02:43	03:38	18:39	19:56	21:08		
	07	335° 57'.8	324° 31'.2	3° 00'.1 N	146° 58'.7	42.8	227° 33'.5	40'.4		107° 53'.3	18.0	107° 53'.3	18.0	Alkaid	152° 58'.0	49° 14'.6 N	285° 55'.0	22.8	124° 45'.2	10.1	10.7	8.5	56°	01:45	03:00	03:49	18:31	19:46	20:57			
	08	351° 00'.2	339° 31'.0	01.2	162° 01'.4	42.8	242° 35'.5	40'.3		122° 55'.9	18.0	122° 55'.9	18.0	Alnilam	27° 43'.1	46° 53'.2 S	300° 55'.0	23.5	139° 14'.3	10.1	19.2	8.4	54°	02:10	03:14	03:59	18:24	19:37	20:47			
	09	6° 02'.7	354° 30.8	02.2	177° 04'.1	42.8	257° 37'.5	40'.3		137° 58'.6	18.0	137° 58'.6	18.0	Alnair	275° 46'.0	1° 11'.8 S	315° 55'.0	24.1	153° 43'.4	10.0	27.6	8.4	52°	02:29	03:26	04:08	18:18	19:30	20:38			
	10	21° 05'.2	9° 30'.6	03.3	192° 06.8	42.8	272° 39'.5	40'.2		153° 01'.2	17.9	153° 01'.2	17.9	Alphard	217° 55'.5	8° 43'.5 S	330° 55'.0	24.7	168° 12'.4	9.9	36.0	8.3	57.7	50°	02:45	03:37	04:16	18:13	19:23	20:31		
	11	36° 07'.6	24° 30'.4	04.4	207° 09'.5	42.8	287° 41'.5	40'.2		168° 03'.9	17.9	168° 03'.9	17.9		345° 55'.0	25.3	345° 55'.0	25.3	182° 41'.3	9.9	44.3	8.2	45°	03:15	03:58	04:32	18:01	19:08	20:14			
	12	51° 10'.1	39° 30'.1	3° 05'.4 N	222° 12.2	2° 42'.9 S	302° 43'.5	22° 40'.1 N	183° 06'.5	15° 17'.8 S	18.3	183° 06'.5	15° 17'.8 S	18.3	Alphecca	126° 10'.1	26° 40'.0 N	0° 55'.0	18° 25'.9 N	197° 10'.2	9.8	12° 52'.5 S	8'.2	57.7	N 40°	03:38	04:15	04:46	17:51	18:56	20:01	
	13	66° 12'.6	54° 29'.9	06.5	237° 14.9	42.9	317° 45'.5	40'.1	198° 09'.2	17.8	19.8	198° 09'.2	17.8	Alpheratz	357° 43.0	29° 10'.0 N	15° 55'.0	26.5	211° 39.0	9.7	13° 00'.7 S	8'.1	57.8	35°	03:55	04:29	04:57	17:43	18:46	19:49		
	14	81° 15'.0	69° 29'.7	07.5	252° 17.6	42.9	332° 47'.5	40'.0	213° 11'.8	17.7	21.3	213° 11'.8	17.7	Altair	62° 07'.5	8° 54'.4 N	30° 55'.0	27.1	226° 07.7	9.6	08.8	8.1	30°	04:10	04:41	05:07	17:36	18:37	19:39			
	15	96° 17'.5	84° 29'.5	08.6	267° 20.3	42.9	347° 49'.5	40'.0	228° 14'.5	17.7	22.8	228° 14'.5	17.7	Ankaa	353° 15'.5	42° 13'.6 S	45° 55'.1	27.7	240° 36.3	9.6	16.9	8.0	20°	04:33	05:01	05:24	17:23	18:22	19:22			
	16	111° 20'.0	99° 29'.3	09.6	282° 23.0	42.9	2° 51'.5	39.9	243° 17'.1	17.6	24.3	243° 17'.1	17.6	Antares	112° 25.1	26° 27.7 S	60° 55'.1	28.4	255° 04.9	9.5	24.9	7.9	10°	04:51	05:17	05:39	17:13	18:09	19:07			
	17	126° 22'.4	114° 29'.1	10.7	297° 25.7	42.9	17° 53'.5	39.9	258° 19'.8	17.6	25.8	258° 19'.8	17.6		75° 55'.1	29.0	269° 33.4	9.4	32.8	7.9	57.9	0°	05:06	05:31	05:53	17:02	17:56	18:53				
	18	141° 24'.9	129° 28'.8	11.7	312° 28'.4	42.9	32° 55'.5	39.8	273° 22'.4	17.5	27.3	273° 22'.4	17.5	Arcturus	145° 54'.9	19° 06.5 N	90° 55'.1	29.6	284° 01.8	9.3	40.7	7.8	10°	05:19	05:44	06:06	16:52	17:44	18:39			
	19	156° 27'.4	144° 28'.6	12.8	327° 31'.1	43.0	47° 57'.5	39.8	288° 25'.1	17.5	28.8	288° 25'.1	17.5	Atria	107° 25'.8	69° 02'.9 S	105° 55'.1	30.2	298° 30.1	9.3	48.5	7.7	20°	05:31	05:58	06:21	16:42	17:31	18:24			
	20	171° 29'.8	159° 28'.4	13.8	342° 33.8	43.0	62° 59'.5	39.7	303° 27'.8	17.4	30.3	303° 27'.8	17.4	Avia	234° 17.9	59° 33.8 S	120° 55'.1	30.8	312° 58.4	9.2	56.2	7.6	58.0	30°	05:43	06:12	06:37	16:30	17:16	18:07		
	21	186° 32'.3	174° 28'.2	14.9	357° 36.5	43.0	78° 01'.5	39.7	318° 30'.4	17.4	31.8	318° 30'.4	17.4	Bellatrix	278° 31.7	6° 21'.5 N	135° 55'.1	31.4	327° 26.6	9.1	14° 03.8 S	7.6	35°	05:49	06:20	06:47	16:23	17:07	17:58			
	22	201° 34'.7	189° 28'.0	15.9	12° 39.2	43.0	93° 03'.5	39.6	333° 33'.1	17.3	33.3	333° 33'.1	17.3	Betelgeuse	271° 00'.9	7° 24'.3 N	150° 55'.1	32.0	341° 54.7	9.1	11.4	7.5	40°	05:55	06:28	06:57	16:15	16:57	17:46			
23	216° 37'.2	204° 27.8	17.0	27° 41.8	43.0	108° 05.5	39.6	348° 35.7	17.3	34.8	348° 35.7	17.3		165° 55.1	32.6	356° 22.8	9.0	18.9	7.4	58.1	45°	06:02	06:38	07:10	16:05	16:46	17:33					
Wednesday	00	231° 39'.7	219° 27.5	3° 18'.1 N	42° 44.5	2° 43'.1 S	123° 07'.5	22° 39'.5 N	3° 38'.4	15° 17'.2 S	18° 41'.0	17.2	Canopus	263° 56'.3	52° 42'.6 S	180° 55'.1	18° 33'.2 N	10° 50'.8	8.9	14° 26.3 S	7.4	58.1	S 50°	06:10	06:50	07:25	15:54	16:32	17:17			
	01	246° 42'.1	234° 27.3	19.1	57° 47.2	43.1	138° 09'.5	39'.5	18° 41'.0	17.2	18° 41'.0	17.2	Capella	280° 34'.0	46° 00'.6 N	195° 55'.1	33.8	25° 18'.7	8.8	33.7	7.2	52°	06:13	06:55	07:32	15:49	16:26	17:10				
	02	261° 44'.6	249° 27.1	20.2	72° 49.9	43.1	153° 11'.5	39.4	33° 43.7	17.1	33° 43.7	17.1	Deneb	49° 30'.9	45° 19'.8 N	210° 55'.1	34.4	39° 46'.5	8.8	40.9	7.2	54°	06:17	07:00	07:40	15:44	16:19	17:02				
	03	276° 47'.1	264° 26.9	21.2	87° 52.6	43.1	168° 13'.5	39.3	48° 46.3	17.0	48° 46.3	17.0	Denebola	182° 32'.9	14° 29'.4 N	225° 55'.1	35.1	54° 14'.3	8.7	48.1	7.1	58.2	56°	06:21	07:07	07:49	15:37	16:11	16:52			
	04	291° 49'.5	279° 26.7	22.3	102° 55.3	43.1	183° 15'.6	39.3	63° 49.0	17.1	63° 49.0	17.1	Diphda	348° 55'.5	17° 54'.5 S	240° 55'.1	35.7	68° 42.0	8.6	55.2	7.1	58°	06:25	07:14	07:59	15:30	16:02	16:42				
	05	306° 52.0	294° 26.5	23.3	117° 58.0	43.2	198° 17.6	39.2	78° 51.6	17.0	78° 51.6	17.0		255° 55'.1	36.3	83° 09.6	8.5	15° 02.3 S	6.9				S 60°	06:30	07:22	08:11	15:23	15:51	16:30			
	06	321° 54'.5	309° 26.2	24.4	133° 00'.6	43.2	213° 19'.6	39.2	93° 54'.3	16.9	93° 54'.3	16.9	Dubhe	193° 50'.8	61° 40'.6 N	270° 55'.1	36.9	97° 37.1	8.5	09.2	6.9				S 62°	06:35	07:30	08:24	15:14	15:40	16:16	
	07	336° 56'.9	324° 26.0	25.4	148° 03'.3	43.2	228° 21'.6	39.1	108° 56'.9	16.9	108° 56'.9	16.9	Elinath	278° 12'.2	28° 37.0 S	285° 55'.1	37.5	112° 04'.6	8.4	16.1	6.8	58.3										
	08	351° 59'.4	339° 25.8	26.5	163° 06.0	43.2	243° 23'.6	39.1	123° 59'.6	16.9	123° 59'.6	16.9	Eltanin	90° 45'.4	51° 29.2 N	300° 55'.1	38.1	126° 32.0	8.3	22.9	6.7				Lat	Sunset	Twilight		Moonset			
	09	7° 01'.9	354° 25.6	27.5	178° 08.7	43.2	258° 25'.6	39.0	139° 02'.2	16.8	139° 02'.2	16.8	Enif	15° 46'.5	9° 56'.5 S	315° 55'.1	38.7	140° 59.3	8.3	29.6	6.6											
	10	22° 04'.3	9° 25.4	28.6	193° 11.3	43.3	273° 27'.6	39.0	154° 04'.9	16.8	154° 04'.9	16.8	Fomalhaut	33° 23'.5	29° 32'.6 S	330° 55'.1	39.3	155° 26.6	8.2	36.2	6.5	58.4										
	11	37° 06'.8	24° 25.1</																													

2014 May 16, 17, 18 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																										Nautical	Civil		16	17	18
16 Fri day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	-	-	-		
	00	233° 38'0	219° 16'9	4° 08'7	44° 52'1	2° 44'6 S	124° 43'5	22° 37'0 N	5° 45'6	15° 15'0 S	Acamar	315° 18'3	40° 14'9 S	180° 54'9	19° 01'7 N	343° 56'0	6'0	18° 33'4 S	2.5	59.2		N 70°	-	-	-	-	-	-	00:52	01:20	
	01	248° 40'4	234° 16'7	09'7	59° 54'7	44'6	139° 45'5	36'9	20° 48'3	14'9	Achernar	335° 26'9	57° 09'8 S	195° 54'9	02'3	358° 21'0	6'0	35'9	2'4			68°	-	-	-	01:36	23:57	-	-	00:39	
	02	263° 42'9	249° 16'5	10'8	74° 57'3	44'6	154° 47'5	36'9	35° 50'9	14'9	Acrux	173° 08'0	63° 11'0 S	210° 54'9	02'9	12° 46'0	5'9	38'3	2'2			66°	-	-	-	02:15	23:24	-	-	00:10	
	03	278° 45'3	264° 16'2	11'9	89° 59'9	44'7	169° 49'5	36'8	50° 53'6	14'8	Adhara	255° 12'3	28° 59'9 S	225° 54'9	03'5	27° 10'9	5'9	40'5	2'1	59.3		64°	-	00:53	02:41	23:00	23:48	24:22			
	04	293° 47'8	279° 16'0	12'9	105° 02'5	44'7	184° 51'5	36'7	65° 56'2	14'8	Aldebaran	290° 49'0	16° 32'1 N	240° 54'8	04'1	41° 35'8	5'9	42'6	2'0			62°	-	01:43	03:02	22:41	23:31	24:08			
	05	308° 50'3	294° 15'8	14'0	120° 05'2	44'8	199° 53'5	36'7	80° 58'9	14'7		196° 54'8	04'6	255° 54'8	04'6	56° 00'7	5'9	44'6	1'9			60°	-	02:13	03:18	22:25	23:16	23:56			
	06	323° 52'7	309° 15'5	15'0	135° 07'8	44'8	214° 55'5	36'6	96° 01'5	14'7	Alioth	260° 19'8	55° 53'1 N	270° 54'8	05'2	70° 25'6	5'8	46'5	1'7			N 58°	00:48	02:35	03:32	22:12	23:04	23:45			
	07	338° 55'2	324° 15'3	16'1	150° 10'4	44'8	229° 57'4	36'6	111° 04'2	14'6	Alkaid	152° 58'0	49° 14'6 N	285° 54'8	05'8	84° 50'4	5'8	48'2	1'7			56°	01:33	02:53	03:44	22:00	22:53	23:36			
	08	353° 57'7	339° 15'1	17'1	165° 13'0	44'9	244° 59'4	36'5	126° 06'8	14'6	Alnair	27° 43'1	46° 53'2 S	300° 54'8	06'4	99° 15'2	5'7	49'9	1'5			54°	02:01	03:08	03:54	21:50	22:44	23:28			
	09	9° 00'1	354° 14'9	18'2	180° 15'6	45'0	260° 01'4	36'5	141° 09'5	14'5	Anilam	275° 46'0	1° 11'8 S	315° 54'8	06'9	113° 39'9	5'7	51'4	1'3	59.4		52°	02:22	03:21	04:03	21:41	22:35	23:21			
	10	24° 02'6	9° 14'6	19'2	195° 18'2	45'0	275° 03'4	36'4	156° 12'1	14'5	Alphard	217° 55'5	8° 43'5 S	330° 54'8	07'5	128° 04'6	5'7	52'7	1'3			50°	02:39	03:32	04:12	21:33	22:28	23:14			
	11	39° 05'1	24° 14'4	20'3	210° 20'9	45'1	290° 05'4	36'4	171° 14'8	14'4		290° 54'8	08'1	345° 54'8	08'1	142° 29'3	5'7	54'0	1'1			45°	03:11	03:55	04:29	21:16	22:11	23:00			
	12	54° 07'5	39° 14'2	4° 21'4 N	225° 23'5	2° 45'1 S	305° 07'4	22° 36'3 N	186° 17'4	15° 14'4 S	Alphecca	126° 10'1	26° 40'1 N	0° 54'8	19° 08'7 N	156° 54'0	5'6	18° 55'1 S	1'0	59.4		N 40°	03:34	04:12	04:43	21:02	21:58	22:48			
	13	69° 10'0	54° 13'9	22'4	240° 26'1	45'2	320° 09'4	36'3	201° 20'1	14'3	Alpheratz	357° 43'0	29° 10'0 N	15° 54'7	09'2	171° 18'6	5'7	56'1	0'8			35°	03:53	04:27	04:55	20:50	21:47	22:38			
	14	84° 12'5	69° 13'7	23'5	255° 28'7	45'2	335° 11'4	36'2	216° 22'7	14'3	Altair	62° 07'5	8° 54'5 N	30° 54'7	09'8	185° 43'3	5'6	56'9	0'8			30°	04:08	04:39	05:06	20:39	21:37	22:30			
	15	99° 14'9	84° 13'5	24'5	270° 31'3	45'3	350° 13'4	36'1	231° 25'4	14'2	Ankaa	353° 15'4	42° 13'5 S	45° 54'7	10'4	200° 07'9	5'6	57'7	0'6			20°	04:31	05:00	05:23	20:22	21:20	22:15			
	16	114° 17'4	99° 13'3	25'6	285° 33'9	45'3	5° 15'4	36'1	246° 28'0	14'2	Antares	112° 25'1	26° 27'7 S	60° 54'7	11'0	214° 32'5	5'5	58'3	0'5	59.5		N 10°	04:50	05:16	05:39	20:06	21:05	22:01			
	17	129° 19'8	114° 13'0	26'6	300° 36'5	45'4	20° 17'4	36'0	261° 30'7	14'2		260° 30'7	14'2	75° 54'7	11'5	228° 57'0	5'6	58'8	0'3			0°	05:05	05:31	05:53	19:52	20:51	21:49			
	18	144° 22'3	129° 12'8	27'7	315° 39'1	45'4	35° 19'4	36'0	276° 33'3	14'1	Arcturus	145° 54'9	19° 06'5 N	90° 54'7	12'1	243° 21'6	5'5	59'1	0'2			S 10°	05:19	05:45	06:07	19:37	20:37	21:37			
	19	159° 24'8	144° 12'6	28'7	330° 41'7	45'5	50° 21'4	35'9	291° 36'0	14'1	Atia	170° 25'8	69° 03'0 S	105° 54'7	12'7	257° 46'1	5'5	59'3	0'0			20°	05:32	05:59	06:22	19:22	20:22	21:23			
	20	174° 27'2	159° 12'3	29'8	345° 44'3	45'5	65° 23'4	35'9	306° 36'6	14'0	Avior	234° 17'9	59° 33'8 S	120° 54'6	13'2	272° 10'6	5'6	59'4	0'1			30°	05:44	06:13	06:39	19:04	20:05	21:08			
	21	189° 29'7	174° 12'1	30'8	0° 46'9	45'6	80° 25'3	35'8	321° 41'3	14'0	Bellatrix	278° 31'6	6° 21'5 N	135° 54'6	13'8	286° 35'1	5'5	59'4	0'2			35°	05:51	06:22	06:49	18:54	19:55	20:59			
22	204° 32'2	189° 11'9	31'9	15° 49'5	45'6	95° 27'3	35'8	336° 43'9	13'9	Betelgeuse	271° 00'9	7° 24'3 N	150° 54'6	14'4	300° 59'6	5'5	59'2	0'3			40°	05:58	06:31	07:00	18:42	19:44	20:49				
23	219° 34'6	204° 11'6	33'0	30° 52'1	45'7	110° 29'3	35'7	351° 46'6	13'9		165° 54'6	14'9	315° 24'1	5'5	58'9	0'4					45°	06:05	06:41	07:13	18:28	19:30	20:38				
17 Sat day	00	234° 37'1	219° 11'4	4° 34'0 N	45° 54'7	2° 45'7 S	125° 31'3	22° 35'7 N	6° 49'2	15° 13'8 S	Canopus	263° 56'3	52° 42'6 S	180° 54'6	19° 15'5 N	329° 48'6	5'4	18° 58'5 S	0'6	59.5		S 50°	06:14	06:53	07:29	18:11	19:14	20:23			
	01	249° 39'6	234° 11'2	35'1	60° 57'3	45'8	140° 33'3	36'4	21° 51'9	13'8	Capella	280° 34'0	46° 00'6 N	195° 54'6	16'1	344° 13'0	5'5	57'9	0'6	59'6		52°	06:17	06:59	07:37	18:03	19:06	20:17			
	02	264° 42'0	249° 10'9	36'1	75° 59'9	45'9	155° 35'3	35'5	36° 54'6	13'7	Deneb	49° 30'9	45° 19'8 N	210° 54'6	16'6	358° 37'5	5'5	57'3	0'8			54°	06:21	07:05	07:45	17:55	18:58	20:09			
	03	279° 44'5	264° 10'7	37'2	91° 02'5	45'9	170° 37'3	35'5	51° 57'2	13'6	Denebola	182° 32'9	14° 29'4 S	225° 54'5	17'2	13° 02'0	5'4	56'5	1'0			56°	06:25	07:11	07:54	17:45	18:48	20:01			
	04	294° 46'9	279° 10'5	38'2	106° 05'1	46'0	185° 39'3	35'4	66° 59'9	13'7	Diphda	348° 55'5	17° 54'5 S	240° 54'5	17'8	27° 26'4	5'4	55'5	1'0			58°	06:30	07:19	08:05	17:33	18:37	19:51			
	05	309° 49'4	294° 10'2	39'3	121° 07'7	46'0	200° 41'3	35'4	82° 02'5	13'6		255° 54'5	18'3	41° 50'9	5'4	54'5	1'2					S 60°	06:35	07:27	08:17	17:20	18:25	19:40			
	06	324° 51'9	309° 10'0	40'3	136° 10'3	46'1	215° 43'3	35'3	97° 05'2	13'5	Dubhe	193° 50'9	61° 40'6 N	270° 54'5	18'9	56° 15'3	5'5	53'3	1'4			S 62°	06:40	07:37	08:32	17:05	18:10	19:28			
	07	339° 54'3	324° 09'8	41'4	151° 12'8	46'1	230° 45'3	35'3	112° 07'8	13'5	Einath	278° 12'2	28° 37'0 N	285° 54'5	19'5	70° 39'8	5'4	51'9	1'4												
	08	354° 56'8	339° 09'5	42'4	166° 15'4	46'2	245° 47'2	35'2	127° 10'5	13'4	Eltanin	90° 45'4	51° 29'2 N	300° 54'4	20'0	85° 04'2	5'5	50'5	1'6				Lat	Sunset	Twilight		Moonset				
	09	9° 59'3	354° 09'3	43'5	181° 18'0	46'3	260° 49'2	35'2	142° 13'1	13'4	Enif	15° 26'5	9° 56'5 S	315° 54'4	20'6	99° 28'7	5'4	48'9	1'7												
	10	25° 01'7	9° 09'1	44'6	196° 20'6	46'3	275° 51'2	35'1	157° 15'8	13'4	Fomalhaut	33° 43'4	29° 32'6 S	330° 54'4	21'2	113° 53'1	5'5	47'2	1'9												
	11	40° 04'2	24° 08'8	45'6	211° 23'2	46'4	290° 53'2	35'0	172° 18'4	13'3		15° 23'4	29° 32'6 S	345° 54'4	21'7	128° 17'6	5'5	45'3	1'9												
	12	55° 06'7	39° 08'6	4° 46'7 N	226° 25'8	2° 46'4 S	305° 55'2	22° 35'0 N	187° 21'1	15° 13'3 S	Gacrux	171° 59'7	57° 11'9 S	0° 54'4	19° 22'3 N	142° 42'1	5'5	18° 43'4 S</													

2014 May 19, 20, 21 (Mon, Tue, Wed)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		19	20		21		
Monday	00	236° 35'.4	219° 00'.0	5° 24'.6 N	47° 57'.8	2° 49'.0 S	127° 06'.7	22° 33'.0 N	8° 56'.4	15° 11'.6 S	Acamar	315° 18'.3	40° 14'.9 S	180° 53'.5	19° 42'.1 N	301° 38'.5	6.6	16° 11'.0 S	6.3	59.7	N 72°	-	-	-	02:09	01:55	01:45				
	01	251° 37.8	233° 59.8	25.6	63° 00'.4	49.1	142° 08'.7	32.9	23° 59'.1	11.5	Achernar	335° 26'.9	57° 09'.7 S	195° 53'.5	42.6	316° 04'.1	6.6	04.7	6.5	68°	-	-	-	01:28	01:31	01:31					
	02	266° 40.3	248° 59.5	26.7	78° 02'.9	49.1	157° 10'.7	32.9	39° 01'.7	11.5	Acruz	173° 08'.0	63° 11'.0 S	210° 53'.5	43.2	330° 29'.7	6.7	15° 58'.2 S	6.5	66°	-	-	01:17	01:00	01:12	01:19					
	03	281° 42.8	263° 59.3	27.7	93° 05'.4	49.2	172° 12'.7	32.8	54° 04'.4	11.4	Adhara	255° 12'.3	28° 59'.9 S	225° 53'.5	43.7	344° 55'.4	6.7	51.7	6.7	64°	-	00:16	02:32	00:22	00:45	01:02					
	04	296° 45.2	278° 59.1	28.8	108° 08'.0	49.3	187° 14'.7	32.7	69° 07'.0	11.4	Aldebaran	290° 49'.0	16° 32'.1 N	240° 53'.4	44.2	359° 21'.1	6.7	45.0	6.7	62°	-	01:30	02:54	00:08	00:34	00:55					
	05	311° 47.7	293° 58.8	29.8	123° 10'.5	49.4	202° 16'.6	32.7	84° 09'.7	11.3				255° 53'.4	44.8	13° 46'.8	6.8	38.3	6.9	60°	-	02:03	03:11	-	00:25	00:49					
	06	326° 50.2	308° 58.6	30.9	138° 13'.0	49.5	217° 18'.6	32.6	99° 12'.3	11.3	Alioth	166° 19'.8	55° 53'.1 N	270° 53'.4	45.3	28° 12'.6	6.9	31.4	6.9	N 58°	00:14	02:28	03:26	-	00:17	00:44					
	07	341° 52.6	323° 58.3	31.9	153° 15'.6	49.5	232° 20'.6	32.6	114° 15'.0	11.3	Alkaid	152° 58'.1	49° 14'.6 N	285° 53'.3	45.8	42° 38'.5	6.9	24.5	7.1	56°	01:21	02:47	03:39	-	00:10	00:39					
	08	356° 55.1	338° 58.1	33.0	168° 18'.1	49.6	247° 22'.6	32.5	129° 17'.6	11.2	Alnair	27° 43'.0	46° 53'.1 S	300° 53'.3	46.4	57° 04'.4	6.9	17.4	7.1	54°	01:52	03:02	03:50	-	00:04	00:35					
	09	11° 57.6	353° 57.8	34.0	183° 20'.6	49.7	262° 24'.6	32.5	144° 20'.3	11.2	Alnilam	275° 46.0	1° 11'.8 S	315° 53'.3	46.9	71° 10'.3	7.0	10.3	7.1	52°	02:15	03:16	03:59	23:59	-	00:31					
	10	27° 00'.0	8° 57.6	35.1	198° 23'.1	49.8	277° 26'.6	32.4	159° 22'.9	11.1	Alphard	217° 55.5	8° 43'.5 S	330° 53'.3	47.4	85° 56'.3	7.0	03.0	7.3	50°	02:33	03:27	04:08	23:53	-	00:27					
	11	42° 02.5	23° 57.3	36.1	213° 25'.7	49.9	292° 28'.5	32.3	174° 25'.6	11.1				345° 53'.2	48.0	100° 22'.3	7.1	14° 55'.7 S	7.5	45°	03:06	03:51	04:26	23:42	-	00:20					
	12	57° 04.9	38° 57.1	5° 37.2 N	228° 28'.2	2° 50'.0 S	307° 30'.5	22° 32'.3 N	189° 28'.2	15° 11'.0 S	Alphecca	126° 10'.1	26° 40'.1 N	0° 53'.2	19° 48'.5 N	114° 48'.4	7.2	14° 48'.2 S	7.5	59.7	N 40°	03:31	04:10	04:41	23:33	-	00:13				
	13	72° 07.4	53° 56.9	38.3	243° 30'.7	50.1	322° 32'.5	32.2	204° 30'.9	11.0	Alpheratz	357° 43.0	29° 10'.0 N	15° 53'.2	49.0	129° 14'.6	7.2	40.7	7.6	35°	03:50	04:25	04:53	23:25	-	00:08					
	14	87° 09.9	68° 56.6	39.3	258° 33'.2	50.1	337° 34'.5	32.2	219° 33'.5	10.9	Altair	62° 07.4	8° 54'.5 N	30° 53'.1	49.6	143° 40.8	7.2	33.1	7.7	59.6	30°	04:06	04:37	05:04	23:18	-	00:03				
	15	102° 12.3	83° 56.4	40.4	273° 35'.7	50.2	352° 36.5	32.1	234° 36.2	10.9	Ankaa	353° 15.4	42° 13'.5 S	45° 53'.1	50.1	158° 07.0	7.3	25.4	7.8	20°	04:30	04:58	05:22	23:06	23:54	24:40					
	16	117° 14.8	98° 56.1	41.4	288° 38'.2	50.3	7° 38.4	32.1	249° 38.8	10.8	Antares	112° 25.1	26° 27.7 S	60° 53'.1	50.6	172° 33.3	7.4	17.6	7.9	N 10°	04:49	05:16	05:38	22:55	23:47	24:36					
	17	132° 17.3	113° 55.9	42.5	303° 40.8	50.4	22° 40.4	32.0	264° 41.5	10.8				75° 53.0	51.2	186° 59.7	7.4	09.7	8.0	0°	05:05	05:31	05:53	22:46	23:40	24:32					
	18	147° 19.7	128° 55.6	43.5	318° 43.3	50.5	37° 42.4	31.9	279° 44.1	10.7	Arcturus	145° 54.9	19° 06.5 N	90° 53.0	51.7	201° 26.1	7.5	01.7	8.1	S 10°	05:20	05:45	06:08	22:36	23:33	24:28					
	19	162° 22.2	143° 55.4	44.6	333° 45.8	50.6	52° 44.4	31.9	294° 46.8	10.7	Atira	170° 25.8	69° 03.0 S	105° 53.0	52.2	215° 52.6	7.5	13° 53.6 S	8.1	20°	05:33	06:00	06:23	22:25	23:25	24:20					
	20	177° 24.7	158° 55.1	45.6	348° 48.3	50.7	67° 46.4	31.8	309° 49.7	10.7	Avior	234° 18.0	59° 33.8 S	120° 52.9	52.7	230° 19.1	7.6	45.5	8.2	30°	05:46	06:15	06:38	22:13	23:17	24:14					
	21	192° 27.1	173° 54.9	46.7	3° 50.8	50.7	82° 48.4	31.8	324° 52.1	10.6	Bellatrix	278° 31.6	6° 21.5 S	135° 52.9	53.3	244° 45.7	7.6	37.3	8.4	35°	05:53	06:24	06:51	22:06	23:12	24:17					
	22	207° 29.6	188° 54.6	47.7	18° 53.3	50.8	97° 50.3	31.7	339° 54.7	10.6	Betelgeuse	271° 00.9	7° 24.3 N	150° 52.9	53.8	259° 12.3	7.6	28.9	8.3	40°	06:00	06:33	07:03	21:57	23:06	24:14					
23	222° 32.0	203° 54.4	48.8	33° 55.8	50.9	112° 52.3	31.7	354° 57.4	10.5				165° 52.8	54.3	273° 38.9	7.8	20.6	8.5	45°	06:08	06:44	07:16	21:48	22:59	24:11						
Tuesday	00	237° 34.5	218° 54.1	5° 49.8 N	48° 58.3	2° 51.0 S	127° 54.3	22° 31.6 N	10° 00.0	15° 10.5 S	Canopus	263° 56.3	52° 42.6 S	180° 52.8	19° 54.9 N	288° 05.7	7.7	13° 12.1 S	8.6	59.6	S 50°	06:17	06:57	07:33	21:37	22:52	24:06				
	01	252° 37.0	233° 53.9	50.9	64° 00.8	51.1	142° 56.3	31.5	25° 02.7	10.4	Capella	280° 34.0	46° 00.6 N	195° 52.8	55.4	302° 32.4	7.9	03.5	8.6	52°	06:21	07:03	07:41	21:31	22:48	24:05					
	02	267° 39.4	248° 53.6	51.9	79° 03.3	51.2	157° 58.3	31.5	40° 05.3	10.4	Deneb	49° 30.8	45° 19.8 N	210° 52.7	55.9	316° 59.3	7.9	12° 54.9 S	8.7	54°	06:25	07:09	07:50	21:25	22:44	24:02					
	03	282° 41.9	263° 53.4	53.0	94° 05.8	51.3	173° 00.2	31.4	55° 00.8	10.3	Denebola	182° 32.9	14° 29.5 S	225° 52.7	56.4	331° 26.2	7.9	46.2	8.8	59.5	56°	06:29	07:16	08:00	21:19	22:39	24:00				
	04	297° 44.4	278° 53.1	54.0	109° 08.3	51.4	188° 02.2	31.4	70° 10.6	10.3	Diphda	348° 55.5	17° 54.4 S	240° 52.7	56.9	345° 53.1	8.0	37.4	8.9	58°	06:34	07:24	08:11	21:12	22:35	23:58					
	05	312° 46.8	293° 52.9	55.1	124° 10.8	51.5	203° 04.2	31.3	85° 13.3	10.2				255° 52.6	57.5	0° 20.1	8.0	28.5	8.9	S 60°	06:40	07:33	08:24	21:03	22:29	23:55					
	06	327° 49.3	308° 52.6	56.1	139° 13.3	51.6	218° 06.2	31.2	100° 15.9	10.2	Dubhe	193° 50.9	61° 40.6 N	270° 52.6	58.0	14° 47.1	8.1	19.6	9.0	S 62°	06:46	07:43	08:39	20:54	22:22	23:51					
	07	342° 51.8	323° 52.4	57.2	154° 15.8	51.7	233° 08.2	31.2	115° 18.6	10.2	El Nath	278° 12.2	28° 37.0 N	285° 52.6	58.5	29° 14.2	8.2	10.2	9.1												
	08	357° 54.2	338° 52.1	58.2	169° 18.3	51.8	248° 10.1	31.1	130° 21.2	10.1	Eltanin	90° 45.4	51° 29.2 N	300° 52.5	59.0	43° 41.4	8.2	01.5	9.2												
	09	12° 56.7	353° 51.9	59.3	184° 20.8	51.9	263° 12.1	31.1	145° 23.9	10.1	Fomalhaut	15° 26.5	9° 56.5 S	315° 52.5	59.6	58° 08.6	8.2	11° 52.3 S	9.2												
	10	27° 59.2	8° 51.6	6° 00.3 N	199° 23.3	52.0	278° 14.1	31.0	160° 26.5	10.0	Fomalhaut	33° 43.4	29° 32.6 S	330° 52.5	20° 00.1 N	72° 35.8	8.4	43.1	9.3												
	11	43° 01.6	23° 51.4	01.4	214° 25.8	52.0	293° 16.1	31.0	175° 29.2	10.0				345° 52.4	00.6	87° 03.2	8.3	33.8	9.3												
	12	58° 04.1	38° 51.1	6° 02.4 N	229° 28.3	2° 52.1 S	308° 18.0	22° 30.9 N	190° 31.8	15° 09.9 S	Gacrux	171° 59.7	57° 11.9 S	0° 52.4	20° 01.1 N	101° 30.5	8.4	11° 24.5 S	9.5	59.5	N 70°	-	-	-	06:09	08:20	10:22				
	13	73° 06.5	53° 50.9	03.5	244° 30.8	52.2	323° 20.0	30.8	205° 34.4	09.9	Giennah	175° 51.4	17° 37.5 S	15° 52.3	01.6	115° 57.9	8.5	15.0	9.5	59.4	68°	22:42	-	-	07:16	09:00	10:44				
	14	88° 09.0	68° 50.6	04.5	259° 33.3	52.3	338° 22.0	30.8	220° 37.1	09.8	Hadar	148° 46.3	60° 26.6 S	30° 52.3	02.2	130° 25.4	8.5	05.5	9.5	66°	21:54	-	-	07:37	09:14	10:52					
	15	103° 11.5	83° 50.4	05.6	274° 35.8	52.4	353° 24.0	30.																							

2014 May 22, 23, 24 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise						
22 Th u r s d a y		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	01:37	01:30	01:23						
	00	239° 32.8	218° 41.9	6° 40.1 N	50° 57.2	2° 55.9 S	129° 29.2	22° 28.8 N	12° 07.1	15° 08.3 S	Acamar	315° 18.3	40° 14.9 S	180° 50.9	20° 19.4 N	262° 27.6	10.1	5° 12.9 S	11.0	59.0	N 70°	-	-	-	01:30	01:29	01:28								
	01	254° 35.3	233° 41.7	41.2	65° 59.6	56.0	144° 31.2	28.7	27° 09.8	08.2	Achernar	335° 26.9	57° 09.7 S	195° 50.9	19.9	276° 56.7	10.1	01° 9.1	11.0	68°	-	-	-	00:55	01:24	01:28	01:32								
	02	269° 37.7	248° 41.4	42.2	81° 02.0	56.2	159° 33.1	28.6	42° 12.4	08.2	Acruz	173° 08.1	63° 11.0 S	210° 50.8	20.4	291° 25.8	10.1	4° 50.9 S	11.1	66°	-	-	-	01:50	01:19	01:28	01:36								
	03	284° 40.2	263° 41.1	43.2	96° 04.5	56.3	174° 35.1	28.6	57° 15.0	08.1	Adhara	255° 12.3	28° 59.9 S	225° 50.8	20.9	305° 54.9	10.1	39.8	11.1	58.9	64°	-	-	02:23	01:15	01:27	01:39								
	04	299° 42.6	278° 40.9	44.3	111° 06.9	56.4	189° 37.1	28.5	72° 17.7	08.1	Aldebaran	290° 49.0	16° 32.1 N	240° 50.7	21.4	320° 24.0	10.2	28.7	11.1	62°	-	-	01:15	02:47	01:12	01:27	01:41								
	05	314° 45.1	293° 40.6	45.3	126° 09.4	56.5	204° 39.0	28.5	87° 20.3	08.1				255° 50.7	21.9	334° 53.2	10.2	17.6	11.1	60°	-	-	01:54	03:05	01:09	01:26	01:44								
	06	329° 47.6	308° 40.3	46.4	141° 11.8	56.6	219° 41.0	28.4	102° 23.0	08.0	Alioth	166° 19.9	55° 53.1 N	270° 50.6	22.4	349° 52.4	10.3	06.5	11.1	N 58°	-	-	02:20	03:21	01:06	01:26	01:46								
	07	344° 50.0	323° 40.1	47.4	156° 14.2	56.7	234° 43.0	28.3	117° 25.6	08.0	Alkaid	152° 58.1	49° 14.6 N	285° 50.6	22.9	3° 51.7	10.2	3° 55.4 S	11.2	56°	01:08	02:41	03:34	01:03	01:26	01:48									
	08	359° 52.5	338° 39.8	48.5	171° 16.7	56.9	249° 45.0	28.3	132° 28.3	07.9	Alnair	27° 43.0	46° 53.1 S	300° 50.5	23.3	18° 20.9	10.3	44.2	11.1	54°	01:44	02:57	03:45	01:01	01:26	01:50									
	09	14° 55.0	353° 39.6	49.5	186° 19.1	57.0	264° 46.9	28.2	147° 30.9	07.9	Alnilam	275° 46.0	1° 11.8 S	315° 50.5	23.8	32° 50.2	10.4	33.1	11.2	52°	02:08	03:11	03:55	00:59	01:25	01:51									
	10	29° 57.4	8° 39.3	50.6	201° 21.6	57.1	279° 48.9	28.2	162° 33.6	07.8	Alphard	217° 55.5	8° 43.5 S	330° 50.5	24.3	47° 19.6	10.3	21.9	11.2	58.8	50°	02:27	03:23	04:04	00:57	01:25	01:53								
	11	44° 59.9	23° 39.0	51.6	216° 24.0	57.2	294° 50.9	28.1	177° 36.2	07.8				345° 50.4	24.8	61° 48.9	10.4	10.7	11.2	45°	03:03	03:48	04:23	00:53	01:25	01:56									
	12	60° 02.4	38° 39.8	6° 52.6 N	231° 26.4	2° 57.3 S	309° 52.9	22° 28.0 N	192° 38.9	15° 07.7 S	Alphecca	126° 10.1	26° 40.1 N	0° 50.4	20° 25.3 N	76° 18.3	10.5	2° 59.5 S	11.2	58.8	N 40°	03:28	04:07	04:38	00:50	01:24	01:58								
	13	75° 04.8	53° 38.5	53.7	246° 28.8	57.4	324° 54.8	28.0	207° 41.5	07.7	Alpheratz	357° 43.0	29° 10.0 N	15° 50.3	25.8	90° 47.8	10.4	48.3	11.2	35°	03:48	04:23	04:51	00:47	01:24	02:01									
	14	90° 07.3	68° 38.2	54.7	261° 31.3	57.6	339° 56.8	27.9	222° 44.2	07.6	Altair	62° 07.4	8° 54.5 N	30° 50.3	26.3	105° 17.2	10.5	37.1	11.3	30°	04:04	04:36	05:02	00:44	01:24	02:03									
	15	105° 09.8	83° 38.0	55.8	276° 33.7	57.7	354° 58.8	27.9	237° 46.8	07.6	Ankaa	353° 15.4	42° 13.5 S	45° 50.2	26.8	119° 46.7	10.5	25.8	11.2	20°	04:29	04:58	05:21	00:40	01:23	02:06									
	16	120° 12.2	98° 37.7	56.8	291° 36.1	57.8	10° 00.7	27.8	252° 49.9	07.6	Antares	112° 25.1	26° 27.7 S	60° 50.2	27.3	134° 16.2	10.5	14.6	11.2	58.7	N 10°	04:49	05:15	05:38	00:36	01:23	02:09								
	17	135° 14.7	113° 37.4	57.9	306° 38.6	57.9	25° 02.7	27.7	267° 52.1	07.5				75° 50.1	27.8	148° 45.7	10.6	03.4	11.3	0°	05:05	05:31	05:53	00:32	01:22	02:12									
	18	150° 17.1	128° 37.2	58.9	321° 41.0	58.0	40° 04.7	27.7	282° 54.7	07.5	Arcturus	145° 54.9	19° 06.5 N	90° 50.1	28.2	163° 15.3	10.6	1° 52.1 S	11.2	S 10°	05:20	05:46	06:08	00:28	01:22	02:15									
	19	165° 19.6	143° 36.9	59.9	336° 43.4	58.2	55° 06.7	27.6	297° 57.4	07.4	Arcturus	107° 25.7	69° 03.0 N	105° 50.0	28.7	177° 44.9	10.6	40.9	11.3	20°	05:34	06:01	06:24	00:24	01:22	02:19									
	20	180° 22.1	158° 36.6	7° 01.0 N	351° 45.8	58.3	70° 08.6	27.6	313° 00.0	07.4	Atira	234° 18.0	59° 33.8 S	120° 50.0	29.2	192° 14.5	10.6	29.6	11.3	30°	05:48	06:17	06:43	00:20	01:22	02:22									
	21	195° 24.5	173° 36.4	02.0	6° 48.2	58.4	85° 10.6	27.5	328° 02.7	07.3	Bellatrix	278° 31.6	6° 21.5 S	135° 49.9	29.7	206° 44.1	10.7	18.3	11.2	35°	05:55	06:26	06:53	00:17	01:21	02:24									
	22	210° 27.0	188° 36.1	03.1	21° 50.7	58.5	100° 12.6	27.4	343° 05.3	07.3	Betelgeuse	271° 00.9	7° 24.3 N	150° 49.9	30.2	221° 13.8	10.6	07.1	11.3	58.6	40°	06:02	06:36	07:05	00:14	01:21	02:27								
23	225° 29.5	203° 35.8	04.1	36° 53.1	58.7	115° 14.5	27.4	358° 08.0	07.2				165° 49.8	30.7	235° 43.4	10.7	0° 55.8 S	11.3	45°	06:11	06:47	07:20	00:11	01:21	02:30										
23 F r i d a y	00	240° 31.9	218° 35.6	7° 05.2 N	51° 55.5	2° 58.8 S	130° 16.5	22° 27.3 N	13° 10.6	15° 07.2 S	Canopus	263° 56.3	52° 42.6 S	180° 49.8	20° 31.1 N	250° 13.1	10.7	0° 44.5 S	11.2	58.6	S 50°	06:20	07:00	07:37	00:06	01:20	02:33								
	01	255° 34.4	233° 35.3	06.2	66° 57.9	58.9	145° 18.5	27.2	28° 13.3	07.2	Capella	280° 34.0	46° 00.6 N	195° 49.7	31.6	264° 42.8	10.8	33.3	11.3	52°	06:24	07:06	07:45	00:05	01:20	02:35									
	02	270° 36.9	248° 35.0	07.2	82° 00.3	59.0	160° 20.4	27.2	43° 15.9	07.1	Deneb	49° 30.8	45° 19.8 N	210° 49.7	32.1	279° 12.6	10.7	22.0	11.2	54°	06:29	07:13	07:54	00:02	01:20	02:37									
	03	285° 39.3	263° 34.8	08.3	97° 02.8	59.2	175° 22.4	27.1	58° 18.5	07.1	Denebola	182° 32.9	14° 29.5 S	225° 49.6	32.6	293° 42.3	10.8	10.8	11.3	56°	06:33	07:20	08:04	00:00	01:20	02:39									
	04	300° 41.8	278° 34.5	09.3	112° 05.2	59.3	190° 24.4	27.1	73° 21.2	07.0	Diphda	348° 55.5	17° 54.4 S	240° 49.6	33.1	308° 12.1	10.8	0° 00.5 N	11.2	58.5	58°	06:39	07:29	08:16	-	01:20	02:41								
	05	315° 44.2	293° 34.2	10.4	127° 07.6	59.4	205° 26.4	27.0	88° 23.8	07.0				255° 49.5	33.5	322° 41.9	10.8	11.7	11.2	S 60°	06:44	07:38	08:30	-	01:20	02:43									
	06	330° 46.7	308° 34.0	11.4	142° 10.0	59.5	220° 28.3	26.9	103° 26.5	06.9	Dubhe	193° 50.9	61° 40.6 N	270° 49.5	34.0	337° 11.7	10.8	22.9	11.3	S 62°	06:51	07:48	08:46	-	01:19	02:46									
	07	345° 49.2	323° 33.7	12.5	157° 12.4	59.7	235° 30.3	26.9	118° 29.1	06.9	Elinath	278° 12.2	28° 37.0 N	285° 49.4	34.5	351° 41.5	10.9	34.2	11.2																
	08	0° 51.6	338° 33.4	13.5	172° 14.8	59.8	250° 32.3	26.8	133° 31.8	06.8	Eltanin	90° 45.4	51° 29.3 S	300° 49.4	35.0	6° 11.4	10.8	45.4	11.2																
	09	15° 54.1	353° 33.2	14.5	187° 17.2	59.9	265° 34.2	26.8	148° 34.4	06.8	Enif	148° 34.4	9° 56.5 S	315° 49.3	35.5	20° 41.2	10.9	56.6	11.2	58.4															
	10	30° 56.6	8° 32.9	15.6	202° 19.6	3° 00.1 S	280° 36.2	26.7	163° 37.1	06.8	Fomalhaut	15° 23.4	29° 32.6 S	330° 49.2	35.9	35° 11.1	10.9	1° 07.8 N	11.2																
	11	45° 59.0	23° 32.6	16.6	217° 22.0	00.2	295° 38.2	26.6	178° 39.7	06.7				345° 49.2	36.4	49° 41.0	10.9	19.0	11.1																
	12	61° 01.5	38° 32.3	7° 17.7 N	232° 24.4	3° 00.3 S	310° 40.1	22° 26.6 N	193° 42.4	15° 06.7 S	Gacrux	171° 59.7	57° 11.9 S	0° 49.1	20° 36.9 N	64° 10.9	10.9	1° 30.1 N	11.2	58.4	N 70°	-	-	-	12:17	14:09	16:00								
	13	76° 04.0	53° 32.1	18.7	247° 26.8	00.5	325° 42.1	26.5	208° 45.0	06.6	Giennah	175° 51.4	17° 37.5 S	15° 49.1	37.4	78° 40.8	10.9																		

2014 May 25, 26, 27 (Sun, Mon, Tue)

GMT	ARIES			VENUS -4.0			MARS -0.6			JUPITER -1.9			SATURN +0.1			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		25	26	27	25	26	27	25	26	27	25	26	27	25	26	27	25	26	27	25	26	27	25		26	27				
25 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	01:15	01:07	00:57		
	242° 30'.2	218° 22'.4	7° 55'.0 N	53° 50'.1	3° 05'.3 S	131° 50'.9	22° 24'.3 N	15° 17'.5	15° 05'.1 S	Acamar	315° 18'.3	40° 14'.9 S	180° 47'.1	20° 53'.6 N	226° 10'.8	11'.0	7° 55'.3 N	10'.0	57.7	N 70°	-	-	-	01:27	01:27	01:29						
	257° 32'.7	233° 22'.1	56'.0	68° 52'.5	05'.5	146° 52'.9	24'.3	30° 20'.2	05'.0	Achernar	335° 26'.9	57° 09'.7 S	195° 47'.0	54'.0	240° 40'.8	11'.0	8° 05'.3 N	10'.0	68°	-	-	00:19	01:37	01:43	01:52							
	272° 35'.1	248° 21'.8	57'.1	83° 54'.8	05'.6	161° 54'.8	24'.2	45° 22'.8	05'.0	Acruz	173° 08'.1	63° 11'.0 S	210° 46'.9	54'.5	255° 10'.8	10'.9	15'.3	9'.9	66°	-	-	01:38	01:45	01:55	02:10							
	287° 37'.6	263° 21'.5	58'.1	98° 57'.2	05'.8	176° 56'.8	24'.1	60° 25'.5	04'.9	Adhara	255° 12'.3	28° 59'.8 S	225° 46'.9	54'.9	269° 40'.7	11'.0	25'.2	9'.9	64°	-	-	02:14	01:51	02:06	02:25							
	302° 40'.1	278° 21'.3	59'.1	113° 59'.6	05'.9	191° 58'.8	24'.1	75° 28'.1	04'.9	Aldebaran	290° 49'.0	16° 32'.1 N	240° 46'.8	55'.4	284° 10'.7	10'.9	35'.1	9'.8	57'.6	62°	-	00:59	02:40	01:57	02:15	02:37						
	317° 42'.5	293° 21'.0	8° 00'.2 N	129° 01'.9	06'.1	207° 00'.7	24'.0	90° 30'.8	04'.8				255° 46'.8	55'.8	298° 40'.6	11'.0	44'.9	9'.7	60°	-	01:45	03:00	02:02	02:23	02:48							
	332° 45'.0	308° 20'.7	01'.2	144° 04'.3	06'.2	222° 02'.7	23'.9	105° 33'.4	04'.8	Alioth	166° 19'.9	55° 53'.1 N	270° 46'.7	56'.3	313° 10'.6	10'.9	54'.6	9'.7	N 58°	-	02:13	03:16	02:07	02:30	02:57							
	347° 47'.5	323° 20'.4	02'.2	159° 06'.6	06'.4	237° 04'.7	23'.9	120° 36'.0	04'.8	Alkaid	152° 58'.1	49° 14'.7 N	285° 46'.6	56'.7	327° 40'.5	10'.9	9° 04'.3 N	9'.7	56°	00:53	02:35	03:30	02:11	02:36	03:05							
	2° 49'.9	338° 20'.1	03'.3	174° 09'.0	06'.5	252° 06'.6	23'.8	135° 38'.7	04'.7	Alnair	27° 43'.0	46° 53'.1 S	300° 46'.6	57'.2	342° 10'.4	10'.9	14'.0	9'.6	54°	01:35	02:52	03:41	02:14	02:41	03:12							
	17° 52'.4	353° 19'.8	04'.3	189° 11'.3	06'.7	267° 08'.6	23'.8	150° 41'.3	04'.7	Anilim	275° 46'.0	1° 11'.8 S	315° 46'.5	57'.6	356° 40'.3	10'.9	23'.6	9'.5	57'.5	52°	02:02	03:07	03:52	02:18	02:46	03:19						
	32° 54'.8	8° 19'.6	05'.3	204° 13'.7	06'.8	282° 10'.5	23'.7	165° 44'.0	04'.6	Alphard	217° 55'.5	8° 43'.5 S	330° 46'.4	58'.1	11° 10'.2	10'.9	33'.1	9'.5	50°	02:22	03:20	04:01	02:21	02:51	03:25							
	47° 57'.3	23° 19'.3	06'.4	219° 16'.0	07'.0	297° 12'.5	23'.6	180° 46'.6	04'.6				345° 46'.4	58'.5	25° 40'.1	10'.9	42'.6	9'.4	45°	02:59	03:45	04:21	02:27	03:01	03:37							
	62° 59'.8	38° 19'.0	8° 07'.4 N	234° 18'.3	3° 07'.1 S	312° 14'.5	22° 23'.6 N	195° 49'.3	15° 04'.5 S	Alphecca	126° 10'.1	26° 40'.1 N	0° 46'.3	20° 59'.0 N	40° 10'.0	10'.9	9° 52'.0 N	9'.4	57'.5	N 40°	03:25	04:05	04:36	02:33	03:09	03:48						
	78° 02'.2	53° 18'.7	08'.4	249° 20'.7	07'.3	327° 16'.4	23'.5	210° 51'.9	04'.5	Alpheratz	357° 43'.0	29° 10'.0 N	15° 46'.2	59'.4	54° 39'.9	10'.8	10° 01'.4 N	9'.3	35°	03:46	04:21	04:50	02:38	03:16	03:57							
	93° 04'.7	68° 18'.4	09'.5	264° 23'.0	07'.4	342° 18'.4	23'.4	225° 54'.5	04'.5	Altair	62° 07'.4	8° 54'.5 N	30° 46'.2	59'.9	69° 09'.7	10'.9	10'.7	9'.3	57'.4	30°	04:02	04:34	05:01	02:42	03:22	04:05						
	108° 07'.2	83° 18'.1	10'.5	279° 25'.4	07'.6	357° 20'.3	23'.4	240° 57'.2	04'.4	Ankaa	353° 15'.4	42° 13'.5 S	45° 46'.1	21° 00'.3 N	83° 39'.6	10'.8	20'.0	9'.2	20°	04:28	04:57	05:21	02:49	03:33	04:19							
	123° 09'.6	98° 17'.8	11'.5	294° 27'.7	07'.7	12° 22'.3	23'.3	255° 59'.8	04'.4	Antares	112° 25'.1	26° 27'.7 S	60° 46'.0	00'.7	98° 09'.4	10'.9	29'.2	9'.1	N 10°	04:49	05:15	05:38	02:56	03:43	04:31							
	138° 12'.1	113° 17'.6	12'.5	309° 30'.1	07'.9	27° 24'.3	23'.2	271° 02'.5	04'.3				75° 46'.0	01'.2	112° 39'.3	10'.8	38'.3	9'.1	0°	05:05	05:31	05:53	03:02	03:52	04:42							
	153° 14'.6	128° 17'.3	13'.6	324° 32'.4	08'.0	42° 26'.2	23'.2	286° 05'.1	04'.3	Arcturus	145° 54'.9	19° 06'.5 N	90° 45'.9	01'.6	127° 09'.1	10'.8	47'.4	9'.0	S 10°	05:21	05:47	06:09	03:08	04:01	04:54							
	168° 17'.0	143° 17'.0	14'.6	339° 34'.7	08'.2	57° 28'.2	23'.1	301° 07'.8	04'.2	Atria	107° 25'.7	69° 03'.0 S	105° 45'.8	02'.1	141° 38'.9	10'.8	56'.8	8'.9	57'.3	20°	05:35	06:02	06:25	03:15	04:11	05:06						
	183° 19'.5	158° 16'.7	15'.6	354° 37'.1	08'.4	72° 30'.2	23'.1	316° 10'.4	04'.2	Avior	234° 18'.0	59° 33'.8 S	120° 45'.8	02'.5	156° 18'.7	10'.7	11° 05'.3 N	8'.9	30°	05:49	06:18	06:44	03:22	04:22	05:20							
	198° 21'.9	173° 16'.4	16'.7	9° 39'.4	08'.5	87° 32'.1	23'.0	331° 13'.0	04'.1	Bellatrix	278° 31'.6	6° 21'.5 S	135° 45'.7	02'.9	170° 38'.4	10'.8	14'.2	8'.8	35°	05:57	06:28	06:55	03:27	04:28	05:28							
213° 24'.4	188° 16'.1	17'.7	24° 41'.7	08'.7	102° 34'.1	22'.9	346° 15'.7	04'.1	Betelgeuse	271° 00'.9	7° 24'.3 N	150° 45'.7	03'.4	185° 08'.2	10'.8	23'.0	8'.8	40°	06:05	06:38	07:08	03:32	04:36	05:38								
228° 26'.9	203° 15'.8	18'.7	39° 44'.1	08'.8	117° 36'.0	22'.9	1° 18'.3	04'.1				165° 45'.6	03'.8	199° 38'.0	10'.7	31'.8	8'.6	45°	06:13	06:50	07:22	03:38	04:44	05:49								
26 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	243° 29'.3	218° 15'.5	8° 19'.8 N	54° 46'.4	3° 09'.0 S	132° 38'.0	22° 22'.8 N	16° 21'.0	15° 04'.0 S	Canopus	263° 56'.3	52° 42'.6 S	180° 45'.5	21° 04'.3 N	214° 07'.7	10'.7	11° 40'.4 N	8'.7	57'.2	S 50°	06:23	07:03	07:40	03:45	04:55	06:02						
	258° 31'.8	233° 15'.3	20'.8	69° 48'.7	09'.1	147° 40'.0	22'.7	31° 23'.6	04'.0	Capella	280° 34'.0	46° 00'.5 N	195° 45'.4	04'.7	228° 37'.4	10'.7	49'.1	8'.5	52°	06:27	07:10	07:49	03:48	05:00	06:08							
	273° 34'.3	248° 15'.0	21'.8	84° 51'.1	09'.3	162° 41'.9	22'.7	46° 26'.2	03'.9	Deneb	49° 30'.8	45° 19'.8 N	210° 45'.4	05'.1	243° 07'.1	10'.8	57'.6	8'.5	54°	06:32	07:17	07:58	03:52	05:05	06:15							
	288° 36'.7	263° 14'.7	22'.8	99° 53'.4	09'.5	177° 43'.9	22'.6	61° 28'.9	03'.9	Denebola	182° 32'.9	14° 29'.5 S	225° 45'.3	05'.6	252° 36'.9	10'.6	12° 06'.1 N	8'.4	56°	06:37	07:24	08:09	03:56	05:11	06:23							
	303° 39'.2	278° 14'.4	23'.9	114° 55'.7	09'.6	192° 45'.8	22'.5	76° 31'.5	03'.8	Diphda	348° 55'.5	17° 54'.4 S	240° 45'.2	06'.0	270° 06'.5	10'.7	14'.5	8'.3	57'.1	58°	06:43	07:33	08:21	04:00	05:18	06:32						
	318° 41'.7	293° 14'.1	24'.9	129° 58'.0	09'.8	207° 47'.8	22'.5	91° 34'.2	03'.8				255° 45'.2	06'.4	286° 36'.2	10'.7	22'.8	8'.3	S 60°	06:49	07:43	08:36	04:05	05:25	06:42							
	333° 44'.1	308° 13'.8	25'.9	145° 00'.4	09'.9	222° 49'.8	22'.4	106° 36'.8	03'.8	Dubhe	193° 50'.9	61° 40'.6 N	270° 45'.1	06'.9	301° 05'.9	10'.6	31'.1	8'.2	S 62°	06:55	07:54	08:53	04:11	05:34	06:54							
	348° 46'.6	323° 13'.5	27'.0	160° 02'.7	10'.1	237° 51'.7	22'.3	121° 39'.5	03'.7	Elinath	278° 12'.2	28° 37'.0 N	285° 45'.0	07'.3	315° 35'.5	10'.7	39'.3	8'.1														
	3° 49'.1	338° 13'.2	28'.0	175° 05'.0	10'.3	252° 53'.7	22'.3	136° 42'.1	03'.7	Eltanin	90° 45'.3	51° 29'.3 N	300° 45'.0	07'.7	330° 05'.2	10'.6	47'.4	8'.1														
	18° 51'.5	353° 12'.9	29'.0	190° 07'.3	10'.4	267° 55'.6	22'.2	151° 44'.7	03'.6	Enif	15° 48'.4	9° 56'.5 S	315° 44'.9	08'.2	344° 34'.8	10'.6	55'.5	7'.9	57'.0													
	33° 54'.0	8° 12'.6	30'.0	205° 09'.7	10'.6	282° 57'.6	22'.2	166° 47'.4	03'.6	Fomalhaut	35° 23'.4	29° 32'.5 S	330° 44'.8	08'.6	359° 04'.4	10'.6	13° 03'.4 N	7'.9														
	48° 56'.4	23° 12'.3	31'.1	220° 12'.0	10'.7	297° 59'.6	22'.1	181° 50'.0	03'.5				345° 44'.8	09'.0	13° 34'.0	10'.6	11'.3	7'.9														
	63° 58'.9	38° 12'.1	8° 32'.1 N	235° 14'.3	3° 10'.9 S	313° 01'.5	22° 22'.0 N	196° 52'.7	15° 03'.5 S	Gacrux	171° 59'.8	57° 11'.9 S	0° 44'.7	21° 09'.5 N	28° 03'.6	10'.6	13° 19'.2 N	7'.7	57'.0	N 70°	-	-	-	17:34	19:17	20:58						
	79° 01'.4	53° 11'.8	33'.1	250° 16'.6	11'.1	328° 03'.5	22'.0	211° 55'.3	03'.5	Giennah	175° 51'.5	17° 37'.5 S	15° 44'.6	09'.9	42° 33'.2	10'.5	26'.9	7'.7	68°	-	-	-	17:20	18:55	20:26							
	94° 03'.8	68° 11'.5	34'.1	265° 18'.9	11'.2	343° 05'.4	21'.9	226° 57'.9	03'.4	Hadar	148°																					

2014 May 28, 29, 30 (Wed, Thur, Fri)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise			
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		GHA	v	Dec		d	HP		Nautical	Civil	28	29
28 Wed nesday day	00	245° 27.6	218° 01.3	9° 08.9 N	56° 36.9	3° 17.1 S	134° 11.9	22° 19.7 N	18° 27.7	15° 02.0 S	Acamar	315° 18.3	40° 14.9 S	180° 42.1	21° 24.5 N	189° 41.1	10.2	17° 06.2 N	4.7	56.2	N 72°	-	-	-	00:40	-	-					
	01	260° 30.1	233° 01.0	09.9	71° 39.2	17.3	149° 13.9	19.6	33° 30.3	01.9	Achernar	335° 26.8	57° 09.7 S	195° 42.0	24.9	204° 10.3	10.2	2.0	10.9	4.5	68°	-	-	-	01:34	01:47	02:23					
	02	275° 32.5	248° 00.7	10.9	86° 41.5	17.4	164° 15.9	19.5	48° 33.0	01.9	Acruz	173° 08.1	63° 11.0 S	210° 41.9	25.3	218° 39.5	10.3	15.4	4.5	66°	-	-	01:26	02:31	03:01	03:46						
	03	290° 35.0	263° 00.4	12.0	101° 43.7	17.6	179° 17.8	19.5	63° 35.6	01.8	Adhara	255° 12.3	28° 59.8 S	225° 41.8	25.8	233° 08.8	10.2	19.9	4.4	64°	-	-	02:06	02:50	03:24	04:09						
	04	305° 37.5	278° 00.1	13.0	116° 46.0	17.8	194° 19.8	19.4	78° 38.3	01.8	Aldebaran	290° 49.0	16° 32.1 N	240° 41.7	26.2	247° 38.0	10.2	24.3	4.3	56.1	62°	-	00:40	02:33	03:05	03:42	04:28					
	05	320° 39.9	292° 59.8	14.0	131° 48.3	18.0	209° 21.7	19.3	93° 40.9	01.7		196° 43.5		255° 41.7	26.6	262° 07.2	10.2	28.6	4.2	60°	-	01:35	02:54	03:18	03:56	04:43						
	06	335° 42.4	307° 59.5	15.0	146° 50.6	18.2	224° 23.7	19.3	108° 43.5	01.7	Alioth	260° 19.9	55° 53.1 N	270° 41.6	27.0	276° 36.4	10.2	32.8	4.1	58°	-	02:07	03:11	03:29	04:09	04:56						
	07	350° 44.9	322° 59.2	16.0	161° 52.8	18.3	239° 25.6	19.2	123° 46.2	01.7	Alkaid	152° 58.1	49° 14.7 N	285° 41.5	27.4	291° 05.6	10.2	36.9	4.0	56°	00:36	02:30	03:26	03:39	04:20	05:08						
	08	5° 47.3	337° 58.9	17.0	176° 55.1	18.5	254° 27.6	19.1	138° 48.8	01.6	Alnair	27° 42.9	46° 53.1 S	300° 41.4	27.8	305° 34.8	10.3	40.9	3.9	54°	01:27	02:48	03:38	03:48	04:30	05:18						
	09	20° 49.8	352° 58.6	18.1	191° 57.4	18.7	269° 29.5	19.1	153° 51.4	01.6	Anilim	275° 46.0	1° 11.8 S	315° 41.4	28.2	320° 04.1	10.2	44.8	3.8	56.0	52°	01:56	03:03	03:49	03:56	04:38	05:26					
	10	35° 52.3	7° 58.3	19.1	206° 59.6	18.9	284° 31.5	19.0	168° 54.1	01.5	Alphard	217° 55.5	8° 43.5 S	330° 41.3	28.6	334° 33.3	10.2	48.6	3.7	50°	02:17	03:16	03:58	04:03	04:46	05:34						
	11	50° 54.7	22° 57.9	20.1	222° 01.9	19.1	299° 33.4	18.9	183° 56.7	01.5		196° 19.9		345° 41.2	29.0	349° 02.5	10.2	52.3	3.6	45°	02:56	03:43	04:19	04:18	05:02	05:51						
	12	65° 57.2	37° 57.6	9° 21.1 N	237° 04.1	3° 19.3 S	314° 35.4	22° 18.9 N	198° 59.4	15° 01.5 S	Alphecca	126° 10.1	26° 40.1 N	0° 41.1	21° 29.4 N	3° 31.7	10.2	17° 55.9 N	3.6	56.0	N 40°	03:23	04:03	04:35	04:30	05:16	06:05					
	13	80° 59.7	52° 57.3	22.1	252° 06.4	19.4	329° 37.3	18.8	214° 02.0	01.4	Alpheratz	357° 42.9	29° 10.0 N	15° 41.0	29.8	18° 00.9	10.2	59.5	3.4	55.9	35°	03:44	04:19	04:48	04:41	05:27	06:17					
	14	96° 02.1	67° 57.0	23.1	267° 08.7	19.6	344° 39.3	18.7	229° 04.6	01.4	Altair	62° 07.4	8° 54.5 S	30° 41.0	30.2	32° 30.1	10.3	18° 02.9 N	3.3	30°	04:01	04:33	05:00	04:50	05:37	06:27						
	15	111° 04.6	82° 56.7	24.2	282° 10.9	19.8	359° 41.2	18.7	244° 07.3	01.3	Ankaa	353° 15.3	42° 13.5 S	45° 40.9	30.6	46° 59.4	10.2	06.2	3.3	30°	04:28	04:56	05:20	05:06	05:55	06:45						
	16	126° 07.0	97° 56.4	25.2	297° 13.2	20.0	14° 43.2	18.6	259° 09.9	01.3	Antares	112° 25.1	26° 27.7 S	60° 40.8	31.0	61° 28.6	10.2	09.5	3.1	N 10°	04:48	05:15	05:38	05:20	06:10	07:00						
	17	141° 09.5	112° 56.1	26.2	312° 15.4	20.2	29° 45.1	18.5	274° 12.5	01.2		183° 40.9		75° 40.7	31.4	75° 57.8	10.3	12.6	3.0	0°	05:06	05:32	05:54	05:33	06:24	07:14						
	18	156° 12.0	127° 55.8	27.2	327° 17.7	20.4	44° 47.1	18.5	289° 15.2	01.2	Arcturus	145° 54.9	19° 06.5 N	90° 40.6	31.8	90° 27.1	10.2	15.6	3.0	55.8	S 10°	05:21	05:47	06:10	05:46	06:38	07:29					
	19	171° 14.4	142° 55.5	28.2	342° 19.9	20.6	59° 49.1	18.4	304° 17.8	01.2	Atia	107° 25.7	69° 03.0 S	105° 40.6	32.2	104° 56.3	10.3	18.6	2.8	20°	05:36	06:03	06:27	06:01	06:53	07:44						
	20	186° 16.9	157° 55.2	29.2	357° 22.2	20.7	74° 51.0	18.3	319° 20.5	01.1	Avior	234° 18.0	59° 33.8 S	120° 40.5	32.5	119° 25.6	10.2	21.4	2.8	30°	05:51	06:20	06:46	06:17	07:11	08:02						
	21	201° 19.4	172° 54.8	30.2	12° 24.4	20.9	89° 53.0	18.3	334° 23.1	01.1	Bellatrix	278° 31.6	6° 21.5 S	135° 40.4	32.9	133° 54.8	10.3	24.2	2.6	35°	05:58	06:30	06:57	06:26	07:21	08:12						
	22	216° 21.8	187° 54.5	31.3	27° 26.7	21.1	104° 54.9	18.2	349° 25.7	01.0	Betelgeuse	271° 00.9	7° 24.3 N	150° 40.3	33.3	148° 24.1	10.3	26.8	2.6	40°	06:07	06:40	07:10	06:37	07:33	08:24						
23	231° 24.3	202° 54.2	32.3	42° 28.9	21.3	119° 56.9	18.1	4° 28.4	01.0		165° 40.2	33.7	165° 40.2	33.7	162° 53.4	10.3	29.4	2.4	55.7	45°	06:16	06:52	07:25	06:50	07:47	08:38						
29 Thurs day	00	246° 26.8	217° 53.9	9° 33.3 N	57° 31.2	3° 21.5 S	134° 58.8	22° 18.1 N	19° 31.0	15° 00.9 S	Canopus	263° 56.3	52° 42.5 S	180° 40.2	21° 34.1 N	177° 22.7	10.3	18° 31.8 N	2.4	55.7	S 50°	06:26	07:07	07:44	07:06	08:03	08:55					
	01	261° 29.2	232° 53.6	34.3	72° 33.4	21.7	150° 00.8	18.0	34° 33.6	00.9	Capella	280° 34.0	46° 00.5 N	195° 40.1	34.5	191° 52.0	10.3	34.2	2.2	52°	06:30	07:13	07:53	07:13	08:11	09:03						
	02	276° 31.7	247° 53.3	35.3	87° 35.7	21.9	165° 02.7	17.9	49° 36.3	00.9	Deneb	49° 30.8	45° 19.8 N	210° 40.0	34.9	206° 21.0	10.3	36.4	2.2	54°	06:35	07:20	08:02	07:21	08:20	09:12						
	03	291° 34.2	262° 53.0	36.3	102° 37.9	22.1	180° 04.7	17.9	64° 38.9	00.8	Denebola	182° 32.9	14° 29.5 S	225° 39.9	35.3	230° 50.6	10.3	38.6	2.0	56°	06:41	07:28	08:13	07:30	08:30	09:22						
	04	306° 36.6	277° 52.7	37.3	117° 40.2	22.3	195° 06.6	17.8	79° 41.6	00.8	Diphda	348° 55.4	17° 54.4 S	240° 39.8	35.7	235° 19.9	10.3	40.6	2.0	55.6	58°	06:46	07:37	08:26	07:41	08:41	09:33					
	05	321° 39.1	292° 52.3	38.3	132° 42.4	22.5	210° 08.6	17.7	94° 44.2	00.7		255° 39.7	36.1	249° 49.2	10.4	249° 49.2	10.4	42.6	1.9		S 60°	06:53	07:47	08:41	07:53	08:55	09:46					
	06	336° 41.5	307° 52.0	39.3	147° 44.7	22.6	225° 10.5	17.7	109° 46.8	00.7	Dubhe	193° 51.0	61° 40.6 N	270° 39.7	36.5	264° 18.6	10.3	44.5	1.7		S 62°	07:00	07:59	08:59	08:07	09:10	10:02					
	07	351° 44.0	322° 51.7	40.4	162° 46.9	22.8	240° 12.5	17.6	124° 49.5	00.7	Elinath	278° 12.2	28° 37.0 N	285° 39.6	36.8	278° 47.9	10.4	46.2	1.7													
	08	6° 46.5	337° 51.4	41.4	177° 49.1	23.0	255° 14.4	17.5	139° 52.1	00.6	Eltanin	90° 45.3	51° 29.3 S	300° 39.5	37.2	293° 17.3	10.4	47.9	1.6													
	09	21° 48.9	352° 51.1	42.4	192° 51.4	23.2	270° 16.4	17.5	154° 54.7	00.6	Enif	15° 26.4	9° 56.5 S	315° 39.4	37.6	307° 46.7	10.4	49.5	1.4	55.5												
	10	36° 51.4	7° 50.8	43.4	207° 53.6	23.4	285° 18.3	17.4	169° 54.7	00.5	Fomalhaut	33° 43.3	29° 32.5 S	330° 39.3	38.0	322° 16.1	10.4	50.9	1.4													
	11	51° 53.9	22° 50.5	44.4	222° 55.8	23.6	300° 20.3	17.3	185° 00.0	00.5		345° 39.2	38.4	336° 45.5	10.4	52.3	1.3															

2014 May 31, Jun. 1, 2 (Sat, Sun, Mon)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	31		Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	31	1	2		1	2					
31	00	248° 25' 0	217° 38' 5	10° 21' 6 N	59° 17' 8	3° 31' 1 S	136° 32' 3	22° 14' 8 N	21° 37' 5	14° 59' 0 S	Acamar	315° 18' 3	40° 14' 9 S	180° 36' 0	21° 52' 2 N	153° 09' 7	11' 4	18° 35' 7 N	2' 2	54.8	N 72°	-	-	-	-	-	04:04	05:57				
	01	263° 27' 5	232° 38' 2	22' 6	74° 20' 0	31' 3	151° 34' 3	14' 7	36° 40' 1	58' 9	Achernar	335° 26' 8	57° 09' 7 S	195° 35' 9	52' 5	167° 40' 1	11' 4	33' 5	2' 3		N 70°	-	-	-	03:31	04:58	06:29					
	02	278° 30' 0	247° 37' 9	23' 5	89° 22' 2	31' 5	166° 36' 2	14' 6	51° 42' 8	58' 9	Acruz	173° 08' 1	63° 11' 1 S	210° 35' 8	52' 9	182° 10' 5	11' 5	31' 2	2' 4		68°	-	-	-	04:15	05:31	06:53					
	03	293° 32' 4	262° 37' 5	24' 5	104° 24' 3	31' 7	181° 38' 2	14' 6	66° 45' 4	58' 8	Adhara	255° 12' 3	28° 59' 8 S	225° 35' 7	53' 2	196° 41' 0	11' 5	28' 8	2' 5		66°	-	-	01:13	04:45	05:55	07:11					
	04	308° 34' 9	277° 37' 2	25' 5	119° 26' 5	31' 9	196° 40' 1	14' 5	81° 48' 0	58' 8	Aldebaran	290° 49' 0	16° 32' 1 N	240° 35' 6	53' 6	211° 11' 5	11' 5	26' 3	2' 6		64°	-	-	01:58	05:07	06:13	07:25					
	05	323° 37' 4	292° 36' 9	26' 5	134° 28' 7	32' 1	211° 42' 1	14' 4	96° 50' 7	58' 8				255° 35' 6	54' 0	225° 42' 0	11' 6	23' 7	2' 6	54.7	60°	-	01:27	02:50	05:39	06:41	07:48					
	06	338° 39' 8	307° 36' 5	27' 5	149° 30' 9	32' 3	226° 44' 0	14' 4	111° 53' 3	58' 7	Alioth	166° 19' 9	55° 53' 1 N	270° 35' 5	54' 3	240° 12' 6	11' 6	21' 1	2' 7		N 58°	-	02:00	03:07	05:51	06:52	07:57					
	07	353° 42' 3	322° 36' 2	28' 5	164° 33' 1	32' 6	241° 46' 0	14' 3	126° 55' 9	58' 7	Alkaid	152° 58' 1	49° 14' 7 N	285° 35' 4	54' 7	254° 43' 2	11' 7	18' 4	2' 9		56°	-	02:25	03:22	06:02	07:02	08:05					
	08	8° 44' 8	337° 35' 9	29' 5	179° 35' 3	32' 8	256° 47' 9	14' 2	141° 58' 6	58' 6	Alnair	27° 42' 9	46° 53' 1 S	300° 35' 3	55' 0	269° 13' 9	11' 7	15' 5	2' 9		54°	01:19	02:44	03:35	06:12	07:10	08:12					
	09	23° 47' 2	352° 35' 5	30' 5	194° 37' 5	33' 0	271° 49' 8	14' 2	157° 01' 2	58' 6	Anilim	275° 46' 0	1° 11' 8 S	315° 35' 2	55' 4	283° 44' 6	11' 7	12' 6	3' 0		52°	01:50	03:00	03:46	06:20	07:18	08:18					
	10	38° 49' 7	7° 35' 2	31' 5	209° 39' 7	33' 2	286° 51' 8	14' 1	172° 03' 8	58' 6	Alphard	217° 55' 6	8° 43' 5 S	330° 35' 1	55' 7	298° 15' 3	11' 7	09' 6	3' 0		50°	02:13	03:13	03:56	06:28	07:25	08:24					
	11	53° 52' 1	22° 34' 9	32' 5	224° 41' 8	33' 4	301° 53' 7	14' 0	187° 06' 5	58' 5				345° 35' 0	56' 1	312° 46' 0	11' 8	06' 6	3' 2		45°	02:53	03:40	04:17	06:44	07:39	08:36					
	12	68° 54' 6	37° 34' 5	10° 33' 5 N	239° 44' 0	3° 33' 6 S	316° 55' 7	22° 13' 9 N	202° 09' 1	14° 58' 5 S	Alphecca	126° 10' 1	26° 40' 1 N	0° 34' 9	21° 56' 4 N	327° 16' 8	11' 9	18° 03' 4 N	3' 2	54.6	N 40°	03:21	04:01	04:33	06:57	07:51	08:46					
	13	83° 57' 1	52° 34' 2	34' 5	254° 46' 2	33' 8	331° 57' 6	13' 9	217° 11' 7	58' 4	Alpheratz	357° 42' 9	29° 10' 0 N	15° 34' 8	56' 8	341° 47' 7	11' 8	00' 2	3' 4		35°	03:42	04:18	04:47	07:08	08:01	08:55					
	14	98° 59' 5	67° 33' 9	35' 5	269° 48' 4	34' 1	346° 59' 6	13' 8	232° 14' 5	58' 4	Altair	62° 07' 4	8° 54' 5 N	30° 34' 7	57' 1	356° 18' 5	12' 0	17° 56' 8 N	3' 4		30°	04:00	04:32	04:59	07:18	08:10	09:02					
	15	114° 02' 0	82° 33' 5	36' 5	284° 50' 6	34' 3	2° 01' 5	13' 7	247° 17' 0	58' 4	Ankaa	353° 15' 3	42° 13' 5 S	45° 34' 6	57' 5	10° 49' 5	11' 9	53' 4	3' 5		20°	04:27	04:56	05:20	07:35	08:25	09:15					
	16	129° 04' 5	97° 33' 2	37' 5	299° 52' 7	34' 5	17° 03' 5	13' 7	262° 19' 6	58' 3	Antares	112° 25' 1	26° 27' 7 S	60° 34' 5	57' 8	25° 20' 4	12' 0	49' 9	3' 5		N 10°	04:48	05:15	05:38	07:50	08:39	09:27					
	17	144° 06' 9	112° 32' 9	38' 5	314° 54' 9	34' 7	32° 05' 4	13' 6	277° 22' 3	58' 3				75° 34' 5	58' 2	39° 51' 4	12' 0	46' 4	3' 7		0°	05:06	05:32	05:54	08:04	08:51	09:37					
	18	159° 09' 4	127° 32' 5	39' 5	329° 57' 1	34' 9	47° 07' 3	13' 5	292° 24' 9	58' 2	Arcturus	145° 54' 9	19° 06' 5 N	90° 34' 3	58' 5	54° 22' 4	12' 1	42' 7	3' 7		S 10°	05:22	05:48	06:11	08:17	09:04	09:48					
	19	174° 11' 9	142° 32' 2	40' 5	344° 59' 3	35' 1	62° 09' 3	13' 5	307° 27' 5	58' 2	Atria	107° 25' 7	69° 03' 0 S	105° 34' 3	58' 9	68° 53' 5	12' 1	39' 0	3' 9	54.5	20°	05:37	06:04	06:28	08:32	09:17	09:59					
	20	189° 14' 3	157° 31' 9	41' 5	0° 01' 4	35' 4	77° 11' 2	13' 4	322° 30' 2	58' 2	Avio	234° 8' 1	59° 33' 8 S	120° 34' 2	59' 2	83° 24' 6	12' 1	35' 1	3' 9		30°	05:52	06:22	06:48	08:49	09:32	10:12					
	21	204° 16' 8	172° 31' 5	42' 5	15° 03' 6	35' 6	92° 13' 2	13' 3	337° 32' 8	58' 1	Bellatrix	278° 31' 6	6° 21' 5 S	135° 34' 1	59' 6	97° 55' 7	12' 2	31' 2	3' 9		35°	06:00	06:31	06:59	08:59	09:41	10:20					
	22	219° 19' 3	187° 31' 2	43' 4	30° 05' 8	35' 8	107° 15' 1	13' 2	352° 35' 4	58' 1	Betelgeuse	271° 00' 9	7° 24' 3 N	150° 34' 0	59' 9	112° 26' 9	12' 3	27' 3	4' 1		40°	06:09	06:42	07:12	09:10	09:51	10:28					
23	234° 21' 7	202° 30' 9	44' 4	45° 07' 9	36' 0	122° 17' 1	13' 2	7° 38' 1	58' 0				165° 33' 9	22° 00' 3 N	126° 58' 2	12' 2	23' 2	4' 1		45°	06:18	06:55	07:28	09:23	10:03	10:38						
1	00	249° 24' 2	217° 30' 5	10° 45' 4 N	60° 10' 1	3° 36' 2 S	137° 19' 0	22° 13' 1 N	22° 40' 7	14° 58' 0 S	Canopus	263° 56' 4	52° 42' 5 S	180° 33' 8	22° 00' 6 N	141° 29' 4	12' 3	17° 19' 1 N	4' 2	54.5	S 50°	06:29	07:09	07:47	09:39	10:17	10:50					
	01	264° 26' 6	232° 30' 2	46' 4	75° 12' 3	36' 5	152° 20' 9	13' 0	37° 43' 3	58' 0	Capella	280° 33' 9	46° 00' 5 N	195° 33' 7	01' 0	156° 00' 7	12' 4	14' 9	4' 3		52°	06:33	07:16	07:56	09:47	10:24	10:55					
	02	279° 29' 1	247° 29' 8	47' 4	90° 14' 4	36' 7	167° 22' 9	13' 0	52° 46' 0	57' 9	Deneb	49° 30' 7	45° 19' 9 N	210° 33' 6	01' 3	170° 32' 1	12' 4	10' 6	4' 4		54°	06:38	07:24	08:06	09:55	10:31	11:01					
	03	294° 31' 6	262° 29' 5	48' 4	105° 16' 6	36' 9	182° 24' 8	12' 8	67° 48' 6	57' 8	Denebola	182° 32' 9	14° 29' 5 S	225° 33' 5	01' 6	185° 03' 5	12' 4	06' 2	4' 4	54.4	56°	06:44	07:32	08:18	10:04	10:39	11:08					
	04	309° 34' 0	277° 29' 2	49' 4	120° 18' 8	37' 1	197° 26' 8	12' 9	82° 51' 2	57' 9	Diphda	348° 55' 4	17° 54' 4 S	240° 33' 4	02' 0	199° 34' 9	12' 4	01' 8	4' 5		58°	06:50	07:41	08:31	10:15	10:49	11:16					
	05	324° 36' 5	292° 28' 8	50' 4	135° 20' 9	37' 3	212° 28' 7	12' 7	97° 53' 9	57' 8				255° 33' 3	02' 3	214° 06' 3	12' 6	16° 57' 3 N	4' 6		S 60°	06:56	07:52	08:46	10:27	10:59	11:24					
	06	339° 39' 0	307° 28' 5	51' 4	150° 23' 1	37' 6	227° 30' 7	12' 7	112° 56' 5	57' 8	Dubhe	193° 51' 0	61° 40' 6 N	270° 33' 2	02' 7	228° 37' 9	12' 5	52' 7	4' 7		S 62°	07:04	08:04	09:05	10:41	11:11	11:34					
	07	354° 41' 4	322° 28' 1	52' 4	165° 25' 2	37' 8	242° 32' 6	12' 6	127° 59' 1	57' 8	Einath	278° 12' 2	28° 37' 0 N	285° 33' 1	03' 0	243° 09' 4	12' 6	48' 0	4' 0													
	08	9° 43' 9	337° 27' 8	53' 3	180° 27' 4	38' 0	257° 34' 5	12' 5	143° 01' 8	57' 7	Eltanin	90° 45' 3	51° 29' 3 N	300° 33' 0	03' 3	257° 41' 0	12' 6	43' 2	4' 8													
	09	24° 46' 4	352° 27' 5	54' 3	195° 29' 6	38' 2	272° 36' 5	12' 5	158° 04' 4	57' 6	Enif	35° 46' 4	9° 56' 5 S	315° 32' 9	03' 7	272° 12' 6	12' 7	38' 4	4' 9													
	10	39° 48' 8	7° 27' 1	55' 3	210° 31' 7	38' 4	287° 38' 4	12' 4	173° 07' 0	57' 6	Fomalhaut	13° 23' 3	29° 32' 5 S	330° 32' 8	04' 0	286° 44' 3	12' 7	33' 5	4' 9													
	11	54° 51' 3	22° 26' 8	56' 3	225° 33' 9	38' 7	302° 40' 4	12' 3	188° 09' 6	57' 6				345° 32' 7	04' 4	301° 16' 0	12' 7	28' 6	5' 1													
	12	69° 53' 8	37° 26' 4	10° 57' 3 N	240° 36' 0	3° 38' 9 S	317° 42' 3	22° 12' 3 N	203° 12' 3	14° 57' 5 S	Gacrux	171° 59' 8	57° 11' 9 S	0° 32' 6	22° 04' 7 N	315° 47' 7	1															

2014 June 3, 4, 5 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.0			MARS -0.4			JUPITER -1.9			SATURN +0.2			STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		3	4		5		
Tuesday	00	251° 22'.5	217° 13'.9	11° 32'.6 N	61° 52'.9	3° 47'.2 S	138° 52'.1	22° 09'.7 N	24° 46'.9	14° 56'.1 S	Acamar	315° 18'.3	40° 14'.8 S	180° 29'.0	22° 16'.4 N	119° 16'.2	14.2	12° 38'.6 N	7.3	54.2	N 72°	-	-	-	07:40	09:18	10:55				
	01	266° 24'.9	232° 13'.5	33'.6	76° 55'.0	47'.5	153° 54'.1	09'.6	39° 49'.6	56'.1	Achernar	335° 26'.8	57° 09'.7 S	195° 28'.9	16'.7	133° 49'.4	14'.1	31'.3	7.4	54.1	N 70°	-	-	-	08:01	09:31	11:01				
	02	281° 27'.4	247° 13'.2	34'.6	91° 57'.1	47'.7	168° 56'.0	09'.5	54° 52'.2	56'.0	Acruz	173° 08'.1	63° 11'.1 S	210° 28'.8	17'.0	148° 22'.5	14'.2	23'.9	7.4		68°	-	-	-	08:17	09:41	11:05				
	03	296° 29'.9	262° 12'.8	35'.5	106° 59'.2	47'.9	183° 57'.9	09'.5	69° 54'.8	56'.0	Adhara	255° 12'.3	28° 59'.8 S	225° 27'.8	17'.3	162° 55'.7	14'.2	16'.5	7.5		66°	-	-	01:00	08:29	09:49	11:10				
	04	311° 32'.3	277° 12'.5	36'.5	122° 01'.4	48'.2	198° 59'.9	09'.4	84° 57'.4	56'.0	Aldebaran	290° 49'.0	16° 32'.1 N	240° 28'.6	17'.6	177° 28'.9	14'.2	09'.0	7.5		64°	-	-	01:51	08:40	09:56	11:13				
	05	326° 34'.8	292° 12'.1	37'.5	137° 03'.5	48'.4	214° 01'.8	09'.3	100° 00'.1	55'.9				255° 28'.5	17'.9	192° 02'.1	14'.3	01'.5	7.6		62°	-	-	02:22	08:49	10:02	11:16				
	06	341° 37'.2	307° 11'.7	38'.5	152° 05'.6	48'.7	229° 03'.8	09'.2	115° 02'.7	55'.9	Alioth	166° 19'.9	55° 53'.1 N	270° 28'.4	18'.2	206° 35'.4	14'.3	11° 53'.9 N	7.7		60°	-	01:18	02:45	08:57	10:07	11:19				
	07	356° 39'.7	322° 11'.4	39'.4	167° 07'.7	48'.9	244° 05'.7	09'.2	130° 05'.3	55'.9	Alkaid	152° 58'.1	49° 14'.7 N	285° 28'.3	18'.5	221° 08'.7	14'.3	46'.2	7.7		N 58°	-	01:55	03:04	09:04	10:12	11:21				
	08	11° 42'.2	337° 11'.0	40'.4	182° 08'.9	49'.1	259° 07'.6	09'.1	145° 07'.9	55'.8	Alnair	27° 42'.9	46° 53'.1 S	300° 28'.2	18'.8	235° 42.0	14'.3	38'.5	7.7		56°	-	02:21	03:19	09:10	10:16	11:23				
	09	26° 44'.6	352° 10'.7	41'.4	197° 11'.9	49'.4	274° 09'.6	09'.1	160° 10'.6	55'.8	Alnilam	275° 46'.0	1° 11'.8 S	315° 28'.1	19'.1	250° 15'.3	14'.4	30'.8	7.8	54.2	54°	01:11	02:40	03:32	09:15	10:19	11:25				
	10	41° 47'.1	7° 10'.3	42'.3	212° 14'.0	49'.6	289° 11'.5	08'.9	175° 13'.2	55'.7	Alphard	217° 55'.6	8° 43'.5 S	330° 28'.0	19'.4	264° 48'.7	14'.4	23'.0	7.8		52°	01:45	02:57	03:44	09:20	10:23	11:26				
	11	56° 49'.6	22° 09'.9	43'.3	227° 16'.1	49'.9	304° 13'.4	08'.9	190° 15'.8	55'.7				345° 27'.9	19'.7	279° 22'.1	14.4	15'.2	7.9		50°	02:09	03:11	03:54	09:24	10:26	11:28				
	12	71° 52'.0	37° 09'.6	44'.3 N	242° 18'.2	3° 50'.1 S	319° 15'.4	22° 08'.8 N	205° 18'.5	14° 55'.7 S						293° 55'.5	14.5	11° 07'.3 N	7.9	54.2	45°	02:51	03:39	04:15	09:34	10:32	11:31				
	13	86° 54'.5	52° 09'.2	45'.3	257° 20'.3	50'.4	334° 17'.3	08'.7	220° 21'.1	55'.6	Alpheratz	357° 42'.9	29° 10'.1 N	15° 27'.7	20'.4	308° 29'.0	14'.5	10° 59'.4 N	8'.0		N 40°	03:19	04:00	04:32	09:42	10:38	11:34				
	14	101° 57'.0	67° 08'.9	46'.2	272° 22'.4	50'.6	349° 19'.3	08'.7	235° 23'.7	55'.6	Altair	62° 07'.3	8° 54'.5 S	30° 37'.6	20'.7	323° 02'.5	14'.5	51'.4	8'.0		35°	03:41	04:17	04:46	09:48	10:42	11:36				
	15	116° 59'.4	82° 08'.5	47'.2	287° 24'.5	50'.8	4° 21'.2	08'.6	250° 26'.3	55'.5	Ankaa	353° 15'.3	42° 13'.5 S	45° 27'.5	21'.0	337° 36'.0	14'.5	43'.4	8'.0		30°	03:59	04:32	04:59	09:54	10:46	11:38				
	16	132° 01'.9	97° 08'.1	48'.2	302° 26'.6	51'.1	19° 23'.1	08'.5	265° 29'.0	55'.5	Antares	112° 25'.1	26° 27'.7 S	60° 27'.4	21'.3	352° 09'.5	14.6	35'.4	8'.2		20°	04:27	04:55	05:20	10:04	10:53	11:42				
	17	147° 04'.3	112° 07'.8	49'.1	317° 28'.7	51'.3	34° 25'.1	08'.4	280° 31'.6	55'.5				75° 27'.3	21'.6	6° 43'.1	14.6	27'.2	8'.1		N 10°	04:48	05:15	05:38	10:13	10:59	11:45				
	18	162° 06'.8	127° 07'.4	50'.1	332° 30'.8	51'.6	49° 27'.0	08'.4	295° 34'.2	55'.4	Arcturus	145° 54'.9	19° 06'.5 N	90° 27'.2	21'.9	21° 16'.7	14.6	19'.1	8'.2		S 10°	05:22	05:49	06:11	10:30	11:11	11:51				
	19	177° 09'.3	142° 07'.0	51'.1	347° 32'.9	51'.8	64° 28'.9	08'.3	310° 36'.8	55'.4	Atria	107° 25'.7	69° 03'.0 S	105° 27'.1	22'.2	35° 50'.3	14.6	10'.9	8'.2		20°	05:38	06:05	06:29	10:39	11:17	11:54				
	20	192° 11'.7	157° 06'.7	52'.0	2° 35'.0	52'.1	79° 30'.9	08'.2	325° 39'.5	55'.4	Avior	234° 18'.1	59° 33'.8 S	50° 120'.7	22'.5	50° 23'.9	14.6	02'.7	8'.8		30°	05:53	06:23	06:49	10:49	11:24	11:58				
	21	207° 14'.2	172° 06'.3	53'.0	17° 37'.1	52'.3	94° 32'.8	08'.1	340° 42'.1	55'.3	Bellatrix	278° 31'.6	6° 21'.5 S	135° 26'.9	22'.8	64° 57'.5	14.7	9° 54'.4 N	8'.3		35°	06:02	06:33	07:01	10:55	11:28	12:00				
	22	222° 16'.7	187° 06'.0	54'.0	32° 39'.2	52'.6	109° 34'.7	08'.1	355° 44'.7	55'.3	Betelgeuse	271° 00'.9	7° 24'.3 N	150° 26'.7	23'.1	79° 31'.2	14.7	46'.1	8.4		40°	06:10	06:44	07:14	11:01	11:33	12:02				
	23	237° 19'.1	202° 05'.6	54'.9	47° 41'.3	52'.8	124° 36'.7	08'.0	10° 47'.3	55'.2				165° 26'.6	23'.4	94° 04'.9	14.7	37'.7	8.4		45°	06:20	06:57	07:30	11:09	11:38	12:05				
Wednesday	00	252° 21'.6	217° 05'.2	11° 55'.9 N	62° 43'.4	3° 53'.1 S	139° 38'.6	22° 07'.9 N	25° 50'.0	14° 55'.2 S	Canopus	263° 56'.4	52° 42'.5 S	180° 26'.5	22° 23'.6 N	108° 38'.6	14.7	9° 29'.3 N	8'.4	54.2	S 50°	06:31	07:12	07:50	11:18	11:44	12:08				
	01	267° 24'.1	232° 04'.9	56'.9	77° 45'.5	53'.3	154° 40'.5	07'.8	40° 52'.6	55'.2	Capella	280° 33'.9	46° 00'.5 N	195° 26'.4	23'.9	123° 12'.3	14.7	20'.9	8'.5		52°	06:36	07:19	07:59	11:23	11:47	12:10				
	02	282° 26'.5	247° 04'.5	57'.8	92° 47'.6	53'.6	169° 42'.5	07'.8	55° 52'.5	55'.1	Deneb	49° 30'.7	45° 19'.9 N	210° 26'.3	24'.2	137° 46'.0	14.8	12'.4	8.5		54°	06:41	07:27	08:09	11:27	11:50	12:11				
	03	297° 29'.0	262° 04'.1	58'.8	107° 49'.7	53'.8	184° 44'.4	07'.6	70° 57'.8	55'.1	Denebola	182° 32'.9	14° 29'.5 S	225° 26'.2	24'.5	152° 19'.8	14.8	03'.9	8.6		56°	06:47	07:35	08:21	11:32	11:54	12:13				
	04	312° 31'.5	277° 03'.8	59'.8	122° 51'.7	54'.1	199° 46'.3	07'.7	86° 50'.5	55'.1	Diphda	348° 55'.4	17° 54'.4 S	240° 26'.1	24'.8	166° 53'.6	14.8	8° 55'.3 N	8'.6		58°	06:53	07:45	08:35	11:38	11:57	12:15				
	05	327° 33'.9	292° 03'.4	12° 00'.7 N	137° 53'.8	54'.3	214° 48'.3	07'.5	101° 03'.1	55'.0				255° 26'.0	25'.1	181° 27'.4	14.8	46'.7	8'.6		S 60°	07:00	07:55	08:51	11:45	12:02	12:17				
	06	342° 36'.4	307° 03'.0	01'.7	152° 55'.9	54'.6	229° 50'.2	07'.5	116° 05'.7	55'.0	Dubhe	193° 51'.0	61° 40'.6 N	270° 25'.9	25'.4	196° 01'.2	14.8	38'.1	8'.7		S 62°	07:07	08:08	09:10	11:52	12:07	12:20				
	07	357° 38'.8	322° 02'.7	02'.6	167° 58'.0	54'.8	244° 52'.2	07'.4	131° 08'.3	54'.9	Elinath	278° 12'.2	28° 37'.0 S	285° 25'.8	25'.7	210° 35'.0	14.9	29'.4	8.7												
	08	12° 41'.3	337° 02'.3	03'.6	183° 00'.1	55'.1	259° 54'.1	07'.3	146° 11'.0	54'.9	Eltanin	90° 45'.3	51° 29'.3 N	300° 25'.7	26'.0	225° 08'.9	14.8	20'.7	8.7	54.3											
	09	27° 43'.8	352° 01'.9	04'.6	198° 02'.2	55'.3	274° 56'.0	07'.3	161° 13'.6	54'.9	Enif	15° 46'.3	9° 56'.5 S	315° 25'.6	26'.3	239° 42'.7	14.9	12'.0	8.8												
	10	42° 46'.2	7° 01'.6	05'.5	213° 04'.2	55'.6	289° 58'.0	07'.2	176° 16'.2	54'.8	Fomalhaut	35° 23'.3	29° 32'.5 S	330° 25'.5	26'.6	254° 16'.6	14.9	03'.2	8.8												
	11	57° 48'.7	22° 01'.2	06'.5	228° 06'.3	55'.8	304° 59'.9	07'.1	191° 18'.8	54'.8				345° 25'.4	26'.9	268° 50'.5	14.9	7° 54'.4 N	8'.9												
	12	72° 51'.2	37° 00'.8	12° 07'.5 N	243° 08'.4	3° 56'.1 S	320° 01'.8	22° 07'.0 N	206° 21'.5	14° 54'.8 S	Gacrux	171° 59'.8	57° 11'.9 S	0° 25'.3	22° 27'.1 N	283° 24'.4	14.9	7° 45'.5 N	8'.8	54.3	N 70°	-	-	-	00:34	00:34	00:33				
	13	87° 53'.6	52° 00'.4	08'.4	258° 10'.5	56'.3	335° 03'.8	07'.0	221° 24'.1	54'.7	Giennah	175° 51'.5	17° 37'.5 S	15° 25'.1	27'.4	297° 58'.3	14.9	36'.7	9.0		68°	-	-	-	00:17	00:22	00:26				
	14	102° 56'.1	67° 00'.1	09'.4	273° 12'.6	56'.6	350° 05'.7	06'.9	236° 26'.7	54'.7	Hadar	148° 46'.3	60° 26'.7 S	30° 20'.5	27'.7	312° 32'.2	14.9	27'.7	8.9		66°</										

2014 June 9, 10, 11 (Mon, Tue, Wed)

GMT	ARIES			VENUS -4.0			MARS -0.3			JUPITER -1.9			SATURN +0.2			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise	
		GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	9	10	11		
Monday	00	257° 17.3	216° 18.4	13° 48.7 N	66° 47.1	4° 25.4 S	143° 30.1	21° 58.8 N	31° 04.4	14° 50.9 S	Acamar	315° 18.2	40° 14.8 S	180° 12.9	22° 54.2 N	54° 58.6	11.7	9° 38.4 S	9.2	56.8	N 70°	-	-	-	17:46	19:50	-				
	01	272° 19.8	231° 18.0	49.7	81° 49.1	25.7	158° 32.1	58.7	46° 07.0	50.8	Achernar	335° 26.7	57° 09.6 S	195° 12.7	54.4	69° 29.3	11.7	47.6	9.2	56.9	68°	-	-	-	17:23	19:10	21:00				
	02	287° 22.2	246° 17.6	50.6	96° 51.1	26.0	173° 34.0	58.6	61° 09.6	50.8	Acrux	173° 08.2	63° 11.1 S	210° 12.6	54.6	84° 00.0	11.5	56.8	9.1	66°	-	-	00:29	16:51	18:22	19:51					
	03	302° 24.7	261° 17.2	51.5	111° 53.0	26.3	188° 35.9	58.5	76° 12.2	50.8	Adhara	255° 12.3	28° 59.8 S	225° 12.5	54.8	98° 30.5	11.5	10° 05.9 S	9.1	64°	-	-	01:40	16:39	18:06	19:30					
	04	317° 27.1	276° 16.8	52.4	126° 55.0	26.6	203° 37.8	58.5	91° 14.8	50.7	Aldebaran	290° 48.9	16° 32.1 N	240° 12.4	55.0	113° 01.0	11.5	15.0	9.1	57.0	62°	-	-	02:14	16:29	17:52	19:12				
	05	332° 29.6	291° 16.3	53.3	141° 57.0	26.9	218° 39.8	58.4	106° 17.4	50.7				255° 12.3	55.2	127° 31.5	11.3	24.1	9.0	60°	-	01:03	02:39	16:21	17:40	18:58					
	06	347° 32.1	306° 15.9	54.2	156° 58.9	27.2	233° 41.7	58.3	121° 20.0	50.7	Alioth	166° 20.0	55° 53.1 N	270° 12.1	55.4	142° 01.8	11.3	33.1	9.0	57.1	N 58°	-	01:46	02:59	16:13	17:31	18:46				
	07	2° 34.5	321° 15.5	55.1	172° 00.9	27.5	248° 43.6	58.2	136° 22.7	50.6	Alkaid	152° 58.1	49° 14.7 N	285° 12.0	55.7	156° 32.1	11.2	42.1	8.9	56°	-	02:14	03:15	16:07	17:22	18:36					
	08	17° 37.0	336° 15.1	56.0	187° 02.9	27.8	263° 45.5	58.1	151° 25.3	50.6	Alnair	27° 42.8	46° 53.1 S	300° 11.9	55.9	171° 02.3	11.2	51.0	8.9	54°	00:57	02:35	03:29	16:01	17:14	18:26					
	09	32° 39.5	351° 14.7	56.9	202° 04.8	28.1	278° 47.5	58.1	166° 27.9	50.6	Alnilam	275° 46.0	1° 11.8 S	315° 11.8	56.1	185° 32.5	11.0	59.9	8.9	57.2	52°	01:37	02:53	03:41	15:56	17:07	18:18				
	10	47° 41.9	6° 14.2	57.9	217° 06.8	28.3	293° 49.4	58.0	181° 30.5	50.5	Alphard	217° 55.6	8° 43.5 S	330° 11.6	56.3	200° 02.5	11.0	11° 08.8 S	8.8	50°	02:03	03:07	03:51	15:51	17:01	18:11					
	11	62° 44.4	21° 13.8	58.8	232° 08.8	28.6	308° 51.3	57.9	196° 33.1	50.5				345° 11.5	56.5	214° 32.5	10.9	17.6	8.7	45°	02:47	03:36	04:13	15:41	16:48	17:55					
	12	77° 46.9	36° 13.4	59.7 N	247° 10.7	4° 28.9 S	323° 53.2	21° 57.8 N	211° 35.7	14° 50.5 S	Alphecca	126° 10.1	26° 40.1 N	0° 11.4	22° 56.7 N	229° 02.4	10.9	11° 26.3 S	8.7	57.3	N 40°	03:17	03:58	04:31	15:33	16:37	17:42				
	13	92° 49.3	51° 13.0	14° 00.6 N	262° 12.7	29.2	338° 55.1	57.8	226° 38.3	50.4	Alpheratz	357° 42.8	29° 10.1 N	15° 11.3	56.9	243° 32.3	10.7	35.0	8.7	35°	03:40	04:16	04:46	15:25	16:28	17:31					
	14	107° 51.8	66° 12.6	01.5	277° 14.6	29.5	353° 57.1	57.7	241° 40.9	50.4	Altair	62° 07.3	8° 54.5 N	30° 11.2	57.1	258° 02.0	10.7	43.7	8.6	30°	03:58	04:31	04:58	15:19	16:20	17:22					
	15	122° 54.2	81° 12.1	02.4	292° 16.6	29.8	8° 59.0	57.6	256° 43.6	50.4	Ankaa	353° 15.2	42° 13.4 S	45° 11.0	57.3	272° 31.7	10.6	52.3	8.6	57.4	20°	04:26	04:55	05:20	15:08	16:06	17:05				
	16	137° 56.7	96° 11.7	03.3	307° 18.6	30.1	24° 00.9	57.5	271° 46.2	50.3	Antares	112° 25.0	26° 27.7 S	60° 10.9	57.5	287° 01.3	10.5	12° 00.9 S	8.5	N 10°	04:49	05:16	05:39	14:59	15:53	16:51					
	17	152° 59.2	111° 11.3	04.2	322° 20.5	30.4	39° 02.8	57.4	286° 48.0	50.3				75° 10.8	57.7	301° 30.8	10.5	09.4	8.4	5°	05:07	05:33	05:56	14:50	15:42	16:38					
	18	168° 01.6	126° 10.9	05.1	337° 22.5	30.7	54° 04.8	57.4	301° 51.4	50.3	Arcturus	145° 54.9	19° 06.6 N	90° 10.7	57.9	316° 00.3	10.3	17.8	8.4	57.5	S 10°	05:24	05:50	06:13	14:41	15:31	16:24				
	19	183° 04.1	141° 10.4	06.0	352° 24.4	31.0	69° 06.7	57.3	316° 54.0	50.2	Atia	170° 25.6	69° 03.1 S	105° 10.5	58.1	330° 29.6	10.3	26.2	8.3	20°	05:40	06:07	06:31	14:32	15:19	16:10					
	20	198° 06.6	156° 10.0	06.9	7° 26.4	31.3	84° 08.6	57.2	331° 56.6	50.2	Avior	234° 18.1	59° 33.7 S	120° 10.4	58.3	344° 58.9	10.2	34.8	8.3	57.6	30°	05:56	06:26	06:52	14:22	15:05	15:54				
	21	213° 09.0	171° 09.6	07.8	22° 28.3	31.6	99° 10.5	57.1	346° 59.2	50.2	Bellatrix	278° 31.6	6° 21.5 N	135° 10.3	58.5	359° 28.1	10.1	42.8	8.3	35°	06:04	06:36	07:04	14:15	14:57	15:45					
	22	228° 11.5	186° 09.2	08.7	37° 30.3	31.9	114° 12.4	57.0	2° 01.8	50.1	Betelgeuse	271° 00.9	7° 24.4 N	150° 10.2	58.7	13° 57.2	10.1	51.1	8.1	40°	06:13	06:47	07:18	14:09	14:48	15:34					
23	243° 14.0	200° 08.7	09.6	52° 32.2	32.2	129° 14.4	57.0	17° 04.4	50.1				165° 10.1	58.9	28° 26.3	9.9	59.2	8.1	57.7	45°	06:24	07:01	07:34	14:01	14:38	15:22					
Tuesday	00	258° 16.4	216° 08.3	14° 10.5 N	67° 34.2	4° 32.5 S	144° 16.3	21° 56.9 N	32° 07.1	14° 50.1 S	Canopus	263° 56.4	52° 42.5 S	180° 09.9	22° 59.1 N	42° 55.2	9.9	13° 07.3 S	8.1	57.7	S 50°	06:35	07:16	07:55	13:51	14:26	15:07				
	01	273° 18.9	231° 07.9	11.4	82° 36.1	32.8	159° 18.2	56.8	47° 09.7	50.0	Capella	280° 33.9	46° 00.5 N	195° 08.8	59.3	57° 24.1	9.8	15.4	8.0	52°	06:40	07:24	08:04	13:47	14:20	15:00					
	02	288° 21.4	246° 07.5	12.3	97° 38.1	33.1	174° 20.1	56.7	62° 12.3	50.0	γ Ori	39° 30.7	45° 19.9 N	210° 09.7	59.5	71° 52.9	9.7	23.4	7.9	57.8	54°	06:46	07:32	08:15	13:42	14:13	14:52				
	03	303° 23.8	261° 07.0	13.2	112° 40.0	33.4	189° 22.1	56.6	77° 14.5	50.0	Denebola	182° 33.0	14° 29.5 S	225° 09.6	59.7	86° 21.6	9.7	31.3	7.8	56°	06:52	07:40	08:27	13:37	14:06	14:43					
	04	318° 26.3	276° 06.6	14.1	127° 42.0	33.7	204° 24.0	56.6	92° 17.9	49.9	Diphda	348° 55.4	17° 54.4 S	240° 09.4	59.9	100° 50.3	9.5	39.1	7.8	58°	06:58	07:50	08:42	13:31	13:58	14:34					
	05	333° 28.7	291° 06.2	15.0	142° 43.9	34.0	219° 25.9	56.5	107° 20.1	49.9				255° 09.3	23° 00.1 N	115° 18.8	9.5	46.9	7.8	57.9	S 60°	07:05	08:02	08:58	13:24	13:49	14:22				
	06	348° 31.2	306° 05.8	15.9	157° 45.9	34.3	234° 27.8	56.4	122° 22.7	49.9	Dubhe	193° 51.1	61° 40.6 N	270° 09.2	00.2	129° 47.3	9.4	54.7	7.6	58.0	S 62°	07:13	08:15	09:19	13:17	13:39	14:09				
	07	3° 33.7	321° 05.3	16.8	172° 47.8	34.6	249° 29.7	56.3	137° 25.3	49.8	Elinath	278° 12.2	28° 36.9 N	285° 09.1	00.4	144° 15.3	9.3	14° 02.3 S	7.6												
	08	18° 36.1	336° 04.9	17.7	187° 49.8	34.9	264° 31.7	56.2	152° 27.9	49.8	Eltanin	90° 45.3	51° 29.4 N	300° 08.9	00.6	158° 44.0	9.2	09.9	7.5												
	09	33° 38.6	351° 04.5	18.6	202° 51.7	35.2	279° 33.6	56.2	167° 30.6	49.8	Enif	33° 46.3	9° 56.5 S	315° 08.8	00.8	173° 12.2	9.1	17.4	7.5												
	10	48° 41.1	6° 04.0	19.5	217° 53.6	35.5	294° 35.5	56.1	182° 30.2	49.7	Fomalhaut	15° 23.2	29° 32.5 S	330° 08.7	01.0	187° 40.3	9.1	24.9	7.3	58.1	Lat	Sunset	Twilight		9	Moonset					
	11	63° 43.5	21° 03.6	20.4	232° 55.6	35.8	309° 37.4	56.0	197° 35.8	49.7				345° 08.6	01.2	202° 08.4	8.9	32.2	7.3												
	12	78° 46.0	36° 03.2	14° 21.3 N	247° 57.5	4° 36.1 S	324° 39.3	21° 55.9 N	212° 38.4	14° 49.7 S	Gacrux	171° 59.8	57° 11.9 S	0° 08.4	23° 01.4 N	216° 36.3	8.9	14° 39.5 S	7.2	58.1	N 70°	-	-	-	00:12	00:27	00:27				
	13	93° 48.5	51° 02.7	22.2	262° 59.5	36.4	339° 41.3	55.8	227° 41.0	49.6	Giennah	175° 51.5	17° 37.5 S	15° 08.3	01.6	231° 04.2	8.8	46.7	7.2	58.2	68°	-	-	-	00:39	00:46	00:57				
	14	108° 50.9	66° 02.3	23.1	278° 01.4	36.7	354° 43.2	55.8	242° 43.6	49.6	Hadar	148° 46.4	60° 26.7 S	30° 08.2	01.8	245° 32.0	8.7	53.9													

2014 June 12, 13, 14 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS -0.3			JUPITER -1.8			SATURN +0.2			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		12	12	14	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-		-	-		-		
12 Thurs day	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	-	-	-	24:37				
	260° 14.7'	215° 47.3'	14° 53.2' N	69° 06.8'	4° 47.2' S	145° 48.4'	21° 53.0' N	34° 12.3'	14° 48.5' S	Acamar	315° 18.2'	40° 14.8' S	180° 03.9'	23° 07.7' N	16° 29.5'	6.1	18° 03.1' S	3.8	59.3	N 70°	-	-	-	-	-	-	22:37	23:27	23:41		
	275° 17.2'	230° 46.9'	54.1	84° 08.7'	47.5	160° 50.7'	47.5	49° 14.9'	48.5	Achernar	335° 26.7'	57° 09.6' S	195° 03.8'	07.8	30° 54.6'	6.0	06.9	3.6	59.4	68°	-	-	-	-	-	-	21:42	22:37	23:07		
	290° 19.6'	245° 46.4'	54.9	99° 10.6'	47.8	175° 52.3'	52.8	64° 17.5'	48.5	Acruz	173° 08.2'	63° 11.1' S	210° 03.7'	08.0	45° 19.6'	6.0	10.5	3.5		66°	-	-	-	-	-	-	21:08	22:06	22:43		
	305° 22.1'	260° 46.0'	55.8	114° 12.5'	48.2	190° 54.2'	52.7	79° 20.1'	48.4	Adhara	255° 12.3'	28° 59.8' S	225° 03.5'	08.2	59° 44.6'	5.9	14.0	3.4		64°	-	-	-	01:35	20:44	21:42	22:23	22:43			
	320° 24.6'	275° 45.5'	56.7	129° 14.4'	48.5	205° 56.1'	52.7	94° 22.7'	48.4	Aldebaran	290° 48.9'	16° 32.1' N	240° 03.4'	08.3	74° 09.5'	5.8	17.4	3.3	59.5	62°	-	-	-	02:12	20:25	21:24	22:07	22:27			
	335° 27.0'	290° 45.1'	57.6	144° 16.3'	48.8	220° 58.0'	52.6	109° 25.3'	48.4				255° 03.3'	08.5	88° 34.3'	5.8	20.7	3.2		60°	-	-	-	00:57	02:37	20:09	21:08	21:54			
	350° 29.5'	305° 44.6'	58.4	159° 18.2'	49.1	235° 59.9'	52.5	124° 27.9'	48.3	Alioth	166° 20.0'	55° 53.1' N	270° 03.2'	08.6	102° 59.1'	5.7	23.9	3.0		N 58°	-	-	-	01:43	02:57	19:56	20:55	21:43			
	5° 32.0'	320° 44.2'	59.3	174° 20.1'	49.4	251° 01.9'	52.4	139° 30.5'	48.3	Alkaid	152° 58.1'	49° 14.7' N	285° 03.0'	08.8	117° 23.8'	5.7	26.9	2.9	59.6	56°	-	-	-	02:12	03:14	19:44	20:44	21:33			
	20° 34.4'	335° 43.7'	15° 00.2' N	189° 22.0'	49.7	266° 03.8'	52.3	154° 33.1'	48.3	Alnair	27° 42.8'	46° 53.1' S	300° 02.9'	09.0	131° 48.5'	5.6	29.8	2.8		54°	00:52	02:34	03:28	19:34	20:34	21:24	22:14	23:04			
	35° 36.9'	350° 43.3'	01.1	204° 23.9'	50.1	281° 05.7'	52.3	169° 35.3'	48.2	Anilam	275° 46.0'	1° 11.8' S	315° 02.8'	09.1	146° 13.1'	5.5	32.6	2.6		52°	01:35	02:51	03:40	19:25	20:25	21:16	22:06	22:56			
	50° 39.3'	5° 42.8'	01.9	219° 25.8'	50.4	296° 07.6'	52.2	184° 38.3'	48.2	Alphard	217° 55.6'	8° 43.5' S	330° 02.6'	09.3	160° 37.6'	5.5	35.3	2.5		50°	02:02	03:06	03:50	19:17	20:17	21:09	22:00	22:50			
	65° 41.8'	20° 42.4'	02.8	234° 27.7'	50.7	311° 09.5'	52.1	199° 40.9'	48.2				345° 02.5'	09.4	175° 02.1'	5.5	37.8	2.5	59.7	45°	02:46	03:36	04:13	19:00	20:00	20:54	21:44	22:34			
	80° 44.3'	35° 41.9'	15° 03.7' N	249° 29.6'	4° 51.0' S	326° 11.5'	21° 52.0' N	214° 43.5'	14° 48.1' S	Alphecca	126° 10.1'	26° 40.2' N	0° 02.4'	23° 09.6' N	189° 26.6'	5.4	18° 40.3' S	2.3	59.7	N 40°	03:16	03:58	04:31	18:46	19:46	20:41	21:31	22:21			
	95° 46.7'	50° 41.5'	04.5	264° 31.5'	51.3	341° 13.4'	51.9	229° 46.1'	48.1	Alpheratz	357° 42.8'	29° 10.1' N	15° 02.3'	09.7	203° 51.0'	5.3	42.6	2.1		35°	03:39	04:16	04:45	18:34	19:34	20:30	21:20	22:10			
	110° 49.2'	65° 41.0'	05.4	279° 33.4'	51.6	356° 15.3'	51.8	244° 48.7'	48.1	Altair	62° 07.3'	8° 54.5' N	30° 02.1'	09.9	218° 15.3'	5.3	44.7	2.1		30°	03:58	04:31	04:58	18:24	19:24	20:21	21:11	22:01			
	125° 51.7'	80° 40.6'	06.3	294° 35.3'	52.0	11° 17.2'	51.8	259° 51.3'	48.1	Ankaa	353° 15.2'	42° 13.4' S	45° 02.0'	10.0	232° 39.6'	5.2	46.8	1.9	59.8	20°	04:26	04:56	05:20	18:06	19:07	20:05	21:00	21:50			
	140° 54.1'	95° 40.1'	07.1	309° 37.2'	52.3	26° 19.1'	51.7	274° 54.0'	48.0	Antares	112° 25.0'	26° 27.7' S	60° 01.9'	10.2	247° 03.8'	5.2	48.7	1.8		N 10°	04:49	05:16	05:39	17:51	18:51	19:51	20:41	21:31			
	155° 56.6'	110° 39.6'	08.0	324° 39.1'	52.6	41° 21.0'	51.6	289° 56.6'	48.0				75° 01.7'	10.3	261° 28.0'	5.2	50.5	1.7		0°	05:08	05:34	05:56	17:36	18:37	19:37	20:27	21:17			
	170° 59.1'	125° 39.2'	08.9	339° 41.0'	52.9	56° 23.0'	51.5	304° 59.2'	48.0	Arcturus	145° 54.9'	19° 06.6' N	90° 01.6'	10.5	275° 52.2'	5.1	52.2	1.5		S 10°	05:25	05:51	06:14	17:22	18:22	19:24	20:14	21:04			
	186° 01.5'	140° 38.7'	09.7	354° 42.8'	53.2	71° 24.9'	51.4	320° 01.4'	47.9	Atria	107° 25.6'	69° 03.1' S	105° 01.5'	10.6	290° 16.3'	5.0	53.7	1.4	59.9	20°	05:41	06:08	06:32	17:07	18:07	19:10	20:00	20:50			
	201° 04.0'	155° 38.3'	10.6	9° 44.7'	53.6	86° 26.8'	51.3	335° 04.4'	47.9	Avior	234° 18.2'	59° 33.7' S	120° 01.4'	10.8	304° 40.3'	5.1	55.1	1.3		30°	05:57	06:27	06:53	16:49	17:49	18:54	19:44	20:34			
	216° 06.5'	170° 37.8'	11.5	24° 46.6'	53.9	101° 28.7'	51.3	350° 07.0'	47.9	Bellatrix	278° 31.6'	6° 21.5' N	135° 01.2'	10.9	319° 04.4'	5.0	56.4	1.1		35°	06:05	06:37	07:05	16:39	17:39	18:44	19:34	20:24			
231° 08.9'	185° 37.4'	12.3	39° 48.5'	54.2	116° 30.6'	51.2	5° 09.6'	47.8	Betelgeuse	271° 00.9'	7° 24.4' N	150° 01.1'	11.1	333° 28.4'	4.9	57.5	1.1		40°	06:15	06:49	07:19	16:27	17:27	18:34	19:24	20:14				
246° 11.4'	200° 36.9'	13.2	54° 50.4'	54.5	131° 32.5'	51.1	20° 12.2'	47.8				165° 01.0'	11.2	347° 52.3'	4.9	58.6	0.8	60.0	45°	06:25	07:02	07:36	16:14	17:14	18:21	19:11	20:01				
13 Fri day	261° 13.8'	215° 36.4'	15° 14.1' N	69° 52.3'	4° 54.9' S	146° 34.4'	21° 51.0' N	35° 14.8'	14° 47.8' S	Canopus	263° 56.4'	52° 42.5' S	180° 00.8'	23° 11.4' N	2° 16.2'	4.9	18° 59.4' S	0.8	60.0	S 50°	06:37	07:18	07:56	15:57	16:57	18:05	19:05	20:05			
	276° 16.3'	230° 36.0'	14.9	84° 54.2'	55.2	161° 36.4'	50.9	50° 17.4'	47.7	Capella	280° 33.9'	46° 00.5' N	195° 00.7'	11.5	16° 40.1'	4.8	19° 00.2' S	0.6		52°	06:42	07:25	08:06	15:49	16:49	17:58	18:48	19:58			
	291° 18.8'	245° 35.5'	15.8	99° 56.1'	55.5	176° 38.3'	50.9	65° 20.0'	47.7	Deneb	49° 30.6'	45° 19.9' N	210° 00.6'	11.7	31° 03.9'	4.8	00.8	0.5		54°	06:47	07:33	08:17	15:40	16:40	17:50	18:40	19:50			
	306° 21.2'	260° 35.1'	16.7	114° 57.9'	55.8	191° 40.2'	50.8	80° 22.6'	47.7	Denebola	182° 33.0'	14° 29.5' S	225° 00.4'	11.8	45° 27.7'	4.8	01.3	0.3		56°	06:53	07:42	08:30	15:31	16:30	17:41	18:31	19:41			
	321° 23.7'	275° 34.6'	17.5	129° 59.8'	56.1	206° 42.1'	50.7	95° 25.2'	47.7	Diphda	348° 55.3'	17° 54.4' S	240° 00.3'	11.9	59° 51.5'	4.8	01.6	0.3	60.1	58°	07:00	07:53	08:44	15:20	16:19	17:31	18:21	19:31			
	336° 26.2'	290° 34.1'	18.4	145° 01.7'	56.5	221° 44.0'	50.6	110° 27.8'	47.6				255° 00.2'	12.1	74° 15.3'	4.7	01.9	0.0		S 60°	07:07	08:04	09:01	15:07	16:06	17:19	18:06	19:19			
	351° 28.6'	305° 33.7'	19.2	160° 03.6'	56.8	236° 45.9'	50.5	125° 30.4'	47.6	Dubhe	193° 51.1'	61° 40.6' N	270° 00.1'	12.2	88° 39.0'	4.7	01.9	0.0		S 62°	07:16	08:17	09:22	14:52	15:51	17:05	18:05	19:15			
	6° 31.1'	320° 33.2'	20.1	175° 05.5'	57.1	251° 47.9'	50.4	140° 33.0'	47.6	Elmath	278° 12.1'	28° 36.9' N	284° 59.9'	12.4	103° 02.7'	4.7	01.9	0.2													
	21° 33.6'	335° 32.7'	21.0	190° 07.4'	57.4	266° 49.8'	50.4	155° 35.6'	47.5	Eltanin	90° 45.3'	51° 29.4' N	299° 59.8'	12.5	117° 26.4'	4.6	01.7	0.3													
	36° 36.0'	350° 32.3'	21.8	205° 09.2'	57.8	281° 51.7'	50.3	170° 38.2'	47.5	Enif	33° 46.3'	9° 56.6' N	314° 59.7'	12.6	131° 50.0'	4.6	01.4	0.5	60.2												
	51° 38.5'	5° 31.8'	22.7	220° 11.1'	58.1	296° 53.6'	50.2	185° 40.8'	47.5	Fomalhaut	15° 23.5'	29° 32.5' S	329° 59.5'	12.8	146° 13.6'	4.6	00.9	0.6													
	66° 41.0'	20° 31.3'	23.5	235° 13.0'	58.4	311° 55.5'	50.1	200° 43.4'	47.4				344° 59.4'	12.9	160° 37.2'	4.6	00.3	0.7													
	81° 43.4'	35° 30.9'	15° 24.4' N	250° 14.9'	4° 58.7' S	326° 57.4'	21° 50.0' N	215° 46.0'	14° 47.4' S	Gacrux	171° 59.8'	57° 11.9' S	359° 59.3																		

2014 June 15, 16, 17 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS -0.2			JUPITER -1.8			SATURN +0.3			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		15	16	17	15	16	17	15	16	17	15	16	17	15	16	17	15	16	17	15	16	17	15		16	17		15	16	17
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	00:37	00:15	00:00						
15 00	263° 12.1	215° 13.8	15° 54.8 N	71° 21.8	5° 10.6 S	148° 06.3	21° 47.0 N	37° 19.6	14° 46.4 S	Acamar	315° 18.2	40° 14.8 S	179° 54.6	23° 17.5 N	333° 12.1	5.1	17° 04.7 S	5.6	60.6	N 70°	-	-	-	23:45	23:46	23:45						
01	278° 14.6	230° 13.3	55.7	86° 23.7	11.0	163° 08.2	46.9	52° 22.2	46.3	Achernar	335° 26.7	57° 09.6 S	194° 54.4	17.6	347° 36.2	5.1	16° 59.1 S	5.7		68°	-	-	-	23:23	23:32	23:38						
02	293° 17.1	245° 12.9	56.5	101° 25.5	11.3	178° 10.2	46.8	67° 24.8	46.3	Acruz	173° 08.2	63° 11.1 S	209° 54.3	17.7	2° 00.3	5.1	53.4	5.8		66°	-	-	-	23:05	23:20	23:31						
03	308° 19.5	260° 12.4	57.3	116° 27.4	11.6	193° 12.1	46.7	82° 27.4	46.3	Adhara	255° 12.3	28° 59.8 S	224° 54.2	17.8	16° 24.4	5.2	47.6	5.9		64°	-	-	01:33	22:51	23:11	23:26						
04	323° 22.0	275° 11.9	58.2	131° 29.2	12.0	208° 14.0	46.6	97° 30.0	46.2	Aldebaran	290° 48.9	16° 32.1 N	239° 54.0	17.9	30° 48.6	5.2	41.7	6.0		62°	-	-	02:10	22:39	23:02	23:21						
05	338° 24.5	290° 11.4	59.0	146° 31.1	12.3	223° 15.9	46.6	112° 32.6	46.2				254° 53.9	18.1	45° 12.8	5.2	35.7	6.2		60°	-	00:52	02:36	22:29	22:55	23:17						
06	353° 26.9	305° 10.9	59.8	161° 32.9	12.7	238° 17.8	46.5	127° 35.2	46.2	Alioth	166° 20.0	55° 53.1 N	269° 53.8	18.2	59° 37.0	5.3	29.5	6.3		N 58°	-	01:41	02:56	22:20	22:49	23:13						
07	8° 29.4	320° 10.4	16° 00.7 N	176° 34.7	13.0	253° 19.7	46.4	142° 37.8	46.2	Alkaid	152° 58.2	49° 14.7 N	284° 53.6	18.3	74° 01.3	5.4	23.2	6.3		56°	-	02:11	03:13	22:12	22:43	23:10						
08	23° 31.8	335° 09.9	01.5	191° 36.6	13.3	268° 21.6	46.3	157° 40.4	46.1	Alnilam	27° 42.7	46° 53.1 S	299° 53.5	18.4	88° 25.7	5.4	16.9	6.5		54°	00:48	02:33	03:27	22:05	22:38	23:07						
09	38° 34.3	350° 09.5	02.3	206° 38.4	13.7	283° 23.5	46.2	172° 43.0	46.1	Alnair	275° 46.0	1° 11.8 S	314° 53.4	18.5	102° 50.1	5.4	10.4	6.6		52°	01:33	02:51	03:39	21:58	22:34	23:04						
10	53° 36.8	5° 09.0	03.2	221° 40.3	14.0	298° 25.4	46.1	187° 45.6	46.1	Alphard	217° 55.6	8° 43.5 S	329° 53.2	18.6	117° 14.5	5.5	03.8	6.7		50°	02:00	03:06	03:50	21:53	22:29	23:01						
11	68° 39.2	20° 08.5	04.0	236° 42.1	14.4	313° 27.4	46.1	202° 48.2	46.0				344° 53.1	18.7	131° 39.0	5.6	15° 57.1 S	6.9		45°	02:46	03:35	04:13	21:40	22:20	22:56						
12	83° 41.7	35° 08.0	16° 04.8 N	251° 43.9	5° 14.7 S	328° 29.3	21° 46.0 N	217° 50.8	14° 46.0 S	Alphecca	126° 10.1	26° 40.2 N	359° 53.0	23° 18.8 N	146° 03.6	5.5	15° 50.2 S	6.9	60.5	N 40°	03:16	03:58	04:31	21:30	22:13	22:52						
13	98° 44.2	50° 07.5	05.6	266° 45.8	15.0	343° 31.2	45.9	232° 53.4	46.0	Alpheratz	357° 42.8	29° 10.1 N	14° 52.8	18.9	160° 28.1	5.7	43.3	7.0		35°	03:39	04:16	04:46	21:21	22:06	22:48						
14	113° 46.6	65° 07.0	06.5	281° 47.6	15.4	358° 33.1	45.8	247° 56.0	46.0	Altair	62° 07.3	8° 54.6 N	29° 52.7	19.0	174° 52.8	5.7	36.3	7.2		30°	03:58	04:31	04:59	21:13	22:01	22:44						
15	128° 49.1	80° 06.5	07.3	296° 49.4	15.7	13° 35.0	45.7	262° 58.6	45.9	Ankaa	353° 15.2	42° 13.4 S	44° 52.6	19.1	189° 17.5	5.7	29.1	7.2		20°	04:27	04:56	05:21	21:00	21:51	22:38						
16	143° 51.6	95° 06.0	08.1	311° 51.3	16.1	28° 36.9	45.6	278° 01.1	45.9	Antares	112° 25.0	26° 27.7 S	59° 52.4	19.2	203° 42.2	5.8	21.9	7.4		N 10°	04:49	05:16	05:39	20:48	21:42	22:33						
17	158° 54.0	110° 05.6	08.9	326° 53.1	16.4	43° 38.8	45.5	293° 03.7	45.9				74° 52.3	19.3	218° 07.0	5.9	14.5	7.4		0°	05:08	05:34	05:57	20:37	21:34	22:28						
18	173° 56.5	125° 05.1	09.8	341° 54.9	16.7	58° 40.7	45.5	308° 06.3	45.8	Arcturus	145° 54.9	19° 06.6 N	89° 52.2	19.4	232° 31.9	5.9	07.1	7.6		S 10°	05:25	05:52	06:14	20:26	21:25	22:23						
19	188° 58.9	140° 04.6	10.6	356° 56.8	17.1	73° 42.6	45.4	323° 08.9	45.8	Atria	107° 25.6	69° 03.1 S	104° 52.0	19.5	246° 56.8	5.9	14° 59.5 S	7.6		20°	05:41	06:09	06:33	20:14	21:17	22:18						
20	204° 01.4	155° 04.1	11.4	11° 58.6	17.4	88° 44.6	45.3	338° 11.5	45.8	Avior	234° 18.2	59° 33.7 S	119° 51.9	19.6	261° 18.2	6.0	51.9	7.8		30°	05:58	06:28	06:54	20:00	21:06	22:12						
21	219° 03.9	170° 03.6	12.2	27° 00.4	17.8	103° 46.5	45.2	353° 14.1	45.8	Bellatrix	278° 31.6	6° 21.5 N	134° 51.8	19.7	275° 46.7	6.1	44.1	7.8		35°	06:07	06:38	07:06	19:52	21:01	22:08						
22	234° 06.3	185° 03.1	13.1	42° 02.2	18.1	118° 48.4	45.1	8° 16.7	45.7	Betelgeuse	271° 00.9	7° 24.4 N	149° 51.6	19.8	290° 11.8	6.1	36.3	8.0		40°	06:16	06:50	07:20	19:43	20:54	22:04						
23	249° 08.8	200° 02.6	13.9	57° 04.1	18.4	133° 50.3	45.0	23° 19.3	45.7				164° 51.5	19.9	304° 36.9	6.2	28.3	8.0		45°	06:26	07:03	07:37	19:33	20:46	22:00						
16 00	264° 11.3	215° 02.1	16° 14.7 N	72° 05.9	5° 18.8 S	148° 52.2	21° 44.9 N	38° 21.9	14° 45.7 S	Canopus	263° 56.4	52° 42.5 S	179° 51.4	23° 20.0 N	319° 02.1	6.3	14° 20.3 S	8.2	60.5	S 50°	06:38	07:19	07:58	19:20	20:37	21:54						
01	279° 13.7	230° 01.6	15.5	87° 07.7	19.1	163° 54.1	44.9	53° 24.5	45.6	Capella	280° 33.9	46° 00.5 N	194° 51.2	20.1	333° 27.4	6.3	12.1	8.2		52°	06:43	07:27	08:08	19:14	20:33	21:52						
02	294° 16.2	245° 01.1	16.3	102° 09.6	19.5	178° 56.0	44.8	68° 27.1	45.6	Deneb	49° 30.6	45° 19.9 N	209° 51.1	20.2	347° 52.7	6.3	03.9	8.3		54°	06:49	07:35	08:19	19:07	20:28	21:49						
03	309° 18.7	260° 00.6	17.2	117° 11.4	19.8	193° 57.9	44.7	83° 29.7	45.6	Denebola	182° 33.0	14° 29.5 S	224° 51.0	20.2	2° 18.0	6.4	13° 55.6 S	8.4	60.4	56°	06:55	07:44	08:31	19:00	20:23	21:46						
04	324° 21.1	275° 00.1	18.0	132° 13.2	20.2	208° 59.8	44.6	98° 32.3	45.6	Diphda	348° 55.3	17° 54.3 S	239° 50.8	20.3	16° 43.4	6.5	47.2	8.5		58°	07:02	07:54	08:46	18:52	20:17	21:42						
05	339° 23.6	289° 59.6	18.8	147° 15.0	20.5	224° 01.8	44.5	113° 34.9	45.5				254° 50.7	20.4	31° 08.9	6.5	38.7	8.6		S 60°	07:09	08:06	09:04	18:42	20:10	21:38						
06	354° 26.1	304° 59.1	19.6	162° 16.8	20.9	239° 03.7	44.4	128° 37.5	45.5	Dubhe	193° 51.1	61° 40.6 N	269° 50.6	20.5	45° 34.4	6.6	30.1	8.7		S 62°	07:18	08:19	09:25	18:31	20:02	21:34						
07	9° 28.5	319° 58.6	20.4	177° 18.7	21.2	254° 05.6	44.3	143° 40.1	45.5	Elmath	278° 12.1	28° 36.9 N	284° 50.4	20.6	60° 00.0	6.7	21.4	8.7														
08	24° 31.0	334° 58.1	21.2	192° 20.5	21.5	269° 07.5	44.2	158° 42.7	45.4	Eltanin	90° 45.3	51° 29.4 N	299° 50.3	20.7	74° 25.7	6.7	12.7	8.9														
09	39° 33.4	349° 57.6	22.1	207° 22.3	21.9	284° 09.4	44.2	173° 45.3	45.4	Enif	173° 46.3	9° 56.6 N	314° 50.2	20.8	88° 51.4	6.8	03.8	8.9														
10	54° 35.9	4° 57.1	22.9	222° 24.1	22.2	299° 11.3	44.1	188° 47.9	45.4	Fomalhaut	35° 23.2	29° 32.5 S	329° 50.0	20.9	103° 17.2	6.8	12° 54.9 S	9.0														
11	69° 38.4	19° 56.6	23.7	237° 25.9	22.6	314° 13.2	44.0	203° 50.4	45.4				344° 49.9	21.0	117° 43.0	6.9	45.9	9.1														
12	84° 40.8	34° 56.1	16° 24.5 N	252° 27.7	5° 22.9 S	329° 15.1	21° 43.0 N	218° 53.0	14° 45.3 S	Gacrux	171° 59.9	57° 12.0 S	359° 49.8	23° 20.0 N	132° 08.9	7.0	12° 36.8 S	9.1	60.3	N 70°	-	-	-	03:17	05:42	06:11	08:07					
13	99° 43.3	49° 55.6	25.3	267° 29.6	23.3	344° 17.0	43.8	233° 55.6	45.3	Giennah	175° 51.5	17° 37.5 S	14° 49.6	21.1	146° 34.9	7.0	27.7	9.3		68°</												

2014 June 18, 19, 20 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS -0.2			JUPITER -1.8			SATURN +0.3			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		18	19		20		
18 W e d n e s d a y	00	266° 09.5	214° 37.8	16° 53.3 N	73° 32.6	5° 35.6 S	150° 23.8	21° 40.8 N	40° 26.3	14° 44.4 S	40° 26.3	14° 44.4 S	Acamar	315° 18'.2	40° 14'.8 S	179° 44'.9	23° 23'.6 N	292° 21'.8	9.1	6° 28'.6 S	11.1	59.7	N 72°	-	-	-	23:47	23:40	23:33		
	01	281° 12.0	229° 37.3	54.1	88° 34.4	35.9	165° 25.7	40.7	55° 28.9	44.4	55° 28.9	44.4	Achernar	335° 26.6	57° 09.6 S	194° 44.8	23.7	306° 49.9	9.1	17.5	11.1	68°	-	-	-	23:44	23:43	23:42			
	02	296° 14.5	244° 36.8	54.9	103° 36.2	36.3	180° 27.6	40.6	70° 31.5	44.3	70° 31.5	44.3	Acruz	173° 08.3	63° 11.1 S	209° 44.6	23.8	321° 18.0	9.2	06.4	11.1	59.6	66°	-	-	-	23:40	23:48	23:56		
	03	311° 16.9	259° 36.3	55.7	118° 37.9	36.6	195° 29.6	40.5	85° 34.1	44.3	85° 34.1	44.3	Adhara	255° 12.3	28° 59.8 S	224° 44.5	23.8	335° 46.2	9.3	5° 55.3 S	11.1	64°	-	-	01:31	23:38	23:50	24:02			
	04	326° 19.4	274° 35.7	56.5	133° 39.7	37.0	210° 31.5	40.4	100° 36.7	44.3	100° 36.7	44.3	Aldebaran	290° 48.9	16° 32.1 N	239° 44.4	23.9	350° 14.5	9.2	44.2	11.2	62°	-	-	02:09	23:37	23:51	24:06			
	05	341° 21.9	289° 35.2	57.3	148° 41.5	37.4	225° 33.4	40.3	115° 39.3	44.2	115° 39.3	44.2		260° 20.0	55° 53.1 N	254° 44.2	23.9	4° 42.7	9.4	33.0	11.2	60°	-	00:50	02:36	23:35	23:53	24:11			
	06	356° 24.3	304° 34.7	58.1	163° 43.3	37.7	240° 35.3	40.2	130° 41.8	44.2	130° 41.8	44.2	Alioth	166° 20.0	55° 53.1 N	269° 44.1	24.0	19° 11.1	9.4	21.8	11.2	59.5	N 58°	-	01:40	02:56	23:34	23:54	24:14		
	07	11° 26.8	319° 34.2	58.9	178° 45.1	38.1	255° 37.2	40.1	145° 44.4	44.2	145° 44.4	44.2	Alkaid	152° 58.2	49° 14.7 N	284° 44.0	24.0	33° 39.5	9.4	10.6	11.2	56°	-	02:10	03:13	23:33	23:55	24:18			
	08	26° 29.3	334° 33.7	59.6	193° 46.9	38.4	270° 39.1	40.1	160° 47.0	44.2	160° 47.0	44.2	Alnair	27° 42.7	46° 53.1 S	299° 43.8	24.1	48° 07.9	9.5	4° 59.4 S	11.3	54°	00:45	02:33	03:27	23:32	23:56	24:21			
	09	41° 31.7	349° 33.1	17° 00.4 N	208° 48.6	38.8	285° 41.0	40.0	175° 49.6	44.1	175° 49.6	44.1	Alnilam	275° 46.0	1° 11.8 S	314° 43.7	24.1	62° 36.4	9.6	48.1	11.2	52°	01:32	02:51	03:39	23:31	23:57	24:23			
	10	56° 34.2	4° 32.6	01.2	223° 50.4	39.1	300° 42.9	39.9	190° 52.2	44.1	190° 52.2	44.1	Alphard	217° 55.6	8° 43.5 S	329° 43.6	24.2	77° 05.0	9.5	36.9	11.3	50°	02:00	03:06	03:50	23:30	23:58	24:26			
	11	71° 36.7	19° 32.1	02.0	238° 52.2	39.5	315° 44.8	39.8	205° 54.8	44.1	205° 54.8	44.1		344° 43.4	24.3	344° 43.4	24.3	91° 33.5	9.7	25.6	11.3	59.4	45°	02:46	03:35	04:13	23:29	-	00:00		
	12	86° 39.1	34° 31.6	07.2 08.8 N	253° 54.0	5° 39.9 S	330° 46.7	21° 39.7 N	220° 57.4	14° 44.1 S	220° 57.4	14° 44.1 S	Alphecca	126° 10.1	26° 40.2 N	359° 43.3	23° 24.3 N	106° 02.2	9.7	4° 14.3 S	11.3	59.4	N 40°	03:16	03:58	04:31	23:27	-	00:02		
	13	101° 41.6	49° 31.0	03.5	268° 55.8	40.2	345° 48.6	39.6	236° 00.0	44.0	236° 00.0	44.0	Alpheratz	357° 42.8	29° 10.1 N	14° 43.2	24.4	120° 30.9	9.7	03.0	11.4	35°	03:39	04:16	04:46	23:26	-	00:03			
	14	116° 44.0	64° 30.5	04.3	283° 57.5	40.6	0° 50.5	39.5	251° 02.5	44.0	251° 02.5	44.0	Altair	62° 07.3	8° 54.6 N	29° 43.0	24.4	134° 59.6	9.7	3° 51.6 S	11.3	30°	03:58	04:32	04:59	23:25	-	00:04			
	15	131° 46.5	79° 30.0	05.1	298° 59.3	40.9	15° 52.4	39.4	266° 05.1	44.0	266° 05.1	44.0	Ankaa	353° 15.2	42° 13.4 S	44° 42.9	24.5	149° 28.3	9.9	40.3	11.4	59.3	20°	04:27	04:56	05:21	23:23	-	00:07		
	16	146° 49.0	94° 29.5	05.9	314° 01.1	41.3	30° 54.3	39.3	281° 07.7	44.0	281° 07.7	44.0	Antares	112° 25.0	26° 27.7 S	59° 42.7	24.5	163° 57.2	9.8	28.9	11.3	N 10°	04:50	05:17	05:40	23:21	-	00:09			
	17	161° 51.4	109° 28.9	06.7	329° 02.9	41.7	45° 56.2	39.3	296° 10.3	43.9	296° 10.3	43.9		74° 42.6	24.5	74° 42.6	24.5	178° 26.0	9.9	17.6	11.4	0°	05:09	05:35	05:58	23:20	-	00:10			
	18	176° 53.9	124° 28.4	07.4	344° 04.6	42.0	60° 58.1	39.2	311° 12.9	43.9	311° 12.9	43.9	Arcturus	145° 54.9	19° 06.6 N	89° 42.5	24.6	192° 54.9	9.9	06.2	11.4	S 10°	05:26	05:52	06:15	23:18	-	00:12			
	19	191° 56.4	139° 27.9	08.2	359° 06.4	42.4	76° 00.1	39.1	326° 15.5	43.9	326° 15.5	43.9	Arvia	107° 25.6	69° 03.1 S	104° 42.3	24.6	207° 23.8	10.0	2° 54.8 S	11.4	59.2	20°	05:42	06:10	06:34	23:17	-	00:14		
	20	206° 58.8	154° 27.4	09.0	14° 08.2	42.7	91° 02.0	39.0	341° 18.1	43.9	341° 18.1	43.9	Atira	234° 18.2	59° 33.7 S	119° 42.2	24.7	221° 52.8	10.0	43.4	11.4	30°	05:59	06:29	06:55	23:15	-	00:17			
	21	222° 01.3	169° 26.8	09.8	29° 09.9	43.1	106° 03.9	38.9	356° 20.6	43.8	356° 20.6	43.8	Bellatrix	278° 31.6	6° 21.6 N	134° 42.1	24.7	236° 21.8	10.1	32.0	11.4	35°	06:07	06:39	07:07	23:14	-	00:18			
	22	237° 03.8	184° 26.3	10.5	44° 11.7	43.5	121° 05.8	38.8	11° 23.2	43.8	11° 23.2	43.8	Betelgeuse	271° 00.9	7° 24.4 N	149° 41.9	24.8	250° 50.9	10.1	20.6	11.4	40°	06:17	06:51	07:21	23:13	-	00:20			
	23	252° 06.2	199° 25.8	11.3	59° 13.5	43.8	136° 07.7	38.7	26° 25.8	43.8	26° 25.8	43.8		164° 41.8	24.8	164° 41.8	24.8	265° 20.0	10.1	09.2	11.4	59.1	45°	06:27	07:04	07:38	23:11	-	00:22		
19 T h u r s d a y	00	267° 08.7	214° 25.2	17° 12.1 N	74° 15.2	5° 44.2 S	151° 09.6	21° 38.6 N	41° 28.4	14° 43.8 S	41° 28.4	14° 43.8 S	Canopus	263° 56.4	52° 42.4 S	179° 41.7	23° 24.9 N	279° 49.1	10.2	1° 57.8 S	11.4	59.1	S 50°	06:39	07:21	07:59	23:10	-	00:24		
	01	282° 11.1	229° 24.7	12.9	89° 17.0	44.6	166° 11.5	38.5	56° 31.0	43.7	56° 31.0	43.7	Capella	280° 33.9	46° 00.5 N	194° 41.5	24.9	294° 18.3	10.2	46.4	11.4	52°	06:44	07:28	08:09	23:09	-	00:25			
	02	297° 13.6	244° 24.2	13.6	104° 18.8	44.9	181° 13.4	38.5	71° 33.6	43.7	71° 33.6	43.7	Deneb	49° 30.6	45° 19.9 N	209° 41.4	24.9	308° 47.5	10.3	35.0	11.4	59.0	54°	06:50	07:36	08:20	23:08	-	00:26		
	03	312° 16.1	259° 23.7	14.4	119° 20.5	45.3	196° 15.3	38.4	86° 36.2	43.7	86° 36.2	43.7	Denebola	182° 33.0	14° 29.5 S	224° 41.3	25.0	323° 16.8	10.2	23.6	11.4	56°	06:56	07:45	08:33	23:07	-	00:27			
	04	327° 18.5	274° 23.1	15.2	134° 22.3	45.7	211° 17.2	38.3	101° 38.7	43.7	101° 38.7	43.7	Diphda	348° 55.3	17° 54.3 S	239° 41.1	25.0	337° 46.0	10.4	12.2	11.3	58°	07:03	07:56	08:48	23:06	-	00:28			
	05	342° 21.0	289° 22.6	16.0	149° 24.1	46.0	226° 19.1	38.2	116° 41.3	43.6	116° 41.3	43.6		254° 41.0	25.1	254° 41.0	25.1	352° 15.4	10.3	00.9	11.4	S 60°	07:10	08:07	09:05	23:05	-	00:30			
	06	357° 23.5	304° 22.1	16.7	164° 25.8	46.4	241° 21.0	38.1	131° 43.9	43.6	131° 43.9	43.6	Dubhe	193° 51.1	61° 40.6 N	269° 40.8	25.1	6° 44.7	10.4	0° 49.5 S	11.4	58.9	S 62°	07:19	08:21	09:27	23:04	-	00:32		
	07	12° 25.9	319° 21.5	17.5	179° 27.6	46.7	256° 22.9	39.0	146° 45.5	43.6	146° 45.5	43.6	Elinath	278° 12.1	28° 36.9 N	284° 40.7	25.1	21° 14.1	10.4	38.1	11.4										
	08	27° 28.4	334° 21.0	18.3	194° 29.4	47.1	271° 24.8	37.9	161° 49.1	43.6	161° 49.1	43.6	Eltanin	90° 45.3	51° 29.4 N	299° 40.6	25.2	35° 43.5	10.5	26.7	11.4										
	09	42° 30.9	349° 20.5	19.0	209° 31.1	47.5	286° 26.7	37.8	176° 51.7	43.5	176° 51.7	43.5	Enif	13° 46.2	9° 56.6 N	314° 40.4	25.2	50° 13.0	10.4	15.3	11.3										
	10	57° 33.3	4° 19.9	19.8	224° 32.9	47.8	301° 28.6	37.7	191° 54.3	43.5	191° 54.3	43.5	Fomalhaut	35° 23.2	29° 32.5 S	329° 40.3	25.2	64° 42.4	10.5	04.0	11.4	58.8									
	11	72° 35.8	19° 19.4	20.6	239° 34.6	48.2	316° 30.5	37.7	206° 56.8	43.5	206° 56.8	43.5		344° 40.2	25.3	344° 40.2	25.3	79° 11.9	10.6</												

2014 June 24, 25, 26 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS -0.1			JUPITER -1.8			SATURN +0.3			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	GHA	GHA	Dec	GHA	Dec	Mag	GHA	Dec	Mag	GHA	Dec	Mag	Name	SHA	Dec	GHA	Dec	Mag	GHA	v	Dec	d	HP	Nautical		Civil	24		25	26	
Tuesday	00	272° 04.4	213° 18.1	18° 39.7 N	77° 41.9	6° 29.5 S	154° 57.8	21° 27.6 N	46° 37.7	14° 41.1 S	258° 18.1	40° 14.7 S	Acamar	315° 18.1	40° 14.7 S	179° 25.3	23° 24.8 N	219° 41.1	10.7	16° 30.7 N	5.3	56.1	N 72°	-	-	-	22:13	-	-		
	01	287° 06.8	228° 17.6	40.4	92° 43.5	29.9	169° 59.7	27.6	61° 40.3	41.0	194° 25.2	24.7	194° 25.2	Achernar	335° 26.6	57° 09.6 S	194° 25.2	24.7	234° 10.8	10.7	36.0	5.1	56.0	N 70°	-	-	-	23:54	-	00:19	
	02	302° 09.3	243° 17.0	41.1	107° 45.2	30.3	185° 01.6	27.5	76° 42.8	41.0	209° 25.1	24.7	209° 25.1	Acruz	173° 08.3	63° 11.1 S	209° 25.1	24.7	248° 40.5	10.8	41.1	5.1	66°	-	-	-	00:14	00:35	01:09		
	03	317° 11.8	258° 16.4	41.8	122° 46.9	30.7	200° 03.5	27.4	91° 45.4	41.0	224° 24.9	24.6	224° 24.9	Adhara	255° 12.3	28° 59.7 S	224° 24.9	24.6	263° 10.3	10.7	46.2	5.0	64°	-	-	01:33	00:54	01:24	02:04		
	04	332° 14.2	273° 15.8	42.5	137° 48.6	31.1	215° 05.4	27.3	106° 48.0	41.0	239° 24.8	24.6	239° 24.8	Aldebaran	290° 48.9	16° 32.1 N	239° 24.8	24.6	277° 40.0	10.7	51.2	4.9	62°	-	-	02:11	01:08	01:41	02:23		
	05	347° 16.7	288° 15.2	43.1	152° 50.2	31.5	230° 07.3	27.2	121° 50.6	41.0	254° 24.6	24.5	254° 24.6				254° 24.6	24.5	292° 09.7	10.7	56.1	4.8	55.9	60°	-	00:52	02:37	01:20	01:55	02:38	
	06	2° 19.2	303° 14.6	43.8	167° 51.9	31.9	245° 09.2	27.1	136° 53.1	40.9	269° 24.5	24.5	269° 24.5	Alioth	166° 20.1	55° 53.2 N	269° 24.5	24.5	306° 39.4	10.7	17° 00.9 N	4.7	58°	-	01:42	02:58	01:31	02:07	02:51		
	07	17° 21.6	318° 14.0	44.5	182° 53.6	32.3	260° 11.1	27.0	151° 55.7	40.9	284° 24.4	24.4	284° 24.4	Alkaid	152° 58.2	49° 14.7 N	284° 24.4	24.4	321° 09.1	10.7	05.6	4.6	56°	-	02:12	03:14	01:40	02:18	03:02		
	08	32° 24.1	333° 13.4	45.2	197° 55.2	32.7	275° 13.0	26.9	166° 58.8	40.9	299° 24.2	24.4	299° 24.2	Alnair	27° 42.7	46° 53.1 S	299° 24.2	24.4	335° 38.8	10.7	10.2	4.6	54°	00:48	02:34	03:29	01:48	02:27	03:12		
	09	47° 26.6	348° 12.8	45.9	212° 56.9	33.1	290° 14.9	26.8	182° 50.3	40.9	314° 24.1	24.3	314° 24.1	Alnilam	275° 46.0	1° 11.8 S	314° 24.1	24.3	350° 05.2	10.7	14.8	4.4	52°	01:34	02:52	03:41	01:56	02:35	03:21		
	10	62° 29.0	3° 12.2	46.5	227° 58.6	33.5	305° 16.8	26.7	197° 03.4	40.9	329° 24.0	24.3	329° 24.0	Alphard	217° 55.6	8° 43.5 S	329° 24.0	24.3	4° 38.2	10.7	19.2	4.4	55.8	50°	02:02	03:07	03:52	02:02	02:43	03:29	
	11	77° 31.5	18° 11.6	47.2	243° 00.3	33.9	320° 18.7	26.6	212° 06.0	40.8	344° 23.8	24.2	344° 23.8				344° 23.8	24.2	19° 07.9	10.6	23.6	4.2	45°	02:47	03:37	04:14	02:17	02:59	03:46		
	12	92° 33.9	33° 11.0	18° 47.9 N	335° 01.9	6° 34.3 S	335° 20.6	21° 26.5 N	227° 08.5	14° 40.8 S	359° 23.7	23° 24.2 N	359° 23.7	Alphecca	126° 10.1	26° 40.2 N	359° 23.7	23° 24.2 N	33° 37.5	10.7	17° 27.8 N	4.2	55.8	N 40°	03:18	03:59	04:32	02:28	03:12	04:00	
	13	107° 36.4	48° 10.5	48.6	273° 03.6	34.7	350° 22.5	26.4	242° 11.1	40.8	14° 23.6	24.1	14° 23.6	Alpheratz	357° 42.7	29° 10.1 N	14° 23.6	24.1	48° 07.2	10.7	32.0	4.1	35°	03:41	04:18	04:47	02:39	03:23	04:11		
	14	122° 38.9	63° 09.9	49.3	288° 05.3	35.1	5° 24.4 S	26.3	257° 13.7	40.8	29° 23.4	24.1	29° 23.4	Altair	62° 07.2	8° 54.6 N	29° 23.4	24.1	62° 36.9	10.7	36.1	3.9	30°	04:00	04:33	05:00	02:47	03:33	04:22		
	15	137° 41.3	78° 09.3	49.9	303° 06.9	35.5	20° 26.3 S	26.2	272° 16.2	40.8	44° 23.3	24.0	44° 23.3	Ankaa	353° 15.1	42° 13.4 S	44° 23.3	24.0	77° 06.6	10.6	40.0	3.9	55.7	20°	04:29	04:58	05:22	03:03	03:50	04:39	
	16	152° 43.8	93° 08.7	50.6	318° 08.6	35.9	35° 28.2 S	26.1	287° 18.8	40.7	59° 23.2	24.0	59° 23.2	Antares	112° 25.0	26° 27.7 S	59° 23.2	24.0	91° 36.2	10.7	43.9	3.8	N 10°	04:51	05:18	05:41	03:16	04:05	04:55		
	17	167° 46.3	108° 08.1	51.3	333° 10.3	36.3	50° 30.1 S	26.0	302° 21.4	40.7	74° 23.0	23.9	74° 23.0				74° 23.0	23.9	106° 05.9	10.7	47.7	3.7	0°	05:10	05:36	05:59	03:29	04:19	05:09		
	18	182° 48.7	123° 07.5	51.9	348° 11.9	36.7	65° 32.0 S	25.9	317° 23.9	40.7	89° 22.9	23.8	89° 22.9	Arcturus	145° 54.9	19° 06.6 N	89° 22.9	23.8	120° 35.6	10.6	51.4	3.7	S 10°	05:27	05:54	06:16	03:41	04:33	05:23		
	19	197° 51.2	138° 06.9	52.6	3° 13.6	37.0	80° 33.9 S	25.9	332° 26.5	40.7	107° 25.6	23.8	107° 25.6	Atria	107° 25.6	69° 03.1 S	107° 25.6	23.8	135° 05.2	10.7	55.1	3.5	20°	05:43	06:11	06:35	03:55	04:48	05:39		
	20	212° 53.7	153° 06.3	53.3	18° 15.2	37.4	95° 35.8 S	25.8	347° 29.1	40.7	119° 22.6	23.7	119° 22.6	Avior	234° 18.2	59° 33.7 S	119° 22.6	23.7	149° 58.6	10.6	58.2	3.4	55.6	30°	06:00	06:30	06:56	04:11	05:05	05:57	
	21	227° 56.1	168° 05.7	54.0	33° 16.9	37.8	110° 37.7 S	25.7	2° 31.6	40.6	134° 22.5	23.7	134° 22.5	Bellatrix	278° 31.6	6° 21.6 N	134° 22.5	23.7	164° 04.5	10.7	18° 02.0 N	3.3	35°	06:09	06:40	07:08	04:20	05:15	06:07		
	22	242° 58.6	183° 05.1	54.6	48° 18.6	38.2	125° 39.6 S	25.6	17° 34.2	40.6	149° 22.4	23.6	149° 22.4	Betelgeuse	271° 00.9	7° 24.4 N	149° 22.4	23.6	178° 34.2	10.7	05.3	3.3	40°	06:18	06:52	07:23	04:30	05:26	06:19		
	23	258° 01.1	198° 04.5	55.3	63° 20.2	38.6	140° 41.5 S	25.5	32° 36.8	40.6	164° 22.2	23.5	164° 22.2				164° 22.2	23.5	193° 03.9	10.6	08.6	3.1	45°	06:28	07:06	07:39	04:42	05:40	06:33		
Wednesday	00	273° 03.5	213° 03.9	18° 56.0 N	78° 21.9	6° 39.0 S	155° 43.4	21° 25.4 N	47° 39.3	14° 40.6 S	263° 56.4	52° 42.4 S	Canopus	263° 56.4	52° 42.4 S	179° 22.1	23° 23.5 N	207° 33.5	10.7	18° 11.7 N	3.1	55.6	S 50°	06:40	07:22	08:00	04:57	05:56	06:50		
	01	288° 06.0	228° 03.3	56.6	93° 23.5	39.4	170° 45.3 S	25.3	62° 41.9	40.6	194° 22.0	23.4	194° 22.0	Capella	280° 33.9	46° 00.5 N	194° 22.0	23.4	222° 03.2	10.7	14.8	2.9	55.5	52°	06:45	07:29	08:10	05:04	06:04	06:58	
	02	303° 08.4	243° 02.7	57.3	108° 25.2	39.8	185° 47.2 S	25.2	77° 44.5	40.5	209° 21.8	23.4	209° 21.8	Deneb	49° 30.5	46° 20.0 N	209° 21.8	23.4	236° 32.9	10.6	17.7	2.9	54°	06:51	07:37	08:21	05:12	06:13	07:07		
	03	318° 10.9	258° 02.1	58.0	123° 28.9	40.2	200° 49.1 S	25.1	92° 47.0	40.5	224° 21.7	23.3	224° 21.7	Denebola	182° 33.0	14° 29.5 S	224° 21.7	23.3	251° 02.5	10.7	20.6	2.7	56°	06:57	07:46	08:34	05:21	06:22	07:17		
	04	333° 13.4	273° 01.5	58.6	138° 26.5	40.6	215° 51.0 S	25.0	107° 49.6	40.5	239° 21.6	23.2	239° 21.6	Diphda	348° 55.2	17° 54.3 S	239° 21.6	23.2	265° 32.2	10.7	23.3	2.7	58°	07:04	07:57	08:48	05:30	06:34	07:28		
	05	348° 15.8	288° 00.9	59.3	153° 30.2	41.0	230° 52.9 S	24.9	122° 52.2	40.5	254° 21.4	23.2	254° 21.4				254° 21.4	23.2	280° 01.9	10.6	26.0	2.6	S 60°	07:11	08:08	09:06	05:42	06:46	07:41		
	06	3° 18.3	303° 00.3	59.9	168° 31.8	41.4	245° 54.8 S	24.8	137° 54.7	40.5	269° 21.3	23.1	269° 21.3	Dubhe	193° 51.2	61° 40.6 N	269° 21.3	23.1	294° 31.5	10.7	28.6	2.5	55.4	S 62°	07:20	08:22	09:27	05:55	07:01	07:57	
	07	18° 20.8	317° 59.7	19° 00.6 N	183° 33.5	41.8	260° 56.7 S	24.7	152° 57.3	40.5	284° 21.1	23.0	284° 21.1	Einath	278° 12.1	28° 36.9 N	284° 21.1	23.0	309° 01.2	10.7	31.1	2.3									
	08	33° 23.2	332° 59.1	01.3	198° 35.1	42.2	275° 58.6 S	24.6	167° 59.9	40.4	299° 21.0	23.0	299° 21.0	Eltanin	90° 45.3	51° 29.4 N	299° 21.0	23.0	323° 30.9	10.7	33.4	2.3									
	09	48° 25.7	347° 58.5	01.9	213° 36.8	42.6	291° 00.5 S	24.5	183° 02.4	40.4	314° 20.9	22.9	314° 20.9	Enif	183° 46.2	9° 56.6 N	314° 20.9	22.9	338° 00.6	10.7	35.7	2.2									
	10	63° 28.2	2° 57.9	02.6	228° 38.4	43.0	306° 02.3 S	24.4	19																						

2014 June 27, 28, 29 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS 0.0			JUPITER -1.8			SATURN +0.3			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	27	28	29				
Friday	27 00	275° 01'.8	212° 34'.5	19° 27'.0 N	79° 40'.7	6° 58'.4 S	157° 14'.4	21° 20'.8 N	49° 42'.3	14° 39'.7 S	Acamar	315° 18'.1	40° 14'.7 S	179° 15'.7	23° 19'.7 N	183° 28'.1	11.4	18° 50'.8 N	1.5	54.7	N 70°	-	-	-	-	01:21	03:26				
	01	290° 04'.3	227° 33'.9	27.6	94° 42'.3	58.8	172° 16'.3	20.7	64° 44'.9	39.7	Achernar	335° 26'.5	57° 09'.6 S	194° 15'.6	19.6	197° 58'.5	11.3	49.3	1.5	68°	-	-	-	01:14	02:36	04:06					
	02	305° 06'.7	242° 33'.3	28.3	109° 44'.0	59.2	187° 18'.2	20.6	79° 47'.4	39.7	Acruz	173° 08'.3	63° 11'.1 S	209° 15'.4	19.5	212° 28'.8	11.4	47.8	1.7	66°	-	-	-	02:03	03:13	04:33					
	03	320° 09'.2	257° 32'.7	28.9	124° 45'.6	59.6	202° 20'.1	20.5	94° 50'.0	39.7	Adhara	255° 12'.3	28° 59'.7 S	224° 15'.3	19.4	226° 59'.2	11.4	46.1	1.7	64°	-	-	01:36	02:57	04:00	05:10					
	04	335° 11'.7	272° 32'.0	29.5	139° 47'.2	7° 00'.0 S	217° 22'.0	20.4	109° 52'.6	39.7	Aldebaran	290° 48'.9	16° 32'.1 N	239° 15'.2	19.3	241° 29'.6	11.4	44.4	1.9	62°	-	-	02:13	03:15	04:16	05:23					
	05	350° 14'.1	287° 31'.4	30.1	154° 48'.8	00.5	232° 23'.9	20.3	124° 55'.1	39.6		166° 20'.1	55° 53'.2 N	254° 15'.1	19.2	256° 00'.0	11.5	42.5	1.9	60°	-	00:57	02:39	03:30	04:30	05:35					
	06	5° 16'.6	302° 30'.8	30.8	169° 50'.4	00.9	247° 25'.8	20.2	139° 57'.7	39.6	Alioth	260° 20'.1	55° 53'.2 N	269° 14'.9	19.1	270° 30'.5	11.5	40.6	2.0	58°	-	01:45	02:59	03:43	04:41	05:44					
	07	20° 19'.0	317° 30'.2	31.4	184° 52'.1	01.3	262° 27'.7	20.1	155° 00'.2	39.6	Alkaid	152° 58'.2	49° 14'.7 N	284° 14'.8	19.0	285° 01'.0	11.5	38.6	2.1	56°	-	02:14	03:16	03:54	04:51	05:53					
	08	35° 21'.5	332° 29'.5	32.0	199° 53'.7	01.7	277° 29'.6	20.0	170° 02'.8	39.6	Alnilam	27° 42'.6	46° 53'.1 S	299° 14'.7	18.9	299° 31'.5	11.5	36.5	2.2	54.6	54°	00:52	02:36	03:30	04:04	05:00	06:01				
	09	50° 24'.0	347° 28'.9	32.6	214° 55'.3	02.1	292° 31'.4	19.9	185° 05'.4	39.6	Alnair	275° 46'.0	1° 11'.7 S	314° 14'.5	18.8	314° 02'.0	11.6	34.3	2.3	52°	01:36	02:54	03:42	04:12	05:08	06:08					
	10	65° 26'.4	2° 28'.3	33.2	229° 56'.9	02.5	307° 33'.3	19.8	200° 07'.9	39.6	Alphard	217° 55'.6	8° 43'.5 S	329° 14'.4	18.7	328° 32'.6	11.6	32.0	2.4	50°	02:04	03:09	03:53	04:20	05:15	06:14					
	11	80° 28'.9	17° 27'.6	33.9	244° 58'.5	02.9	322° 35'.2	19.7	215° 01'.9	39.5		196° 20'.1	55° 53'.2 N	344° 14'.3	18.6	343° 03'.2	11.7	29.6	2.5	45°	02:49	03:38	04:16	04:37	05:31	06:27					
	12	95° 31'.4	32° 27.0	19° 34.5 N	260° 00'.2	7° 03.3 S	337° 37.1	21° 19.6 N	230° 13'.0	14° 39.5 S	Alphecca	126° 10'.1	26° 40'.2 N	359° 14'.1	23° 18.5 N	357° 33'.9	11.6	18° 27'.1 N	2.5	54.6	N 40°	03:19	04:01	04:33	04:50	05:43	06:38				
	13	110° 33'.8	47° 26'.4	35.1	275° 01'.8	03.7	352° 39'.0	19.5	245° 15'.6	39.5	Alpheratz	357° 42'.7	29° 10'.1 N	14° 14'.0	18.4	12° 04'.5	11.7	24.6	2.6	35°	03:42	04:19	04:48	05:02	05:54	06:47					
	14	125° 36'.3	62° 25'.8	35.7	290° 03'.4	04.1	7° 40'.9	19.4	260° 18'.1	39.5	Altair	62° 07'.2	8° 54'.6 N	29° 13'.9	18.3	26° 35'.2	11.8	22.0	2.7	30°	04:01	04:34	05:01	05:12	06:03	06:55					
	15	140° 38'.8	77° 25'.1	36.3	305° 05'.0	04.6	22° 42'.8	19.3	275° 20'.7	39.5	Ankaa	353° 15'.1	42° 13'.4 S	44° 13'.7	18.2	41° 06'.0	11.7	19.3	2.9	54.5	20°	04:30	04:59	05:23	05:29	06:19	07:09				
	16	155° 41'.2	92° 24'.5	36.9	320° 06'.6	05.0	37° 44'.7	19.2	290° 23'.3	39.5	Antares	112° 25'.0	26° 27'.7 S	59° 13'.6	18.1	55° 36'.7	11.8	16.4	2.8	N 10°	04:52	05:19	05:42	05:44	06:33	07:22					
	17	170° 43'.7	107° 23'.9	37.6	335° 08'.2	05.4	52° 46'.6	19.1	305° 25'.8	39.4		74° 13'.5	18.0	70° 07'.5	11.9	70° 07'.5	11.9	13.6	3.0	0°	05:11	05:37	06:00	05:58	06:46	07:33					
	18	185° 46'.2	122° 23'.2	38.2	350° 09'.9	05.8	67° 48'.5	19.0	320° 28'.4	39.4	Arcturus	145° 54'.9	19° 06'.6 N	89° 13'.4	17.9	84° 38'.4	11.8	10.6	3.1	S 10°	05:28	05:54	06:17	06:12	07:00	07:45					
	19	200° 48'.6	137° 22'.6	38.8	5° 11'.5	06.2	82° 50'.4	18.9	335° 30'.9	39.4	Atria	107° 25'.6	69° 03'.1 S	104° 13'.2	17.8	99° 09'.2	11.9	07.5	3.1	20°	05:44	06:11	06:35	06:28	07:14	07:57					
	20	215° 51'.1	152° 22'.0	39.4	20° 13'.1	06.6	97° 52'.3	18.8	350° 33'.5	39.4	Avior	234° 18'.2	59° 33'.7 S	119° 13'.1	17.7	113° 40'.1	11.9	04.4	3.2	30°	06:00	06:30	06:56	06:45	07:30	08:11					
	21	230° 53'.5	167° 21'.3	40.0	35° 14'.7	07.0	112° 54'.2	18.7	5° 36'.0	39.4	Bellatrix	278° 31'.6	6° 21'.6 N	134° 13'.0	17.6	128° 11'.0	12.0	01.2	3.3	35°	06:09	06:41	07:09	06:55	07:39	08:19					
	22	245° 56'.0	182° 20'.7	40.6	50° 16'.3	07.4	127° 56'.1	18.6	20° 38'.6	39.4	Betelgeuse	271° 00'.9	7° 24'.4 N	149° 12'.8	17.5	142° 42'.0	12.0	17° 57'.9 N	3.4	40°	06:18	06:52	07:23	07:06	07:49	08:28					
23	260° 58'.5	197° 20'.1	41.2	65° 17'.9	07.9	142° 58'.0	18.5	35° 41'.1	39.4		164° 12.7	17.4	157° 13.0	12.0	54.5	3.5	54.4	45°	06:28	07:06	07:39	07:20	08:02	08:39							
Saturday	27 00	276° 00'.9	212° 19'.4	19° 41'.8 N	80° 19'.5	7° 08'.3 S	157° 59'.9	21° 18'.4 N	50° 43'.7	14° 39'.3 S	Canopus	263° 56'.4	52° 42'.4 S	179° 12'.6	23° 17'.2 N	171° 44'.0	12.1	17° 51'.0 N	3.6	54.4	S 50°	06:40	07:22	08:00	07:37	08:17	08:52				
	01	291° 03'.4	227° 18'.8	42.4	95° 21'.1	08.7	173° 01'.8	18.3	65° 46'.3	39.3	Capella	280° 33'.8	46° 00'.5 N	194° 12'.4	17.1	186° 15'.1	12.1	47.4	3.6	52°	06:45	07:29	08:10	07:44	08:24	08:58					
	02	306° 05'.9	242° 18'.2	43.0	110° 22'.7	09.1	188° 03'.7	18.2	80° 48'.8	39.3	Deneb	49° 30'.5	45° 20'.0 N	209° 12'.3	17.0	200° 46'.2	12.1	43.8	3.7	54°	06:51	07:37	08:21	07:53	08:32	09:04					
	03	321° 08'.3	257° 17'.5	43.6	125° 24'.3	09.5	203° 05'.4	18.1	95° 51'.4	39.3	Denebola	182° 33'.0	14° 29'.5 S	224° 12.2	16.9	215° 17.3	12.2	40.1	3.8	56°	06:57	07:46	08:33	08:03	08:40	09:12					
	04	336° 10'.8	272° 16'.9	44.2	140° 25'.9	09.9	218° 07'.9	18.0	110° 53'.9	39.3	Diphda	348° 55'.2	17° 54'.3 S	239° 12'.1	16.8	229° 48'.5	12.2	36.3	3.9	58°	07:04	07:56	08:48	08:14	08:50	09:20					
	05	351° 13'.3	287° 16'.3	44.9	155° 27'.6	10.3	233° 09'.3	17.9	125° 56'.5	39.3		254° 11.9	16.7	244° 19.7	12.2	244° 19.7	12.2	32.4	3.9	S 60°	07:11	08:08	09:05	08:26	09:02	09:29					
	06	6° 15'.7	302° 15'.6	45.5	170° 29'.2	10.8	248° 11'.2	17.8	140° 59'.0	39.2	Dubhe	193° 51'.2	61° 40'.6 N	269° 11'.8	16.6	258° 50'.9	12.3	28.5	4.1	1°	07:18	08:07	09:04	08:25	09:01						
	07	21° 18'.2	317° 15'.0	46.1	185° 30'.8	11.2	263° 13'.1	17.7	156° 01'.6	39.2	Elath	278° 12'.1	28° 36'.9 N	284° 11'.7	16.4	273° 22'.2	12.3	24.4	4.1	54.3	20°	07:26	08:15	09:12	08:33	09:08					
	08	36° 20'.7	332° 14'.4	46.7	200° 32'.4	11.6	278° 15'.0	17.6	171° 04'.1	39.2	Eltanin	90° 45'.3	51° 29'.5 S	299° 11'.5	16.3	287° 53'.5	12.4	20.3	4.2	54.3	30°	07:34	08:23	09:20	08:41	09:16					
	09	51° 23'.1	347° 13'.7	47.3	215° 34'.0	12.0	293° 16'.9	17.5	186° 06'.7	39.2	Enif	15° 46'.2	9° 56'.6 N	314° 11'.4	16.2	302° 24'.9	12.4	16.1	4.3	54.3	40°	07:42	08:31	09:28	08:49	09:24					
	10	66° 25'.6	2° 13'.1	47.9	230° 35'.6	12.4	308° 18'.8	17.4	201° 09'.3	39.2	Fomalhaut	33° 23'.1	29° 32'.5 S	329° 11.3	16.1	316° 56'.3	12.4	11.8	4.3	54.3	50°	07:50	08:39	09:36	08:57	09:32					
	11	81° 28'.0	17° 12'.4	48.5	245° 37'.2	12.8	323° 20'.7	17.3	216° 11'.8	39.2		164° 11.2	16.0	331° 27.7	12.5	07.5	4.4	4.4	4.4	54.3	N 72°	-	-	-	23:54	23:26	23:14				
	12	96° 30'.5	32° 11'.8	19° 49.0 N	260° 38'.8	7° 13.3 S	338° 22'.6	21° 17.2 N	231° 14'.4	14° 39.2 S	Gacrux	171° 59'.9	57° 12'.0 S	359° 11'.0	23° 15.8 N	345° 59'.2	12.5	17° 03'.1 N	4.5	54.3	N 70°	-	-	-	22:39	22:46	22:48				
	13	111° 33'.0	47° 11'.2	49.6	275° 40'.4	13.7	353° 24'.5	17.1	246° 16'.9	39.1	Giennah	175° 51'.5	17° 37'.5 S	14° 10'.9	15.7	0° 30'.7	12.5	16° 58'.6 N	4.6	68°	-	-	-	22:01	22:18	22:29					
	14	126° 35'.4	62° 10'.5	50.2	290° 42'.0	14.1	8° 26'.4	17.0	261° 19'.5	3																					

2014 Jun 30, Jul. 1, 2 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.0			JUPITER -1.8			SATURN +0.3			STARS			SUN			MOON			Lat	Twilight		Sunrise	30	Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	1		2	1			2	
Monday	30 00	277° 59'2	211° 48'5	20° 10'0 N	81° 35'9	7° 28'4 S	159° 30'7	21° 13'7 N	52° 46'2	14° 38'6 S	Acamar	315° 18'1	40° 14'7 S	179° 06'5	23° 11'0 N	149° 16'7	13.8	13° 37'2 N	6.9	54.1	N 72°	-	-	-	05:13	06:52	08:29				
	01	293° 01'7	226° 47'8	10.5	96° 37'5	28.8	174° 32'6	13.6	67° 48'7	38.6	Achernar	335° 26'5	57° 09'5 S	194° 06'3	10.9	163° 49'5	13.9	30.3	6.9	68°	-	-	-	05:56	07:20	08:44					
	02	308° 04'1	241° 47'2	11.1	111° 39'1	29.2	189° 34'5	13'5	82° 51'3	38'6	Acruz	173° 08'4	63° 11'1 S	209° 06'2	10'7	178° 22'4	13.9	23.4	7.0	54.0	66°	-	-	00:19	06:11	07:31	08:50				
	03	323° 06'6	256° 46'5	11.7	126° 40'7	29.6	204° 36'4	13.4	97° 53'8	38'6	Adhara	255° 12'3	28° 59'7 S	224° 06'1	10'6	192° 55'3	13.9	16.4	7.1	64°	-	-	01:41	06:24	07:39	08:55					
	04	338° 09'1	271° 45'8	12.2	141° 42'2	30.1	219° 38'3	13.3	112° 56'4	38'6	Aldebaran	290° 48'8	16° 32'1 N	239° 06'0	10'4	207° 28'2	14.0	09.3	7.1	62°	-	-	02:17	06:34	07:46	08:59					
	05	353° 11'5	286° 45'2	12.8	156° 43'8	30.5	234° 40'2	13.2	127° 58'9	38'6		196° 20'1	55° 53'2 N	254° 05'8	10'3	222° 01'2	14.0	02.2	7.1	60°	-	01:03	02:42	06:43	07:53	09:03					
	06	8° 14'0	301° 44'5	13.3	171° 45'4	30.9	249° 42'1	13'1	143° 01'5	38'6	Alioth	166° 20'1	55° 53'2 N	269° 05'7	10'1	236° 34'2	14.1	12° 55'1 N	7.3	58°	-	01:48	03:02	06:51	07:58	09:06					
	07	23° 16'5	316° 43'9	13.9	186° 47'0	31.3	264° 44'0	13'0	158° 04'0	38'5	Alkaid	152° 58'2	49° 14'8 N	284° 05'6	10'0	251° 07'3	14.0	47.8	7.2	56°	-	02:17	03:18	06:57	08:03	09:09					
	08	38° 18'9	331° 43'2	14.5	201° 48'5	31.8	279° 45'9	12.9	173° 06'6	38'5	Alnair	27° 42'6	46° 53'1 S	299° 05'5	09.8	265° 40'3	14.1	40.6	7.4	54°	00:58	02:38	03:32	07:03	08:07	09:12					
	09	53° 21'4	346° 42'6	15.0	216° 50'1	32.2	294° 47'8	12.8	188° 09'1	38'5	Alnilam	275° 46'0	11° 1'7 S	314° 05'3	09.7	280° 13'4	14.2	33.2	7.7	52°	01:40	02:56	03:44	07:09	08:11	09:14					
	10	68° 23'9	1° 41'9	15.6	231° 51'7	32.6	309° 49'6	12'7	203° 11'7	38'5	Alphard	217° 55'6	8° 43'5 S	329° 05'2	09'5	294° 46'6	14.1	25.9	7.4	50°	02:06	03:11	03:55	07:14	08:15	09:16					
	11	83° 26'3	16° 41'2	16.1	246° 53'2	33'0	324° 51'5	12'6	218° 14'2	38'5		190° 20'1	55° 53'2 N	344° 05'1	09'4	309° 19'7	14.2	18.5	7.5	45°	02:51	03:40	04:17	07:24	08:23	09:21					
	12	98° 28'8	31° 40'6	20° 16'7 N	261° 54'8	7° 33'5 S	339° 53'4	21° 12'5 N	233° 16'8	14° 38'5 S	Alphecca	126° 10'1	26° 40'2 N	359° 05'0	23° 09'2 N	323° 52'9	14.3	12° 11'0 N	7.5	54.0	N 40°	03:21	04:02	04:35	07:33	08:29	09:25				
	13	113° 31'3	46° 39'9	17.2	276° 56'4	33.9	354° 55'3	12'4	248° 19'3	38'5	Alpheratz	357° 42'7	29° 10'1 N	14° 04'8	09'1	338° 26'2	14.2	03.5	7.6	35°	03:43	04:20	04:50	07:41	08:34	09:28					
	14	128° 33'7	61° 39'2	17.8	291° 57'9	34.3	9° 57'2	12'3	263° 21'8	38'5	Altair	62° 07'2	8° 54'6 N	29° 04'7	08'9	352° 59'4	14.3	11° 55'9 N	7.6	30°	04:02	04:35	05:02	07:47	08:39	09:31					
	15	143° 36'2	76° 38'6	18.3	306° 59'5	34.7	24° 59'1	12'2	278° 24'4	38'4	Ankaa	353° 15'0	42° 13'4 S	44° 04'6	08'8	7° 32'7	14.3	48.3	7.7	20°	04:31	05:00	05:24	07:59	08:48	09:36					
	16	158° 38'6	91° 37'9	18.9	322° 01'1	35.2	40° 01'0	12'1	293° 26'9	38'4	Antares	112° 25'0	26° 27'7 S	59° 04'5	08'6	22° 06'0	14.4	40.6	7.7	N 10°	04:53	05:20	05:43	08:09	08:55	09:41					
	17	173° 41'1	106° 37'3	19.4	337° 02'6	35.6	55° 02'9	12'0	308° 29'5	38'4		74° 04'3	08'4	74° 04'3	08'4	36° 39'4	14.4	32.9	7.8	0°	05:12	05:38	06:00	08:18	09:02	09:45					
	18	188° 43'6	121° 36'6	20.0	352° 04'2	36.0	70° 04'8	11'9	323° 32'0	38'4	Arcturus	145° 54'9	19° 06'6 N	89° 04'2	08'3	51° 12'8	14.4	25.1	7.8	S 10°	05:28	05:55	06:17	08:28	09:09	09:49					
	19	203° 46'0	136° 35'9	20.5	7° 05'8	36.5	85° 06'7	11'8	338° 34'6	38'4	Atria	107° 25'6	69° 03'1 S	104° 04'1	08'1	65° 46'2	14.4	17.3	7.9	20°	05:44	06:12	06:36	08:37	09:16	09:53					
	20	218° 48'5	151° 35'3	21.1	22° 07'3	36.9	100° 08'6	11'7	353° 37'1	38'4	Avior	234° 18'2	59° 33'7 S	119° 04'0	08'0	80° 19'6	14.5	09.4	7.9	30°	06:00	06:30	06:56	08:49	09:24	09:58					
	21	233° 51'0	166° 34'6	21.6	37° 08'9	37.3	115° 10'5	11'6	8° 39'7	38'4	Bellatrix	278° 31'6	6° 21'6 N	134° 03'9	07'8	94° 53'1	14.5	01.5	7.9	35°	06:09	06:41	07:09	08:55	09:29	10:01					
	22	248° 53'4	181° 33'9	22.2	52° 10'5	37.7	130° 12'3	11'5	23° 42'2	38'3	Betelgeuse	271° 00'8	7° 24'4 N	149° 03'7	07'6	109° 26'6	14.5	10° 53'6 N	8.0	40°	06:18	06:52	07:23	09:03	09:35	10:05					
23	263° 55'9	196° 33'3	22.7	67° 12'0	38.2	145° 14'2	11'4	38° 44'8	38'3		164° 03'6	07'5	124° 00'1	14'6	45.6	8.0			45°	06:28	07:05	07:39	09:11	09:41	10:08						
Tuesday	1 00	278° 58'4	211° 32'6	20° 23'3 N	82° 13'6	7° 38'6 S	160° 16'1	21° 11'3 N	53° 47'3	14° 38'3 S	Canopus	263° 56'4	52° 42'4 S	179° 03'5	23° 07'3 N	138° 33'7	14.5	10° 37'6 N	8'1	54.0	S 50°	06:40	07:21	08:00	09:22	09:48	10:13				
	01	294° 00'8	226° 31'9	23.8	97° 15'1	39.0	175° 18'0	11'2	68° 49'8	38'3	Capella	280° 33'8	46° 00'5 N	194° 03'4	07'1	153° 07'2	14.6	29.5	8.1	52°	06:45	07:29	08:09	09:26	09:52	10:15					
	02	309° 03'3	241° 31'3	24.4	112° 16'7	39.4	190° 19'9	11'1	83° 52'4	38'3	Deneb	49° 30'5	45° 20'0 N	209° 03'2	07'0	167° 40'8	14.7	21.4	8.2	54°	06:51	07:37	08:20	09:32	09:56	10:17					
	03	324° 05'7	256° 30'6	24.9	127° 18'3	39.9	205° 21'7	11'0	98° 54'9	38'3	Denebola	182° 33'0	14° 29'5 S	224° 03'1	06'8	182° 14'5	14.6	13.2	8.2	56°	06:57	07:45	08:32	09:38	10:00	10:20					
	04	339° 08'2	271° 29'9	25.4	142° 19'8	40.3	220° 23'8	10'9	113° 57'5	38'3	Diphda	348° 55'2	17° 54'3 S	239° 03'0	06'7	196° 48'1	14.7	05.0	8.3	58°	07:03	07:55	08:47	09:44	10:04	10:23					
	05	354° 10'7	286° 29'3	26.0	157° 21'4	40.7	235° 25'6	10'8	129° 00'0	38'3				254° 02'9	06'5	211° 21'8	14.7	9° 56'7 N	8'2		S 60°	07:10	08:07	09:04	09:51	10:10	10:26				
	06	9° 13'1	301° 28'6	26.5	172° 22'9	41.2	250° 27'5	10'7	144° 02'6	38'3	Dubhe	193° 51'2	61° 40'5 N	269° 02'8	06'3	225° 55'5	14.7	48.5	8.4		S 62°	07:19	08:20	09:25	10:00	10:16	10:29				
	07	24° 15'6	316° 27'9	27.1	187° 24'5	41.6	265° 29'4	10'6	159° 05'1	38'2	Elath	278° 12'1	28° 36'9 N	284° 02'6	06'2	240° 29'2	14.8	40.1	8.3												
	08	39° 18'1	331° 27'3	27.6	202° 26'0	42.0	280° 31'3	10'5	174° 07'7	38'2	Eltanin	90° 45'3	51° 29'5 S	299° 02'5	06'0	255° 03'0	14.8	31.8	8.4												
	09	54° 20'5	346° 26'6	28.1	217° 27'6	42.5	295° 33'1	10'4	189° 10'2	38'2	Enif	15° 46'2	9° 56'6 N	314° 02'4	05'8	269° 36'8	14.8	23.4	8.5												
	10	69° 23'0	1° 25'9	28.7	232° 29'2	42.9	310° 35'0	10'3	204° 12'7	38'2	Fomalhaut	15° 23'1	29° 32'4 S	329° 02'3	05'6	284° 10'6	14.8	14.9	8.5												
	11	84° 25'5	16° 25'2	29.2	247° 30'7	43.3	325° 36'9	10'2	219° 15'3	38'2				344° 02'1	05'5	298° 44'4	14.8	06.4	8.5												
	12	99° 27'9	31° 24'6	20° 29'7 N	262° 32'3	7° 43'7 S	340° 38'8	21° 10'1 N	234° 17'8	14° 38'2 S	Gacrux	172° 00'0	57° 12'0 S	359° 02'0	23° 05'3 N	313° 18'2	14.9	8° 57'9 N	8'6	54.0	N 70°	-	-	-	22:49	22:48	22:47				
	13	114° 30'4	46° 23'9	30.3	277° 33'8	44.2	355° 40'7	09.9	249° 20'4	38'2	Giennah	175° 51'6	17° 37'5 S	14° 01'9	05'1	327° 52'1	14.9	49.3	8.6	54.1	68°	-	-	-	22:35	22:39	22:43				
	14	129° 32'9	61° 23'2	30.8	292° 35'4	44.6	10° 42'6	09.8	264° 22'9	38'2	Hadar	148° 46'5	60° 26'8 S	29° 01'8	05'0	342° 26'0	14.9	40.7	8.6	66°	23:4										

2014 July 3, 4, 5 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.1			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON				Lat	Twilight		Sunrise	MOONRISE		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil		3	4		5		
Thurs day	3 00	280° 56'.6	211° 00'.1	20° 48'.3 N	83° 27'.7	7° 59'.3 S	161° 46'.9	21° 06'.4 N	55° 49'.3	14° 37'.8 S	55° 49'.3	14° 37'.8 S	Acamar	315° 18'.1	40° 14'.7 S	178° 57'.7	22° 58'.7 N	117° 45'.8	15.2	3° 30'.7 N	9.5	54.3	N 72°	-	-	-	10:04	11:40	13:19			
	01	295° 59'.1	225° 59'.4	48.8	98° 29'.3	59.8	176° 48'.8	06.3	70° 51'.8	37.8	89° 29'.3	59.8	176° 48'.8	Achernar	335° 26'.5	57° 09'.5 S	193° 57'.6	58'.5	132° 20'.0	15.2	21'.2	9.5	54.4	68°	-	-	-	10:07	11:37	13:09		
	02	311° 01'.6	240° 58'.7	49.3	113° 30'.8	8° 00'.2 S	191° 50'.7	06.2	85° 54'.3	37.8	85° 54'.3	37.8	85° 54'.3	Acruz	173° 08'.4	63° 11'.1 S	208° 57'.5	58'.3	146° 54'.2	15.2	11.7	9.6	66°	-	-	00:41	10:10	11:32	12:55			
	03	326° 04'.0	255° 58'.0	49.8	128° 32'.3	00.7	206° 52'.5	06.1	100° 56'.9	37.8	100° 56'.9	37.8	100° 56'.9	Adhara	255° 12'.3	28° 59'.7 S	223° 57'.4	58'.1	161° 28'.4	15.2	02.1	9.6	64°	-	-	01:47	10:12	11:30	12:49			
	04	341° 06'.5	270° 57'.4	50.3	143° 33'.8	01.1	221° 54'.4	06.0	115° 59'.4	37.7	115° 59'.4	37.7	115° 59'.4	Aldebaran	290° 48'.8	36° 32'.1 N	238° 57'.3	57.9	176° 02'.6	15.2	2° 52'.5 N	9.6	62°	-	-	02:21	10:13	11:28	12:45			
	05	356° 09'.0	285° 56'.7	50.8	158° 35'.4	01.5	236° 56'.3	05.9	131° 01'.9	37.7	131° 01'.9	37.7	131° 01'.9				253° 57'.2	57.7	190° 36'.8	15.2	42'.9	9.6	60°	-	01:11	02:46	10:14	11:27	12:41			
	06	11° 11'.4	300° 56'.0	51.3	173° 36'.9	02.0	251° 58'.2	05.8	146° 04'.5	37.7	146° 04'.5	37.7	146° 04'.5	Alioth	166° 20'.1	55° 53'.2 N	268° 57'.0	57.5	205° 11'.0	15.1	33'.3	9.6	N 58°	-	01:53	03:05	10:15	11:25	12:37			
	07	26° 13'.9	315° 55'.3	51.8	188° 38'.4	02.4	267° 00'.1	05.7	161° 07'.0	37.7	161° 07'.0	37.7	161° 07'.0	Alkaid	152° 58'.3	49° 14'.8 N	283° 56'.9	57.3	219° 45'.1	15.2	23'.7	9.7	56°	-	02:20	03:21	10:16	11:24	12:34			
	08	41° 16'.3	330° 54'.6	52.3	203° 39'.9	02.8	282° 02'.0	05.6	176° 09'.6	37.7	176° 09'.6	37.7	176° 09'.6	Alnair	27° 42'.6	46° 53'.1 S	298° 56'.8	57.1	234° 19'.3	15.2	14.0	9.6	54.5	54°	01:05	02:41	03:35	10:17	11:23	12:31		
	09	56° 18'.8	345° 53'.9	52.8	218° 41'.5	03.3	297° 03'.9	05.5	191° 12'.1	37.7	191° 12'.1	37.7	191° 12'.1	Alnilam	275° 45'.9	1° 11'.7 S	313° 56'.7	56.9	248° 53'.5	15.2	04.4	9.6	52°	01:44	02:59	03:47	10:18	11:22	12:28			
	10	71° 21'.3	0° 53'.2	53.3	233° 43'.0	03.7	312° 05'.8	05.3	206° 14'.6	37.7	206° 14'.6	37.7	206° 14'.6	Alphard	217° 55'.6	8° 43'.5 S	328° 56'.6	56.7	263° 27'.7	15.1	1° 54'.7 N	9.7	50°	02:10	03:13	03:57	10:18	11:21	12:26			
	11	86° 23'.7	15° 52'.5	53.8	248° 44'.5	04.2	327° 07.7	05.2	221° 17'.2	37.7	221° 17'.2	37.7	221° 17'.2				343° 56'.5	56.5	278° 01'.8	15.1	45'.0	9.7	45°	02:53	03:42	04:19	10:20	11:20	12:21			
	12	101° 26'.2	30° 51'.8	54.2	263° 46.0	8° 04.6 S	342° 09.5	21° 05.1 N	236° 19.7	14° 37.7 S	236° 19.7	14° 37.7 S	236° 19.7	Alphecca	126° 10.2	26° 40.2 N	358° 56.4	22° 56.3 N	292° 35.9	15.2	1° 35.3 N	9.7	54.5	N 40°	03:23	04:04	04:36	10:21	11:18	12:16		
	13	116° 28'.7	45° 51.1	54.7	278° 47.6	05.0	357° 11.4	05.0	251° 22.2	37.7	251° 22.2	37.7	251° 22.2	Alpheratz	357° 42.6	29° 10.1 N	13° 56.2	56.1	307° 10.1	15.1	25.6	9.7	35°	03:45	04:21	04:51	10:22	11:17	12:13			
	14	131° 31'.1	60° 50.4	55.2	293° 49.1	05.5	12° 13.3	04.9	266° 24.8	37.6	266° 24.8	37.6	266° 24.8	Altair	62° 07.2	8° 54.6 N	28° 56.1	55.9	321° 44.2	15.1	15.9	9.7	54.6	30°	04:03	04:36	05:04	10:23	11:16	12:09		
	15	146° 33'.6	75° 49.8	55.7	308° 50.6	05.9	27° 15.2	04.8	281° 27.3	37.6	281° 27.3	37.6	281° 27.3	Ankaa	353° 15.0	42° 13.4 S	43° 56.0	55.6	336° 18.3	15.1	06.2	9.7	20°	04:32	05:01	05:25	10:25	11:14	12:04			
	16	161° 36'.1	90° 49.1	56.2	323° 52.1	06.4	42° 17.1	04.7	296° 29.8	37.6	296° 29.8	37.6	296° 29.8	Antares	112° 25.0	26° 27.7 S	58° 55.9	55.4	350° 52.4	15.1	0° 56.5 N	9.8	N 10°	04:54	05:21	05:44	10:26	11:12	11:59			
	17	176° 38'.5	105° 48.4	56.7	338° 53.6	06.8	57° 19.0	04.6	311° 32.4	37.6	311° 32.4	37.6	311° 32.4				5° 26.5	15.0	46.7	9.7			0°	05:12	05:38	06:01	10:27	11:10	11:54			
	18	191° 41'.0	120° 47.7	57.2	353° 55.2	07.2	72° 20.9	04.5	326° 34.9	37.6	326° 34.9	37.6	326° 34.9	Arcturus	145° 54.9	19° 06.6 N	88° 55.7	55.0	20° 00.5	15.1	37.0	9.8	S 10°	05:29	05:55	06:18	10:29	11:09	11:50			
	19	206° 43'.5	135° 47.0	57.6	8° 56.7	07.7	87° 22.8	04.4	341° 37.4	37.6	341° 37.4	37.6	341° 37.4	Atria	107° 25.6	69° 03.2 S	103° 55.6	54.8	34° 34.6	15.0	27.2	9.8	20°	05:45	06:12	06:36	10:30	11:07	11:45			
	20	221° 45'.9	150° 46.3	58.1	23° 58.2	08.1	102° 24.7	04.3	356° 40.0	37.6	356° 40.0	37.6	356° 40.0	Avia	234° 18.3	59° 33.6 S	118° 55.4	54.6	49° 08.6	15.0	17.4	9.8	54.7	30°	06:00	06:30	06:56	10:32	11:05	11:40		
	21	236° 48'.4	165° 45.6	58.6	38° 59.7	08.6	117° 26.5	04.2	11° 42.5	37.6	11° 42.5	37.6	11° 42.5	Bellatrix	278° 31.5	6° 21.6 N	133° 55.3	54.4	63° 42.6	15.0	07.6	9.7	35°	06:09	06:40	07:08	10:33	11:04	11:37			
	22	251° 50'.8	180° 44.9	59.1	54° 01.2	09.0	132° 28.4	04.1	26° 45.0	37.6	26° 45.0	37.6	26° 45.0	Betelgeuse	271° 00.8	7° 24.4 N	148° 55.2	54.2	78° 16.6	15.0	0° 02.1 S	9.8	40°	06:18	06:52	07:22	10:34	11:03	11:33			
23	266° 53.3	195° 44.2	59.6	69° 02.7	09.4	147° 30.3	04.0	41° 47.6	37.6	41° 47.6	37.6	41° 47.6				163° 55.1	54.0	92° 50.6	15.0	11.9	9.8	45°	06:28	07:05	07:39	10:35	11:01	11:29				
Fri day	4 00	281° 55'.8	210° 43'.5	21° 00.0 N	84° 04.3	8° 09.9 S	162° 32.2	21° 03.9 N	56° 50.1	14° 37.6 S	56° 50.1	14° 37.6 S	Canopus	263° 56.4	52° 42.4 S	178° 55.0	22° 53.8 N	107° 24.6	14.9	0° 21.7 S	9.8	54.7	S 50°	06:39	07:21	07:59	10:36	11:00	11:24			
	01	296° 58'.2	225° 42.8	00.5	99° 05.8	10.3	177° 34.1	03.8	71° 52.6	37.5	71° 52.6	37.5	71° 52.6	Capella	280° 33.8	46° 00.5 N	193° 54.9	53.5	121° 58.5	14.9	31.5	9.8	54.8	52°	06:44	07:28	08:08	10:37	10:59	11:22		
	02	312° 00.7	240° 42.1	01.0	114° 07.3	10.8	192° 36.0	03.7	86° 55.2	37.5	86° 55.2	37.5	86° 55.2	Deneb	49° 30.5	45° 20.0 N	208° 54.8	53.3	136° 32.4	14.9	41.3	9.8	54°	06:50	07:36	08:19	10:38	10:58	11:20			
	03	327° 03.2	255° 41.4	01.5	129° 08.8	11.2	207° 37.9	03.6	101° 57.7	37.5	101° 57.7	37.5	101° 57.7	Denebola	182° 33.0	14° 29.5 S	223° 54.6	53.1	151° 06.3	14.9	51.1	9.8	56°	06:56	07:44	08:31	10:39	10:57	11:17			
	04	342° 05.6	270° 40.7	01.9	144° 10.3	11.6	222° 39.8	03.5	117° 00.2	37.5	117° 00.2	37.5	117° 00.2	Diphda	348° 55.2	17° 54.3 S	238° 54.5	52.9	165° 40.2	14.9	1° 00.9 S	9.9	58°	07:02	07:54	08:45	10:40	10:56	11:14			
	05	357° 08.1	285° 40.0	02.4	159° 11.8	12.1	237° 41.7	03.4	132° 02.8	37.5	132° 02.8	37.5	132° 02.8				253° 54.4	52.7	180° 14.1	14.8	10.8	9.8	S 60°	07:09	08:05	09:02	10:41	10:55	11:11			
	06	12° 10.6	300° 39.3	02.9	174° 13.3	12.5	252° 43.5	03.3	147° 05.3	37.5	147° 05.3	37.5	147° 05.3	Dubhe	193° 51.3	61° 40.5 N	268° 54.3	52.5	194° 47.9	14.8	20.6	9.8	54.9	S 62°	07:17	08:18	09:22	10:42	10:54	11:07		
	07	27° 13.0	315° 38.6	03.4	189° 14.8	13.0	267° 45.4	03.2	162° 07.8	37.5	162° 07.8	37.5	162° 07.8	Elinath	278° 12.1	28° 36.9 N	283° 54.2	52.2	209° 21.7	14.8	30.4	9.8										
	08	42° 15.5	330° 37.9	03.8	204° 16.3	13.4	282° 47.3	03.1	177° 10.4	37.5	177° 10.4	37.5	177° 10.4	Eltanin	90° 45.3	51° 29.5 S	298° 54.1	52.0	223° 55.5	14.7	40.2	9.8										
	09	57° 17.9	345° 37.2	04.3	219° 17.9	13.9	297° 49.2	03.0	192° 12.9	37.5	192° 12.9	37.5	192° 12.9	Enif	15° 46.1	9° 56.6 N	313° 54.0	51.8	238° 29.2	14.7	50.0	9.8										
	10	72° 20.4	0° 36.5	04.8	234° 19.4	14.3	312° 51.1	02.9	207° 15.4	37.5	207° 15.4	37.5	207° 15.4	Fomalhaut	33° 23.0	29° 32.4 S	328° 53.9	51.6	253° 02.9	14.7	59.8	9.9										
	11	87° 22.9	15° 35.8	05.2	249° 20.9	14.7	327° 53.0	02.8	222° 18.0	37.5	222° 18.0	37.5	222° 18.0				343° 53.8	51.4	267° 36.6	14.7	2° 09.7 S	9.8	55.0	N 72°	-	-	-	22:45	22:38	22:31		
	12	102° 25.3	30° 35.1	21° 05.7 N	264° 22.4	8° 15.2 S	342° 54.9	21° 02.7 N	237° 20.5	14° 37.4 S	237° 20.5	14° 37.4 S	237° 20.5	Gacrux	172° 00.0	57° 12.0 S	358° 53.6	22° 51.1 N	282° 10.3	14.7	2° 19.5 S	9.8	55.0	N 70°	-	-	-	22:45	22:44	22:43		
	13	117° 27.8	45° 34.4	06.2	279° 23.9	15.6	357° 56.8	02.6																								

2014 July 6, 7, 8 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +0.1			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	6	7	8	Nautical	Civil	Sunrise	6	7	8	Nautical	Civil	Sunrise	6	7	8	Nautical	Civil	Sunrise	6	7	8		Nautical	Civil		Sunrise	6	7
S u n d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	15:04	16:58	19:10					
	283° 54'.0	210° 09'.6	21° 21'.8	85° 16'.2	8° 31'.2 S	164° 02'.9	20° 58'.9 N	58° 51'.5	14° 37'.2 S	Acamar	315° 18'.1	40° 14'.7 S	178° 49'.7	22° 42'.7 N	85° 56'.3	13.0	8° 06'.5 S	9.3	56.0	N 70°	-	-	-	14:46	16:28	18:15					
	298° 56'.5	225° 08'.9	22.2	100° 17'.7	31'.7	179° 04'.7	58'.8	73° 54'.0	37.2	Achernar	335° 26'.4	57° 09'.5 S	193° 49'.6	42'.5	100° 28'.3	13.0	15.8	9.3	68°	68°	-	-	-	14:32	16:06	17:42					
	313° 59'.0	240° 08'.1	22.7	115° 19'.2	32'.1	194° 06'.6	58'.7	88° 56'.6	37.2	Acruz	173° 08'.4	63° 11'.1 S	208° 49'.5	42'.2	115° 00'.3	12.9	25'.1	9.2	66°	66°	-	-	00:57	14:21	15:49	17:18					
	329° 01'.4	255° 07'.4	23.1	130° 20'.7	32'.6	209° 08'.5	58'.6	103° 59'.1	37.2	Adhara	250° 12'.3	28° 59'.7 S	223° 49'.4	42'.0	129° 32'.2	12.9	34'.3	9.3	56.1	64°	64°	-	-	01:54	14:11	15:35	17:00				
	344° 03'.9	270° 06'.7	23.5	145° 22'.2	33'.0	224° 10'.4	58'.5	119° 01'.6	37.1	Aldebaran	290° 48'.8	16° 32'.1 N	238° 49'.3	41'.7	144° 04'.1	12.8	43'.6	9.2	62°	62°	-	-	02:26	14:03	15:24	16:44					
	359° 06'.4	285° 06'.0	24.0	160° 23'.6	33'.5	239° 12'.3	58'.4	134° 04'.1	37.1				253° 49'.2	41'.5	158° 35'.9	12.7	52'.8	9.1	60°	60°	-	-	01:19	02:50	13:56	15:14	16:32				
	06	14° 08'.8	300° 05'.3	24.4	175° 25'.1	33.9	254° 14'.2	58'.2	149° 06'.7	37.1	Alioth	166° 20'.2	55° 53'.2 E	268° 49'.1	41'.2	173° 07'.6	12.7	9° 01'.9 S	9.1	56.2	N 58°	-	01:58	03:09	13:50	15:05	16:21				
	07	29° 11'.3	315° 04'.6	24.8	190° 26'.6	34.4	269° 16'.1	58'.1	164° 09'.2	37.1	Alkaid	152° 58'.3	49° 14'.8 N	283° 49.0	41'.0	187° 39'.3	12.6	11'.0	9.1	56°	56°	-	-	02:25	03:24	13:45	14:58	16:11			
	08	44° 13'.8	330° 03'.8	25.2	205° 28'.1	34.8	284° 18'.0	58'.0	179° 11'.7	37.1	Alnilam	27° 42'.6	46° 53'.1 S	298° 48.9	40.7	202° 10'.9	12.5	20.1	9.1	54°	54°	01:13	02:45	03:38	13:40	14:51	16:03				
	09	59° 16'.2	345° 03'.1	25.7	220° 29'.6	35.3	299° 19.8	57.9	194° 14'.2	37.1	Alnilam	27° 42'.6	46° 53'.1 S	298° 48.9	40.7	202° 10'.9	12.5	20.1	9.1	54°	54°	01:13	02:45	03:38	13:40	14:51	16:03				
	10	74° 18'.7	0° 02'.4	26.1	235° 31'.0	35.7	314° 21'.7	57.8	209° 16'.8	37.1	Alphard	217° 55'.6	8° 43'.5 S	328° 48.7	40.2	231° 13'.9	12.4	38'.2	9.0	50°	50°	02:14	03:16	03:59	13:32	14:40	15:48				
	11	89° 21'.2	15° 01'.7	26.5	250° 32'.5	36.2	329° 23'.6	57.7	224° 19'.3	37.1			343° 48'.6	40.0	245° 45'.3	12.3	47'.2	9.0	45°	45°	02:56	03:44	04:21	13:23	14:28	15:34					
	12	104° 23'.6	30° 01'.0	21° 26'.9 N	265° 34.0	8° 36'.6 S	344° 25.5	20° 57.6 N	239° 21.8	14° 37.1 S	Alphecca	126° 10'.2	26° 40'.2 N	358° 48.5	22° 39.7 N	260° 16.6	12.3	9° 56.2 S	8.9	56.4	N 40°	03:25	04:06	04:38	13:16	14:18	15:22				
	13	119° 26'.1	45° 00'.2	27.3	280° 35'.5	37.1	359° 27.4	57.5	254° 24.3	37.1	Alpheratz	357° 42'.6	29° 10'.1 N	13° 48'.4	39.5	274° 47.9	12.2	10° 05.1 S	8.9	35°	35°	03:47	04:23	04:53	13:10	14:10	15:12				
	14	134° 28'.5	59° 59'.5	27.7	295° 37.0	37.5	14° 29'.3	57.4	269° 26.9	37.0	Altair	62° 07'.2	8° 54'.6 N	28° 48'.3	39.2	289° 19.1	12.1	14.0	8.8	30°	30°	04:05	04:38	05:05	13:05	14:03	15:03				
	15	149° 31'.0	74° 58'.8	28.2	310° 38.4	38.0	29° 31'.2	57.3	284° 29.4	37.1	Ankaa	353° 15'.0	42° 13.4 S	43° 48'.2	38.9	303° 50.2	12.1	22.8	8.8	56.5	20°	04:33	05:02	05:26	12:56	13:51	14:48				
	16	164° 33'.5	89° 58'.1	28.6	325° 39.9	38.4	44° 33'.1	57.2	299° 31.9	37.1	Antares	112° 25'.0	26° 27.7 S	58° 48'.1	38.7	318° 21.3	12.0	31'.6	8.8	N 10°	04:55	05:21	05:44	12:48	13:40	14:35					
	17	179° 35'.9	104° 57'.3	29.0	340° 41.4	38.9	59° 34'.9	57.1	314° 34.4	37.1			73° 48'.0	38.4	332° 52.3	11.9	40.4	8.7	8°	8°	05:13	05:39	06:01	12:41	13:30	14:22					
	18	194° 38'.4	119° 56'.6	29.4	355° 42.9	39.3	74° 36'.8	57.0	329° 37.0	37.1	Arcturus	145° 55'.0	19° 06'.6 N	88° 47.9	38.2	347° 23.2	11.8	49.1	8.7	56.6	S 10°	05:29	05:55	06:18	12:33	13:20	14:10				
	19	209° 40'.9	134° 55.9	29.8	10° 44'.3	39.8	89° 38'.7	56.9	344° 39.5	37.0	Atria	107° 25'.6	69° 03'.2 S	103° 47.7	37.9	1° 54'.0	11.8	57.8	8.6	20°	20°	05:45	06:12	06:36	12:25	13:09	13:57				
	20	224° 43'.3	149° 55'.2	30.2	25° 45'.8	40.2	104° 40.6	56.8	359° 42.0	37.0	Avia	234° 18'.3	59° 33'.6 S	118° 47.6	37.7	16° 24'.8	11.7	11° 06.4 S	8.6	56.7	30°	06:00	06:30	06:56	12:17	12:57	13:42				
	21	239° 45'.8	164° 54'.5	30.6	40° 47'.3	40.7	119° 42'.5	56.7	14° 44'.5	37.0	Bellatrix	278° 31'.5	6° 21'.6 N	133° 47.5	37.4	30° 55'.5	11.6	15.0	8.6	35°	35°	06:09	06:40	07:08	12:12	12:50	13:34				
22	254° 48'.3	179° 53'.7	31.0	55° 48'.8	41.1	134° 44'.4	56.6	29° 47'.1	37.0	Betelgeuse	271° 00'.8	7° 24'.4 N	148° 47.4	37.1	45° 26.1	11.6	23'.6	8.5	40°	40°	06:18	06:51	07:22	12:06	12:42	13:24					
23	269° 50'.7	194° 53'.0	31.5	70° 50'.2	41.6	149° 46.3	56.4	44° 49.6	37.0			163° 47.3	36.9	59° 56.7	11.5	32.1	8.4	56.8	45°	06:27	07:04	07:38	11:59	12:33	13:12						
M o n d a y	00	284° 53'.2	209° 52'.3	21° 31'.9 N	85° 51'.7	8° 42'.0 S	164° 48'.2	20° 56'.3 N	59° 52'.1	14° 37'.0 S	Canopus	263° 56'.4	52° 42'.3 S	178° 47.2	22° 36.6 N	74° 27.2	11.4	11° 40.5 S	8.4	56.8	S 50°	06:38	07:19	07:57	11:51	12:22	12:59				
	01	299° 55'.7	224° 51'.6	32.3	100° 53.2	42.5	179° 50.0	56.2	74° 54'.6	37.0	Capella	280° 33'.8	46° 00'.5 N	193° 47.1	36.3	88° 57.6	11.3	48.9	8.4	52°	52°	06:43	07:26	08:07	11:48	12:17	12:52				
	02	314° 58'.1	239° 50'.8	32.7	115° 54'.6	42.9	194° 51'.9	56.1	89° 57.1	37.0	Deneb	49° 30'.5	45° 20'.0 N	208° 47.0	36.1	103° 27.9	11.3	57'.3	8.3	56.9	54°	06:49	07:34	08:17	11:44	12:11	12:45				
	03	330° 00'.6	254° 50'.1	33.1	130° 56.1	43.4	209° 53'.8	56.0	104° 59.7	37.0	Denebola	182° 33'.0	14° 29'.5 S	223° 46.9	35.8	117° 58'.2	11.1	12° 05'.6 S	8.3	56°	56°	06:54	07:43	08:29	11:39	12:05	12:37				
	04	345° 03'.0	269° 49'.4	33.5	145° 57'.6	43.9	224° 55.7	55.9	120° 02.7	37.0	Diphda	348° 55'.2	17° 54'.3 S	238° 46.8	35.5	132° 28'.3	11.1	13.9	8.2	57.0	58°	07:01	07:52	08:43	11:34	11:58	12:29				
	05	0° 05'.5	284° 48'.6	33.9	160° 59.0	44.3	239° 57.6	55.8	135° 04.7	37.0			253° 46.7	35.3	146° 58.4	11.1	22.1	8.1			S 60°	07:08	08:03	08:59	11:29	11:51	12:18				
	06	15° 08'.0	299° 47.9	34.3	176° 00'.5	44.8	254° 59'.5	55.7	150° 07.2	37.0	Dubhe	193° 51'.3	61° 40'.5 N	268° 46.6	35.0	161° 28.5	10.9	30.2	8.1			S 62°	07:15	08:16	09:19	11:23	11:42	12:07			
	07	30° 10'.4	314° 47.2	34.7	191° 02'.0	45.2	270° 01.4	55.6	165° 09.7	37.0	Elnath	278° 12'.0	28° 36.9 N	175° 58.4	34.7	175° 58.4	10.9	38.3	8.1	57.1											
	08	45° 12'.9	329° 46'.5	35.1	206° 03'.4	45.7	285° 03'.3	55.5	180° 12'.3	37.0	Eltanin	90° 45'.3	51° 29'.5 S	298° 46.4	34.5	190° 28.3	10.8	46.4	8.0												
	09	60° 15'.4	344° 45'.7	35.5	221° 04.9	46.1	300° 05'.1	55.4	195° 14'.3	37.0	Enif	15° 26'.1	9° 56'.6 N	313° 46.3	34.2	204° 58'.1	10.7	54.4	7.9												
	10	75° 17'.8	359° 45.0	35.9	236° 06.4	46.6	315° 07'.0	55.3	210° 17.3	37.0	Fomalhaut	33° 43'.0	29° 32.4 S	328° 46.2	33.9	219° 27.8	10.6	13° 02.3 S	7.9	57.2											
	11	90° 20'.3	14° 44'.3	36.3	251° 07.8	47.0	330° 08.9	55.2	225° 19.8	37.0			343° 46.1	33.7	233° 57.4	10.5	10.2	7.8													
	12	105° 22'.8	29° 43'.6	21° 36.7 N	266° 09.3	8° 47.5 S	345° 10.8	20° 55.1 N	240° 22.3	14° 37.0 S	Gacrux	172° 00'.0	57° 11.9 S	358° 46.0	22° 33.4 N	248° 26.9	10.5	13° 18.0 S	7.8	57.3	N 70°	-	-	-	22:42	22:43	22:46				
	13	120° 25'.2	44° 42.8	37.1	281° 10.8	47.9	0° 12.7	55.0	255° 24.9	37.0	Giennah																				

2014 July 9, 10, 11 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +0.2			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON				Lat	Twilight		Sunrise	9		Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	g		10	11					
Wednesday	00	286° 51'.5	209° 17'.1	21° 50'.2 N	87° 01'.6	9° 03'.9 S	166° 18'.7	20° 51'.2 N	61° 53'.0	14° 36'.8 S	Acamar	315° 18'.0	40° 14'.7 S	178° 42'.6	22° 23'.2 N	49° 14'.4	7.4	17° 11'.3 S	4.9	58.7	N 72°	-	-	-	-	-	-	-	-				
	01	301° 53'.9	224° 16'.3	50.6	102° 03'.0	04.4	181° 20'.6	51.1	76° 55'.5	36.8	Achernar	335° 26'.4	57° 09'.5 S	193° 42'.5	22.9	63° 40'.8	7.3	16.2	4.8	68°	-	-	-	20:00	21:19	21:49							
	02	316° 56'.4	239° 15'.6	50.9	117° 04'.5	04.8	196° 22'.5	51.0	91° 58'.0	36.8	Acruz	173° 08'.5	63° 11'.1 S	208° 42'.4	22.6	78° 07'.1	7.3	21.0	4.7	58.8	66°	-	-	01:12	18:42	19:51	20:39						
	03	331° 58'.9	254° 14'.8	51.3	132° 05'.9	05.3	213° 05'.9	50.9	107° 00'.5	36.8	Adhara	255° 12'.3	28° 59'.7 S	223° 42'.3	22.3	92° 33'.4	7.1	25.7	4.6	64°	-	-	02:01	18:19	19:26	20:17							
	04	347° 01'.3	269° 14'.1	51.7	147° 07'.4	05.8	226° 26'.3	50.8	122° 03'.0	36.8	Aldebaran	290° 48'.6	36° 32'.1 N	238° 42'.2	22.0	106° 59'.5	7.1	30.3	4.5	62°	-	-	02:32	18:01	19:07	19:59							
	05	2° 03'.8	284° 13'.3	52.0	162° 08'.8	06.2	241° 28'.2	50.6	137° 05'.5	36.8				253° 42'.1	21.7	121° 25'.6	7.0	34.8	4.3	58.9	60°	-	01:29	02:54	17:46	18:51	19:45						
	06	17° 06'.2	299° 12'.6	52.4	177° 10'.2	06.7	256° 30'.1	50.5	152° 08'.0	36.8	Alioth	166° 20'.2	55° 53'.2 N	268° 42'.0	21.4	135° 51'.6	6.9	39.1	4.3	58°	-	02:04	03:13	17:33	18:38	19:32							
	07	32° 08'.7	314° 11'.8	52.7	192° 11'.7	07.1	271° 31'.9	50.4	167° 10'.6	36.8	Alkaid	152° 58'.3	49° 14'.8 N	283° 41'.9	21.1	150° 17'.5	6.9	43.4	4.2	56°	-	02:29	03:28	17:22	18:26	19:22							
	08	47° 11'.2	329° 11'.1	53.1	207° 13'.1	07.6	286° 33'.8	50.3	182° 13'.1	36.8	Alnair	27° 42'.5	46° 53'.1 S	298° 41'.8	20.8	164° 43'.4	6.8	47.6	4.0	59.0	54°	01:21	02:49	03:41	17:12	18:16	19:12						
	09	62° 13'.6	344° 10'.4	53.4	222° 14'.6	08.1	301° 35.7	50.2	197° 15'.6	36.8	Alnilam	275° 45'.9	1° 11'.7 S	313° 41'.7	20.5	179° 09'.2	6.7	51.6	4.0	50°	52°	01:54	03:05	03:52	17:04	18:07	19:04						
	10	77° 16'.1	359° 09'.6	53.8	237° 16.0	08.5	316° 37'.6	50.1	212° 18'.1	36.8	Alphard	217° 55'.6	8° 43'.5 S	328° 41'.6	20.2	193° 34'.9	6.6	55.6	3.8	59.1	50°	02:18	03:19	04:02	16:56	17:59	18:56						
	11	92° 18'.6	374° 08'.9	54.1	252° 17.4	09.0	331° 39'.5	50.0	227° 20'.6	36.8				343° 41'.5	19.9	208° 00'.5	6.5	59.4	3.7	50°	45°	02:59	03:47	04:23	16:39	17:42	18:40						
	12	107° 21'.0	39° 08'.1	21° 54'.5 N	267° 18'.9	9° 09'.4 S	346° 41'.4	20° 49'.9 N	242° 23'.1	14° 36'.8 S	Alphecca	126° 10'.2	26° 40'.2 N	358° 41'.4	22° 19'.6 N	222° 26'.0	6.5	18° 03'.1 S	3.6	59.1	N 40°	03:27	04:08	04:40	16:26	17:28	18:26						
	13	122° 23'.5	44° 07'.4	54.8	282° 20'.3	09.9	1° 43'.3	49.8	257° 25'.6	36.8	Alpheratz	357° 42'.6	29° 10'.2 N	13° 41'.4	19.3	236° 51'.5	6.3	06.7	3.5	59.2	35°	03:49	04:25	04:54	16:14	17:16	18:15						
	14	137° 26'.0	59° 06'.6	55.1	297° 21'.7	10.4	16° 45'.1	49.7	272° 28'.1	36.8	Altair	62° 07'.2	8° 54'.6 N	28° 41'.3	19.0	251° 16'.8	6.4	10.2	3.4	30°	30°	04:07	04:39	05:06	16:04	17:06	18:05						
	15	152° 28'.4	74° 05'.9	55.5	312° 23'.2	10.8	31° 47'.0	49.6	287° 30'.7	36.8	Ankaa	353° 15'.0	42° 13'.4 S	43° 41'.2	18.7	265° 42'.2	6.2	13.6	3.3	59.3	20°	04:34	05:03	05:27	15:47	16:48	17:48						
	16	167° 30'.9	89° 05'.1	55.8	327° 24'.6	11.3	46° 48'.9	49.5	302° 33'.2	36.8	Antares	112° 25'.0	26° 27'.7 S	58° 41'.1	18.4	280° 07'.4	6.2	16.9	3.1	59.0	N 10°	04:55	05:22	05:45	15:32	16:32	17:33						
	17	182° 33'.4	104° 04'.4	56.2	342° 26.0	11.7	61° 50'.8	49.5	317° 35'.7	36.8				73° 41'.0	18.1	294° 32'.6	6.1	20.0	3.1	50°	0°	05:13	05:39	06:02	15:19	16:18	17:19						
	18	197° 35'.8	119° 03'.6	56.5	357° 27.5	12.2	76° 52'.7	49.2	332° 38'.2	36.8	Arcturus	145° 55'.0	19° 06'.6 N	88° 40'.9	17.8	308° 57'.7	6.0	23.1	2.9	59.4	S 10°	05:29	05:56	06:18	15:05	16:03	17:05						
	19	212° 38'.3	134° 02'.9	56.8	12° 28'.9	12.7	91° 54'.6	49.1	347° 40'.7	36.8	Atria	107° 25'.6	69° 03'.2 S	103° 40'.7	17.5	323° 22'.7	5.9	26.0	2.8	20°	20°	05:45	06:12	06:36	14:50	15:48	16:50						
	20	227° 40'.7	149° 02'.1	57.2	27° 30'.3	13.1	106° 56'.5	49.0	2° 43'.2	36.7	Avior	234° 18'.3	59° 33'.6 S	118° 40'.8	17.2	337° 47'.6	5.9	28.8	2.7	30°	30°	06:00	06:30	06:56	14:33	15:30	16:33						
	21	242° 43'.2	164° 01'.4	57.5	42° 31'.8	13.6	121° 58'.3	48.9	17° 45'.7	36.7	Bellatrix	278° 31'.5	6° 21'.6 N	133° 40'.6	16.9	352° 12'.5	5.8	31.5	2.6	59.5	35°	06:08	06:39	07:07	14:23	15:20	16:23						
	22	257° 45'.7	179° 00'.6	57.9	57° 33'.2	14.1	137° 00'.2	48.8	32° 48'.2	36.7	Betelgeuse	271° 00'.8	7° 24'.4 N	148° 40'.5	16.6	6° 37'.3	5.8	34.1	2.4	40°	40°	06:17	06:50	07:21	14:12	15:08	16:12						
23	272° 48'.1	193° 59'.9	58.2	72° 34'.6	14.5	152° 02'.1	48.7	47° 50'.7	36.7				163° 40'.5	16.2	21° 02'.1	5.7	36.5	2.3	45°	45°	06:26	07:03	07:36	13:59	14:54	15:58							
Thursday	00	287° 50'.6	208° 59'.1	21° 58'.5 N	87° 36'.1	9° 15'.0 S	167° 04'.0	20° 48'.6 N	62° 53'.3	14° 36'.7 S	Canopus	263° 56'.4	52° 42'.3 S	178° 40'.4	22° 15'.9 N	35° 26'.8	5.6	18° 38'.8 S	2.2	59.6	S 50°	06:37	07:18	07:56	13:43	14:38	15:42						
	01	302° 53'.1	223° 58'.4	58.9	102° 37'.5	15.4	182° 05'.9	48.5	77° 55'.8	36.7	Capella	280° 33'.8	46° 00'.5 N	193° 40'.3	15.6	49° 51'.4	5.5	41.0	2.1	52°	52°	06:42	07:25	08:05	13:36	14:30	15:34						
	02	317° 55'.5	238° 57'.6	59.2	117° 38'.9	15.9	197° 07'.8	48.4	92° 58'.3	36.7	Deneb	49° 30'.5	45° 20'.0 N	208° 40'.2	15.3	64° 15'.9	5.5	43.1	1.9	59.7	54°	06:47	07:32	08:15	13:28	14:21	15:26						
	03	332° 58'.0	253° 56'.9	59.5	132° 40'.3	16.4	212° 09'.7	48.3	108° 00'.8	36.7	Denebola	182° 33'.0	14° 29'.5 S	223° 40'.1	15.0	78° 40'.4	5.5	45.0	1.9	56°	56°	06:52	07:41	08:26	13:18	14:11	15:16						
	04	348° 00'.5	268° 56'.1	59.9	147° 41'.8	16.8	227° 11'.5	48.1	123° 03'.3	36.7	Diphda	348° 55'.1	17° 54'.3 S	238° 40'.0	14.7	93° 04'.9	5.3	46.9	1.7	58°	58°	06:59	07:50	08:40	13:08	14:00	15:05						
	05	3° 02'.9	283° 55'.4	22° 00'.2 N	162° 43'.2	17.3	242° 13'.4	48.0	138° 05'.8	36.7				253° 39'.9	14.4	107° 29'.2	5.4	48.6	1.5	59.8	S 60°	07:05	08:01	08:56	12:56	13:47	14:53						
	06	18° 05'.4	298° 54'.6	00.5	177° 44'.6	17.8	257° 15'.3	47.9	153° 08'.3	36.7	Dubhe	193° 51'.3	61° 40'.5 N	268° 39'.8	14.1	121° 53'.6	5.2	50.1	1.5	50°													
	07	33° 07'.9	313° 53'.9	00.8	192° 46'.0	18.2	272° 17'.2	47.8	168° 10'.8	36.7	Enif	278° 12'.0	28° 36'.9 N	283° 39'.8	13.7	136° 17'.8	5.2	51.6	1.3	50°													
	08	48° 10'.3	328° 53'.1	01.2	207° 47'.5	18.7	287° 19'.1	47.7	183° 13'.3	36.7	Eltanin	90° 45'.3	51° 29'.5 S	298° 39'.7	13.4	150° 42.0	5.2	52.9	1.2	59.9													
	09	63° 12'.8	343° 52'.4	01.5	222° 48.9	19.1	302° 21'.0	47.6	198° 15'.8	36.7	Enif	15° 26'.1	9° 56'.7 N	313° 39'.6	13.1	165° 06'.2	5.1	54.1	1.0	50°													
	10	78° 15'.2	358° 51'.6	01.8	237° 50'.3	19.6	317° 22'.9	47.5	213° 18'.3	36.7	Fomalhaut	33° 43'.0	29° 32'.4 S	328° 39.5	12.8	179° 30'.3	5.0	55.1	1.0	60.0													
	11	93° 17'.7	13° 50'.9	02.1	252° 51'.7	20.1	332° 24'.7	47.4	228° 20'.9	36.7				343° 39'.4	12.5	193° 54'.3	5.0	56.1	0.8	60.0													
	12	108° 20'.2	28° 50'.1	22° 02'.5 N	267° 53'.2	9° 20'.1 S	347° 26'.6	20° 47'.3 N	243° 23'.4	14° 36'.7 S	Gacrux	172° 00'.0	57° 11'.9 S	358° 39'.3	22° 12'.2 N	208° 18'.3	4.9	18° 56'.9 S	0.6	60.0	N 70°	-	-	-	23:00	23:47	25:25						
	13	123° 22'.6	43° 49'.4	02.8	282° 54'.6	21.0	2° 28'.5	47.2	258° 25'.9	36.7	Giennah	175° 51'.6	17° 37'.4 S	13° 39'.2	11.8	222° 42'.2	4.9	57.5	0.6	68°	-	-	-	23:48	-	00:42							
	14	138° 25'.1	58° 48'.6	03.1	297° 56.0	21.5	17° 30'.4	47.1	273° 28'.4	36.7	Hadar	148° 46'.5	60° 26'.8 S	28° 39'.1	11.5	237° 06'.																	

2014 July 12, 13, 14 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.2			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise											
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil		12	13		14											
12 Saturday	289° 48' 9	208° 22' 7	22° 13' 3 N	88° 44' 0	9° 37' 3 S	168° 34' 5	20° 43' 3 N	64° 53' 6	14° 36' 7 S	103° 45' 4	37' 8	183° 36' 4	43' 2	79° 56' 1	36' 7	178° 36' 3	22° 00' 2 N	6° 20' 8	4' 2	17° 55' 7 S	4' 3	60' 9	N 72°	-	-	-	22:37	22:23	22:13												
	304° 51' 4	223° 22' 0	13' 6	103° 45' 4	37' 8	183° 36' 4	43' 2	79° 56' 1	36' 7	103° 45' 4	37' 8	183° 36' 4	43' 2	79° 56' 1	36' 7	193° 36' 2	21° 59' 9 N	20° 44' 0	4' 2	51' 4	4' 3	68°	-	-	-	21:58	22:00	22:00													
	319° 53' 8	238° 21' 2	13' 9	118° 46' 8	38' 3	198° 38' 3	43' 1	94° 58' 6	36' 7	118° 46' 8	38' 3	198° 38' 3	43' 1	94° 58' 6	36' 7	208° 36' 2	59' 6	35° 07' 2	4' 2	47' 1	4' 5	61' 0	68°	-	-	01:26	21:09	21:28	21:41												
	334° 56' 3	253° 20' 4	14' 2	133° 48' 2	38' 7	213° 40' 2	43' 0	110° 01' 1	36' 7	133° 48' 2	38' 7	213° 40' 2	43' 0	110° 01' 1	36' 7	223° 36' 1	59' 2	49° 30' 4	4' 2	42' 6	4' 6	64°	-	-	02:09	20:52	21:16	21:34													
	349° 58' 7	268° 19' 7	14' 5	148° 49' 6	39' 2	228° 42' 1	42' 9	125° 03' 6	36' 7	148° 49' 6	39' 2	228° 42' 1	42' 9	125° 03' 6	36' 7	238° 36' 0	58' 9	63° 53' 6	4' 3	38' 0	4' 7	62°	-	00:30	02:38	20:38	21:06	21:27													
	5° 01' 2	283° 18' 9	14' 7	163° 51' 0	39' 7	243° 43' 9	42' 8	140° 06' 1	36' 7	163° 51' 0	39' 7	243° 43' 9	42' 8	140° 06' 1	36' 7	253° 35' 9	58' 5	78° 16' 9	4' 2	33' 3	4' 9	60°	-	01:38	03:00	20:26	20:57	21:22													
	20° 03' 7	298° 18' 1	15' 0	178° 52' 4	40' 1	258° 45' 8	42' 6	155° 08' 6	36' 7	178° 52' 4	40' 1	258° 45' 8	42' 6	155° 08' 6	36' 7	268° 35' 9	58' 2	92° 40' 1	4' 3	28' 4	5' 0	N 58°	-	02:11	03:17	20:16	20:49	21:17													
	35° 06' 1	313° 17' 4	15' 3	193° 53' 8	40' 6	273° 47' 7	42' 5	170° 11' 1	36' 7	193° 53' 8	40' 6	273° 47' 7	42' 5	170° 11' 1	36' 7	283° 35' 8	57' 8	107° 03' 4	4' 3	23' 4	5' 1	56°	00:28	02:35	03:32	20:07	20:43	21:12													
	50° 08' 6	328° 16' 6	15' 6	208° 55' 2	41' 1	288° 49' 6	42' 4	185° 13' 6	36' 7	208° 55' 2	41' 1	288° 49' 6	42' 4	185° 13' 6	36' 7	298° 35' 7	57' 5	121° 26' 7	4' 3	18' 3	5' 3	54°	01:30	02:54	03:44	19:58	20:37	21:08													
	65° 11' 1	343° 15' 8	15' 8	223° 56' 6	41' 5	303° 51' 5	42' 3	200° 16' 1	36' 7	223° 56' 6	41' 5	303° 51' 5	42' 3	200° 16' 1	36' 7	313° 35' 6	57' 1	135° 50' 0	4' 3	13' 0	5' 4	61' 1	52°	02:01	03:09	03:55	19:51	20:31	21:05												
	80° 13' 5	358° 15' 1	16' 1	238° 58' 0	42' 0	318° 53' 4	42' 2	215° 18' 6	36' 7	238° 58' 0	42' 0	318° 53' 4	42' 2	215° 18' 6	36' 7	328° 35' 5	56' 8	150° 13' 3	4' 4	07' 6	5' 5	50°	02:23	03:23	04:05	19:45	20:26	21:02													
	95° 16' 0	373° 14' 3	16' 4	253° 59' 4	42' 5	333° 55' 3	42' 1	230° 21' 1	36' 7	253° 59' 4	42' 5	333° 55' 3	42' 1	230° 21' 1	36' 7	343° 35' 5	56' 4	164° 36' 7	4' 3	02' 1	5' 6	45°	03:02	03:49	04:26	19:31	20:15	20:54													
	110° 18' 5	28° 13' 5	22° 16' 7 N	269° 00' 8	9° 42' 9 S	348° 57' 1	20° 42' 0 N	245° 23' 6	14° 36' 7 S	269° 00' 8	9° 42' 9 S	348° 57' 1	20° 42' 0 N	245° 23' 6	14° 36' 7 S	358° 35' 4	21° 56' 1 N	179° 00' 0	4' 4	16° 56' 5 S	5' 8	61' 1	N 40°	03:30	04:10	04:42	19:19	20:06	20:49												
	125° 20' 9	43° 12' 8	16' 9	284° 02' 2	43' 4	3° 59' 0	41' 9	260° 26' 1	36' 7	43° 12' 8	16' 9	284° 02' 2	43' 4	3° 59' 0	41' 9	13° 35' 3	55' 7	193° 23' 4	4' 5	50' 7	5' 9	35°	03:51	04:27	04:56	19:09	19:59	20:43													
	140° 23' 4	58° 12' 0	17' 2	299° 03' 6	43' 9	19° 09' 0	41' 8	275° 28' 6	36' 7	58° 12' 0	17' 2	299° 03' 6	43' 9	19° 09' 0	41' 8	28° 35' 2	55' 4	207° 46' 9	4' 4	44' 8	6' 0	30°	04:08	04:41	05:08	19:01	19:52	20:39													
	155° 25' 8	73° 11' 2	17' 5	314° 05' 0	44' 4	34° 02' 8	41' 6	290° 31' 1	36' 7	73° 11' 2	17' 5	314° 05' 0	44' 4	34° 02' 8	41' 6	43° 35' 2	55' 0	222° 10' 3	4' 5	38' 8	6' 2	20°	04:35	05:04	05:28	18:46	19:40	20:31													
	170° 28' 3	88° 10' 5	17' 7	329° 06' 4	44' 8	49° 04' 7	41' 5	305° 33' 6	36' 7	88° 10' 5	17' 7	329° 06' 4	44' 8	49° 04' 7	41' 5	58° 35' 1	54' 7	236° 33' 8	4' 5	32' 6	6' 2	N 10°	04:56	05:23	05:46	18:32	19:30	20:24													
	185° 30' 8	103° 09' 7	18' 0	344° 07' 8	45' 3	64° 06' 6	41' 4	320° 36' 1	36' 7	103° 09' 7	18' 0	344° 07' 8	45' 3	64° 06' 6	41' 4	73° 35' 0	54' 3	250° 57' 3	4' 6	26' 4	6' 4	0°	05:14	05:40	06:02	18:26	19:20	20:17													
	200° 33' 2	118° 08' 9	18' 3	359° 09' 1	45' 8	79° 08' 5	41' 3	335° 38' 6	36' 7	118° 08' 9	18' 3	359° 09' 1	45' 8	79° 08' 5	41' 3	88° 34' 9	54' 0	265° 20' 9	4' 5	20' 0	6' 5	S 10°	05:30	05:56	06:18	18:08	19:10	20:11													
	215° 35' 7	133° 08' 1	18' 5	14° 10' 5	46' 2	94° 10' 3	41' 2	350° 41' 1	36' 7	133° 08' 1	18' 5	14° 10' 5	46' 2	94° 10' 3	41' 2	103° 34' 9	53' 6	279° 44' 4	4' 6	13' 5	6' 6	61' 2	20°	05:44	06:12	06:35	17:55	19:00	20:04												
	230° 38' 2	148° 07' 4	18' 8	29° 11' 9	46' 7	109° 12' 2	41' 1	5° 43' 6	36' 7	230° 38' 2	18' 8	29° 11' 9	46' 7	109° 12' 2	41' 1	118° 34' 8	53' 3	294° 08' 0	4' 7	06' 9	6' 8	30°	05:59	06:29	06:55	17:40	18:48	19:56													
	245° 40' 6	163° 06' 6	19' 1	44° 13' 3	47' 2	124° 14' 1	41' 0	20° 46' 1	36' 7	163° 06' 6	19' 1	44° 13' 3	47' 2	124° 14' 1	41' 0	133° 34' 7	52' 9	308° 31' 7	4' 7	00' 1	6' 8	35°	06:07	06:39	07:06	17:31	18:41	19:51													
	260° 43' 1	178° 05' 8	19' 3	59° 14' 7	47' 6	139° 16' 0	40' 9	35° 48' 6	36' 7	260° 43' 1	19' 3	59° 14' 7	47' 6	139° 16' 0	40' 9	148° 34' 6	52' 5	322° 55' 4	4' 7	15° 53' 3 S	7' 0	40°	06:16	06:49	07:19	17:21	18:33	19:46													
	275° 45' 6	193° 05' 1	19' 6	74° 16' 1	48' 1	154° 17' 9	40' 8	50° 51' 1	36' 7	275° 45' 6	19' 6	74° 16' 1	48' 1	154° 17' 9	40' 8	163° 34' 6	52' 2	337° 19' 1	4' 8	46' 3	7' 1	45°	06:25	07:02	07:35	17:09	18:24	19:40													
13 Sunday	290° 48' 0	208° 04' 3	22° 19' 8 N	89° 17' 5	9° 48' 6 S	169° 19' 8	20° 40' 6 N	65° 53' 6	14° 36' 7 S	290° 48' 0	208° 04' 3	22° 19' 8 N	89° 17' 5	9° 48' 6 S	169° 19' 8	20° 40' 6 N	65° 53' 6	14° 36' 7 S	290° 48' 0	208° 04' 3	22° 19' 8 N	89° 17' 5	9° 48' 6 S	169° 19' 8	20° 40' 6 N	65° 53' 6	14° 36' 7 S	178° 34' 5	21° 51' 8 N	351° 42' 9	4' 7	15° 39' 2 S	7' 2	61' 2	S 50°	06:35	07:16	07:53	16:55	18:13	19:33
	305° 50' 5	223° 03' 5	20' 1	104° 18' 9	49' 1	184° 21' 7	40' 5	80° 56' 1	36' 7	305° 50' 5	223° 03' 5	20' 1	104° 18' 9	49' 1	184° 21' 7	40' 5	80° 56' 1	36' 7	305° 50' 5	223° 03' 5	20' 1	104° 18' 9	49' 1	184° 21' 7	40' 5	80° 56' 1	36' 7	193° 34' 4	51' 5	6° 06' 6	4' 9	32' 0	7' 3	52°	06:40	07:23	08:02	16:48	18:08	19:29	
	320° 53' 0	238° 02' 7	20' 3	119° 20' 3	49' 5	199° 23' 5	40' 4	95° 58' 6	36' 7	320° 53' 0	238° 02' 7	20' 3	119° 20' 3	49' 5	199° 23' 5	40' 4	95° 58' 6	36' 7	320° 53' 0	238° 02' 7	20' 3	119° 20' 3	49' 5	199° 23' 5	40' 4	95° 58' 6	36' 7	208° 34' 3	51' 1	20° 30' 5	4' 9	24' 7	7' 4	54°	06:45	07:30	08:12	16:41	18:02	19:26	
	335° 55' 4	253° 02' 0	20' 6	134° 21' 7	50' 0	214° 25' 4	40' 3	111° 01' 1	36' 7	335° 55' 4	253° 02' 0	20' 6	134° 21' 7	50' 0	214° 25' 4	40' 3	111° 01' 1	36' 7	335° 55' 4	253° 02' 0	20' 6	134° 21' 7	50' 0	214° 25' 4	40' 3	111° 01' 1	36' 7	223° 34' 3	50' 7	34° 54' 4	4' 9	17' 3	7' 5	56°	06:50	07:38	08:23	16:32	17:56	19:22	
	350° 57' 9	268° 01' 2	20' 9	149° 23' 0	50' 5	229° 27' 3	40' 2	126° 03' 6	36' 7	350° 57' 9	268° 01' 2	20' 9	149° 23' 0	50' 5	229° 27' 3	40' 2	126° 03' 6	36' 7	350° 57' 9	268° 01' 2	20' 9	149° 23' 0	50' 5	229° 27' 3	40' 2	126° 03' 6	36' 7	238° 34' 2	50' 4	49° 18' 3	5' 0	09' 8	7' 7	58°	06:56	07:47	08:36	16:23	17:49	19:17	
	6° 00' 3	283° 00' 4	21' 1	164° 24' 4	50' 9	244° 29' 2	40' 1	141° 06' 1	36' 7	6° 00' 3	283° 00' 4	21' 1	164° 24' 4	50' 9	244° 29' 2	40' 1	141° 06' 1	36' 7	6° 00' 3	283° 00' 4	21' 1	164° 24' 4	50' 9	244° 29' 2	40' 1	141° 06' 1	36' 7	253° 34' 1	50' 0	63° 42' 3	5' 0	02' 1	7' 7	S 60°	07:03	07:57</					

2014 July 15, 16, 17 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.2			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		15	16		17		
15 Tuesday	00	292° 46'3	207° 26'9	22° 31'0 N	90° 23'6	10° 11'3 S	170° 50'3	20° 35'2 N	67° 53'3	14° 36'8 S	Acamar	315° 18'0	40° 14'6 S	178° 31'1	21° 33'9 N	323° 43'3	7.5	8° 09'8 S	11'0	60.8	N 72°	-	-	-	22:05	21:58	21:51				
	01	307° 48'8	222° 26'1	31'2	105° 24'9	11'8	185° 52'1	35'1	82° 55'8	36'8	Achernar	335° 26'3	57° 09'5 S	193° 31'1	33'5	338° 09'8	7.4	7° 58'8 S	11'1	60.8	N 70°	-	-	-	22:00	21:59	21:58				
	02	322° 51'2	237° 25'3	31'4	120° 26'3	12'3	200° 54'0	35'0	97° 58'3	36'8	Acruz	173° 08'5	63° 11'1 S	208° 31'0	33'1	352° 36'2	7.6	47'7	11'2	60.7	68°	-	-	-	21:55	21:59	22:04				
	03	337° 53'7	252° 24'5	31'6	135° 27'6	12'7	215° 55'9	34'9	113° 00'8	36'8	Adhara	255° 12'3	28° 59'6 S	223° 30'9	32'7	7° 02'8	7.6	36'5	11'1	60.7	66°	-	-	01:39	21:51	22:00	22:08				
	04	352° 56'2	267° 23'8	31'8	150° 29'0	13'2	230° 57'8	34'8	128° 03'3	36'8	Aldebaran	290° 48'7	16° 32'1 N	238° 30'9	32'3	21° 29'4	7.6	25'4	11'2	60.7	64°	-	-	02:18	21:48	22:00	22:12				
	05	7° 58'6	282° 23'0	32'0	165° 30'4	13'7	245° 59'7	34'7	143° 05'8	36'8		196° 20'2	55° 53'2 N	253° 30'8	31'9	35° 56'0	7.7	14'2	11'3	60.7	62°	-	-	00:56	02:45	21:45	22:01	22:16			
	06	23° 01'1	297° 22'2	32'2	180° 31'7	14'2	261° 01'6	34'6	158° 08'3	36'9	Alioth	260° 20'2	55° 53'2 N	268° 30'8	31'5	50° 22'7	7.8	02'9	11'3	60.7	60°	-	-	02:18	03:22	21:40	22:01	22:22			
	07	38° 03'6	312° 21'4	32'4	195° 33'1	14'7	276° 03'5	34'5	173° 10'7	36'9	Alkaid	152° 58'3	49° 14'8 N	283° 30'7	31'1	64° 49'5	7.8	6° 51'6 S	11'3	60.6	56°	00:52	02:40	03:36	21:38	22:01	22:24				
	08	53° 06'0	327° 20'6	32'6	210° 34'4	15'1	291° 05'3	34'3	188° 13'2	36'9	Alnilam	27° 42'5	46° 53'1 S	298° 30'6	30'7	79° 16'3	7.9	40'3	11'4	60.6	54°	01:39	02:58	03:48	21:36	22:02	22:27				
	09	68° 08'5	342° 19'8	32'8	225° 35'8	15'6	306° 07'2	34'2	203° 15'7	36'9	Alnilam	275° 45'9	1° 11'7 S	313° 30'6	30'3	93° 43'2	8.0	28'9	11'5	60.6	52°	02:07	03:14	03:59	21:35	22:02	22:29				
	10	83° 10'9	357° 19'0	33'0	240° 37'2	16'1	321° 09'1	34'1	218° 18'2	36'9	Alphard	217° 55'6	8° 43'4 S	328° 30'5	29'9	108° 10'2	8.0	17'6	11'5	60.6	50°	02:28	03:26	04:08	21:33	22:02	22:31				
	11	98° 13'4	12° 18'2	33'2	255° 38'5	16'6	336° 11'0	34'0	233° 20'7	36'9		290° 48'7	16° 32'1 N	343° 30'4	29'5	122° 37'2	8.0	06'1	11'4	60.6	45°	03:06	03:53	04:28	21:30	22:03	22:35				
	12	113° 15'9	27° 17'5	22° 33'4 N	270° 39'9	10° 17'0 S	351° 12'9	20° 33'9 N	248° 23'2	14° 36'9 S	Alphecca	126° 10'2	26° 40'3 N	358° 30'4	21° 29'1 N	137° 04'2	8.1	5° 54'7 S	11'5	60.5	N 40°	03:33	04:13	04:44	21:27	22:03	22:38				
	13	128° 18'3	42° 16'7	33'6	285° 41'2	17'5	6° 14'8	33'8	263° 25'7	36'9	Alpheratz	357° 42'5	29° 10'2 N	13° 30'3	28'8	151° 31'3	8.2	43'2	11'5	60.5	35°	03:53	04:29	04:58	21:25	22:03	22:41				
	14	143° 20'8	57° 15'9	33'7	300° 42'6	18'0	21° 16'6	33'7	278° 28'2	36'9	Altair	62° 07'2	8° 54'7 N	28° 30'3	28'4	165° 58'5	8.2	31'7	11'5	60.5	30°	04:10	04:43	05:10	21:22	22:04	22:44				
	15	158° 23'3	72° 15'1	33'9	315° 43'9	18'5	36° 18'5	33'5	293° 30'7	36'9	Ankaa	353° 14'9	42° 13'3 S	43° 30'2	28'0	180° 25'7	8.3	20'2	11'5	60.5	20°	04:37	05:05	05:29	21:19	22:04	22:48				
	16	173° 25'7	87° 14'3	34'1	330° 45'3	18'9	51° 20'4	33'4	308° 33'1	36'9	Antares	112° 25'0	26° 27'7 S	58° 30'1	27'6	194° 53'0	8.3	08'7	11'6	60.4	N 10°	04:57	05:24	05:47	21:15	22:05	22:53				
	17	188° 28'2	102° 13'5	34'3	345° 46'7	19'4	66° 22'3	33'3	323° 35'6	36'9		112° 25'0	26° 27'7 S	73° 30'1	27'2	209° 20'3	8.4	4° 57'1 S	11'6	60.4	0°	05:14	05:40	06:02	21:12	22:05	22:56				
	18	203° 30'7	117° 12'7	34'5	0° 48'0	19'9	81° 24'2	33'2	338° 38'1	36'9	Arcturus	145° 55'0	19° 06'6 N	88° 30'0	26'8	223° 47'7	8.4	45'5	11'6	60.4	S 10°	05:30	05:56	06:18	21:09	22:06	23:00				
	19	218° 33'1	132° 11'9	34'7	15° 49'4	20'4	96° 26'1	33'1	353° 40'6	36'9	Arcturus	107° 25'7	69° 03'2 S	103° 30'0	26'4	238° 15'1	8.5	33'9	11'6	60.3	20°	05:44	06:11	06:35	21:06	22:06	23:05				
	20	233° 35'6	147° 11'1	34'9	30° 50'7	20'9	111° 28'0	33'0	8° 43'1	36'9	Avior	234° 18'3	59° 33'6 S	118° 29'9	26'0	252° 48'2	8.5	22'3	11'6	60.3	30°	05:59	06:28	06:54	21:03	22:07	23:09				
	21	248° 38'1	162° 10'4	35'1	45° 52'1	21'3	126° 29'8	32'9	23° 45'6	36'9	Bellatrix	278° 31'5	6° 21'6 N	133° 29'8	25'5	267° 10'1	8.6	10'7	11'7	60.3	35°	06:06	06:38	07:05	21:00	22:07	23:12				
	22	263° 40'5	177° 09'6	35'2	60° 53'4	21'8	141° 31'7	32'7	38° 48'1	36'9	Betelgeuse	271° 00'8	7° 24'4 N	148° 29'8	25'1	281° 37'7	8.7	3° 59'0 S	11'6	60.2	40°	06:14	06:48	07:18	20:58	22:08	23:16				
	23	278° 43'0	192° 08'8	35'4	75° 54'8	22'3	156° 33'6	32'6	53° 50'6	36'9		163° 29'7	24'7	163° 29'7	24'7	296° 05'4	8.7	47'4	11'7	60.2	45°	06:23	07:00	07:33	20:55	22:08	23:19				
16 Wednesday	00	293° 45'4	207° 08'0	22° 35'6 N	90° 56'1	10° 22'8 S	171° 35'5	20° 32'5 N	68° 53'0	14° 36'9 S	Canopus	263° 56'3	52° 42'3 S	178° 29'7	21° 24'3 N	310° 33'1	8.7	3° 35'7 S	11'7	60.2	S 50°	06:33	07:14	07:51	20:52	22:09	23:24				
	01	308° 47'9	222° 07'2	35'8	105° 57'5	23'3	186° 37'4	32'4	83° 55'5	36'9	Capella	280° 33'7	46° 00'5 N	193° 29'6	23'9	325° 00'8	8.8	24'0	11'7	60.2	52°	06:38	07:20	07:59	20:50	22:09	23:26				
	02	323° 50'4	237° 06'4	36'0	120° 58'8	23'7	201° 39'3	32'3	98° 58'0	36'9	Deneb	49° 30'5	45° 20'1 N	208° 29'5	23'5	339° 28'6	8.8	12'3	11'7	60.2	54°	06:43	07:27	08:09	20:49	22:10	23:28				
	03	338° 52'8	252° 05'6	36'1	135° 00'2	24'2	216° 41'1	32'1	114° 00'5	36'9	Denebola	182° 33'1	14° 29'5 S	223° 29'5	23'1	353° 56'4	8.9	00'6	11'7	60.1	56°	06:48	07:35	08:20	20:47	22:10	23:31				
	04	353° 55'3	267° 04'8	36'3	151° 01'5	24'7	231° 43'0	32'2	129° 03'0	37'0	Diphda	348° 55'1	17° 54'2 S	238° 29'4	22'7	8° 24'3	8.9	2° 48'9 S	11'7	60.1	58°	06:53	07:44	08:32	20:45	22:11	23:33				
	05	8° 57'8	282° 04'0	36'5	166° 02'9	25'2	246° 44'9	31'9	144° 05'5	37'0		8° 57'8	282° 04'0	253° 29'4	22'3	22° 52'2	9.0	37'2	11'7	60.1	S 60°	06:59	07:54	08:47	20:43	22:11	23:37				
	06	24° 00'2	297° 03'2	36'7	181° 04'2	25'6	261° 46'8	31'8	159° 08'0	37'0	Dubhe	193° 51'3	61° 40'5 N	268° 29'3	21'9	37° 20'2	9.1	25'5	11'7	60.0	S 62°	07:06	08:05	09:04	20:40	22:12	23:40				
	07	39° 02'7	312° 02'4	36'8	196° 05'6	26'1	276° 48'7	31'7	174° 10'4	37'0	Elmath	278° 12'0	28° 36'9 N	283° 29'2	21'5	51° 48'3	9.0	13'8	11'7	60.0											
	08	54° 05'2	327° 01'7	37'0	211° 06'9	26'6	291° 50'6	31'6	189° 12'9	37'0	Eltanin	90° 45'3	51° 29'5 S	298° 29'2	21'1	66° 16'3	9.1	02'1	11'7	60.0											
	09	69° 07'6	342° 00'9	37'2	228° 08'3	27'1	306° 52'5	31'5	204° 15'4	37'0	Enif	15° 26'1	9° 56'7 N	313° 29'1	20'7	80° 44'4	9.2	1° 50'4 S	11'7	59.9											
	10	84° 10'1	357° 00'1	37'3	241° 09'6	27'6	321° 54'3	31'4	219° 17'9	37'0	Fomalhaut	33° 42'9	29° 32'4 S	328° 29'1	20'3	95° 12'6	9.2	38'7	11'7	60.0											
	11	99° 12'5	11° 59'3	37'5	256° 10'9	28'0	336° 56'2	31'3	234° 20'4	37'0		99° 12'5	11° 59'3 S	343° 29'0	19'8	109° 40'8	9.3	27'0	11'7	60.0											
	12	114° 15'0	26° 58'5	22° 37'7 N	271° 12'3	10° 28'5 S	351° 58'1	20° 31'1 N	249° 22'9	14° 37'0 S	Gacrux	172° 00'1	57° 11'9 S	358° 29'0	21° 19'4 N	124° 09'1	9.3	1° 15'3 S	11'7	59.9	N 72°	-	-	-	07:12	09:13	11:09				
	13	129° 17'5	41° 57'7	37'8	286° 13'6	29'0	7° 00'0	31'0	264° 25'4	37'0	Giennah	175° 51'6	17° 37'4 S	13° 28'9	19'0																

2014 July 18, 19, 20 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.3			JUPITER -1.8			SATURN +0.4			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		18	19	20	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°		-	-		21:44	21:36	21:25
Friday	00	295° 43' 7	206° 29' 8	22° 43' 0 N	92° 00' 3	10° 45' 8 S	173° 06' 0	20° 27' 0 N	70° 52' 2	14° 37' 2 S	Acamar	315° 18' 0	40° 14' 6 S	178° 27' 0	21° 04' 2 N	285° 30' 0	10' 4	5° 33' 2 N	10' 7	58' 6	N 72°	-	-	-	21:44	21:36	21:25				
	01	310° 46' 2	221° 29' 0	43' 1	107° 01' 7	46' 3	188° 07' 8	26' 9	85° 54' 7	37' 2	Achernar	335° 26' 3	57° 09' 5 S	193° 27' 0	03' 8	299° 59' 4	10' 4	43' 9	10' 7	68°	N 70°	-	-	-	21:57	21:58	22:01				
	02	325° 48' 6	236° 28' 2	43' 2	122° 03' 0	46' 8	203° 09' 7	26' 8	100° 57' 2	37' 2	Acruz	173° 08' 5	63° 11' 1 S	208° 27' 0	03' 3	314° 28' 8	10' 5	54' 6	10' 6	66°	68°	-	-	00:45	22:09	22:16	22:26				
	03	340° 51' 1	251° 27' 4	43' 3	137° 04' 3	47' 3	218° 11' 6	26' 7	115° 59' 7	37' 2	Adhara	255° 12' 3	28° 59' 6 S	223° 26' 9	02' 9	328° 58' 3	10' 5	6° 05' 2 N	10' 6	58' 5	64°	66°	-	-	01:52	22:18	22:30	22:46			
	04	355° 53' 6	266° 26' 6	43' 5	152° 05' 6	47' 8	233° 13' 5	26' 5	131° 02' 1	37' 2	Aldebaran	290° 47' 1	16° 32' 1 N	238° 26' 9	02' 4	343° 27' 8	10' 5	15' 8	10' 6	62°	64°	-	-	02:27	22:26	22:41	23:02				
	05	10° 56' 0	281° 25' 8	43' 6	167° 07' 0	48' 3	248° 15' 4	26' 4	146° 04' 6	37' 3					253° 26' 8	02' 0	357° 57' 3	10' 5	26' 4	10' 5	60°	62°	-	-	01:15	02:52	22:32	22:51	23:15		
	06	25° 58' 5	296° 25' 0	43' 7	182° 08' 3	48' 7	263° 17' 3	26' 3	161° 07' 1	37' 3	Alioth	190° 20' 2	55° 53' 1 N	268° 26' 8	01' 6	12° 26' 8	10' 6	36' 9	10' 5	58' 4	58°	60°	-	-	02:25	03:27	22:44	23:08	23:36		
	07	41° 01' 0	311° 24' 2	43' 8	197° 09' 6	49' 2	278° 19' 2	26' 2	176° 09' 6	37' 3	Alkaid	152° 58' 4	49° 14' 8 N	283° 26' 7	01' 1	26° 56' 4	10' 5	47' 4	10' 4	56°	58°	01:08	02:47	03:41	22:48	23:14	23:44				
	08	56° 03' 4	326° 23' 4	43' 9	212° 10' 9	49' 7	293° 21' 0	26' 1	191° 12' 0	37' 3	Alnair	27° 42' 5	46° 53' 1 S	298° 26' 7	00' 7	41° 25' 9	10' 6	57' 8	10' 3	58' 3	54°	56°	01:48	03:04	03:53	22:52	23:20	23:52			
	09	71° 05' 9	341° 22' 6	44' 0	227° 12' 3	50' 2	308° 22' 9	26' 0	206° 14' 5	37' 3	Alnilam	275° 45' 9	1° 11' 7 S	313° 26' 6	00' 2	55° 55' 5	10' 6	7° 08' 1 N	10' 3	52°	54°	02:14	03:18	04:03	22:56	23:26	23:59				
	10	86° 08' 4	356° 21' 8	44' 2	242° 13' 6	50' 7	323° 24' 8	25' 8	221° 17' 0	37' 3	Alphard	217° 55' 6	8° 43' 4 S	328° 26' 6	20° 59' 8 N	70° 25' 1	10' 6	18' 4	10' 3	50°	52°	02:34	03:31	04:12	23:00	23:31	24:05				
	11	101° 10' 8	11° 21' 0	44' 3	257° 14' 9	51' 2	338° 26' 7	25' 7	236° 19' 5	37' 3					343° 26' 5	59' 4	84° 54' 7	10' 6	28' 7	10' 2	58' 2	45°	45°	03:10	03:56	04:31	23:07	23:41	24:18		
	12	116° 13' 3	26° 20' 2	22° 44' 4 N	27° 16' 2	10° 51' 6 S	353° 28' 6	20° 25' 6 N	251° 22' 0	14° 37' 3 S	Alphecca	126° 10' 2	26° 40' 3 N	358° 26' 5	20° 58' 9 N	99° 24' 3	10' 6	7° 38' 9 N	10' 1	58' 2	N 40°	40°	03:36	04:15	04:47	23:14	23:50	24:30			
	13	131° 15' 8	41° 19' 4	44' 5	287° 17' 5	52' 1	8° 30' 5	25' 5	266° 24' 4	37' 3	Alpheratz	357° 42' 5	29° 10' 2 N	13° 26' 4	58' 5	113° 53' 9	10' 7	49' 0	10' 1	35°	35°	03:56	04:31	05:00	23:19	23:58	24:39				
	14	146° 18' 2	56° 18' 6	44' 6	302° 18' 9	52' 6	23° 32' 4	25' 4	281° 26' 9	37' 3	Altair	62° 07' 2	8° 54' 7 N	28° 26' 4	58' 0	128° 23' 6	10' 6	59' 1	10' 1	58' 1	30°	30°	04:12	04:45	05:11	23:24	-	00:05			
	15	161° 20' 7	71° 17' 8	44' 7	317° 20' 2	53' 1	38° 34' 2	25' 3	296° 29' 4	37' 3	Ankaa	353° 14' 9	42° 13' 3 S	43° 26' 3	57' 6	142° 53' 2	10' 7	8° 09' 2 N	9' 9	20°	20°	04:38	05:07	05:31	23:32	-	00:17				
	16	176° 23' 1	86° 16' 9	44' 8	332° 21' 5	53' 6	53° 36' 1	25' 2	311° 31' 9	37' 3	Antares	112° 25' 0	26° 27' 7 S	58° 26' 3	57' 2	157° 22' 9	10' 7	19' 1	10' 0	N 10°	10°	04:58	05:25	05:47	23:40	-	00:27				
	17	191° 25' 6	101° 16' 1	44' 9	347° 22' 8	54' 1	68° 38' 0	25' 0	326° 34' 3	37' 3					173° 26' 2	56' 7	171° 52' 6	10' 7	29' 1	9' 8	58' 0	0°	0°	05:15	05:41	06:03	23:47	-	00:37		
	18	206° 28' 1	116° 15' 3	45' 1	2° 24' 1	54' 5	83° 39' 9	24' 9	341° 36' 8	37' 4	Arcturus	145° 55' 0	19° 06' 6 N	88° 26' 2	56' 3	186° 22' 3	10' 7	38' 9	9' 8	S 10°	10°	05:30	05:56	06:18	23:54	-	00:46				
	19	221° 30' 5	131° 14' 5	45' 2	17° 25' 4	55' 0	98° 41' 8	24' 8	356° 39' 3	37' 4	Atria	107° 25' 7	69° 03' 2 S	103° 26' 2	55' 8	200° 52' 0	10' 7	48' 7	9' 8	20°	20°	05:44	06:11	06:34	-	00:01	00:57				
	20	236° 33' 0	146° 13' 7	45' 3	32° 26' 8	55' 5	113° 43' 7	24' 7	11° 41' 8	37' 4	Avior	234° 18' 3	59° 33' 6 S	118° 26' 1	55' 4	215° 21' 7	10' 8	58' 5	9' 7	57' 9	30°	30°	05:58	06:27	06:53	-	00:10	01:09			
	21	251° 35' 5	161° 12' 9	45' 4	47° 28' 1	56' 0	128° 45' 5	24' 6	26° 44' 2	37' 4	Bellatrix	278° 31' 5	6° 21' 6 N	133° 26' 1	54' 9	229° 51' 5	10' 7	9° 08' 2 N	9' 6	35°	35°	06:05	06:36	07:04	-	00:15	01:16				
	22	266° 37' 9	176° 12' 1	45' 5	62° 29' 4	56' 5	143° 47' 4	24' 5	41° 46' 7	37' 4	Betelgeuse	271° 00' 8	7° 24' 4 N	148° 26' 0	54' 5	244° 21' 2	10' 7	17' 8	9' 6	40°	40°	06:13	06:46	07:16	-	00:21	01:24				
23	281° 40' 4	191° 11' 3	45' 6	77° 30' 7	57' 0	158° 49' 3	24' 3	56° 49' 2	37' 4					163° 26' 0	54' 0	258° 50' 9	10' 8	27' 4	9' 5	57' 8	45°	45°	06:21	06:58	07:30	-	00:28	01:33			
Saturday	00	296° 42' 9	206° 10' 5	22° 45' 7 N	92° 32' 0	10° 57' 4 S	173° 51' 2	20° 24' 2 N	71° 51' 7	14° 37' 4 S	Canopus	263° 56' 3	52° 42' 3 S	178° 25' 9	20° 53' 6 N	273° 20' 7	10' 8	9° 36' 9 N	9' 4	57' 8	S 50°	50°	06:31	07:11	07:48	-	00:36	01:45			
	01	311° 45' 3	221° 09' 7	45' 8	107° 33' 3	57' 9	188° 53' 1	24' 1	86° 54' 1	37' 4	Capella	280° 33' 7	46° 00' 4 N	193° 25' 9	53' 1	287° 50' 5	10' 7	46' 3	9' 4	52°	52°	06:35	07:17	07:56	-	00:40	01:50				
	02	326° 47' 8	236° 08' 9	45' 9	122° 34' 6	58' 4	203° 55' 0	24' 0	101° 56' 6	37' 4	Deneb	49° 30' 4	45° 20' 1 N	208° 25' 9	52' 7	302° 20' 2	10' 8	55' 7	9' 3	57' 7	54°	54°	06:40	07:24	08:06	-	00:44	01:56			
	03	341° 50' 3	251° 08' 1	46' 0	137° 35' 9	58' 9	218° 56' 9	23' 9	116° 59' 1	37' 4	Denebola	182° 33' 1	14° 29' 5 S	223° 25' 8	52' 2	316° 50' 0	10' 8	10° 05' 0 N	9' 3	56°	56°	06:45	07:32	08:16	-	00:48	02:02				
	04	356° 52' 7	266° 07' 3	46' 1	152° 37' 3	59' 4	233° 58' 7	23' 8	132° 01' 6	37' 4	Diphda	348° 55' 1	17° 54' 2 S	238° 25' 8	51' 8	331° 19' 8	10' 8	14' 3	9' 1	58°	58°	06:50	07:40	08:28	-	00:53	02:10				
	05	11° 55' 2	281° 06' 5	46' 2	167° 38' 6	59' 9	249° 00' 6	23' 6	147° 04' 0	37' 4					253° 25' 7	51' 3	345° 49' 6	10' 8	23' 4	9' 2	57' 6	S 60°	60°	06:56	07:50	08:42	-	00:59	02:18		
	06	26° 57' 6	296° 05' 7	46' 3	182° 39' 9	11° 00' 4 S	264° 02' 5	23' 5	162° 06' 5	37' 5	Dubhe	193° 51' 3	61° 40' 5 N	268° 25' 7	50' 9	0° 19' 4	10' 8	32' 6	9' 0	S 62°	62°	07:02	08:00	08:58	-	01:06	02:27				
	07	42° 00' 1	311° 04' 9	46' 3	197° 41' 2	00' 8	279° 04' 4	23' 4	177° 00' 0	37' 5	Elinath	278° 12' 0	28° 36' 9 N	283° 25' 6	50' 4	14° 49' 2	10' 8	41' 6	9' 0	57' 5											
	08	57° 02' 6	326° 04' 1	46' 4	212° 42' 5	01' 3	294° 06' 3	23' 3	192° 11' 5	37' 5	Eltanin	90° 45' 3	51° 29' 6 N	298° 25' 6	50' 0	29° 19' 0	10' 9	50' 6	8' 9												
	09	72° 05' 0	341° 03' 3	46' 5	227° 43' 8	01' 8	309° 08' 2	23' 2	207° 13' 9	37' 5	Enif	13° 42' 1	9° 56' 7 N	313° 25' 6	49' 5	43° 48' 9	10' 8	59' 5	8' 9												
	10	87° 07' 5	356° 02' 5	46' 6	242° 45' 1	02' 3	324° 10' 1	23' 1	222° 16' 4	37' 5	Fomalhaut	35° 26' 9	29° 32' 4 S	328° 25' 5	49' 0	58° 18' 7	10' 8	11° 08' 4 N	8' 8	57' 4											
	11	102° 10' 0	11° 01' 6	46' 7	257° 46' 4	02' 8	339° 11' 9	22' 9	237° 18' 9	37' 5					343° 25' 5	48' 6	72° 48' 5	10' 8													

2014 July 21, 22, 23 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.3			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON					Lat	Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	21:05	-	-					
Monday	01	298° 41'.1	205° 31'.7	22° 49'.2 N	93° 34'.4	11° 20'.8 S	175° 21'.7	20° 18'.6 N	73° 50'.3	14° 37'.9 S	Acamar	315° 17'.9	40° 14'.6 S	178° 24'.1	20° 31'.3 N	249° 13'.4	10.9	15° 48'.8 N	5.8	56.3	N 70°	-	-	-	-	22:08	22:26	23:09						
	02	313° 43'.6	220° 30'.9	49.2	108° 35'.7	21.3	190° 23'.6	18.5	88° 52'.7	37.9	Achernar	335° 26'.3	57° 09'.5 S	193° 24'.1	30.8	263° 43'.3	10.8	54'.6	5.7	56.2	68°	-	-	01:13	22:43	23:12	23:58							
	03	328° 46'.1	235° 30'.1	49.3	123° 37'.0	21.8	205° 25'.4	18.4	103° 55'.2	37.9	Acruz	173° 08'.6	63° 11'.1 S	208° 24'.0	30.3	278° 13'.1	10.9	16° 00'.3 N	5.6	66°	-	-	02:05	23:08	23:42	24:29								
	04	343° 48'.5	250° 29'.3	49.3	138° 38'.3	22.3	220° 27'.3	18.2	118° 57'.7	37.9	Adhara	255° 12'.3	28° 59'.6 S	223° 24'.0	29.9	292° 43'.0	10.8	05'.9	5.6	64°	-	-	02:36	23:28	-	00:05								
	05	358° 51'.0	265° 28'.5	49.4	153° 39'.6	22.8	235° 29'.2	18.1	134° 00'.1	37.9	Aldebaran	290° 48'.7	16° 32'.1 N	238° 24'.0	29.4	307° 12'.8	10.9	11'.5	5.4	62°	-	01:30	02:59	23:44	-	00:23								
	06	13° 53'.5	280° 27'.6	49.4	168° 40'.9	23.2	250° 31'.1	18.0	149° 02'.6	37.9		196° 05'.1		253° 24'.0	28.9	321° 42'.7	10.8	16'.9	5.3	56.1	60°	-	02:07	03:18	23:58	-	00:38							
	07	28° 55'.9	295° 26'.8	49.4	183° 42'.2	23.7	265° 33'.0	17.9	164° 05'.1	37.9	Alioth	260° 20'.3	55° 53'.1 N	268° 23'.9	28.4	336° 12'.5	10.9	22'.2	5.3	58°	-	02:33	03:33	-	00:10	00:50								
	08	43° 58'.4	310° 26'.0	49.5	198° 43'.5	24.2	280° 34'.9	17.8	179° 07'.5	37.9	Alkaid	152° 58'.4	49° 14'.8 N	283° 23'.9	27.9	350° 42'.4	10.9	27'.5	5.2	56°	01:23	02:53	03:46	-	00:20	01:01								
	09	59° 00'.8	325° 25'.2	49.5	213° 44'.7	24.7	295° 36'.8	17.6	194° 10'.0	37.9	Alnair	27° 42'.4	46° 53'.1 S	298° 23'.9	27.4	5° 12'.3	10.8	32'.7	5.1	54°	01:57	03:09	03:57	-	00:29	01:11								
	10	74° 03'.3	340° 24'.4	49.6	228° 46'.0	25.2	310° 38'.6	17.5	209° 12'.5	38.0	Anilam	275° 45'.9	1° 11'.7 S	313° 23'.8	27.0	19° 42'.1	10.9	37'.8	5.0	56.0	52°	02:20	03:23	04:07	-	00:37	01:20							
	11	89° 05'.8	355° 23'.6	49.6	243° 47'.3	25.7	325° 40'.5	17.4	224° 14'.9	38.0	Alphard	217° 55'.6	8° 43'.4 S	328° 23'.8	26.5	34° 12'.0	10.8	42'.8	4.9	50°	02:39	03:35	04:16	00:05	00:44	01:27								
	12	104° 08'.2	10° 22'.8	49.6	258° 48'.6	26.2	340° 42'.4	17.3	239° 17'.4	38.0		296° 02'.6		343° 23'.8	26.0	48° 41'.8	10.9	47'.7	4.8	45°	03:14	03:59	04:34	00:18	00:59	01:44								
	13	119° 10'.7	25° 22'.0	22° 49.7 N	273° 49'.9	11° 26.7 S	355° 44'.3	20° 17.2 N	254° 19.8	14° 38.0 S	Alphecca	126° 10'.2	26° 40.3 N	358° 23.7	20° 25.5 N	63° 11.7	10.9	16° 52.5 N	4.7	55.9	N 40°	03:39	04:18	04:49	00:30	01:12	01:58							
	14	134° 13'.2	40° 21'.1	49.7	288° 51'.2	27.2	10° 46.2	17.1	269° 22.3	38.0	Alpheratz	357° 42'.5	29° 10.2 N	13° 23.7	25.0	77° 41.6	10.8	57.2	4.7	35°	03:59	04:33	05:02	00:39	01:23	02:09								
	15	149° 15'.6	55° 20'.3	49.7	303° 52'.4	27.6	25° 48.1	16.9	284° 24'.8	38.0	Altair	62° 07'.1	8° 54.7 N	28° 27'.7	24.5	92° 11.4	10.9	17° 01.9 N	4.5	30°	04:14	04:46	05:13	00:47	01:32	02:19								
	16	164° 18'.1	70° 19'.5	49.7	318° 53'.7	28.1	40° 50.0	16.8	299° 27'.2	38.0	Ankaa	353° 14'.9	42° 13.3 S	43° 23.7	24.0	106° 41.3	10.8	06.4	4.5	20°	04:39	05:08	05:32	01:02	01:49	02:37								
	17	179° 20'.6	85° 18'.7	49.8	333° 55'.0	28.6	55° 51.8	16.7	314° 29'.2	38.0	Antares	112° 25.1	26° 27.7 S	58° 23.6	23.6	121° 11.1	10.9	10.9	4.4	55.8	N 10°	04:59	05:25	05:48	01:15	02:03	02:52							
	18	194° 23'.0	100° 17.9	49.8	348° 56.3	29.1	70° 53.7	16.6	329° 32.7	38.0		73° 23.6	23.1	73° 23.6	23.1	135° 41.0	10.9	15.3	4.2	20°	05:15	05:41	06:03	01:26	02:16	03:06								
	19	209° 25'.5	115° 17.1	49.8	3° 57.6	29.6	85° 55.6	16.5	344° 34.6	38.1	Arcturus	145° 55.0	19° 06.6 N	88° 23.6	22.6	150° 10.9	10.8	19.5	4.2	S 10°	05:30	05:55	06:18	01:38	02:30	03:20								
	20	224° 28'.0	130° 16.3	49.9	18° 58.8	30.1	100° 57.5	16.3	359° 37.1	38.1	Atria	107° 25.7	69° 03.2 S	103° 23.5	22.1	164° 40.7	10.9	23.7	4.1	20°	05:43	06:10	06:34	01:51	02:44	03:36								
	21	239° 30'.4	145° 15.5	49.9	34° 00.1	30.6	115° 59.4	16.2	14° 39.6	38.1	Avior	234° 18.3	59° 33.6 S	118° 23.5	21.6	179° 10.6	10.9	27.8	4.0	55.7	30°	05:57	06:26	06:52	02:06	03:01	03:53							
	22	254° 32'.9	160° 14.6	49.9	49° 01.4	31.1	131° 01.3	16.1	29° 42.0	38.1	Bellatrix	278° 31.4	6° 21.6 N	133° 23.5	21.1	193° 40.5	10.8	31.8	3.9	35°	06:04	06:35	07:02	02:15	03:11	04:03								
	23	269° 35'.3	175° 13.8	49.9	64° 02.7	31.6	146° 03.2	16.0	44° 44.5	38.1	Betelgeuse	271° 00.8	7° 24.4 N	148° 23.5	20.6	208° 10.3	10.9	35.7	3.8	40°	06:11	06:44	07:14	02:24	03:22	04:15								
24	284° 37.8	190° 13.0	49.9	79° 04.0	32.0	161° 05.0	15.9	59° 46.9	38.1		163° 23.4	20.1	222° 40.2	10.9	39.5	3.8			45°	06:19	06:55	07:28	02:36	03:35	04:29									
Tuesday	01	299° 40'.3	205° 12.2	22° 50.0 N	94° 05.2	11° 32.5 S	176° 06.9	20° 15.8 N	74° 49.4	14° 38.1 S	Canopus	263° 56.3	52° 42.3 S	178° 23.4	20° 19.6 N	237° 10.1	10.9	17° 43.3 N	3.6	55.6	S 50°	06:28	07:08	07:45	02:50	03:51	04:46							
	02	314° 42'.7	220° 11.4	50.0	109° 06.5	33.0	191° 08.8	15.6	89° 51.9	38.1	Capella	280° 33.7	46° 00.4 N	193° 23.4	19.1	251° 40.0	10.9	46.9	3.6	52°	06:32	07:14	07:53	02:57	03:58	04:54								
	03	329° 45.2	235° 10.6	50.0	124° 07.8	33.5	206° 10.7	15.5	104° 54.3	38.1	Deneb	49° 30.4	45° 20.1 N	208° 23.4	18.6	266° 09.0	10.9	50.5	3.4	54°	06:37	07:21	08:02	03:04	04:06	05:02								
	04	344° 47.7	250° 09.8	50.0	139° 09.1	34.0	221° 12.6	15.4	119° 56.8	38.2	Denebola	182° 33.1	14° 29.5 S	223° 23.3	18.1	280° 39.8	10.9	53.9	3.4	56°	06:41	07:28	08:12	03:12	04:16	05:12								
	05	359° 50.1	265° 08.9	50.0	154° 10.3	34.5	236° 14.5	15.3	134° 59.3	38.2	Diphda	348° 55.0	17° 54.2 S	238° 23.3	17.6	295° 09.7	10.9	57.3	3.2	58°	06:46	07:36	08:23	03:21	04:26	05:24								
	06	14° 52.6	280° 08.1	50.0	169° 11.6	35.0	251° 16.3	15.2	150° 01.7	38.2		253° 23.3	17.2	309° 39.6	10.9	18° 00.5 N	3.2	55.5			S 60°	06:52	07:45	08:36	03:32	04:39	05:37							
	07	29° 55'.1	295° 07.3	50.1	184° 12.9	35.5	266° 18.2	15.0	165° 04.2	38.2	Dubhe	193° 51.4	61° 40.5 N	268° 23.3	16.7	324° 09.5	10.9	03.7	3.1			S 62°	06:58	07:55	08:52	03:44	04:53	05:52						
	08	44° 57.5	310° 06.5	50.1	199° 14.1	36.0	281° 20.1	14.9	180° 06.6	38.2	Elmath	278° 11.9	28° 36.9 N	283° 23.2	16.2	338° 39.4	10.9	06.8	3.0															
	09	60° 00.0	325° 05.7	50.1	214° 15.4	36.5	296° 22.0	14.8	195° 09.1	38.2	Eltanin	90° 45.3	51° 29.6 N	298° 23.2	15.7	353° 09.3	10.9	09.8	2.9															
	10	75° 02.5	340° 04.9	50.1	229° 16.7	37.0	311° 23.9	14.7	210° 11.6	38.2	Enif	15° 46.1	9° 56.7 S	313° 23.2	15.2	7° 39.2	10.9	12.7	2.8	55.4														
	11	90° 04.9	355° 04.0	50.1	244° 18.0	37.4	326° 25.8	14.6	225° 14.0	38.2	Fomalhaut	33° 22.9	29° 32.4 S	328° 23.2	14.7	22° 09.1	10.9	15.5	2.7															
	12	105° 07.4	10° 03.2	50.1	259° 19.2	37.9	341° 27.7	14.4	240° 16.5	38.3		172° 00.1	57° 11.9 S	343° 23.1	14.2	36° 39.0	11.0	18.2	2.6															
	13	120° 09.8	25° 02.4	22° 50.1 N	274° 20.5	11° 38.4 S	356° 29.5	20° 14.3 N	255° 19.0	14° 38.3 S	Gacrux	172° 00.1	57° 11.9 S	358° 23.1	20° 13.7 N	51° 09.0	10.9	18° 20.8 N	2.5	55.4	N 70°	-	-	-	18:54	-	-							
	14	135° 12.3	40° 01.6	50.1	289° 21.8	38.9	11° 31.4	14.2	270° 21.4	38.3	Giennah	175° 51.6	17° 37.4 S	13° 23.1	13.2	65° 38.9	11.0	23.3	2.4	55.4	N 70°	-	-	-	17:52	19:18	20:17							
	15	150° 14.8	55° 00.8	50.1	304° 23.0	39.4	26° 33.3	14.1	285° 23.9	38.3	Hadar	148° 46.6	60° 26.8 S	28° 23.1	12.7	80° 08.9	10.9	25.7																

2014 July 24, 25, 26 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.3			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	24		Moonrise 25		26
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	24		25	26			
24	00	301° 38'.6	204° 33'.0	22° 49'.6 N	95° 05'.9	11° 56'.1 S	177° 37'.4	20° 10'.0 N	76° 47'.4	14° 38'.7 S	91° 49'.9	38'.8	Acamar	315° 17'.9	40° 14'.6 S	178° 22'.4	19° 55'.3 N	213° 14'.2	11.4	18° 52'.7 N	0.8	54.7	N 72°	-	-	-	-	-	-	01:01			
	01	316° 41'.0	219° 32'.2	49.5	110° 07'.2	56.6	192° 39'.3	09.9	91° 49'.9	38'.8	193° 22'.4	54.8	Achernar	335° 26'.2	57° 09'.5 S	193° 22'.4	19° 55'.3 N	227° 44'.6	11.5	51.9	0.9	68°	-	-	-	-	-	00:21	01:48				
	02	331° 43'.5	234° 31'.4	49.5	125° 08'.4	57.1	207° 41'.2	09.8	106° 52'.3	38.8	208° 22'.4	54.2	Acruz	173° 08'.6	63° 11'.1 S	208° 22'.4	19° 55'.3 N	242° 15'.1	11.4	51.0	1.0	66°	-	-	-	-	-	01:02	02:18				
	03	346° 45'.9	249° 30'.6	49.5	140° 09'.7	57.6	222° 43'.1	09.7	121° 54'.8	38.8	223° 22'.4	53.7	Adhara	255° 12'.3	28° 59'.6 S	223° 22'.4	19° 55'.3 N	256° 45'.5	11.5	50.0	1.1	64°	-	-	-	-	-	01:51	02:58				
	04	1° 48'.4	264° 29'.7	49.4	155° 10'.9	58.1	237° 45'.0	09.5	136° 57'.2	38.8	238° 22'.4	53.2	Aldebaran	290° 48'.7	16° 32'.1 N	238° 22'.4	19° 55'.3 N	271° 16'.0	11.6	48.9	1.2	54.6	62°	-	-	-	-	-	01:11	02:08			
	05	16° 50'.9	279° 28'.9	49.4	170° 12'.2	58.6	252° 46'.9	09.4	151° 59'.7	38.8	253° 22'.3	52.7							285° 46'.6	11.5	47.7	1.3	60°	-	-	-	-	-	02:17	03:25			
	06	31° 53'.3	294° 28'.1	49.3	185° 13'.4	59.1	267° 48'.7	09.3	167° 02'.2	38.8	268° 22'.3	52.1	Alioth	166° 20'.3	55° 53'.1 N	268° 22'.3	19° 55'.3 N	300° 17'.1	11.6	46.4	1.3	58°	00:39	02:41	03:39	01:39	02:34	03:34	03:35				
	07	46° 55'.8	309° 27'.3	49.3	200° 14'.7	59.6	282° 50'.6	09.2	182° 04'.6	38.8	283° 22'.3	51.6	Alkaid	152° 58'.4	49° 14'.8 N	283° 22'.3	19° 55'.3 N	314° 47'.7	11.6	45.1	1.5	56°	01:35	02:59	03:51	01:50	02:45	03:45					
	08	61° 58'.3	324° 26'.5	49.2	215° 15'.9	12° 00'.1 S	297° 52'.5	09.1	197° 07'.1	38.9	298° 22'.3	51.1	Alnilam	27° 42'.4	46° 53'.1 S	298° 22'.3	19° 55'.3 N	329° 18'.3	11.6	43.6	1.6	54°	02:05	03:15	04:02	02:00	02:54	03:53					
	09	77° 00'.7	339° 25'.7	49.2	230° 17'.2	00.6	312° 54'.4	08.9	212° 09'.5	38.9	313° 22'.3	50.6	Alnair	275° 45'.8	1° 11'.7 S	313° 22'.3	19° 55'.3 N	343° 48'.9	11.7	42.1	1.5	52°	02:28	03:28	04:11	02:08	03:02	04:00					
	10	92° 03'.2	354° 24'.8	49.2	245° 18'.4	01.1	327° 56'.3	08.8	227° 12'.0	38.9	328° 22'.3	50.0	Alphard	217° 55'.6	8° 43'.4 S	328° 22'.3	19° 55'.3 N	358° 19'.6	11.6	40.5	1.8	50°	02:45	03:39	04:20	02:16	03:10	04:07					
	11	107° 05'.7	9° 24'.0	49.1	260° 19'.7	01.5	342° 58'.2	08.7	242° 14'.4	38.9	343° 22'.3	49.5							12° 50'.2	11.7	38.7	1.8	54.5	45°	03:18	04:03	04:37	02:33	03:25	04:21			
	12	122° 08'.1	24° 23'.2	22° 49'.1 N	275° 20'.9	12° 02'.0 S	358° 00'.1	20° 08'.6 N	257° 16'.9	14° 38'.9 S	358° 22'.2	19° 49'.0 N	Alphecca	126° 10'.2	26° 40'.3 N	358° 22'.2	19° 49'.0 N	27° 20'.9	11.7	18° 36'.9 N	1.8	54.5	N 40°	03:42	04:21	04:52	02:47	03:38	04:32				
	13	137° 10'.6	39° 22'.4	49.0	290° 22'.1	02.5	13° 01'.9	08.4	272° 19'.3	38.9	272° 19'.3	48.5	Alpheratz	357° 42'.5	29° 10'.2 N	272° 19'.3	19° 55'.3 N	41° 51'.6	11.8	35.1	2.0	35°	04:01	04:36	05:04	02:58	03:49	04:42					
	14	152° 13'.1	54° 21'.6	49.0	305° 23'.4	03.0	28° 03'.8	08.3	287° 21'.8	38.9	287° 21'.8	47.9	Altair	62° 07'.1	8° 54'.7 N	287° 21'.8	19° 55'.3 N	56° 22'.4	11.8	33.1	2.1	30°	04:17	04:48	05:15	03:08	03:59	04:51					
	15	167° 15'.5	69° 20'.8	48.9	320° 24'.6	03.5	43° 05'.7	08.2	302° 2'.2	39.0	302° 2'.2	47.4	Ankaa	353° 14'.8	42° 13'.3 S	302° 2'.2	19° 55'.3 N	43° 22'.2	11.8	31.0	2.1	30°	04:41	05:09	05:33	03:26	04:15	05:05					
	16	182° 18'.0	84° 19'.9	48.9	335° 25'.9	04.0	58° 07'.6	08.1	317° 26'.7	39.0	317° 26'.7	46.9	Antares	112° 25'.1	26° 27'.7 S	317° 26'.7	19° 55'.3 N	85° 24'.0	11.8	28.9	2.3	N 10°	05:00	05:26	05:48	03:41	04:30	05:18					
	17	197° 20'.4	99° 19'.1	48.8	350° 27'.1	04.5	73° 09'.5	08.0	332° 29'.1	39.0	332° 29'.1	46.3							99° 54'.8	11.8	26.6	2.3	0°	05:16	05:41	06:03	03:55	04:43	05:30				
	18	212° 22'.9	114° 18'.3	48.7	5° 28'.4	05.0	88° 11'.4	07.8	347° 31'.6	39.0	347° 31'.6	45.8	Arcturus	145° 55'.0	19° 06'.6 N	347° 31'.6	19° 55'.3 N	114° 25'.6	11.9	24.3	2.4	S 10°	05:29	05:55	06:17	04:09	04:57	05:42					
	19	227° 25'.4	129° 17'.5	48.7	20° 29'.6	05.5	103° 13'.3	07.6	2° 34'.0	39.0	107° 25'.7	45.3	Arcturus	145° 55'.0	19° 06'.6 N	107° 25'.7	19° 55'.3 N	128° 56'.5	11.9	21.9	2.5	54.4	20°	05:42	06:09	06:33	03:45	04:25	05:11	05:55			
	20	242° 27'.8	144° 16'.7	48.6	35° 30'.9	06.0	118° 15'.1	07.7	17° 36'.5	39.0	234° 18'.3	59° 33'.5 S	Atira	234° 18'.3	59° 33'.5 S	118° 15'.1	19° 55'.3 N	143° 27'.4	11.9	19.4	2.6	30°	05:55	06:24	06:50	04:42	05:28	06:10					
	21	257° 30'.3	159° 15'.8	48.6	50° 32'.1	06.5	133° 17'.0	07.5	32° 38'.9	39.1	278° 31'.4	6° 21'.6 N	Bellatrix	278° 31'.4	6° 21'.6 N	133° 22'.2	19° 55'.3 N	157° 58'.3	12.0	16.8	2.6	35°	06:02	06:33	07:00	04:52	05:37	06:19					
	22	272° 32'.8	174° 15'.0	48.5	65° 33'.3	07.0	148° 18'.9	07.4	47° 41'.4	39.1	148° 21'.1	43.7	Betelgeuse	271° 00'.7	7° 24'.4 N	148° 21'.1	19° 55'.3 N	172° 29'.3	12.0	14.2	2.8	40°	06:09	06:42	07:11	05:04	05:48	06:28					
23	287° 35'.2	189° 14'.2	48.4	80° 34'.6	07.5	163° 20'.8	07.2	62° 43'.8	39.1	163° 22'.1	43.1							187° 00'.3	12.0	11.4	2.8	45°	06:17	06:53	07:25	05:18	06:01	06:40					
25	00	302° 37'.7	204° 13'.4	22° 48'.4 N	95° 35'.8	12° 08'.0 S	178° 22'.7	20° 07'.1 N	77° 46'.3	14° 39'.1 S	77° 46'.3	39.1	Canopus	263° 56'.3	52° 42'.2 S	178° 22'.1	19° 42'.6 N	201° 31'.3	12.1	18° 08'.6 N	2.9	54.4	S 50°	06:25	07:05	07:41	05:34	06:17	06:53				
	01	317° 40'.2	219° 12'.6	48.3	110° 37'.1	08.5	193° 24'.6	07.0	92° 48'.7	39.1	92° 48'.7	39.1	Capella	280° 33'.6	46° 00'.4 N	193° 22'.1	19° 55'.3 N	216° 02'.4	12.0	05.7	3.0	52°	06:29	07:11	07:49	05:42	06:24	07:00					
	02	332° 42'.6	234° 11'.7	48.3	125° 38'.3	08.9	208° 26'.5	06.9	107° 51'.2	39.1	208° 22'.1	41.5	Deneb	49° 30'.4	45° 20'.1 N	208° 22'.1	19° 55'.3 N	230° 03'.4	12.1	02.7	3.1	54°	06:33	07:17	07:57	05:51	06:32	07:07					
	03	347° 45'.1	249° 10'.9	48.2	140° 39'.5	09.4	223° 28'.3	06.8	122° 53'.6	39.2	223° 22'.1	41.0	Denebola	182° 33'.1	14° 29'.5 S	223° 22'.1	19° 55'.3 N	245° 04'.5	12.2	17° 59'.6 N	3.2	54.3	56°	06:37	07:24	08:07	06:01	06:41	07:15				
	04	2° 47'.6	264° 10'.1	48.1	155° 40'.8	09.9	238° 30'.2	06.6	137° 56'.1	39.1	238° 22'.1	40.5	Diphda	348° 55'.0	17° 54'.2 S	238° 22'.1	19° 55'.3 N	259° 53'.7	12.1	56.4	3.2	58°	06:42	07:31	08:18	06:12	06:51	07:23					
	05	17° 50'.0	279° 09'.3	48.1	170° 42.0	10.4	253° 32'.1	06.5	152° 58'.5	39.2	253° 22'.1	39.9							274° 06'.8	12.2	53.2	3.4	S 60°	06:47	07:40	08:30	06:25	07:03	07:34				
	06	32° 52'.5	294° 08'.5	48.0	185° 43'.3	10.9	268° 34'.0	06.4	168° 01'.0	39.2	268° 22'.1	39.4	Dubhe	193° 51'.4	61° 40'.5 N	268° 22'.1	19° 55'.3 N	288° 38'.0	12.3	49.8	3.4	62°	06:53	07:50	08:45	06:40	07:17	07:45					
	07	47° 54'.9	309° 07'.7	47.9	200° 44'.5	11.4	283° 35'.9	06.3	183° 03'.4	39.2	283° 22'.1	38.9	Einath	278° 11'.9	28° 36'.9 N	283° 22'.1	19° 55'.3 N	303° 30'.3	12.2	46.4	3.5												
	08	62° 57'.4	324° 06'.8	47.8	215° 45'.7	11.9	298° 37'.8	06.2	198° 05'.9	39.2	298° 22'.1	38.3	Eltanin	90° 45'.3	51° 29'.6 N	298° 22'.1	19° 55'.3 N	317° 40'.5	12.3	42.9	3.5												
	09	77° 59'.9	339° 06'.0	47.8	230° 47.0	12.4	313° 39'.7	06.0	213° 08'.3	39.2	313° 22'.1	37.8	Enif	13° 42'.9	9° 56'.7 S	313° 22'.1	19° 55'.3 N	332° 11'.8	12.3	39.4	3.7												
	10	93° 02'.3	354° 05'.2	47.7	245° 48'.2	12.9	328° 41'.5	05.9	228° 10'.8	39.3	328° 22'.1	37.2	Fomalhaut	35° 26'.9	29° 32'.4 S	328° 22'.1	19° 55'.3 N	346° 43'.1	12.4	35.7	3.7												
	11	108° 04'.8	9° 04'.4	47.6	260° 49'.4	13.4	343° 43'.4	05.8	243° 13'.2	39.3	343° 22'.0	36.7							1° 14'.5	12.4</													

2014 July 27, 28, 29 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +0.4			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	27	28	29	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		27	28		29		
Sunday	27 00	304° 36' 0	203° 34' 1	22° 44' 1 N	96° 34' 8	12° 31' 7 S	179° 53' 2	20° 01' 3 N	79° 43' 7	14° 39' 9 S	276° 46' 2	57° 09' 5 S	193° 22' 0	19° 16' 3 N	178° 57' 6	13' 6	14° 22' 2 N	6' 4	54' 0	N 72°	-	-	-	02:49	04:30	06:08						
	01	319° 38' 4	218° 33' 3	43' 9	111° 36' 0	32' 2	194° 55' 1	01' 2	94° 46' 2	39' 9	193° 22' 0	15' 7	193° 30' 2	13' 6	15' 8	6' 5	68°	-	-	00:33	03:18	04:49	06:19									
	02	334° 40' 9	233° 32' 4	43' 8	126° 37' 2	32' 7	209° 57' 0	01' 0	109° 48' 6	39' 9	208° 22' 0	15' 2	208° 02' 8	13' 7	09' 3	6' 5	66°	-	-	02:29	03:57	05:16	06:35									
	03	349° 43' 4	248° 31' 6	43' 7	141° 38' 4	33' 2	224° 58' 9	00' 9	124° 51' 0	39' 9	223° 22' 0	14' 6	222° 35' 5	13' 7	02' 8	6' 6	64°	-	01:12	02:55	04:11	05:25	06:41									
	04	4° 45' 8	263° 30' 8	43' 6	156° 39' 6	33' 7	240° 00' 8	00' 8	139° 53' 5	40' 0	238° 22' 0	14' 0	237° 08' 2	13' 8	13° 56' 2 N	6' 6	62°	-	01:58	03:15	04:22	05:34	06:46									
	05	19° 48' 3	278° 30' 0	43' 5	171° 40' 9	34' 2	255° 02' 7	00' 7	154° 55' 9	40' 0	253° 22' 0	13' 5	251° 41' 0	13' 7	49' 6	6' 7	60°	-	02:27	03:31	04:32	05:41	06:51									
	06	34° 50' 8	293° 29' 2	43' 3	186° 42' 1	34' 7	270° 04' 6	00' 6	169° 58' 4	40' 0	268° 22' 0	12' 9	266° 13' 7	13' 9	42' 9	6' 8	N 58°	01:05	02:49	03:45	04:40	05:47	06:55									
	07	49° 53' 2	308° 28' 4	43' 2	201° 43' 3	35' 2	285° 06' 5	00' 4	185° 00' 8	40' 0	283° 22' 0	12' 3	280° 46' 6	13' 8	36' 1	6' 8	56°	01:47	03:06	03:56	04:48	05:53	06:59									
	08	64° 55' 7	323° 27' 5	43' 1	216° 44' 5	35' 7	300° 08' 3	00' 3	200° 03' 3	40' 0	298° 22' 0	11' 8	295° 19' 4	13' 9	29' 3	6' 9	54°	02:14	03:21	04:06	04:54	05:58	07:02									
	09	79° 58' 2	338° 26' 7	43' 0	231° 45' 7	36' 2	315° 10' 2	00' 2	215° 05' 7	40' 1	313° 22' 0	11' 2	309° 52' 3	13' 9	22' 4	6' 9	52°	02:35	03:33	04:15	05:00	06:02	07:05									
	10	95° 00' 6	353° 25' 9	42' 8	246° 46' 9	36' 7	330° 12' 1	00' 1	230° 08' 1	40' 1	328° 22' 0	10' 6	324° 25' 2	13' 9	15' 5	7' 0	50°	02:51	03:44	04:24	05:06	06:06	07:08									
	11	110° 03' 1	8° 25' 1	42' 7	261° 48' 1	37' 2	345° 14' 0	19° 59' 9 N	245° 10' 6	40' 1	343° 22' 1	10' 1	338° 58' 1	14' 0	08' 5	7' 0	45°	03:23	04:06	04:41	05:17	06:15	07:14									
	12	125° 05' 5	23° 24' 3	22° 42' 6 N	276° 49' 3	12° 37' 7 S	0° 15' 9	19° 59' 8 N	260° 13' 0	14° 40' 1 S	358° 22' 1	19° 09' 5 N	353° 31' 1	14' 0	13° 01' 5 N	7' 1	54' 0	N 40°	03:46	04:24	04:55	05:27	06:23	07:18								
	13	140° 08' 0	38° 23' 4	42' 4	291° 50' 6	38' 2	15° 17' 8	59' 7	275° 15' 5	40' 1	13° 22' 1	08' 9	8° 04' 1	14' 0	12° 54' 4 N	7' 2	53' 9	35°	04:04	04:38	05:06	05:35	06:29	07:23								
	14	155° 10' 5	53° 22' 6	42' 3	306° 51' 8	38' 7	30° 19' 7	59' 6	290° 17' 9	40' 1	28° 22' 1	08' 4	22° 37' 1	14' 1	47' 2	7' 2	30°	04:19	04:50	05:17	05:42	06:34	07:26									
	15	170° 12' 9	68° 21' 8	42' 2	321° 53' 0	39' 2	45° 21' 6	59' 4	305° 20' 3	40' 2	43° 22' 1	07' 8	37° 10' 2	14' 1	40' 0	7' 2	20°	04:42	05:10	05:34	05:55	06:44	07:33									
	16	185° 15' 4	83° 21' 0	42' 0	336° 54' 2	39' 7	60° 23' 4	59' 3	320° 22' 8	40' 2	58° 22' 1	07' 2	51° 43' 3	14' 1	32' 8	7' 3	N 10°	05:01	05:27	05:49	06:06	06:52	07:38									
	17	200° 17' 9	98° 20' 2	41' 9	351° 55' 4	40' 2	75° 25' 3	59' 2	335° 25' 2	40' 2	73° 22' 1	06' 7	66° 16' 4	14' 1	25' 5	7' 4	0°	05:16	05:41	06:03	06:16	07:00	07:43									
	18	215° 20' 3	113° 19' 4	41' 8	6° 56' 6	40' 6	90° 27' 2	59' 1	350° 27' 7	40' 2	88° 22' 1	06' 1	80° 49' 5	14' 2	18' 1	7' 4	S 10°	05:29	05:55	06:17	06:26	07:08	07:49									
	19	230° 22' 8	128° 18' 5	41' 6	21° 57' 8	41' 1	105° 29' 1	59' 0	5° 30' 1	40' 2	103° 22' 1	05' 5	95° 22' 7	14' 2	10' 7	7' 4	20°	05:42	06:08	06:32	06:37	07:16	07:54									
	20	245° 25' 3	143° 17' 7	41' 5	36° 59' 0	41' 6	120° 31' 0	58' 8	20° 32' 5	40' 3	118° 22' 1	04' 9	109° 55' 9	14' 3	03' 3	7' 6	30°	05:54	06:23	06:48	06:49	07:26	08:00									
	21	260° 27' 7	158° 16' 9	41' 3	52° 00' 2	42' 1	135° 32' 9	58' 7	35° 35' 0	40' 3	148° 22' 1	04' 4	124° 29' 2	14' 2	11° 55' 7 N	7' 5	35°	06:00	06:31	06:58	06:56	07:31	08:04									
	22	275° 30' 2	173° 16' 1	41' 2	67° 01' 4	42' 6	150° 34' 8	58' 6	50° 37' 4	40' 3	148° 22' 1	03' 8	139° 02' 4	14' 3	48' 2	7' 6	40°	06:07	06:40	07:09	07:04	07:37	08:08									
23	290° 32' 6	188° 15' 3	41' 0	82° 02' 6	43' 1	165° 36' 7	58' 5	65° 39' 9	40' 3	163° 22' 2	03' 2	153° 35' 7	14' 4	40' 6	7' 7	45°	06:14	06:50	07:22	07:14	07:44	08:13										
Monday	28 00	305° 35' 1	203° 14' 4	22° 40' 9 N	97° 03' 8	12° 43' 6 S	180° 38' 5	19° 58' 3 N	80° 42' 3	14° 40' 3 S	276° 46' 2	57° 09' 5 S	193° 22' 0	19° 02' 7 N	168° 09' 1	14' 3	11° 32' 9 N	7' 7	53' 9	S 50°	06:22	07:02	07:37	07:25	07:53	08:18						
	01	320° 37' 6	218° 13' 6	40' 8	112° 05' 0	44' 1	195° 40' 4	58' 2	95° 44' 7	40' 3	193° 22' 0	02' 1	182° 42' 4	14' 4	25' 2	7' 7	52°	06:26	07:07	07:45	07:30	07:57	08:21									
	02	335° 40' 0	233° 12' 8	40' 6	127° 06' 3	44' 6	210° 42' 3	58' 1	110° 47' 2	40' 4	208° 22' 0	01' 5	197° 15' 8	14' 4	17' 5	7' 8	54°	06:29	07:13	07:53	07:36	08:01	08:24									
	03	350° 42' 5	248° 12' 0	40' 5	142° 07' 5	45' 1	225° 44' 2	58' 0	125° 49' 0	40' 4	223° 22' 2	00' 9	211° 49' 2	14' 4	09' 7	7' 9	56°	06:33	07:19	08:02	07:42	08:06	08:27									
	04	5° 45' 0	263° 11' 2	40' 3	157° 08' 5	45' 6	240° 46' 1	57' 9	140° 52' 0	40' 4	238° 22' 0	00' 3	226° 42' 6	14' 5	01' 8	7' 8	58°	06:38	07:26	08:12	07:50	08:11	08:30									
	05	20° 47' 4	278° 10' 4	40' 2	172° 09' 9	46' 1	255° 48' 0	57' 7	155° 54' 5	40' 4	253° 22' 2	18° 59' 8 N	240° 56' 1	14' 5	10° 54' 0 N	8' 0	S 60°	06:42	07:34	08:24	07:58	08:17	08:34									
	06	35° 49' 9	293° 09' 5	40' 0	187° 11' 1	46' 6	270° 49' 9	57' 6	170° 56' 9	40' 4	268° 22' 2	59' 2	255° 29' 6	14' 5	46' 0	8' 0	S 62°	06:48	07:44	08:38	08:07	08:24	08:39									
	07	50° 52' 4	308° 08' 7	39' 9	202° 12' 3	47' 1	285° 51' 8	57' 5	185° 59' 4	40' 5	283° 22' 2	58' 6	270° 03' 1	14' 6	38' 0	8' 0																
	08	65° 54' 8	323° 07' 9	39' 7	217° 13' 5	47' 6	300° 53' 6	57' 4	201° 01' 8	40' 5	298° 22' 2	58' 0	284° 36' 7	14' 5	30' 0	8' 0																
	09	80° 57' 3	338° 07' 1	39' 6	232° 14' 7	48' 1	315° 55' 5	57' 2	216° 04' 2	40' 5	313° 22' 3	57' 5	299° 10' 2	14' 6	22' 0	8' 1																
	10	95° 59' 8	353° 06' 3	39' 4	247° 15' 9	48' 6	330° 57' 4	57' 1	231° 06' 7	40' 5	328° 22' 3	56' 9	313° 43' 8	14' 6	13' 9	8' 2																
	11	111° 02' 2	8° 05' 5	39' 2	262° 17' 1	49' 1	345° 59' 3	57' 0	246° 09' 1	40' 5	343° 22' 3	56' 3	328° 17' 4	14' 7	05' 7	8' 2																
	12	126° 04' 7	23° 04' 6	22° 39' 1 N	277° 18' 3	12° 49' 6 S	1° 01' 2	19° 59' 6 N	261° 11' 5	14° 40' 6 S	358° 22' 3	18° 55' 7 N	342° 51' 1	14' 6	9° 57' 5 N	8' 2	53' 9	N 70°	23:22	-	-	-	21:23	21:15	21:09							
	13	141° 07' 1	38° 03' 8	38' 9	292° 19' 5	50' 1	16° 03' 1	56' 7	276° 14' 0	40' 6	13° 22' 3	55' 1	357° 24' 7	14' 7	49' 3	8' 3	68°	22:16	-	-	-	20:47	20:52	20:56								
	14	156° 09' 6	53° 03' 0	38' 8	303° 20' 7	50' 6	31° 05' 0	56' 6	291° 16' 4	40' 6	28° 22' 3	54' 6	11° 58' 4	14' 7	41' 0	8' 3	66°	21:41	-	-	-	20:34	20:44	20:51								
	15	171° 12' 1	68° 02' 2	38' 6	322° 21' 9	51' 1	46° 06' 9	56' 5	306° 19' 9	40' 6	43° 22' 3	54' 0	26° 32' 1	14' 8	32' 7	8' 3	64°	21:16	22:54	-	-	20:23	20:36	20:47								
	16	186° 14' 5	83° 01' 4	38' 4	337° 23' 1	51' 6	61° 08' 7	56' 4	321° 21' 3	40' 6	58° 22' 4	53' 4	41° 05' 9	14' 7	24' 4	8' 4	62°	20:56	22:11	-	-	20:14	20:30	20:44								
	17	201° 17' 0	98° 00' 6																													

GMT	ARIES			VENUS -3.9			MARS +0.4			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	07:43	09:17	10:54		
Wednesday	30 00	307° 33'.4	202° 35'.3	22° 32'.6 N	98° 01'.1	13° 07'.5 S	182° 09'.2	19° 52'.4 N	82° 39'.1	14° 41'.3 S	97° 41'.6	41.3	Acamar	315° 17'.8	40° 14'.6 S	178° 22'.9	18° 34'.4 N	147° 14'.6	15.2	4° 40'.0 N	9.3	54.1	N 70°	-	-	-	01:16	07:47	09:16	10:46	
	01	322° 35'.9	217° 34'.4	32.4	113° 02'.3	08.0	197° 11'.1	52.3	97° 41'.6	41.3	335° 26'.2	57° 09'.5 S	Achernar	335° 26'.2	57° 09'.5 S	193° 23'.0	33.8	161° 48'.8	15.2	30.7	9.4	68°	-	-	-	02:09	07:51	09:15	10:41		
	02	337° 38'.3	232° 33'.6	32.2	128° 03'.5	08.5	212° 12'.9	52.2	112° 44'.0	41.3	173° 08'.6	63° 11'.0 S	Acrux	173° 08'.6	63° 11'.0 S	208° 23'.0	33.2	176° 23'.0	15.3	21.3	9.3	66°	-	-	-	02:41	07:55	09:15	10:36		
	03	352° 40'.8	247° 32'.8	32.0	143° 04'.7	09.0	227° 14'.8	52.0	127° 46'.4	41.3	255° 12'.2	28° 59'.6 S	Adhara	255° 12'.2	28° 59'.6 S	223° 23'.0	32.6	190° 57'.3	15.2	12.0	9.4	64°	-	-	-	03:05	07:57	09:14	10:32		
	04	7° 43'.2	262° 32.0	31.8	158° 05'.8	09.5	242° 16'.7	51.9	142° 48'.9	41.4	290° 48'.6	16° 32'.1 N	Aldebaran	290° 48'.6	16° 32'.1 N	238° 23'.0	32.0	205° 31'.5	15.2	02.6	9.4	62°	-	-	02:11	03:23	08:00	09:14	10:29		
	05	22° 45.7	277° 31'.2	31.6	173° 07.0	10.0	257° 18'.6	51.8	157° 51'.3	41.4						253° 23'.1	31.4	220° 05'.7	15.3	3° 53'.2 N	9.4	60°	-	-	02:36	03:38	08:02	09:13	10:26		
	06	37° 48'.2	292° 30'.4	31.4	188° 08'.2	10.5	272° 20'.5	51.7	172° 53'.7	41.4	166° 20'.3	55° 53'.1 N	Alioth	166° 20'.3	55° 53'.1 N	268° 23'.1	30.8	234° 40'.0	15.2	43.8	9.5	54.2	N 58°	01:24	02:56	03:51	08:04	09:13	10:23		
	07	52° 50'.6	307° 29'.6	31.2	203° 09'.4	11.0	287° 22'.4	51.5	187° 56'.2	41.4	152° 58'.4	49° 14'.8 N	Alkaid	152° 58'.4	49° 14'.8 N	283° 23'.1	30.2	249° 14'.2	15.3	34.3	9.4	56°	01:59	03:13	04:02	08:05	09:12	10:20			
	08	67° 53'.1	322° 28'.7	31.0	218° 10.6	11.5	302° 24'.3	51.4	202° 58'.6	41.5	27° 42'.4	46° 53'.1 S	Alnair	27° 42'.4	46° 53'.1 S	298° 23'.1	29.6	263° 48'.5	15.2	24.9	9.5	54°	02:23	03:27	04:11	08:07	09:12	10:18			
	09	82° 55'.6	337° 27'.9	30.8	233° 11'.7	12.0	317° 26'.2	51.3	218° 01'.0	41.5	275° 45'.8	1° 11'.7 S	Alnilam	275° 45'.8	1° 11'.7 S	313° 23'.2	29.0	278° 22'.7	15.3	15.9	9.4	52°	02:42	03:38	04:20	08:08	09:12	10:16			
	10	97° 58'.0	352° 27'.1	30.6	248° 12'.9	12.5	332° 28'.1	51.2	233° 03'.4	41.5	217° 55'.6	8° 43'.4 S	Alphard	217° 55'.6	8° 43'.4 S	328° 23'.2	28.4	292° 57'.0	15.2	06.0	9.5	50°	02:57	03:49	04:28	08:09	09:12	10:15			
	11	113° 00'.5	7° 26'.3	30.4	263° 14'.1	13.0	347° 29'.9	51.0	248° 05'.9	41.5						343° 23'.2	27.8	307° 31'.2	15.3	2° 56'.0 N	9.6	45°	03:27	04:10	04:44	08:12	09:11	10:11			
	12	128° 03'.0	22° 25'.5	22° 30.2 N	278° 15'.3	13° 13'.5 S	2° 31'.8	19° 50'.9 N	263° 08'.3	14° 41'.5 S	126° 10'.2	26° 40'.3 N	Alphecca	126° 10'.2	26° 40'.3 N	358° 23'.2	18° 27'.2 N	322° 05'.5	15.2	2° 46'.9 N	9.5	54.2	N 40°	03:49	04:27	04:57	08:14	09:11	10:08		
	13	143° 05'.4	37° 24.7	30.0	293° 16'.5	14.0	17° 33'.7	50.8	278° 10'.7	41.6	357° 42'.4	29° 10'.2 N	Alpheratz	357° 42'.4	29° 10'.2 N	13° 23'.3	26.6	336° 39'.7	15.3	37.4	9.5	35°	04:07	04:41	05:09	08:16	09:10	10:05			
	14	158° 07'.9	52° 23'.9	29.7	308° 17'.6	14.5	32° 35'.6	50.7	293° 13'.2	41.6	62° 07'.1	8° 54'.7 N	Altair	62° 07'.1	8° 54'.7 N	28° 23'.3	26.0	351° 14'.0	15.2	27.9	9.6	30°	04:21	04:52	05:18	08:18	09:10	10:03			
	15	173° 10'.3	67° 23'.1	29.5	323° 18'.8	15.0	47° 37'.5	50.5	308° 15'.6	41.6	353° 14'.8	42° 13'.3 S	Ankaa	353° 14'.8	42° 13'.3 S	43° 23'.3	25.4	5° 48'.2	15.2	18.3	9.5	20°	04:44	05:11	05:35	08:21	09:09	09:59			
	16	188° 12'.8	82° 22.2	29.3	338° 20.0	15.5	62° 39'.4	50.4	323° 18'.0	41.6	112° 25.1	26° 27.7 S	Antares	112° 25.1	26° 27.7 S	58° 23'.3	24.8	20° 22.4	15.3	08.8	9.6	54.3	N 10°	05:01	05:27	05:49	08:23	09:09	09:55		
	17	203° 15'.3	97° 21'.4	29.1	353° 21.2	16.0	77° 41'.3	50.3	338° 20'.4	41.6						73° 23'.4	24.2	34° 56'.7	15.2	1° 59'.2 N	9.6	0°	05:16	05:41	06:03	08:26	09:08	09:52			
	18	218° 17.7	112° 20.6	28.9	8° 22.3	16.5	92° 43.2	50.2	353° 22.9	41.7	145° 55.0	19° 06.6 N	Arcturus	145° 55.0	19° 06.6 N	88° 23.4	23.5	49° 30.9	15.2	49.6	9.6	S 10°	05:29	05:54	06:16	08:28	09:08	09:48			
	19	233° 20.2	127° 19.8	28.6	23° 23.5	17.0	107° 45.1	50.0	8° 25.3	41.7	107° 25.8	69° 03.2 S	Atria	107° 25.8	69° 03.2 S	103° 23.4	22.9	64° 05.1	15.2	40.0	9.6	20°	05:41	06:07	06:30	08:31	09:08	09:45			
	20	248° 22.7	142° 19.0	28.4	38° 24.7	17.5	122° 47.0	49.9	23° 27.7	41.7	234° 18.3	59° 33.5 S	Bv	234° 18.3	59° 33.5 S	118° 23.4	22.3	78° 39.3	15.3	30.4	9.6	30°	05:52	06:21	06:46	08:34	09:07	09:41			
	21	263° 25.1	157° 18.2	28.2	53° 25.8	18.0	137° 48.8	49.8	38° 30.1	41.7	278° 31.4	6° 21.6 N	Bellatrix	278° 31.4	6° 21.6 N	133° 23.5	21.7	93° 13.6	15.2	20.8	9.6	35°	05:58	06:29	06:55	08:36	09:07	09:38			
	22	278° 27.6	172° 17.4	28.0	68° 27.0	18.5	152° 50.7	49.7	53° 32.6	41.8	271° 00.7	7° 24.4 N	Betelgeuse	271° 00.7	7° 24.4 N	148° 23.5	21.1	107° 47.8	15.2	11.2	9.7	40°	06:04	06:37	07:06	08:37	09:06	09:36			
23	293° 30.1	187° 16.5	27.8	83° 28.2	18.9	167° 52.6	49.5	68° 35.0	41.8						163° 23.5	20.5	122° 22.0	15.2	01.5	9.6	45°	06:11	06:47	07:18	08:40	09:06	09:33				
Thursday	31 00	308° 32'.5	202° 15.7	22° 27.5 N	98° 29.4	13° 19.4 S	182° 54'.5	19° 49'.4 N	83° 37'.4	14° 41'.8 S	83° 37'.4	14° 41'.8 S	Canopus	263° 56'.3	52° 42'.2 S	178° 23'.6	18° 19'.9 N	136° 56'.2	15.1	0° 51'.9 N	9.6	54.4	S 50°	06:19	06:58	07:33	08:42	09:06	09:29		
	01	323° 35'.0	217° 14'.9	27.3	113° 30.5	19.9	197° 56'.4	49.3	98° 39.8	41.8	280° 33'.6	46° 00'.4 N	Capella	280° 33'.6	46° 00'.4 N	193° 23'.6	19.3	151° 30'.3	15.2	42.3	9.7	52°	06:22	07:03	07:40	08:44	09:05	09:28			
	02	338° 37.5	232° 14.1	27.1	123° 31.7	20.4	212° 58.3	49.2	113° 42.3	41.8	49° 30'.4	45° 20'.2 N	Deneb	49° 30'.4	45° 20'.2 N	208° 23'.6	18.6	166° 04'.5	15.2	32.6	9.6	54°	06:25	07:08	07:48	08:45	09:05	09:26			
	03	353° 39.9	247° 13.3	26.8	143° 32.9	20.9	228° 00.2	49.0	128° 44.7	41.9	182° 33.1	14° 29.5 S	Denebola	182° 33.1	14° 29.5 S	223° 23.7	17.0	180° 38.7	15.1	23.0	9.7	56°	06:29	07:14	07:56	08:46	09:05	09:24			
	04	8° 42'.4	262° 12.5	26.6	158° 34.0	21.4	243° 02.1	48.9	143° 47.1	41.9	348° 55.0	17° 54.2 S	Diphda	348° 55.0	17° 54.2 S	238° 23.7	18.4	195° 12.8	15.2	13.3	9.7	58°	06:33	07:21	08:06	08:48	09:05	09:22			
	05	23° 44.8	277° 11.7	26.4	173° 35.2	21.9	258° 04.0	48.8	158° 49.6	41.9						253° 23.7	16.8	209° 47.0	15.1	03.6	9.6	S 60°	06:37	07:29	08:17	08:50	09:05	09:20			
	06	38° 47'.3	292° 10'.9	26.1	188° 36.4	22.4	273° 05.8	48.7	173° 52.0	41.9	193° 51.4	61° 40.5 N	Dubhe	193° 51.4	61° 40.5 N	268° 23.7	16.2	224° 21.1	15.1	0° 06.0 S	9.7	S 62°	06:42	07:37	08:30	08:52	09:04	09:17			
	07	53° 49.8	307° 10.1	25.9	203° 37.5	22.9	288° 07.7	48.5	188° 54.4	42.0	278° 11.9	28° 36.9 N	Einath	278° 11.9	28° 36.9 N	283° 23.8	15.6	238° 55.2	15.1	15.7	9.7	54.5									
	08	68° 52.2	322° 09.2	25.7	218° 38.7	23.4	303° 09.6	48.4	203° 56.8	42.0	90° 45.3	51° 29.6 N	Eltanin	90° 45.3	51° 29.6 N	298° 23.8	15.0	253° 29.3	15.1	25.4	9.7										
	09	83° 54'.7	337° 08'.4	25.4	233° 39.9	23.9	318° 11.5	48.3	218° 59.3	42.0	18° 56.7 N	9° 56.7 N	Enif	18° 56.7	9° 56.7 N	313° 23.8	14.3	268° 03.4	15.1	35.1	9.7										
	10	98° 57.2	352° 07.6	25.2	248° 41.0	24.4	333° 13.4	48.2	234° 01.7	42.0	35° 22.9	29° 32.4 S	Fomalhaut	35° 22.9	29° 32.4 S	328° 23.9	13.7	282° 37.5	15.0	44.8	9.6										
	11	113° 59.6	7° 06.8	25.0	263° 42.2	24.9	348° 15.3	48.0	249° 04.1	42.0						343° 23.9	13.1	297° 11.5	15.1	54.4	9.7	N									

2014 August 2, 3, 4 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.4			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil		Nautical	Civil		Nautical	Civil		Nautical	Civil		Nautical	Civil		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d		HP	N		2	3	4
Saturday	00	310° 30' 8"	201° 36' 9"	22° 15' 3" N	99° 25' 0"	13° 43' 4" S	184° 25' 2"	19° 43' 4" N	85° 33' 7"	14° 42' 9" S	100° 36' 1"	42' 9"	199° 27' 1"	43' 3"	Acamar	315° 17' 8"	40° 14' 6" S	178° 25' 3"	17° 49' 8" N	115° 54' 1"	13' 9"	6° 48' 2" S	9' 3"	55.2	N 72°	-	-	-	12:33	14:20	16:16
	01	325° 33' 3"	216° 36' 1"	15' 1"	114° 26' 2"	43' 9"	199° 27' 1"	43' 3"	80° 36' 1"	42' 9"	193° 25' 3"	49' 2"	130° 27' 0"	13' 9"	Achernar	335° 26' 1"	57° 09' 5" S	193° 25' 3"	49' 2"	130° 27' 0"	13' 9"	57' 5"	9' 2"	55.3	N 70°	-	-	01:42	12:19	13:56	15:37
	02	340° 35' 7"	231° 35' 3"	14' 8"	129° 27' 3"	44' 4"	214° 29' 0"	43' 2"	115° 38' 5"	43' 0"	208° 25' 4"	48' 6"	144° 59' 9"	13' 8"	Adrux	173° 08' 7"	63° 11' 0" S	208° 25' 4"	48' 6"	144° 59' 9"	13' 8"	7° 06' 7" S	9' 3"	66°	-	00:52	02:53	11:59	13:24	14:50	
	03	355° 38' 2"	246° 34' 5"	14' 5"	144° 28' 4"	44' 9"	229° 30' 9"	43' 0"	130° 40' 9"	43' 0"	223° 25' 4"	47' 9"	159° 32' 7"	13' 8"	Aladhara	255° 12' 2"	28° 59' 6" S	223° 25' 4"	47' 9"	159° 32' 7"	13' 8"	16' 0"	9' 2"	64°	-	01:50	03:14	11:51	13:12	14:34	
	04	10° 40' 7"	261° 33' 7"	14' 2"	159° 29' 6"	45' 4"	244° 32' 8"	42' 9"	145° 43' 4"	43' 0"	238° 25' 4"	47' 3"	174° 05' 5"	13' 8"	Aldebaran	290° 48' 6"	16° 32' 1" N	238° 25' 4"	47' 3"	174° 05' 5"	13' 8"	25' 2"	9' 2"	62°	-	02:23	03:31	11:45	13:02	14:21	
	05	25° 43' 1"	276° 32' 9"	13' 9"	174° 30' 7"	45' 9"	259° 34' 7"	42' 8"	160° 45' 8"	43' 0"	253° 25' 5"	46' 7"	188° 38' 3"	13' 7"										55.4	N 60°	00:47	02:46	03:45	11:39	12:54	14:09
	06	40° 45' 6"	291° 32' 1"	13' 6"	189° 31' 9"	46' 4"	274° 36' 6"	42' 6"	175° 48' 2"	43' 1"	260° 20' 3"	55° 53' 1" N	268° 25' 5"	46' 0"	Alioth	166° 20' 3"	55° 53' 1" N	268° 25' 5"	46' 0"	203° 11' 0"	13' 6"	43' 5"	9' 2"	58°	01:40	03:04	03:57	11:34	12:47	14:00	
	07	55° 48' 0"	306° 31' 3"	13' 4"	204° 33' 0"	46' 9"	289° 38' 5"	42' 5"	190° 50' 6"	43' 1"	283° 25' 6"	45' 4"	217° 43' 6"	13' 6"	Alkaid	152° 58' 4"	49° 14' 8" N	283° 25' 6"	45' 4"	217° 43' 6"	13' 6"	52' 7"	9' 1"	56°	02:09	03:20	04:07	11:30	12:40	13:51	
	08	70° 50' 5"	321° 30' 5"	13' 1"	219° 34' 2"	47' 4"	304° 40' 3"	42' 4"	205° 53' 0"	43' 1"	298° 25' 6"	44' 7"	232° 16' 2"	13' 6"	Alnilam	27° 42' 4"	46° 53' 1" S	298° 25' 6"	44' 7"	232° 16' 2"	13' 6"	8° 01' 8" S	9' 1"	54°	02:31	03:33	04:17	11:26	12:34	13:43	
	09	85° 53' 0"	336° 29' 6"	12' 8"	234° 35' 3"	47' 9"	319° 42' 3"	42' 3"	220° 55' 4"	43' 1"	313° 25' 7"	44' 1"	246° 48' 8"	13' 5"	Alnair	275° 45' 8"	1° 11' 7" S	313° 25' 7"	44' 1"	246° 48' 8"	13' 5"	10' 9"	9' 0"	55.5	52°	02:49	03:44	04:25	11:22	12:29	13:37
	10	100° 55' 4"	351° 28' 8"	12' 5"	249° 36' 5"	48' 4"	334° 44' 2"	42' 1"	235° 57' 9"	43' 2"	328° 25' 7"	43' 4"	261° 21' 3"	13' 5"	Alphard	217° 55' 6"	8° 43' 4" S	328° 25' 7"	43' 4"	261° 21' 3"	13' 5"	19' 9"	9' 0"	50°	03:03	03:54	04:32	11:19	12:24	13:31	
	11	115° 57' 9"	6° 28' 0"	12' 2"	264° 37' 6"	48' 9"	349° 46' 0"	42' 0"	251° 00' 3"	43' 2"	343° 25' 8"	42' 8"	275° 53' 8"	13' 4"											45°	03:32	04:14	04:47	11:12	12:14	13:17
	12	131° 00' 4"	21° 27' 2"	22° 11' 9" N	279° 38' 7"	13° 49' 4" S	4° 47' 9"	19° 41' 9" N	266° 02' 7"	14° 43' 2" S	358° 25' 8"	17° 42' 2" N	290° 26' 2"	13' 3"	Alphecca	126° 10' 3"	26° 40' 3" N	358° 25' 8"	17° 42' 2" N	290° 26' 2"	13' 3"	8° 37' 9" S	9' 0"	55.6	N 40°	03:53	04:30	05:00	11:06	12:06	13:07
	13	146° 02' 8"	36° 26' 4"	11' 6"	294° 39' 9"	49' 8"	19° 49' 8"	41' 8"	281° 05' 1"	43' 2"	13° 25' 8"	41' 5"	304° 58' 5"	13' 3"	Alpheratz	357° 42' 4"	29° 10' 3" N	13° 25' 8"	41' 5"	304° 58' 5"	13' 3"	46' 9"	8' 9"	35°	04:10	04:43	05:11	11:01	11:58	12:57	
	14	161° 05' 3"	51° 25' 6"	11' 3"	309° 41' 0"	50' 3"	34° 51' 7"	41' 6"	296° 07' 1"	43' 3"	28° 25' 9"	40' 9"	319° 30' 8"	13' 3"	Altair	62° 07' 1"	8° 54' 7" N	28° 25' 9"	40' 9"	319° 30' 8"	13' 3"	55' 8"	8' 9"	30°	04:23	04:54	05:20	10:57	11:52	12:49	
	15	176° 07' 8"	66° 24' 8"	11' 0"	324° 42' 2"	50' 8"	49° 53' 6"	41' 5"	311° 09' 9"	43' 3"	43° 25' 9"	40' 2"	334° 03' 1"	13' 2"	Ankaa	353° 14' 8"	42° 13' 3" S	43° 25' 9"	40' 2"	334° 03' 1"	13' 2"	9° 04' 7" S	8' 9"	20°	04:45	05:13	05:36	10:49	11:41	12:36	
	16	191° 10' 12"	81° 24' 0"	10' 7"	339° 43' 3"	51' 3"	64° 55' 5"	41' 4"	326° 12' 4"	43' 3"	56° 26' 0"	39' 6"	348° 35' 3"	13' 1"	Antares	112° 25' 1"	26° 27' 7" S	56° 26' 0"	39' 6"	348° 35' 3"	13' 1"	13' 6"	8' 8"	55.7	N 10°	05:02	05:28	05:50	10:42	11:32	12:24
	17	206° 12' 7"	96° 23' 2"	10' 4"	354° 44' 5"	51' 8"	79° 57' 4"	41' 3"	341° 14' 8"	43' 3"	73° 26' 0"	38' 9"	3° 07' 4"	13' 1"											0°	05:16	05:41	06:03	10:36	11:23	12:12
	18	221° 15' 2"	111° 22' 4"	10' 1"	9° 45' 6"	52' 3"	94° 59' 3"	41' 1"	356° 17' 2"	43' 4"	88° 26' 1"	38' 3"	17° 39' 5"	13' 0"	Arcturus	145° 55' 1"	19° 06' 6" N	88° 26' 1"	38' 3"	17° 39' 5"	13' 0"	31' 2"	8' 7"	58°	05:28	05:53	06:15	10:30	11:14	12:01	
	19	236° 17' 6"	126° 21' 6"	09' 8"	24° 46' 7"	52' 8"	110° 01' 2"	41' 0"	11° 19' 6"	43' 4"	103° 26' 1"	37' 6"	32° 11' 5"	13' 0"	Atria	107° 25' 8"	69° 03' 2" S	103° 26' 1"	37' 6"	32° 11' 5"	13' 0"	39' 9"	8' 8"	20°	05:39	06:06	06:29	10:23	11:05	11:49	
	20	251° 20' 1"	141° 20' 8"	09' 5"	39° 47' 9"	53' 3"	125° 03' 1"	40' 9"	26° 22' 0"	43' 4"	118° 26' 2"	37' 0"	46° 43' 5"	12' 9"	Avior	234° 48' 3"	59° 33' 5" S	118° 26' 2"	37' 0"	46° 43' 5"	12' 9"	48' 7"	8' 7"	55.8	30°	05:50	06:19	06:44	10:16	10:54	11:36
	21	266° 22' 5"	156° 20' 0"	09' 2"	54° 49' 0"	53' 8"	140° 05' 0"	40' 8"	41° 24' 4"	43' 4"	133° 26' 2"	36' 3"	61° 15' 4"	12' 9"	Bellatrix	278° 31' 4"	6° 21' 6" N	133° 26' 2"	36' 3"	61° 15' 4"	12' 9"	57' 4"	8' 6"	35°	05:56	06:26	06:53	10:12	10:48	11:28	
	22	281° 25' 0"	171° 19' 2"	08' 9"	69° 50' 2"	54' 3"	155° 06' 9"	40' 6"	56° 26' 9"	43' 5"	148° 26' 3"	35' 7"	75° 47' 3"	12' 8"	Betelgeuse	271° 00' 7"	7° 24' 4" N	148° 26' 3"	35' 7"	75° 47' 3"	12' 8"	10° 06' 0" S	8' 6"	40°	06:02	06:34	07:03	10:07	10:41	11:19	
23	296° 27' 5"	186° 18' 4"	08' 6"	84° 51' 3"	54' 8"	170° 08' 7"	40' 5"	71° 29' 3"	43' 5"	163° 26' 3"	35' 0"	90° 19' 1"	12' 7"											45°	06:08	06:43	07:15	10:02	10:33	11:09	
Sunday	00	311° 29' 9"	201° 17' 6"	22° 08' 3" N	99° 52' 4"	13° 55' 3" S	185° 10' 6"	19° 40' 4" N	86° 31' 7"	14° 43' 5" S	101° 34' 1"	43' 5"	201° 16' 1"	43' 5"	Canopus	263° 56' 2"	52° 42' 2" S	178° 26' 4"	17° 34' 4" N	104° 50' 8"	12' 7"	10° 23' 2" S	8' 5"	55.9	S 50°	06:15	06:54	07:29	09:55	10:23	10:56
	01	326° 32' 4"	216° 16' 8"	08' 0"	114° 53' 6"	55' 8"	200° 12' 5"	40' 2"	101° 34' 1"	43' 5"	193° 26' 4"	33' 7"	119° 22' 5"	12' 6"	Capella	280° 33' 6"	46° 00' 4" N	193° 26' 4"	33' 7"	119° 22' 5"	12' 6"	31' 7"	8' 5"	52°	06:18	06:58	07:35	09:52	10:19	10:51	
	02	341° 34' 9"	231° 16' 0"	07' 7"	129° 54' 7"	56' 3"	215° 14' 4"	40' 1"	116° 36' 5"	43' 6"	208° 26' 5"	33' 1"	133° 54' 1"	12' 6"	Deneb	49° 30' 4"	45° 20' 2" S	208° 26' 5"	33' 1"	133° 54' 1"	12' 6"	40' 2"	8' 5"	56' 0"	54°	06:21	07:04	07:42	09:49	10:14	10:44
	03	356° 37' 3"	246° 15' 2"	07' 4"	144° 55' 8"	56' 8"	230° 16' 3"	40' 0"	131° 38' 9"	43' 6"	148° 25' 7"	32' 4"	148° 25' 7"	12' 5"	Denebola	182° 33' 1"	14° 29' 5" S	148° 25' 7"	32' 4"	148° 25' 7"	12' 5"	48' 7"	8' 4"	56°	06:24	07:09	07:51	09:45	10:09	10:37	
	04	11° 39' 8"	261° 14' 4"	07' 0"	159° 57' 0"	57' 3"	245° 18' 2"	39' 9"	146° 41' 3"	43' 6"	238° 26' 6"	31' 8"	162° 57' 2"	12' 4"	Diphda	348° 55' 0"	17° 54' 2" S	238° 26' 6"	31' 8"	162° 57' 2"	12' 4"	57' 1"	8' 3"	58°	06:28	07:15	08:00	09:41	10:03	10:29	
	05	26° 42' 3"	276° 13' 6"	06' 7"	174° 58' 1"	57' 8"	260° 20' 1"	39' 7"	161° 43' 8"	43' 6"	253° 26' 6"	31' 1"	177° 28' 6"	12' 4"											56°	06:32	07:22	08:10	09:36	09:56	10:20
	06	41° 44' 7"	291° 12' 8"	06' 4"	189° 59' 2"	58' 3"	275° 22' 0"	39' 6"	176° 46' 2"	43' 7"	268° 26' 7"	30' 5"	192° 00' 0"	12' 3"	Dubhe	193° 51' 4"	61° 40' 5" N	268° 26' 7"	30' 5"	192° 00' 0"	12' 3"	13' 7"	8' 3"	56' 1"	S 62°	06:36	07:30	08:22	09:31	09:48	10:10
	07	56° 47' 2"	306° 12' 0"	06' 1"	205° 00' 4"	58' 8"	290° 23' 9"	39' 5"	191° 48' 6"	43' 7"	283° 26' 7"	29' 8"	206° 31' 3"																		

2014 August 5, 6, 7 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.5			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																										Nautical	Civil		5	6	7
5 T u e s d a y		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	00:56	18:44	-	-				
	00	313° 28'2	200° 39'3	21° 52'2 N	100° 46'5	14° 19'2 S	186° 41'5	19° 34'3 N	88° 27'4	14° 44'8 S	Acamar	315° 17'8	40° 14'6 S	178° 29'0	17° 02'7 N	80° 54'2	9.2	16° 11'8 S	5.5	57.5	N 70°	-	-	02:04	17:20	18:52	19:46				
	01	328° 30'7	215° 38'5	51'9	115° 47'6	19'7	201° 43'4	34'1	103° 29'8	44'8	Achernar	335° 26'1	57° 09'5 S	193° 29'1	02'0	95° 22'4	9.2	17'3	5.5	57.6	68°	-	-	02:39	16:41	18:01	18:58				
	02	343° 33'1	230° 37'7	51'5	130° 48'7	20'2	216° 45'3	34'0	118° 32'2	44'8	Acruz	173° 08'7	63° 11'0 S	208° 29'1	01'3	109° 50'6	9'0	22'8	5'5		66°	-	01:23	03:04	16:14	17:29	18:27				
	03	358° 35'6	245° 36'9	51'2	145° 49'8	20'7	231° 47'2	33'9	133° 34'6	44'9	Adhara	255° 12'2	28° 59'6 S	223° 29'2	00'6	124° 18'6	9'0	28'3	5'3	57.7	64°	-	02:06	03:23	15:54	17:05	18:04				
	04	13° 38'1	260° 36'2	50'8	160° 50'9	21'2	246° 49'1	33'8	148° 37'0	44'9	Aldebaran	290° 48'6	16° 32'1 N	238° 29'3	17° 00'0 N	138° 46'6	8'9	33'6	5'2		62°	-	02:34	03:39	15:37	16:47	17:45				
	05	28° 40'5	275° 35'4	50'4	175° 52'1	21'7	261° 51'0	33'6	163° 39'4	44'9				253° 29'3	59'3	153° 14'5	8'9	38'8	5'2		60°	01:14	02:55	03:52	15:23	16:31	17:30				
	06	43° 43'0	290° 34'6	50'1	190° 53'2	22'2	276° 52'9	33'5	178° 41'8	45'0	Alioth	166° 20'4	55° 53'1 N	268° 29'4	58'6	167° 42'4	8'7	44'0	5'0	57.8	N 58°	01:54	03:12	04:03	15:11	16:18	17:17				
	07	58° 45'5	305° 33'8	49'7	205° 54'3	22'7	291° 54'7	33'4	193° 44'2	45'0	Alkaid	152° 58'5	49° 14'8 N	283° 29'4	57'9	182° 20'1	8'7	49'0	5'0		56°	02:20	03:27	04:13	15:01	16:07	17:06				
	08	73° 47'4	320° 33'0	49'3	220° 55'4	23'2	306° 56'6	33'2	208° 46'6	45'0	Alnair	27° 42'3	46° 53'1 S	298° 29'5	57'3	196° 37'8	8'6	54'0	4'9	57.9	54°	02:40	03:39	04:22	14:52	15:57	16:56				
	09	88° 50'9	335° 32'2	48'9	235° 56'5	23'7	321° 58'5	33'1	223° 49'0	45'0	Alnilam	275° 45'8	1° 11'7 S	313° 29'6	56'6	211° 05'4	8'5	58'9	4'8		52°	02:56	03:49	04:29	14:44	15:48	16:47				
	10	103° 52'9	350° 31'4	48'6	260° 57'6	24'2	337° 00'4	33'0	238° 51'4	45'1	Alphard	217° 55'6	8° 43'4 S	328° 29'6	55'9	225° 32'9	8'5	17° 03'7 S	4'7		50°	03:09	03:58	04:36	14:37	15:40	16:39				
	11	118° 55'3	5° 30'6	48'2	255° 58'7	24'7	352° 02'3	32'9	253° 53'8	45'1				343° 29'7	55'2	240° 00'4	8'3	08'4	4'6	58.0	45°	03:36	04:18	04:51	14:21	15:24	16:23				
	12	133° 57'8	2° 29'8	21° 47'8 N	280° 59'8	14° 25'2 S	7° 04'2	19° 32'7 N	268° 56'2	14° 45'1 S	Alphecca	126° 10'3	26° 40'3 N	358° 29'8	16° 54'5 N	254° 27'7	8'3	17° 13'0 S	4'5	58.0	N 40°	03:56	04:33	05:03	14:08	15:10	16:09				
	13	149° 00'2	35° 29'0	47'5	296° 00'9	25'7	22° 06'1	32'6	283° 58'6	45'2	Alpheratz	357° 42'4	29° 10'3 N	13° 29'8	53'9	268° 55'0	8'2	17'5	4'4	58.1	35°	04:12	04:46	05:13	13:58	14:58	15:57				
	14	164° 02'7	50° 28'2	47'1	311° 02'0	26'2	37° 08'0	32'5	299° 01'0	45'2	Altair	62° 07'1	8° 54'7 N	28° 29'9	53'2	283° 22'2	8'2	21'9	4'3		30°	04:26	04:56	05:22	13:48	14:48	15:47				
	15	179° 05'2	65° 27'5	46'7	326° 03'2	26'7	52° 09'9	32'4	314° 03'4	45'2	Ankaa	353° 14'7	42° 13'3 S	43° 30'0	52'5	297° 44'4	8'0	26'2	4'2		20°	04:46	05:14	05:37	13:32	14:31	15:29				
	16	194° 07'6	80° 26'7	46'3	341° 04'3	27'2	67° 11'8	32'2	329° 05'9	45'2	Antares	112° 25'1	26° 27'7 S	58° 30'0	51'8	312° 16'4	8'0	30'4	4'1	58.2	N 10°	05:02	05:28	05:50	13:18	14:15	15:14				
	17	209° 10'1	95° 25'9	45'9	358° 05'4	27'7	82° 13'7	32'1	344° 08'3	45'3				73° 30'1	51'1	326° 43'4	7'9	34'5	4'1		0°	05:16	05:41	06:02	13:05	14:01	15:00				
	18	224° 12'6	110° 25'1	45'6	11° 06'5	28'2	97° 15'6	32'0	359° 10'7	45'3	Arcturus	145° 55'1	19° 06'6 N	88° 30'2	50'5	341° 10'3	7'8	38'6	3'9		S 10°	05:27	05:53	06:15	12:52	13:47	14:46				
	19	239° 15'0	125° 24'3	45'2	26° 07'6	28'7	112° 17'5	31'8	14° 13'1	45'3	Atria	107° 25'8	69° 03'3 S	103° 30'2	49'8	355° 37'1	7'8	42'5	3'8	58.3	20°	05:38	06:04	06:27	12:38	13:32	14:30				
	20	254° 17'5	140° 23'5	44'8	41° 08'7	29'2	127° 19'4	31'7	29° 15'5	45'4	Avior	234° 18'3	59° 33'5 S	118° 30'3	49'1	10° 03'9	7'6	46'3	3'3		30°	05:48	06:17	06:42	12:22	13:15	14:13				
	21	269° 20'0	155° 22'7	44'4	56° 09'8	29'7	142° 21'3	31'6	44° 17'9	45'4	Bellatrix	278° 31'4	6° 21'6 N	133° 30'4	48'4	24° 30'5	7'6	50'0	3'6	58.4	35°	05:53	06:24	06:50	12:13	13:05	14:03				
22	284° 22'4	170° 21'9	44'0	71° 10'9	30'2	157° 23'2	31'5	59° 20'3	45'4	Betelgeuse	271° 00'7	7° 24'4 N	148° 30'4	47'7	38° 57'1	7'5	53'6	3'5		40°	05:59	06:31	07:00	12:03	12:53	13:51					
23	299° 24'9	185° 21'1	43'7	86° 12'0	30'7	172° 25'1	31'3	74° 22'7	45'4				163° 30'5	47'0	53° 23'6	7'5	57'1	3'4		45°	06:04	06:39	07:11	11:51	12:40	13:38					
6 W e d n e s d a y	00	314° 27'4	200° 20'4	21° 43'3 N	101° 13'1	14° 31'2 S	187° 27'0	19° 31'2 N	89° 25'1	14° 45'5 S	Canopus	263° 56'2	52° 42'2 S	178° 30'6	16° 46'4 N	67° 50'1	7'4	18° 00'5 S	3'3	58.5	S 50°	06:10	06:49	07:24	11:36	12:23	13:21				
	01	329° 29'8	215° 19'6	42'9	116° 14'2	31'7	202° 28'8	31'1	104° 27'5	45'5	Capella	280° 33'5	46° 00'4 N	193° 30'6	45'7	82° 16'5	7'3	03'8	3'2		52°	06:13	06:54	07:30	11:29	12:16	13:13				
	02	344° 32'3	230° 18'8	42'5	131° 15'3	32'2	217° 30'7	30'9	119° 29'9	45'5	Deneb	49° 30'4	45° 20'2 E	208° 30'7	45'0	96° 42'8	7'2	07'0	3'1	58.6	54°	06:16	06:58	07:37	11:21	12:07	13:05				
	03	359° 34'7	245° 18'0	42'1	146° 16'4	32'7	232° 32'6	30'8	134° 32'3	45'6	Denebola	182° 33'1	14° 29'5 S	223° 30'8	44'3	111° 09'0	7'2	10'1	2'9		56°	06:19	07:04	07:45	11:13	11:58	12:55				
	04	14° 37'2	260° 17'2	41'7	161° 17'5	33'2	247° 34'5	30'7	149° 34'7	45'6	Diphda	348° 54'9	17° 54'2 S	238° 30'8	43'6	125° 35'2	7'0	13'0	2'9		58°	06:22	07:10	07:53	11:03	11:47	12:44				
	05	29° 39'7	275° 16'4	41'3	176° 18'6	33'7	262° 36'4	30'6	164° 37'1	45'6				253° 30'9	42'9	140° 01'2	7'1	15'9	2'7	58.7	S 60°	06:26	07:16	08:03	10:52	11:34	12:31				
	06	44° 42'1	290° 15'6	40'9	191° 19'7	34'2	277° 38'3	30'4	179° 39'5	45'6	Dubhe	193° 51'4	61° 40'4 N	268° 31'0	42'3	154° 27'3	6'9	18'6	2'7		S 62°	06:29	07:23	08:14	10:39	11:20	12:16				
	07	59° 44'6	305° 14'9	40'5	206° 20'8	34'7	292° 40'2	30'3	194° 41'9	45'7	Elinath	278° 11'8	28° 36'9 N	283° 31'0	41'6	168° 53'2	6'9	21'3	2'5	58.8											
	08	74° 47'1	320° 14'1	40'1	221° 21'9	35'2	307° 42'1	30'2	209° 44'3	45'7	Eltanin	90° 45'4	51° 29'6 N	298° 31'1	40'9	183° 19'1	6'8	23'8	2'4												
	09	89° 49'5	335° 13'3	39'7	236° 23'0	35'7	322° 44'0	30'0	224° 46'7	45'7	Enif	15° 22'0	9° 56'8 S	313° 31'2	40'2	197° 44'9	6'7	26'2	2'3												
	10	104° 52'0	350° 12'5	39'3	251° 24'1	36'2	337° 45'9	29'9	239° 49'1	45'8	Fomalhaut	33° 46'8	29° 32'4 S	328° 31'2	39'5	212° 10'6	6'7	28'5	2'2	58.9											
	11	119° 54'5	5° 11'7	38'9	266° 25'2	36'7	352° 47'8	29'8	254° 51'5	45'8				343° 31'3	38'8	226° 36'3	6'6	30'7	2'1												
	12	134° 56'9	20° 10'9	21° 38'5 N	281° 26'3	14° 37'2 S	7° 49'7	19° 29'7 N	269° 53'9	14° 45'8 S	Gacrux	172° 00'2	57° 11'9 S	358° 31'4	16° 38'1 N	241° 01'9	6'5	18° 32'8 S	1'9	59.0	N 70°	22:03	-	-	19:45	-	-				
	13	149° 59'4	35° 10'1	38'1	296° 27'4	37'7	22° 51'6	29'5	284° 56'3	45'8	Giennah	175° 51'7	17° 37'4 S	13° 31'5	37'4	255° 27'4	6'5	34'7	1'8												

2014 August 8, 9, 10 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.5			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	8		9	10				
Friday	00	316° 25' 6"	199° 42' 8"	21° 23' 4" N	102° 05' 6"	14° 55' 0" S	188° 57' 9"	19° 25' 0" N	91° 20' 2"	14° 46' 9" S	Acamar	315° 17' 8"	40° 14' 6" S	178° 34' 1"	16° 13' 0" N	39° 47' 4"	4.9	18° 24' 8" S	2.7	60.3	N 72°	-	-	01:34	21:01	20:41	20:31				
	01	331° 28' 1"	214° 42' 1"	23.0	117° 06' 7"	55.5	203° 59' 8"	24.9	106° 22' 6"	46.9	Achernar	335° 26' 1"	57° 09' 5" S	193° 34' 2"	12.3	54° 11' 3" S	4.8	22.1	4.8	68°	-	-	02:22	20:05	20:11	20:13					
	02	346° 30' 6"	229° 41' 3"	22.5	132° 07' 8"	56.0	219° 01' 7"	24.8	121° 25' 0"	47.0	Acruz	173° 08' 7"	63° 11' 0" S	208° 34' 3"	11.6	68° 35' 1"	4.9	19.4	2.9	66°	-	01:45	03:15	19:06	19:31	19:47					
	03	1° 33' 0"	244° 40' 5"	22.1	147° 08' 9"	56.5	234° 03' 6"	24.6	136° 27' 4"	47.0	Adhara	255° 12' 2"	28° 59' 6" S	223° 34' 4"	10.9	82° 59' 0"	4.8	16.5	3.0	60.4	64°	-	02:20	03:33	18:46	19:16	19:38				
	04	16° 35' 5"	259° 39' 7"	21.7	162° 09' 9"	57.0	249° 05' 5"	24.5	151° 29' 8"	47.0	Aldebaran	290° 48' 16"	36° 32' 1" N	238° 34' 5"	10.2	92° 22' 8"	4.7	13.5	3.1	62°	00:23	02:45	03:47	18:30	19:04	19:29					
	05	31° 38' 0"	274° 39' 0"	21.2	177° 11' 0"	57.5	264° 07' 4"	24.4	166° 32' 2"	47.1				253° 34' 5"	09.4	111° 46' 5"	4.8	10.4	3.3	60°	01:34	03:04	03:59	18:17	18:54	19:22					
	06	46° 40' 4"	289° 38' 2"	20.8	192° 12' 1"	58.0	279° 09' 3"	24.2	181° 34' 6"	47.1	Alioth	166° 20' 4"	55° 53' 1" N	268° 34' 6"	08.7	126° 10' 3"	4.7	07.1	3.4	60.5	N 58°	02:06	03:20	04:10	18:06	18:44	19:16				
	07	61° 42' 9"	304° 37' 4"	20.3	207° 13' 2"	58.5	294° 11' 2"	24.1	196° 37' 0"	47.1	Alkaid	152° 58' 5"	49° 14' 8" N	283° 34' 7"	08.0	140° 34' 0"	4.8	03.7	3.6	56°	02:30	03:33	04:19	17:56	18:36	19:10					
	08	76° 45' 3"	319° 36' 6"	19.9	222° 14' 3"	59.0	309° 13' 1"	24.0	211° 39' 4"	47.1	Alnair	27° 42' 3"	46° 53' 1" S	298° 34' 8"	07.3	154° 57' 8"	4.7	00.1	3.7	54°	02:48	03:45	04:27	17:47	18:29	19:05					
	09	91° 47' 8"	334° 35' 9"	19.4	237° 15' 3"	59.5	324° 15' 0"	23.9	226° 41' 7"	47.2	Anilim	275° 45' 8"	1° 11' 7" S	313° 34' 9"	06.6	169° 21' 5"	4.7	17° 56' 4" S	3.8	60.6	52°	03:03	03:55	04:34	17:39	18:23	19:00				
	10	106° 50' 3"	349° 35' 1"	19.0	252° 16' 4"	15° 00' 0" S	339° 16' 9"	23.7	241° 44' 1"	47.2	Alphard	217° 55' 6"	8° 43' 4" S	328° 34' 9"	05.9	183° 45' 2"	4.6	52.6	3.9	50°	03:16	04:03	04:41	17:32	18:17	18:56					
	11	121° 52' 7"	4° 34' 3"	18.5	267° 17' 5"	00' 5"	354° 18' 8"	23.6	256° 46' 5"	47.2				343° 35' 0"	05.2	198° 08' 8"	4.7	48.7	4.1	45°	03:41	04:22	04:54	17:16	18:05	18:47					
	12	136° 55' 2"	19° 33' 5"	21° 18' 1" N	282° 18' 6"	15° 01' 0" S	9° 20' 7"	19° 23' 5" N	271° 48' 9"	14° 47' 3" S	Alphecca	126° 10' 3"	26° 40' 3" N	358° 35' 1"	16° 04' 5" N	212° 32' 5"	4.7	17° 44' 6" S	4.2	60.6	N 40°	04:00	04:36	05:06	17:04	17:54	18:39				
	13	151° 57' 7"	34° 32' 8"	17.6	297° 19' 7"	01.5	24° 22' 6"	23.3	286° 51' 3"	47.3	Alpheratz	357° 42' 4"	29° 10' 3" N	13° 35' 2"	03.8	226° 56' 2"	4.7	40.4	4.3	60.7	35°	04:15	04:48	05:15	16:53	17:45	18:33				
	14	167° 00' 1"	49° 32' 0"	17.2	312° 20' 7"	02.0	39° 24' 5"	23.2	301° 53' 7"	47.3	Altair	62° 07' 1"	8° 54' 7" N	28° 35' 3"	03.1	241° 19' 9"	4.6	36.1	4.5	30°	04:28	04:58	05:24	16:44	17:37	18:27					
	15	182° 02' 6"	64° 31' 2"	16.2	327° 21' 8"	02.5	54° 26' 4"	23.1	316° 56' 1"	47.4	Ankaa	353° 14' 7"	42° 13' 3" S	43° 35' 4"	02.3	255° 43' 5"	4.7	31.6	4.5	20°	04:48	05:15	05:38	16:28	17:24	18:17					
	16	197° 05' 1"	79° 30' 5"	16.3	342° 22' 9"	03.0	69° 28' 3"	23.0	331° 58' 5"	47.4	Antares	112° 25' 1"	26° 27' 7" S	58° 35' 5"	01.6	270° 07' 2"	4.6	27.1	4.8	10°	05:03	05:29	05:51	16:13	17:12	18:08					
	17	212° 07' 5"	94° 29' 7"	15.8	357° 24' 0"	03.5	84° 30' 2"	22.8	347° 00' 9"	47.4				73° 35' 5"	00.9	284° 30' 8"	4.7	22.3	4.8	60.8	0°	05:16	05:41	06:02	16:00	17:01	18:00				
	18	227° 10' 0"	109° 28' 9"	15.3	12° 25' 0"	04.0	99° 32' 1"	22.7	2° 03' 3"	47.5	Arcturus	145° 55' 1"	19° 06' 6" N	88° 35' 6"	00.2	298° 54' 5"	4.6	17.5	5.0	10°	05:27	05:52	06:14	15:47	16:50	17:52					
	19	242° 12' 5"	124° 28' 1"	14.9	27° 26' 1"	04.5	114° 34' 0"	22.6	17° 05' 7"	47.5	Atria	107° 25' 9"	69° 03' 3" S	103° 35' 7"	15° 59' 5" S	313° 18' 1"	4.7	12.5	5.1	20°	05:36	06:03	06:26	15:33	16:38	17:43					
	20	257° 14' 9"	139° 27' 4"	14.4	42° 27' 2"	04.9	129° 35' 9"	22.4	32° 08' 1"	47.5	Avior	234° 18' 2"	59° 33' 5" S	118° 35' 8"	58.8	327° 41' 8"	4.6	07.4	5.2	30°	05:46	06:14	06:39	15:17	16:24	17:33					
	21	272° 17' 4"	154° 26' 6"	14.0	57° 28' 3"	05.4	144° 37' 8"	22.3	47° 10' 5"	47.6	Bellatrix	278° 31' 3"	6° 21' 6" N	133° 35' 9"	58.1	342° 05' 4"	4.7	02.2	5.4	60.9	35°	05:51	06:21	06:47	15:07	16:16	17:27				
	22	287° 19' 8"	169° 25' 8"	13.5	72° 29' 3"	05.9	159° 39' 7"	22.2	62° 12' 8"	47.6	Betelgeuse	271° 00' 6"	7° 24' 4" N	148° 36' 0"	57.3	356° 29' 1"	4.6	16° 56' 8" S	5.5	5.5	40°	05:56	06:28	06:56	14:56	16:07	17:20				
23	302° 22' 3"	184° 25' 1"	13.0	87° 30' 4"	06.4	174° 41' 6"	22.0	77° 15' 2"	47.6				163° 36' 1"	56.6	10° 52' 7"	4.7	51.3	5.6	45°	06:01	06:36	07:06	14:44	15:56	17:13						
Saturday	00	317° 24' 8"	199° 24' 3"	21° 12' 6" N	102° 31' 5"	15° 06' 9" S	189° 43' 5"	19° 21' 9" N	92° 17' 6"	14° 47' 7" S	Canopus	263° 56' 2"	52° 42' 2" S	178° 36' 1"	15° 55' 9" N	25° 16' 4"	4.7	16° 45' 7" S	5.7	60.9	S 50°	06:06	06:45	07:19	14:28	15:43	17:03				
	01	332° 27' 2"	214° 23' 5"	12.1	117° 32' 6"	07.4	204° 45' 4"	21.8	107° 20' 0"	47.7	Capella	280° 33' 5"	46° 00' 4" N	193° 36' 2"	55.2	39° 40' 1"	4.6	40.0	5.9	61.0	52°	06:08	06:49	07:25	14:21	15:37	16:59				
	02	347° 29' 7"	229° 22' 8"	11.6	132° 33' 6"	07.9	219° 47' 3"	21.7	122° 22' 4"	47.7	Deneb	49° 30' 4"	45° 20' 2" S	208° 36' 3"	54.5	54° 03' 7"	4.7	34.1	6.0	54°	06:11	06:53	07:31	14:13	15:31	16:54					
	03	2° 32' 2"	244° 22' 0"	11.2	147° 34' 7"	08.4	234° 49' 2"	21.5	137° 24' 2"	47.8	Denebola	182° 33' 1"	14° 29' 5" S	223° 36' 4"	53.8	68° 27' 4"	4.7	28.1	6.1	56°	06:13	06:58	07:38	14:04	15:23	16:49					
	04	17° 34' 6"	259° 21' 2"	10.7	162° 35' 8"	08.9	249° 51' 1"	21.4	152° 27' 8"	47.8	Diphda	348° 54' 9"	17° 54' 2" S	238° 36' 5"	53.0	82° 51' 1"	4.7	22.0	6.2	58°	06:16	07:03	07:46	13:54	15:15	16:43					
	05	32° 37' 1"	274° 20' 5"	10.2	177° 36' 8"	09.4	264° 53' 0"	21.3	167° 29' 6"	47.8				253° 36' 6"	52.3	97° 14' 8"	4.8	15.8	6.3	61.1	S 60°	06:19	07:09	07:55	13:42	15:06	16:36				
	06	47° 39' 6"	289° 19' 7"	09.8	192° 37' 9"	09.9	279° 54' 9"	21.1	182° 32' 0"	47.8	Dubhe	193° 51' 4"	61° 40' 4" N	268° 36' 7"	51.6	111° 38' 6"	4.7	09.5	6.5	6.5	S 62°	06:22	07:16	08:06	13:28	14:54	16:28				
	07	62° 42' 0"	304° 18' 9"	09.3	207° 39' 0"	10.4	294° 56' 8"	21.0	197° 34' 4"	47.9	Elinath	278° 11' 8"	28° 36' 9" N	283° 36' 8"	50.9	126° 02' 3"	4.8	03.0	6.6	9.0											
	08	77° 44' 5"	319° 18' 2"	08.8	222° 40' 1"	10.9	309° 58' 7"	20.9	212° 36' 7"	47.9	Eltanin	90° 45' 4"	51° 29' 6" N	298° 36' 8"	50.2	140° 26' 1"	4.7	15° 56' 4" S	6.7												
	09	92° 47' 0"	334° 17' 4"	08.3	237° 41' 1"	11.4	325° 00' 6"	20.7	227° 39' 1"	47.9	Enif	13° 46' 0"	9° 56' 8" S	313° 36' 9"	49.4	154° 49' 8"	4.8	49.7	6.9												
	10	107° 49' 4"	349° 16' 6"	07.9	252° 42' 2"	11.9	340° 02' 5"	20.6	242° 41' 5"	48.0	Fomalhaut	35° 22' 8"	29° 32' 4" S	328° 37' 0"	48.7	169° 13' 6"	4.8	42.8	6.9												
	11	122° 51' 9"	4° 15' 9"	07.4	267° 43' 3"	12.4	355° 04' 4"	20.5	257° 43' 9"	48.0				343° 37' 1"	48.0	183° 37' 4"	4.9	35.9	7.1	61.2	N 72°	22:28	-	-	23:38	-	02:05				
	12	137° 54' 3"	19° 15' 1"	21° 06' 9" N	282° 44' 3"	15° 12' 9" S	10° 06' 3"	19° 20' 4" N	272° 46' 3"	14° 48' 0" S	Gacrux	172° 00' 2"	57° 11' 9" S	358° 37' 2"	15° 47' 3" N	198° 01' 3"	4.8	15° 28' 8" S	7.1	61.2	N 70°	21:44	-	-	-	00:34	02:54				
	13	152° 56' 8"	34° 14' 3"	06.4	297° 45' 4"	13.4	25° 08																								

2014 August 11, 12, 13 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9		MARS +0.5		JUPITER -1.8		SATURN +0.5		STARS			SUN		MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		11	12		13		
Monday	00	319° 23' 1	198° 47.7	20° 49.0 N	103° 22.5	15° 30.6 S	191° 14.6	19° 15.7 N	94° 12.2	14° 49.2 S	Acamar	315° 17.7	40° 14.6 S	178° 40.6	15° 21.0 N	356° 40.2	6.1	10° 06.6 S	10.5	61.4	N 72°	-	-	02:01	20:23	20:16	20:09	
	01	334° 25.5	213° 46.9	48.5	118° 23.5	31.1	206° 16.5	15.5	109° 14.6	49.3	Achernar	335° 26.0	57° 09.5 S	193° 40.7	20.2	11° 05.3	6.2	9° 56.1 S	10.6	68°	-	01:15	03:06	20:06	20:11	20:16		
	02	349° 28.0	228° 46.2	48.0	133° 24.6	31.6	221° 18.4	15.4	124° 17.0	49.3	Acruz	173° 08.7	63° 11.0 S	208° 40.8	19.5	25° 30.5	6.3	45.5	10.6	66°	-	02:04	03:26	20:00	20:10	20:19		
	03	4° 30.4	243° 45.4	47.5	148° 25.6	32.1	236° 20.3	15.3	139° 19.3	49.3	Adhara	255° 12.2	28° 59.5 S	223° 40.9	18.8	39° 55.8	6.3	34.9	10.8	64°	-	02:34	03:42	19:54	20:08	20:21		
	04	19° 32.9	258° 44.7	46.9	163° 26.7	32.6	251° 22.2	15.2	154° 21.7	49.4	Aldebaran	290° 48.6	16° 32.2 N	238° 41.0	18.0	54° 21.1	6.3	24.1	10.8	62°	01:07	02:56	03:55	19:49	20:07	20:23		
	05	34° 35.4	273° 43.9	46.4	178° 27.7	33.1	266° 24.1	15.0	169° 24.1	49.4				253° 41.1	17.3	68° 46.4	6.4	13.3	10.8	60°	01:51	03:13	04:07	19:45	20:06	20:25		
	06	49° 37.8	288° 43.2	45.9	193° 28.8	33.6	281° 26.0	14.9	184° 26.5	49.4	Alioth	166° 20.4	55° 53.1 N	268° 41.2	16.5	83° 11.8	6.4	02.5	10.9	N 58°	02:18	03:28	04:16	19:42	20:05	20:27		
	07	64° 40.3	303° 42.4	45.4	203° 29.8	34.1	296° 27.9	14.8	199° 28.9	49.5	Alkaid	152° 58.5	49° 14.8 N	283° 41.3	15.8	97° 37.2	6.5	8° 51.6 S	11.0	56°	02:39	03:40	04:25	19:39	20:04	20:28		
	08	79° 42.8	318° 41.7	44.9	223° 30.9	34.6	311° 29.9	14.6	214° 31.2	49.5	Alnilam	27° 42.3	46° 53.1 S	298° 41.4	15.1	112° 02.7	6.5	40.6	11.0	54°	02:56	03:51	04:32	19:36	20:03	20:29		
	09	94° 45.2	333° 40.9	44.3	238° 31.9	35.1	326° 31.8	14.5	229° 33.6	49.6	Alnair	275° 45.7	1° 11.6 S	313° 41.5	14.3	126° 32.5	6.6	29.6	11.0	52°	03:10	04:00	04:39	19:33	20:02	20:31		
	10	109° 47.7	348° 40.2	43.8	253° 33.0	35.6	341° 33.7	14.4	244° 36.0	49.6	Alphard	217° 55.6	8° 43.4 S	328° 41.6	13.6	140° 53.8	6.6	18.5	11.1	50°	03:22	04:08	04:45	19:30	20:02	20:32		
	11	124° 50.2	3° 39.4	43.3	268° 34.0	36.1	356° 35.6	14.2	259° 38.4	49.6				343° 41.7	12.8	155° 19.4	6.7	07.4	11.2	45°	03:45	04:26	04:58	19:25	20:00	20:34		
	12	139° 52.6	8° 38.7	20° 42.8 N	283° 35.1	15° 36.6 S	11° 37.5	19° 14.1 N	274° 40.8	14° 49.7 S	Alphecca	126° 10.3	26° 40.3 N	358° 41.8	15° 12.1 N	169° 45.1	6.7	7° 56.2 S	11.2	61.3	N 40°	04:04	04:39	05:09	19:21	19:59	20:36	
	13	154° 55.1	33° 37.9	42.2	298° 36.1	37.0	26° 39.4	14.0	289° 43.2	49.7	Alpheratz	357° 42.3	29° 10.3 N	13° 41.9	11.4	184° 10.8	6.7	45.0	11.3	35°	04:18	04:51	05:18	19:17	19:58	20:38		
	14	169° 57.6	48° 37.2	41.7	313° 37.2	37.5	41° 41.3	13.8	304° 45.5	49.7	Altair	62° 07.1	8° 54.7 S	28° 42.0	10.6	198° 36.5	6.8	33.7	11.3	30°	04:30	05:00	05:25	19:14	19:57	20:39		
	15	185° 00.0	63° 36.4	41.2	328° 38.2	38.0	56° 43.2	13.7	319° 47.9	49.8	Ankaa	353° 14.7	42° 13.3 S	43° 42.1	09.9	213° 02.3	6.9	22.4	11.3	20°	04:49	05:16	05:39	19:08	19:56	20:42		
	16	200° 02.5	78° 35.7	40.6	343° 39.3	38.5	71° 45.1	13.6	334° 50.3	49.8	Antares	112° 25.1	26° 27.7 S	58° 42.2	09.1	227° 28.2	6.9	11.1	11.4	N 10°	05:03	05:29	05:51	19:02	19:54	20:45		
	17	215° 04.9	93° 34.9	40.1	358° 40.3	39.0	86° 47.0	13.5	349° 52.7	49.8				73° 42.3	08.4	241° 54.1	6.9	6° 59.7 S	11.5	0°	05:15	05:40	06:02	18:58	19:53	20:47		
	18	230° 07.4	108° 34.2	39.6	13° 41.3	39.5	101° 48.9	13.3	4° 55.1	49.9	Arcturus	145° 55.1	19° 06.6 N	88° 42.4	07.6	256° 20.0	7.0	48.2	11.5	S 10°	05:26	05:51	06:12	18:53	19:52	20:49		
	19	245° 09.9	123° 33.4	39.0	28° 42.4	40.0	116° 50.8	13.2	19° 57.4	49.9	Atria	107° 25.9	69° 03.3 S	103° 42.5	06.9	270° 46.0	7.1	36.7	11.5	20°	05:35	06:01	06:24	18:47	19:50	20:52		
	20	260° 12.3	138° 32.7	38.5	43° 43.4	40.5	131° 52.7	13.1	34° 59.8	49.9	Avior	234° 18.2	59° 33.4 S	118° 42.6	06.1	285° 12.1	7.1	25.2	11.6	61.2	30°	05:44	06:12	06:37	18:42	19:49	20:55	
	21	275° 14.8	153° 31.9	38.0	58° 44.5	41.0	146° 54.6	12.9	50° 02.2	50.0	Bellatrix	278° 31.3	6° 21.7 N	133° 42.7	05.4	299° 38.2	7.1	13.6	11.6	35°	05:48	06:18	06:44	18:38	19:48	20:56		
	22	290° 17.3	168° 31.2	37.4	73° 45.5	41.5	161° 56.5	12.8	65° 04.6	50.0	Betelgeuse	271° 00.6	7° 24.5 S	148° 42.8	04.6	314° 04.3	7.2	02.0	11.6	40°	05:52	06:24	06:52	18:34	19:47	20:58		
23	305° 19.7	183° 30.4	36.9	88° 46.6	42.0	176° 58.4	12.7	80° 07.0	50.0				163° 42.9	03.9	328° 30.5	7.2	5° 50.4 S	11.7	45°	05:57	06:31	07:02	18:30	19:46	21.01			
Tuesday	00	320° 22.2	198° 29.7	20° 36.3 N	103° 47.6	15° 42.5 S	192° 00.3	19° 12.5 N	95° 09.3	14° 50.1 S	Canopus	263° 56.2	52° 42.2 S	178° 43.0	15° 03.2 N	342° 56.7	7.3	5° 38.7 S	11.6	61.2	S 50°	06:01	06:40	07:14	18:24	19:45	21:03	
	01	335° 24.1	213° 28.9	35.8	118° 48.6	42.9	207° 02.2	12.4	110° 11.7	50.1	Capella	280° 33.5	46° 00.4 N	193° 43.2	02.4	357° 23.0	7.3	27.1	11.8	52°	06:03	06:43	07:19	18:22	19:44	21:05		
	02	350° 27.1	228° 28.2	35.3	133° 49.7	43.4	222° 04.1	12.3	125° 14.1	50.1	Deneb	49° 30.7	45° 20.7 S	208° 43.3	01.7	11° 09.3	7.3	15.3	11.7	61.1	54°	06:06	06:47	07:25	18:19	19:44	21:06	
	03	5° 29.6	243° 27.4	34.7	148° 50.7	43.9	237° 06.0	12.1	140° 16.5	50.2	Denebola	182° 33.1	14° 29.5 S	223° 43.4	00.9	26° 15.6	7.5	03.6	11.8	56°	06:08	06:52	07:32	18:16	19:43	21:07		
	04	20° 32.0	258° 26.7	34.2	163° 51.8	44.4	252° 07.9	12.0	155° 18.8	50.2	Diphda	348° 54.9	17° 54.2 S	238° 43.5	00.2	40° 42.1	7.4	4° 51.8 S	11.8	58°	06:10	06:57	07:39	18:13	19:42	21:09		
	05	35° 34.5	273° 25.9	33.6	178° 52.8	44.9	267° 09.8	11.9	170° 21.2	50.2				253° 43.6	14° 59.4 N	55° 08.5	7.5	40.0	11.8	S 60°	06:13	07:02	07:48	18:09	19:41	21:11		
	06	50° 37.0	288° 25.2	33.1	193° 53.8	45.4	282° 11.7	11.8	185° 23.6	50.3	Dubhe	193° 51.4	61° 40.4 N	268° 43.7	58.7	69° 35.0	7.5	28.2	11.8	S 62°	06:15	07:08	07:57	18:05	19:40	21:13		
	07	65° 39.4	303° 24.4	32.5	208° 54.9	45.9	297° 13.6	11.6	200° 26.0	50.3	Einath	278° 11.8	28° 36.9 N	283° 43.8	57.9	84° 01.5	7.6	16.4	11.9	61.0								
	08	80° 41.9	318° 23.7	32.0	223° 55.9	46.4	312° 15.5	11.5	215° 28.4	50.4	Eltanin	90° 45.4	51° 29.7 N	298° 43.9	57.2	98° 28.1	7.7	04.5	11.9									
	09	95° 44.4	333° 22.9	31.4	238° 57.0	46.9	327° 17.4	11.4	230° 30.7	50.4	Enif	135° 46.0	9° 56.8 N	313° 44.0	56.4	112° 54.8	7.6	3° 52.6 S	11.8									
	10	110° 46.8	348° 22.2	30.9	253° 58.0	47.4	342° 19.3	11.2	245° 33.1	50.4	Fomalhaut	15° 22.8	29° 32.4 S	328° 44.1	55.6	127° 21.4	7.8	40.8	11.9									
	11	125° 49.3	3° 21.5	30.3	268° 59.0	47.9	357° 21.2	11.1	260° 35.5	50.5				343° 44.2	54.9	141° 48.2	7.7	28.9	12.0	N 72°	22:02	-	-	04:19	06:26	08:27		
	12	140° 51.8	18° 20.7	20° 29.8 N	284° 00.1	15° 48.3 S	12° 23.1	19° 11.0 N	275° 37.9	14° 50.5 S	Gacrux	172° 00.3	57° 11.9 S	358° 44.3	14° 54.1 N	156° 14.9	7.8	3° 16.9 S	11.9	60.9	N 70°	21:26	-	-	04:35	06:32	08:26	
	13	155° 54.2	33° 20.0	29.2	299° 01.1	48.8	27° 25.0	10.8	290° 40.2	50.5	Giennah	175° 51.7	17° 37.4 S	13° 44.4	53.4	170° 41.7	7.9	05.0	11.9	68°	21:01	22:46	-	04:47	06:38	08:26		
	14	170° 56.7	48° 19.2	28.7	314° 02.1	49.3	42° 26.9	10.7	305° 42.6	50.6	Hadar	148° 46.8	60° 26.8 S	28° 44.5	52.6	185° 08.6	7.9	2° 53.1 S	12.0	6								

2014 August 14, 15, 16 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.5			JUPITER -1.8			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	Nautical	Civil	14	15	16	14	15	16	14	15	16	14	15	16	14	15	16	14	15	16	14	15	16	14		15	16		14	15
14 Thurs day	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	02:23	20:02	19:55	19:47				
	322° 20'.5	197° 54'.1	20° 09'.2 N	104° 37'.1	16° 06'.0 S	193° 31'.6	19° 06'.2 N	97° 03'.3	14° 51'.8 S	Acamar	315° 17'.7	40° 14'.6 S	178° 48'.4	14° 26'.8 N	316° 44'.2	9.1	3° 48'.2 N	11'.4	59.8	N 70°	-	-	02:56	20:13	20:14	20:16				
	337° 22'.9	212° 53'.4	08'.6	119° 38'.1	06'.5	208° 33'.5	06'.1	112° 05'.7	51'.8	Achernar	335° 26'.0	57° 09'.5 S	193° 48'.5	26'.0	331° 12'.3	9.1	59'.6	11'.3	68°	68°	-	01:42	03:19	20:21	20:28	20:38				
	352° 25'.4	227° 52'.7	08'.0	134° 39'.1	06'.9	223° 35'.4	06'.0	127° 08'.1	51'.9	Acruz	173° 08'.8	63° 11'.0 S	208° 48'.6	25'.2	345° 40'.4	9.2	4° 10'.9 N	11'.3	66°	66°	-	02:20	03:37	20:29	20:40	20:55				
	02	7° 27'.9	242° 51'.9	07'.4	149° 40'.2	07'.4	238° 37'.3	05'.8	142° 10'.5	51'.9	Adhara	255° 12'.2	28° 59'.5 S	223° 48'.7	24'.5	0° 08'.6	9.1	22'.2	11'.3	59.7	64°	-	02:46	03:51	20:35	20:50	21:09			
	04	22° 30'.3	257° 51'.2	06'.8	164° 41'.2	07'.9	253° 39'.2	05'.7	157° 12'.8	52'.0	Aldebaran	290° 48'.5	16° 32'.2 N	238° 48'.8	23'.7	14° 36'.7	9.3	33'.5	11'.2	62°	62°	01:31	03:06	04:04	20:40	20:59	21:21			
	05	37° 32'.8	272° 50'.5	06'.2	179° 42'.2	08'.4	268° 41'.1	05'.6	172° 15'.2	52'.0					253° 48'.9	22'.9	29° 05'.0	9.2	44'.7	11'.2	60°	60°	02:05	03:22	04:14	20:45	21:06	21:31		
	06	52° 35'.3	287° 49'.7	05'.6	194° 43'.2	08'.9	283° 43'.0	05'.4	187° 17'.6	52'.0	Alioth	166° 20'.4	55° 53'.1 N	268° 49'.1	22'.2	43° 33'.2	9.2	55'.9	11'.1	59.6	N 58°	62°	02:29	03:36	04:23	20:49	21:13	21:40		
	07	67° 37'.7	302° 49'.0	05'.0	209° 44'.2	09'.4	298° 44'.9	05'.3	202° 19'.9	52'.1	Alkaid	152° 58'.5	49° 14'.7 N	283° 49'.2	21'.4	58° 01'.4	9.3	5° 07'.0 N	11'.1	56°	56°	02:48	03:47	04:31	20:53	21:19	21:48			
	08	82° 40'.4	317° 48'.3	04'.4	224° 45'.3	09'.9	313° 46'.8	05'.2	217° 22'.3	52'.1	Alnair	27° 42'.3	46° 53'.1 S	298° 49'.3	20'.6	72° 29'.7	9.3	18'.1	11'.1	59.5	54°	54°	03:04	03:57	04:38	20:56	21:24	21:55		
	09	97° 42'.6	332° 47'.6	03'.8	239° 46'.3	10'.4	328° 48'.7	05'.0	232° 24'.7	52'.1	Alnilam	275° 45'.7	1° 11'.6 S	313° 49'.4	19'.8	86° 58'.0	9.4	29'.2	11'.1	50°	52°	03:16	04:06	04:44	20:59	21:29	22:01			
	10	112° 45'.1	347° 46'.8	03'.2	254° 47'.3	10'.9	343° 50'.7	04'.9	247° 27'.1	52'.2	Alphard	217° 55'.6	8° 43'.4 S	328° 49'.5	19'.1	101° 26'.4	9.3	40'.2	10'.9	50°	50°	03:28	04:13	04:49	21:02	21:33	22:07			
	11	127° 45'.6	2° 46'.1	02'.6	269° 48'.3	11'.3	358° 52'.6	04'.8	262° 29'.4	52'.2					343° 49'.6	18'.3	115° 54'.7	9.4	51'.1	10'.9	59.4	45°	45°	03:50	04:29	05:01	21:08	21:42	22:19	
	12	142° 50'.0	17° 45'.4	20° 02'.0 N	284° 49'.3	16° 11'.8 S	13° 54'.5	19° 04'.6 N	277° 31'.8	14° 52'.3 S	Alphecca	126° 10'.3	26° 40'.3 N	358° 49'.8	14° 17'.5 N	130° 23'.1	9.4	6° 02'.0 N	10'.9	59.4	N 40°	40°	04:07	04:42	05:11	21:13	21:50	22:29		
	13	157° 52'.5	32° 44'.6	01'.4	299° 50'.3	12'.3	28° 56'.4	04'.5	292° 34'.2	52'.3	Alpheratz	357° 42'.3	29° 10'.3 N	13° 49'.9	16'.8	144° 51'.5	9.5	12'.9	10'.8	35°	35°	04:21	04:53	05:20	21:17	21:57	22:38			
	14	172° 55'.0	47° 43'.9	00'.8	314° 51'.3	12'.8	43° 58'.3	04'.4	307° 36'.5	52'.3	Altair	62° 07'.1	8° 54'.7 S	28° 50'.0	16'.0	159° 20'.0	9.4	23'.7	10'.7	59.3	30°	30°	04:32	05:02	05:27	21:21	22:03	22:46		
	15	187° 57'.4	62° 43'.2	00'.2	329° 52'.4	13'.3	59° 00'.2	04'.3	322° 38'.9	52'.4	Ankaa	353° 14'.7	42° 13'.3 S	43° 50'.1	15'.2	173° 48'.4	9.5	34'.4	10'.7	20°	20°	04:50	05:17	05:40	21:28	22:13	22:59			
	16	202° 59'.9	77° 42'.5	19° 59'.6 N	344° 53'.4	13'.8	74° 02'.1	04'.1	337° 41'.3	52'.4	Antares	112° 25'.1	26° 27'.7 S	58° 50'.2	14'.4	188° 16'.9	9.5	45'.1	10'.6	59.2	N 10°	10°	05:04	05:29	05:51	21:34	22:22	23:11		
	17	218° 02'.4	92° 41'.7	59'.0	359° 54'.4	14'.3	89° 04'.0	04'.0	352° 43'.6	52'.4					73° 50'.4	13'.7	202° 45'.4	9.5	55'.7	10'.6	0°	0°	05:15	05:40	06:01	21:39	22:31	23:22		
	18	233° 04'.8	107° 41'.0	58'.4	14° 55'.4	14'.8	104° 05'.9	03'.9	7° 46'.0	52'.5	Arcturus	145° 55'.1	19° 06'.6 N	88° 50'.5	12'.9	217° 13'.9	9.5	7° 06'.3 N	10'.6	59.0	S 10°	10°	05:25	05:50	06:11	21:45	22:40	23:33		
	19	248° 07'.3	122° 40'.3	57'.8	29° 56'.4	15'.2	119° 07'.8	03'.6	22° 48'.4	52'.5	Atria	107° 25'.9	69° 03'.3 S	103° 50'.6	12'.1	231° 42'.4	9.6	16'.9	10'.4	59.1	20°	20°	05:33	05:59	06:22	21:51	22:49	23:45		
	20	263° 09'.7	137° 39'.5	57'.2	44° 57'.4	15'.7	134° 09'.7	03'.7	37° 50'.7	52'.6	Avior	234° 18'.2	59° 33'.4 S	118° 50'.7	11'.3	246° 11'.0	9.6	27'.3	10'.4	30°	30°	05:41	06:09	06:34	21:58	23:00	23:59			
	21	278° 12'.2	152° 38'.8	56'.6	59° 58'.4	16'.2	149° 11'.6	03'.5	52° 53'.1	52'.6	Bellatrix	278° 31'.3	6° 21'.7 N	133° 50'.8	10'.6	260° 39'.6	9.5	37'.7	10'.4	59.0	35°	35°	05:45	06:15	06:41	22:02	23:06	24:07		
22	293° 14'.7	167° 38'.1	56'.0	74° 59'.5	16'.7	164° 13'.5	03'.3	67° 55'.5	52'.6	Betelgeuse	271° 00'.6	7° 24'.5 N	148° 51'.0	09'.8	275° 08'.1	9.7	48'.1	10'.3	40°	40°	05:49	06:20	06:48	22:07	23:13	24:16				
23	308° 17'.1	182° 37'.4	55'.4	90° 00'.5	17'.2	179° 15'.4	03'.2	82° 57'.8	52'.7					163° 51'.1	09'.0	289° 36'.8	9.6	58'.4	10'.2	45°	45°	05:52	06:27	06:57	22:12	23:21	24:27			
15 Fri day	323° 19'.6	197° 36'.7	19° 54'.7 N	105° 01'.5	16° 17'.7 S	194° 17'.3	19° 03'.1 N	98° 00'.2	14° 52'.7 S	Canopus	263° 56'.2	52° 42'.1 S	178° 51'.2	14° 08'.2 N	304° 05'.4	9.7	8° 08'.6 N	10'.2	58.9	S 50°	50°	05:57	06:35	07:08	22:19	23:31	24:40			
	338° 22'.1	212° 35'.9	54'.1	120° 02'.5	18'.2	209° 19'.2	02'.9	113° 02'.6	52'.7	Capella	280° 33'.4	46° 00'.4 N	193° 51'.3	07'.5	318° 34'.1	9.6	18'.8	10'.1	58.8	52°	52°	05:58	06:38	07:13	22:22	23:36	24:46			
	353° 24'.5	227° 35'.2	53'.5	135° 03'.5	18'.6	224° 21'.1	02'.8	128° 04'.9	52'.8	Deneb	49° 30'.4	45° 20'.2 E	208° 51'.4	06'.7	333° 02'.7	9.7	28'.9	10'.1	58.8	54°	54°	06:00	06:42	07:19	22:25	23:41	24:52			
	02	8° 27'.0	242° 34'.5	52'.9	150° 04'.5	19'.1	239° 23'.0	02'.7	143° 07'.3	52'.8	Denebola	182° 33'.1	14° 29'.5 S	223° 51'.6	05'.9	347° 31'.4	9.7	39'.0	10'.0	56°	56°	06:02	06:46	07:25	22:29	23:47	25:08			
	03	23° 29'.5	257° 33'.8	52'.3	165° 05'.5	19'.6	254° 24'.9	02'.5	158° 09'.7	52'.9	Diphda	348° 54'.9	17° 54'.2 S	238° 51'.7	05'.1	2° 00'.1	9.7	49'.0	9'.9	58°	58°	06:04	06:50	07:32	22:33	23:53	25:00			
	04	38° 31'.9	272° 33'.0	51'.7	180° 06'.5	20'.1	269° 26'.9	02'.4	173° 12'.0	52'.9					253° 51'.8	04'.3	16° 28'.8	9.8	58'.9	9'.8	58.7	S 60°	60°	06:06	06:55	07:40	22:38	-	00:00	
	05	53° 34'.4	287° 32'.3	51'.0	195° 07'.5	20'.6	284° 28'.8	02'.3	188° 14'.4	52'.9	Dubhe	193° 51'.4	61° 40'.4 N	268° 51'.9	03'.6	30° 57'.6	9.7	9° 08'.7 N	9'.8	58.2	S 62°	62°	06:08	07:00	07:48	22:43	-	00:09		
	06	68° 36'.9	302° 31'.6	50'.4	210° 08'.5	21'.1	299° 30'.7	02'.1	203° 16'.8	53'.0	Elmath	278° 11'.8	28° 36'.9 N	283° 52'.1	02'.8	45° 26'.3	9.8	18'.5	9'.8											
	07	83° 39'.3	317° 30'.9	49'.8	225° 09'.5	21'.6	314° 32'.6	02'.0	218° 19'.1	53'.0	Eltanin	90° 45'.4	51° 29'.7 N	298° 52'.2	02'.0	59° 55'.1	9.8	28'.3	9'.6	58.6										
	08	98° 41'.8	332° 30'.1	49'.2	240° 10'.6	22'.0	329° 34'.5	01'.9	233° 21'.5	53'.1	Enif	15° 46'.0	9° 56'.8 S	313° 52'.3	01'.2	74° 23'.9	9.8	37'.9	9'.6											
	09	113° 44'.2	347° 29'.4	48'.6	255° 11'.6	22'.5	344° 36'.4	01'.7	248° 23'.9	53'.1	Fomalhaut	33° 22'.8	29° 32'.4 S	328° 52'.4	00'.4	88° 52'.7	9.8	47'.5	9'.5	58.5										
	10	128° 46'.7	2° 28'.7	47'.9	270° 12'.6	23'.0	359° 38'.3	01'.6	263° 26'.2	53'.1					343° 52'.6	13° 59'.7 N	103° 21'.5	9.9	57'.0	9'.5	N 72°	72°	21:40	-	-	10:25	12:21	14:17		
	11	143° 49'.2	17° 28'.0	19° 47'.3 N	285° 13'.6	16° 23'.5 S	14° 40'.2	19° 01'.5 N	278° 28'.6	14° 53'.2 S	Gacrux	172° 00'.3	57° 11'.9 S	358° 52'.7	13° 58'.9 N	117° 50'.4	9.													

2014 August 17, 18, 19 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise		Moonrise	
	GHA	GHA	Dec	GHA	Dec	9.9	GHA	Dec	9.9	GHA	Dec	9.9	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	02:43	19:35	-	-				
Sunday	00	325° 17.9	197° 02.3	19° 24.1 N	105° 49.5	16° 40.9 S	195° 48.9	18° 56.7 N	99° 53.7	14° 54.6 E	Acamar	315° 17.7	40° 14.6 S	178° 57.3	13° 30.5 N	279° 16.7	10.2	14° 55.3 N	6.4	57.1	N 70°	-	01:12	03:11	20:22	20:37	21:11	21:58					
	01	340° 20.3	212° 01.6	23.5	120° 50.5	41.4	210° 50.8	56.6	114° 56.0	54.6	Achernar	335° 26.0	57° 09.5 S	193° 57.4	29.7	293° 45.9	10.3	15° 01.7 N	6.4	57.0	68°	-	02:04	03:31	20:53	21:18	21:40						
	02	355° 22.8	227° 00.9	22.8	135° 51.5	41.9	225° 52.7	56.4	129° 58.4	54.7	Acruz	173° 08.8	63° 11.0 S	208° 57.6	28.9	308° 15.2	10.3	08.1	6.3	66°	-	02:36	03:47	21:16	21:46	22:28							
	03	10° 25.3	240° 00.2	22.1	150° 52.5	42.4	240° 54.6	56.3	145° 00.8	54.7	Adhara	255° 12.2	28° 59.5 S	223° 57.7	28.1	322° 44.5	10.3	14.4	6.2	56.9	64°	01:03	02:58	04:01	21:34	22:07	22:51						
	04	25° 27.7	246° 59.5	21.5	165° 53.4	42.9	250° 56.5	56.2	160° 03.1	54.7	Aldebaran	290° 48.5	16° 32.2 N	238° 57.8	27.3	337° 14.8	10.2	20.6	6.1	62°	01:50	03:16	04:12	21:49	22:24	23:09							
	05	40° 30.2	271° 58.8	20.8	180° 54.4	43.4	270° 58.4	56.0	175° 05.5	54.8		196° 00.3	55.2	253° 58.0	26.5	351° 43.0	10.4	26.7	6.1	60°	02:19	03:31	04:21	22:02	22:39	23:24							
	06	55° 32.7	286° 58.1	20.1	195° 55.4	43.8	286° 00.3	55.9	190° 07.8	54.8	Alioth	260° 20.4	55° 53.1 N	268° 58.1	25.7	6° 12.4	10.3	32.8	5.9	56.8	N 58°	02:40	03:43	04:29	22:12	22:51	23:37						
	07	70° 35.1	301° 57.4	19.5	210° 56.4	44.3	301° 02.2	55.8	205° 10.2	54.9	Alkaid	152° 58.5	49° 14.7 N	283° 58.2	24.9	20° 41.7	10.3	38.7	5.9	56°	02:57	03:54	04:36	22:22	23:02	23:48							
	08	85° 37.6	316° 56.7	18.8	225° 57.4	44.8	316° 04.1	55.6	220° 12.6	54.9	Alnair	27° 42.3	46° 53.2 S	298° 58.4	24.1	35° 11.0	10.3	44.6	5.7	54°	03:11	04:03	04:43	22:30	23:11	23:58							
	09	100° 40.1	331° 56.0	18.1	240° 58.4	45.3	331° 06.0	55.5	235° 14.9	54.9	Alnilam	275° 45.7	1° 11.6 E	313° 58.5	23.3	49° 40.3	10.4	50.3	5.7	56.7	52°	03:23	04:11	04:49	22:38	23:19	24:06						
	10	115° 42.5	346° 55.3	17.5	255° 59.4	45.8	346° 08.0	55.4	250° 17.3	55.0	Alphard	217° 55.6	8° 43.4 S	328° 58.6	22.5	64° 09.7	10.3	56.0	5.6	50°	03:33	04:18	04:54	22:45	23:27	24:14							
	11	130° 45.0	1° 54.5	16.8	271° 00.3	46.2	1° 09.9	55.2	265° 19.6	55.0		290° 58.8	21.7	343° 58.8	21.7	78° 39.0	10.4	16° 01.6 N	5.4	45°	03:54	04:33	05:05	22:59	23:43	24:31							
	12	145° 47.4	16° 53.8	19° 16.1 N	280° 01.3	16° 46.7 S	16° 11.8	18° 55.1 N	280° 22.0	14° 55.1 S	Alphecca	126° 10.3	26° 40.3 N	358° 58.9	13° 20.9 N	93° 08.4	10.4	16° 07.0 N	5.4	56.6	N 40°	04:11	04:45	05:14	23:11	23:56	24:44						
	13	160° 49.9	31° 53.1	15.5	301° 02.3	47.2	31° 13.7	55.0	295° 24.3	55.1	Alpheratz	357° 42.3	29° 10.3 N	13° 59.0	20.1	107° 37.8	10.4	12.4	5.3	35°	04:24	04:55	05:22	23:22	-	00:07							
	14	175° 52.4	46° 52.4	14.8	316° 03.3	47.7	46° 15.6	54.8	310° 26.7	55.2	Altair	62° 07.1	8° 54.8 N	28° 59.2	19.3	122° 07.2	10.4	17.7	5.2	30°	04:34	05:04	05:29	23:31	-	00:17							
	15	190° 54.8	61° 51.7	14.1	331° 04.3	48.2	61° 17.5	54.7	325° 29.1	55.2	Ankaa	353° 14.6	42° 13.3 S	43° 59.3	18.5	136° 36.6	10.4	22.9	5.2	56.5	20°	04:51	05:18	05:41	23:46	-	00:34						
	16	205° 57.3	76° 51.0	13.4	346° 05.3	48.7	76° 19.4	54.6	340° 31.4	55.2	Antares	112° 25.1	26° 27.7 S	58° 59.4	17.7	151° 06.0	10.4	28.1	5.0	N 10°	05:04	05:29	05:51	24:00	-	00:49							
	17	220° 59.8	91° 50.3	12.8	1° 06.2	49.1	91° 21.3	54.4	355° 33.8	55.3		73° 59.6	16.9	165° 35.4	10.4	33.1	4.9			0°	05:15	05:39	06:00	-	-	00:13	01:03						
	18	236° 02.2	106° 49.6	12.1	16° 07.2	49.6	106° 23.2	54.3	10° 36.1	55.3	Arcturus	145° 55.1	19° 06.6 N	88° 59.7	16.1	180° 04.8	10.5	38.0	4.9	56.4	S 10°	05:23	05:48	06:10	-	-	00:26	01:17					
	19	251° 04.7	121° 48.9	11.4	31° 08.2	50.1	121° 25.1	54.2	25° 38.5	55.4	Atria	107° 26.0	69° 03.3 S	103° 59.8	15.3	194° 34.3	10.4	42.9	4.7	20°	05:31	05:57	06:20	-	-	00:40	01:32						
	20	266° 07.2	136° 48.2	10.7	46° 09.2	50.6	136° 27.0	54.0	40° 40.5	55.4	Avior	234° 18.2	59° 33.4 S	119° 00.0	14.5	209° 03.7	10.5	47.6	4.6	30°	05:38	06:06	06:31	-	-	00:55	01:49						
	21	281° 09.6	151° 47.5	10.0	61° 10.2	51.1	151° 29.0	53.9	55° 43.2	55.4	Bellatrix	278° 31.3	6° 21.7 N	134° 00.1	13.7	223° 33.2	10.5	52.2	4.6	56.3	35°	05:42	06:11	06:37	00:07	01:05	01:59						
	22	296° 12.1	166° 46.8	09.4	76° 11.2	51.5	166° 30.9	53.8	70° 45.6	55.5	Betelgeuse	271° 00.6	7° 24.5 N	149° 00.3	12.9	238° 02.7	10.5	56.8	4.5	40°	05:45	06:17	06:44	00:16	01:15	02:10							
23	311° 14.6	181° 46.1	08.7	91° 12.1	52.0	181° 32.8	53.6	85° 47.9	55.5		164° 00.4	12.1	252° 32.2	10.5	17° 01.3 N	4.3			45°	05:48	06:22	06:53	00:27	01:28	02:24								
Monday	00	326° 17.0	196° 45.4	19° 08.0 N	106° 13.1	16° 52.5 S	196° 34.7	18° 53.5 N	100° 50.3	14° 55.6 S	Canopus	263° 56.1	52° 42.1 S	179° 00.5	13° 11.3 N	267° 01.7	10.5	17° 05.6 N	4.3	56.2	S 50°	05:51	06:29	07:03	00:40	01:43	02:40						
	01	341° 19.5	211° 44.7	07.3	121° 14.1	53.0	211° 36.6	53.4	115° 56.2	55.6	Capella	280° 33.4	46° 00.4 N	194° 00.7	10.5	281° 31.2	10.5	09.9	4.2	52°	05:53	06:32	07:07	00:46	01:50	02:48							
	02	356° 21.9	226° 44.0	06.6	136° 15.1	53.5	226° 38.5	53.2	130° 55.0	55.6	Deneb	49° 30.4	45° 20.3 N	209° 00.8	09.7	296° 00.7	10.5	14.1	4.1	54°	05:54	06:36	07:12	00:52	01:58	02:57							
	03	11° 24.4	241° 43.4	05.9	151° 16.1	53.9	241° 40.4	53.1	145° 57.3	55.7	Denebola	182° 33.1	14° 29.5 S	224° 00.9	08.9	310° 30.2	10.6	18.2	4.0	56.1	56°	05:56	06:39	07:18	01:00	02:07	03:06						
	04	26° 26.9	256° 42.7	05.2	166° 17.0	54.4	256° 42.3	53.0	160° 59.7	55.7	Diphda	348° 54.9	17° 54.2 S	239° 01.1	08.1	324° 59.8	10.5	22.2	3.9	58°	05:57	06:43	07:24	01:08	02:17	03:17							
	05	41° 29.3	271° 42.0	04.6	181° 18.0	54.9	271° 44.2	52.8	176° 02.1	55.8		254° 01.2	07.2	339° 29.3	10.6	26.1	3.8			S 60°	05:58	06:47	07:31	01:18	02:28	03:30							
	06	56° 31.8	286° 41.3	03.9	196° 19.0	55.4	286° 46.1	52.7	191° 04.4	55.8	Dubhe	193° 51.5	61° 40.4 N	269° 01.4	06.4	353° 58.9	10.6	29.9	3.7	56.0	S 62°	06:00	06:52	07:40	01:29	02:42	03:45						
	07	71° 34.3	301° 40.6	03.2	211° 20.0	55.9	301° 48.1	52.6	206° 06.8	55.8	Elinath	278° 17.7	28° 36.9 S	284° 01.5	05.6	8° 28.5	10.6	33.7	3.6														
	08	86° 36.7	316° 39.9	02.5	226° 20.9	56.3	316° 50.0	52.4	221° 09.1	55.9	Eltanin	90° 45.5	51° 29.7 N	299° 01.6	04.8	22° 58.1	10.6	37.2	3.6														
	09	101° 39.2	331° 39.2	01.8	241° 21.9	56.8	331° 51.9	52.3	236° 11.5	55.9	Enif	15° 46.0	9° 56.8 N	314° 01.8	04.0	37° 27.7	10.6	40.8	3.4	55.9													
	10	116° 41.7	346° 38.5	01.1	256° 22.9	57.3	346° 53.8	52.2	251° 13.8	56.0	Fomalhaut	33° 22.8	29° 32.4 S	329° 01.9	03.2	51° 57.3	10.7	44.2	3.3														
	11	131° 44.1	1° 37.8	00.4	271° 23.9	57.8	1° 55.7	52.0	266° 16.2	56.0		344° 02.0	02.4	66° 27.0	10.6	47.5	3.3			N 72°	21:19	-	-	16:15	-	-							
	12	146° 46.6	16° 37.1	18° 59.7 N	286° 24.8	16° 58.3 S	16° 57.6	18° 51.9 N	281° 18.5	14° 56.1 S	Gacrux	172° 00.3	57° 11.9 S	359° 02.2	13° 01.6 N	80° 56.6	10.7	17° 50.8 N	3.1	55.9	N 70°	20:53	22:45	-	15:28	16:59	18:08						
	13	161° 49.1	31° 36.4	59.0	301° 25.8	58.7	31° 59.5	51.8	296° 20.9	56.1	Giennah	175° 51.7	17° 37.4 S	14° 02.3	00.8	95° 26.3	10.7	53.9	3.1	55.8	68°	20:33	21:58	-	14:58	16:18	17:21						
	14	176° 51.5	46° 35.7	58.3	316° 26.8	59.2	47° 01.4	51.6																									

2014 August 20, 21, 22 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise	
	Nautical	Civil	20	20	21	22	20	21	22	20	21	22	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		20	20		21	22
20		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	03:02	-	22:40	24:30	
	00	328° 15.3	196° 12.4	18° 34.1 N	106° 59.6	17° 15.5 S	198° 06.4	18° 47.1 N	102° 43.2	14° 57.6 S	122° 00.6	15.9	Acamar	315° 17.7	40° 14.6 S	179° 07.3	12° 32.2 N	242° 55.4	11.4	18° 44.8 N	0.2	54.9	N 70°	-	01:44	03:25	22:13	23:34	25:03	
	01	343° 17.8	211° 11.7	33.3	122° 00.6	15.9	213° 08.4	47.0	117° 45.6	57.6	122° 00.6	15.9	Acamar	335° 25.9	57° 09.5 S	194° 07.5	31.4	257° 25.8	11.3	44.6	0.3	68°	-	02:23	03:43	22:55	-	00:07		
	02	358° 20.2	226° 11.0	32.6	137° 01.6	16.4	228° 10.3	46.8	132° 47.9	57.7	132° 47.9	57.7	Acruv	173° 08.8	63° 11.0 S	209° 07.6	30.6	271° 56.1	11.4	44.3	0.4	66°	-	02:50	03:58	23:24	-	00:31		
	03	13° 22' 27"	241° 10.3	31.9	152° 02.5	16.9	243° 12.2	46.7	147° 50.2	57.7	147° 50.2	57.7	Adhara	255° 12.1	28° 59.5 S	224° 07.8	29.8	286° 26.5	11.4	43.9	0.5	64°	01:31	03:10	04:10	23:46	-	00:50		
	04	28° 25.2	256° 09.7	31.1	167° 03.5	17.4	248° 14.1	46.6	162° 52.6	57.7	162° 52.6	57.7	Aldebaran	290° 48.5	16° 32.2 N	239° 07.9	29.0	300° 56.9	11.5	43.4	0.6	62°	02:06	03:26	04:20	-	00:03	01:05		
	05	43° 27.6	271° 09.0	30.4	182° 04.4	17.8	273° 16.0	46.4	177° 54.9	57.8	177° 54.9	57.8				254° 08.1	28.1	315° 27.4	11.4	42.8	0.6	54.8	60°	02:31	03:39	04:28	-	00:18	01:18	
	06	58° 30.1	286° 08.3	29.7	197° 05.4	18.3	288° 17.9	46.3	192° 57.3	57.8	192° 57.3	57.8	Alioth	260° 20.4	55° 53.1 N	269° 08.2	27.3	329° 57.8	11.5	42.2	0.8	58°	02:50	03:51	04:36	-	00:30	01:29		
	07	73° 32.5	301° 07.6	28.9	212° 06.3	18.8	303° 19.8	46.2	207° 59.6	57.9	207° 59.6	57.9	Alkaid	152° 58.6	49° 14.7 N	284° 08.4	26.5	344° 28.3	11.5	41.4	0.8	56°	03:06	04:00	04:42	-	00:41	01:38		
	08	88° 35.0	316° 07.0	28.2	227° 07.3	19.3	318° 21.7	46.0	223° 02.0	57.9	223° 02.0	57.9	Alnair	27° 42.3	46° 53.2 S	299° 08.5	25.7	358° 58.8	11.6	40.6	1.0	54°	03:19	04:09	04:48	-	00:50	01:47		
	09	103° 37.5	331° 06.3	27.5	242° 08.3	19.7	333° 23.7	45.9	238° 04.3	58.0	238° 04.3	58.0	Alnilam	275° 45.7	1° 11.6 S	314° 08.7	24.8	13° 29.4	11.6	39.6	1.0	52°	03:30	04:16	04:54	00:06	00:58	01:54		
	10	118° 39.9	346° 05.6	26.7	257° 09.2	20.2	348° 25.6	45.8	253° 06.7	58.0	253° 06.7	58.0	Alphard	217° 55.6	8° 43.4 S	329° 08.8	24.0	28° 00.0	11.5	38.6	1.1	54.7	50°	03:39	04:23	04:58	00:14	01:06	02:01	
	11	133° 42.4	1° 04.9	26.0	272° 10.2	20.7	3° 27.5	45.6	268° 09.0	58.1	268° 09.0	58.1				344° 09.0	23.2	42° 30.5	11.7	37.5	1.2	45°	03:59	04:37	05:09	00:31	01:22	02:16		
	12	148° 44.9	16° 04.3	18° 25.2 N	287° 11.1	17° 21.2 S	18° 29.4	18° 45.5 N	283° 11.4	14° 58.1 S	283° 11.4	14° 58.1 S	Alphecca	126° 10.3	26° 40.3 N	359° 09.1	12° 22.4 N	57° 01.2	11.6	18° 36.3 N	1.3	54.7	N 40°	04:14	04:49	05:17	00:44	01:35	02:28	
	13	163° 47.3	31° 03.6	24.5	302° 12.1	21.6	33° 31.3	45.4	298° 13.7	58.1	298° 13.7	58.1	Alpheratz	357° 42.3	29° 10.3 N	14° 09.3	21.5	71° 31.8	11.7	35.0	1.4	35°	04:26	04:58	05:24	00:56	01:46	02:38		
	14	178° 49.8	46° 02.9	23.8	317° 13.0	22.1	48° 33.2	45.2	313° 16.1	58.2	313° 16.1	58.2	Altair	62° 07.1	8° 54.8 N	29° 09.4	20.7	86° 02.5	11.7	33.6	1.5	30°	04:36	05:06	05:31	01:06	01:56	02:47		
	15	193° 52.3	61° 02.2	23.0	332° 14.0	22.6	63° 35.1	45.1	328° 18.4	58.2	328° 18.4	58.2	Ankaa	353° 14.6	42° 13.3 S	44° 09.6	19.9	100° 33.2	11.7	32.1	1.5	20°	04:52	05:19	05:42	01:23	02:13	03:02		
	16	208° 54.7	76° 01.6	22.3	347° 14.9	23.1	78° 37.1	45.0	343° 20.8	58.3	343° 20.8	58.3	Antares	112° 25.2	26° 27.7 S	59° 09.7	19.1	115° 03.9	11.8	30.6	1.7	54.6	N 10°	05:04	05:30	05:51	01:38	02:27	03:16	
	17	223° 57.2	91° 00.9	21.5	2° 15.9	23.5	93° 39.0	44.8	358° 23.1	58.3	358° 23.1	58.3				74° 09.9	18.2	129° 34.7	11.7	28.9	1.7	20°	05:14	05:39	06:00	01:52	02:41	03:28		
	18	238° 59.7	106° 00.2	20.8	17° 16.8	24.0	108° 40.9	44.7	13° 25.5	58.4	13° 25.5	58.4	Arcturus	145° 55.1	19° 06.6 N	89° 10.0	17.4	144° 05.4	11.8	27.2	1.8	10°	05:22	05:47	06:08	02:07	02:55	03:41		
	19	254° 02.1	120° 59.5	20.0	32° 17.8	24.5	123° 42.8	44.6	28° 27.0	58.4	28° 27.0	58.4	Atria	107° 26.0	69° 03.3 S	104° 10.2	16.6	158° 36.2	11.9	25.4	1.9	20°	05:29	05:55	06:18	02:22	03:09	03:54		
	20	269° 04.6	135° 58.9	19.3	47° 18.7	25.0	138° 44.7	44.4	43° 30.8	58.4	43° 30.8	58.4	Avior	234° 18.2	59° 33.4 S	119° 10.3	15.7	173° 07.1	11.8	23.5	2.0	30°	05:35	06:03	06:28	02:39	03:26	04:09		
	21	284° 07.0	150° 58.2	18.5	62° 19.7	25.4	153° 46.6	44.3	58° 32.5	58.5	58° 32.5	58.5	Bellatrix	278° 31.3	6° 21.7 N	134° 10.5	14.9	187° 37.9	11.9	21.5	2.1	35°	05:38	06:08	06:34	02:49	03:36	04:18		
22	299° 09.5	165° 57.5	17.8	77° 20.6	25.9	168° 48.5	44.2	73° 34.8	58.5	73° 34.8	58.5	Betelgeuse	271° 00.6	7° 24.5 N	149° 10.6	14.1	202° 08.8	12.0	19.4	2.1	54.5	40°	05:41	06:13	06:40	03:01	03:47	04:28		
23	314° 12.0	180° 56.9	17.0	92° 21.6	26.4	183° 50.5	44.0	88° 37.2	58.6	88° 37.2	58.6				164° 10.8	13.3	216° 39.8	11.9	17.3	2.3	45°	05:44	06:18	06:48	03:15	04:00	04:40			
21	00	329° 14.4	195° 56.2	18° 16.3 N	107° 22.5	17° 26.9 S	198° 52.4	18° 43.9 N	103° 39.5	14° 58.6 S	103° 39.5	14° 58.6 S	Canopus	263° 56.1	52° 42.1 S	179° 10.9	12° 12.4 N	231° 10.7	12.0	18° 15.0 N	2.3	54.5	S 50°	05:46	06:24	06:57	03:31	04:16	04:54	
	01	344° 16.9	210° 55.5	15.5	122° 23.5	27.3	213° 54.3	43.8	118° 41.9	58.7	118° 41.9	58.7	Capella	280° 33.4	46° 00.4 N	194° 11.1	11.6	245° 41.7	12.0	12.7	2.4	52°	05:47	06:26	07:01	03:39	04:23	05:01		
	02	359° 19.4	225° 54.8	14.8	137° 24.4	27.8	228° 56.2	43.6	133° 44.2	58.7	133° 44.2	58.7	Deneb	49° 30.4	45° 20.3 N	209° 11.2	10.8	260° 12.7	12.0	10.3	2.5	54°	05:48	06:29	07:06	03:48	04:31	05:08		
	03	14° 21' 18"	240° 54.2	14.0	152° 25.4	28.3	243° 58.1	43.5	148° 46.9	58.8	148° 46.9	58.8	Denebola	182° 33.1	14° 29.5 S	224° 11.4	09.9	274° 43.7	12.1	07.8	2.6	56°	05:49	06:32	07:11	03:58	04:41	05:16		
	04	29° 24.3	255° 53.5	13.3	167° 26.3	28.8	259° 00.0	43.4	163° 48.6	58.8	163° 48.6	58.8	Diphda	348° 54.8	17° 54.2 S	239° 11.5	09.1	289° 14.8	12.1	05.2	2.6	54.4	58°	05:50	06:37	07:17	04:09	04:51	05:26	
	05	44° 26.8	270° 52.8	12.5	182° 27.3	29.2	274° 02.0	43.2	178° 51.3	58.8	178° 51.3	58.8				254° 11.7	08.3	303° 45.9	12.1	02.6	2.8	50°	05:51	06:40	07:23	04:22	05:03	05:36		
	06	59° 29.2	285° 52.2	11.8	197° 28.2	29.7	289° 03.9	43.1	193° 53.6	58.9	193° 53.6	58.9	Dubhe	193° 51.5	61° 40.4 N	269° 11.9	07.4	318° 17.0	12.2	17° 59.8 N	2.8	2.8	S 62°	05:52	06:44	07:30	04:37	05:18	05:49	
	07	74° 31.7	300° 51.5	11.0	212° 29.2	30.2	304° 05.8	43.0	208° 55.9	59.0	208° 55.9	59.0	Elinath	278° 11.7	28° 36.9 N	284° 12.0	06.6	332° 48.2	12.2	57.0	2.9	20°	05:59	06:48	07:37	04:46	05:35	06:14		
	08	89° 34.1	315° 50.8	10.3	227° 30.1	30.6	319° 07.7	42.8	223° 58.3	59.0	223° 58.3	59.0	Eltanin	90° 45.5	51° 29.7 N	299° 12.2	05.8	347° 19.4	12.2	54.1	3.0	20°	06:00	06:50	07:40	04:55	05:44	06:23		
	09	104° 36.6	330° 50.2	09.5	242° 31.0	31.1	334° 09.6	42.7	239° 00.6	59.0	239° 00.6	59.0	Enif	1° 50.6	9° 56.8 N	314° 12.3	04.9	1° 50.6	12.2	51.1	3.1	20°	06:01	06:52	07:43	05:06	05:55	06:34		
	10	119° 39.1	345° 49.5	08.7	257° 32.0	31.6	349° 11.5	42.6	254° 03.0	59.1	254° 03.0	59.1	Fomalhaut	15° 22.8	29° 32.4 S	329° 12.5	04.1	16° 21.8</												

2014 August 23, 24, 25 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	23	24	25							
23 Saturday	00	331° 12.7	195° 24.5	17° 39.2 N	108° 07.6	17° 49.5 S	200° 24.4	18° 37.5 N	105° 31.9	15° 00.8 S	Acamar	315° 17.6	40° 14.6 S	179° 18.5	11° 32.2 N	208° 32.5	13.5	14° 55.1 N	6.0	54.0	N 72°	-	01:13	03:19	00:30	02:11	03:49						
	01	346° 15.2	210° 23.8	38.4	123° 08.5	49.9	215° 26.3	37.3	120° 34.3	00.8	Achernar	335° 25.9	57° 09.5 S	194° 18.6	31.4	223° 05.0	13.5	49.1 N	5.9	68°	-	02:08	03:39	01:03	02:33	04:02							
	02	1° 17.6	225° 23.2	37.6	138° 09.4	50.4	230° 28.2	37.2	135° 36.6	00.9	Acruz	173° 08.8	63° 11.0 S	209° 18.8	30.5	237° 37.5	13.5	43.2	6.1	66°	01:03	03:03	04:08	01:45	03:03	04:22							
	03	16° 20.1	240° 22.5	36.8	153° 10.4	50.9	245° 30.1	37.1	150° 38.9	00.9	Adhara	255° 12.1	28° 59.5 S	224° 18.9	29.7	252° 10.0	13.6	37.1	6.1	64°	01:52	03:21	04:19	02:00	03:14	04:29							
	04	31° 22.6	255° 21.9	36.0	168° 11.3	51.3	260° 32.0	36.9	165° 41.3	01.0	Aldebaran	290° 48.5	16° 32.2 N	239° 19.1	28.8	266° 42.6	13.6	31.0	6.2	62°	02:21	03:36	04:28	02:13	03:23	04:35							
	05	46° 25.0	270° 21.2	35.2	183° 12.2	51.8	275° 34.0	36.8	180° 43.6	01.0				254° 19.3	28.0	281° 15.2	13.6	24.8	6.2	60°	02:43	03:48	04:35	02:23	03:31	04:41							
	06	61° 27.5	285° 20.6	34.4	198° 13.1	52.3	290° 35.9	36.6	195° 46.0	01.1	Alioth	166° 20.5	55° 53.1 N	269° 19.4	27.1	295° 47.8	13.7	18.6	6.3	N 58°	03:00	03:58	04:42	02:32	03:38	04:46							
	07	76° 30.0	300° 19.9	33.6	213° 14.1	52.7	305° 37.8	36.5	210° 48.3	01.1	Alkaid	152° 58.6	49° 14.7 N	284° 19.6	26.3	310° 20.5	13.7	12.3	6.3	56°	03:14	04:07	04:48	02:40	03:44	04:50							
	08	91° 32.4	315° 19.3	32.8	228° 15.0	53.2	320° 39.7	36.4	225° 50.0	01.1	Alnair	27° 42.3	46° 53.2 S	299° 19.7	25.4	324° 53.2	13.7	06.0	6.4	54°	03:26	04:15	04:54	02:47	03:50	04:54							
	09	106° 34.9	330° 18.6	32.0	243° 15.9	53.7	335° 41.6	36.2	240° 53.0	01.2	Alnilam	275° 45.7	1° 11.6 S	314° 19.9	24.6	339° 25.9	13.7	13° 59.6 N	6.5	52°	03:36	04:22	04:58	02:54	03:55	04:57							
	10	121° 37.4	345° 18.0	31.2	258° 16.8	54.1	350° 43.6	36.1	255° 55.3	01.2	Alphard	217° 55.6	8° 43.4 S	329° 20.1	23.8	353° 58.6	13.8	53.1	6.5	50°	03:45	04:28	05:03	02:59	03:59	05:00							
	11	136° 39.8	0° 17.4	30.4	273° 17.8	54.6	5° 45.5 S	36.0	270° 57.6	01.0				344° 20.2	22.9	8° 31.4	13.8	46.6	6.6	45°	04:03	04:41	05:12	03:12	04:09	05:07							
	12	151° 42.3	15° 16.7	17° 29.6 N	288° 18.7	17° 55.1 S	20° 47.4	18° 35.8 N	286° 00.0	15° 01.3 S	Alphecca	126° 10.4	26° 40.3 N	359° 20.4	11° 22.1 N	23° 04.2	13.9	13° 40.0 N	6.7	54.0	N 40°	04:18	04:52	05:20	03:22	04:17	05:13						
	13	166° 44.7	30° 16.1	28.8	303° 19.6	55.5	35° 49.3	35.7	301° 02.3	01.4	Alpheratz	357° 42.3	29° 10.3 N	14° 20.6	21.2	37° 37.1	13.8	33.3	6.7	35°	04:29	05:00	05:27	03:31	04:24	05:18							
	14	181° 47.2	45° 15.4	28.0	318° 20.5	56.0	50° 51.2	35.6	316° 04.4	01.4	Altair	62° 07.1	8° 54.8 N	29° 20.7	20.4	52° 09.9	13.9	26.6	6.7	30°	04:38	05:08	05:32	03:38	04:30	05:22							
	15	196° 49.7	60° 14.8	27.2	333° 21.4	56.5	65° 53.2	35.4	331° 07.0	01.5	Ankaa	353° 14.6	42° 13.4 S	44° 20.9	19.5	66° 42.8	14.0	19.9	6.8	20°	04:53	05:20	05:42	03:52	04:41	05:30							
	16	211° 52.1	75° 14.1	26.4	348° 22.4	56.9	80° 55.1	35.3	346° 09.3	01.5	Antares	112° 25.2	26° 27.7 S	59° 21.1	18.7	81° 15.8	13.9	13.1	6.9	N 10°	05:05	05:30	05:51	04:03	04:50	05:36							
	17	226° 54.6	90° 13.5	25.6	3° 23.3	57.4	95° 57.0	35.2	1° 11.7	01.6				74° 21.2	17.8	95° 48.7	14.0	06.2	6.9	0°	05:14	05:38	05:59	04:14	04:59	05:42							
	18	241° 57.1	105° 12.8	24.8	18° 24.2	57.9	110° 58.9	35.0	16° 14.0	01.6	Arcturus	145° 55.1	19° 06.6 N	89° 21.4	17.0	110° 21.7	14.0	12° 59.3 N	7.0	S 10°	05:21	05:46	06:07	04:25	05:07	05:48							
	19	256° 59.5	120° 12.2	24.0	33° 25.1	58.3	126° 00.8	34.8	31° 16.3	01.7	Atria	170° 26.0	69° 03.3 S	104° 21.5	16.1	124° 54.7	14.0	52.3	7.1	53.9	20°	05:27	05:53	06:15	04:36	05:16	05:55						
	20	272° 02.0	135° 11.6	23.2	48° 26.0	58.8	141° 02.8	34.8	46° 18.7	01.7	Avior	234° 18.2	59° 33.4 S	119° 21.7	15.3	139° 27.7	14.1	45.2	7.0	30°	05:32	06:00	06:25	04:49	05:27	06:02							
	21	287° 04.5	150° 10.9	22.3	63° 27.0	59.3	156° 04.7	34.6	61° 21.0	01.7	Bellatrix	278° 31.2	6° 21.7 N	134° 21.9	14.4	154° 00.8	14.1	38.2	7.2	35°	05:35	06:04	06:30	04:57	05:33	06:06							
	22	302° 06.9	165° 10.3	21.5	78° 27.9	59.7	171° 06.6	34.5	76° 23.3	01.8	Betelgeuse	271° 00.6	7° 24.5 N	149° 22.0	13.5	168° 33.9	14.1	31.0	7.2	40°	05:37	06:08	06:36	05:05	05:39	06:11							
23	317° 09.4	180° 09.6	20.7	93° 28.8	18° 00.2 S	186° 08.5	34.4	91° 25.7	01.8				164° 22.2	12.7	183° 07.0	14.2	23.8	7.2	45°	05:39	06:13	06:43	05:15	05:47	06:17								
24 Sunday	00	332° 11.9	195° 09.0	17° 19.9 N	108° 29.7	18° 00.7 S	201° 10.4	18° 34.2 N	106° 28.0	15° 01.9 S	Canopus	263° 56.1	52° 42.1 S	179° 22.4	11° 11.8 N	197° 40.2	14.1	12° 16.6 N	7.3	53.9	S 50°	05:41	06:18	06:51	05:28	05:57	06:23						
	01	347° 14.3	210° 08.3	19.1	123° 30.6	01.1	216° 12.4	34.1	121° 30.3	01.9	Capella	280° 33.4	46° 00.4 N	194° 22.5	11.0	212° 13.3	14.2	09.3	7.4	52°	05:41	06:20	06:55	05:33	06:01	06:26							
	02	2° 16.8	225° 07.7	18.3	138° 31.6	01.6	231° 14.3	34.0	136° 32.7	02.0	Deneb	49° 30.4	45° 20.3 N	209° 22.7	10.1	226° 46.5	14.3	01.9	7.4	54°	05:42	06:23	06:59	05:39	06:06	06:30							
	03	17° 19.2	240° 07.1	17.5	153° 32.5	02.0	246° 16.2	33.8	151° 35.0	02.0	Denebola	182° 33.1	14° 29.5 S	224° 22.9	09.3	241° 19.8	14.2	11° 54.5 N	7.4	56°	05:42	06:26	07:04	05:46	06:11	06:33							
	04	32° 21.7	255° 06.4	16.6	168° 33.4	02.5	261° 18.1	33.7	166° 37.3	02.1	Diphda	348° 54.8	17° 54.2 S	239° 23.0	08.4	255° 53.0	14.3	47.1	7.5	58°	05:43	06:28	07:09	05:54	06:17	06:37							
	05	47° 24.2	270° 05.8	15.8	183° 34.3	03.0	276° 20.0	33.6	181° 39.7	02.1				254° 23.2	07.6	270° 26.3	14.3	39.6	7.6	S 60°	05:43	06:32	07:15	06:03	06:24	06:42							
	06	62° 26.6	285° 05.1	15.0	198° 35.2	03.4	291° 22.0	33.4	196° 42.0	02.2	Dubhe	193° 51.5	61° 40.4 N	269° 23.4	06.7	284° 59.6	14.3	32.0	7.6	S 62°	05:44	06:35	07:21	06:13	06:31	06:47							
	07	77° 29.1	300° 04.5	14.2	213° 36.1	03.9	306° 23.9	33.3	211° 44.3	02.2	Elinath	278° 11.7	28° 36.9 N	284° 23.5	05.9	299° 32.9	14.4	24.4	7.6														
	08	92° 31.6	315° 03.9	13.4	228° 37.1	04.4	321° 25.8	33.2	226° 46.7	02.3	Eltanin	90° 45.5	51° 29.7 N	299° 23.7	05.0	314° 06.3	14.3	16.8	7.7														
	09	107° 34.0	330° 03.2	12.5	243° 38.0	04.8	336° 27.7	33.0	241° 49.0	02.3	Enif	15° 46.0	9° 56.8 N	314° 23.9	04.2	328° 39.6	14.4	09.1	7.8														
	10	122° 36.5	345° 02.6	11.7	258° 38.9	05.3	351° 29.6	32.9	256° 51.3	02.4	Fomalhaut	33° 22.0	29° 32.4 S	329° 24.0	03.3	343° 13.0	14.5	01.3	7.7		Lat	Sunset	Twilight		Moonset								
	11	137° 39.0	0° 02.0	10.9	273° 39.8	05.8	6° 31.6	32.7	271° 53.7	02.4				344° 24.2	02.4	357° 46.5	14.4	10° 53.6 N	7.9				23	24	25								
	12	152° 41.4	15° 01.3	10.1 N	288° 40.7	18° 06.2 S	21° 33.5	18° 32.6 N	286° 56.0	15° 02.4 S	Gacrux	172° 00.3	57° 11.8 S	359° 24.4	11° 01.6 N	12° 19.9	14.5	10° 45.7 N	7.9	53.9	N 70°	20:22	21:51	-	19:15	19:16	19:15						
	13	167° 43.9	30° 00.7	09.2	303° 41.6	06.7	36° 35.4	32.5	301° 58.3	02.5	Giennah	175° 51.7	17° 37.4 S	14° 24.5	00.6	26° 53.4	14.5	37.8	7.9	68°	20:07	21:20	-	18:57	19:04	19:08							
	14	182° 46.3	45° 00.1	08.4	318° 42.5	07.1	51° 37.3	32.3	317° 00.7	02.5	Hadar	148° 46.9	60° 26.7 S	29° 24.7	10° 59.9 N	41° 26.9	14.5	29.9	7.9	6													

2014 August 26, 27, 28 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical	Civil		26	27		28		
26 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							N 72°	-	01:48	03:35	05:24	06:59	08:34			
	334° 10'.1	194° 38'.7	16° 39'.9 N	109° 13'.3	18° 22'.8 S	202° 42'.7	18° 27'.8 N	108° 19'.9	15° 04'.2 S	123° 22'.2	04'.2	124° 14'.2	23'.3	Acamar	315° 17'.6	40° 14'.6 S	179° 30'.5	10° 30'.6 N	176° 36'.5	15.0	5° 38'.1 N	9.2	54.1	N 70°	-	02:29	03:53	05:31	07:00	08:29		
	349° 12'.6	209° 38'.1	39.0	124° 14'.2	23'.3	217° 44'.6	27'.6	123° 22'.2	04'.2	124° 14'.2	23'.3	217° 44'.6	27'.6	Achernar	335° 25'.9	57° 09'.5 S	194° 30'.7	29.7	191° 10'.5	15.1	28.9	9.0	68°	-	02:56	04:07	05:37	07:00	08:25			
	4° 15'.1	224° 37'.5	38.1	139° 15'.1	23'.7	232° 46'.6	27'.5	138° 24'.5	04'.3	139° 15'.1	23'.7	232° 46'.6	27'.5	Acruz	173° 08'.8	63° 10'.9 S	209° 30'.9	28.8	205° 44'.6	15.0	19.8	9.2	66°	01:33	03:16	04:18	05:41	07:01	08:22			
	19° 17'.5	239° 36'.8	37.3	154° 16'.0	24'.2	247° 48'.5	27'.4	153° 26'.8	04'.3	154° 16'.0	24'.2	247° 48'.5	27'.4	Adhara	255° 12'.1	28° 59'.5 S	224° 31'.0	28.0	220° 18'.6	15.1	10.6	9.2	64°	02:10	03:32	04:28	05:45	07:02	08:19			
	34° 20'.0	254° 36'.2	36.4	169° 16'.9	24.7	262° 50'.4	27.2	168° 29'.2	04.4	169° 16'.9	24.7	262° 50'.4	27.2	Aldebaran	290° 48'.4	16° 32'.2 N	239° 31'.2	27.1	234° 52'.7	15.0	01.4	9.2	62°	02:35	03:45	04:36	05:48	07:02	08:17			
	49° 22'.4	269° 35'.6	35.6	184° 17'.8	25.1	277° 52'.3	27.1	183° 31'.5	04.4	184° 17'.8	25.1	277° 52'.3	27.1				254° 31'.4	26.2	249° 26'.7	15.1	4° 52'.2 N	9.3	60°	02:54	03:56	04:43	05:51	07:03	08:15			
	64° 24'.9	284° 35'.0	34.7	199° 18'.7	25.6	292° 54'.3	27.0	198° 33'.8	04.5	199° 18'.7	25.6	292° 54'.3	27.0	Alioth	166° 20'.5	55° 53'.1 N	269° 31'.6	25.3	264° 00'.8	15.1	42.9	9.2	N 58°	03:09	04:05	04:49	05:54	07:03	08:13			
	79° 27'.4	299° 34'.4	33.8	214° 19'.6	26.0	307° 56'.2	26.8	213° 36'.2	04.5	214° 19'.6	26.0	307° 56'.2	26.8	Alkaid	152° 58'.6	49° 14'.7 N	284° 31'.7	24.5	278° 34'.9	15.1	33.7	9.3	56°	03:22	04:14	04:54	05:56	07:03	08:11			
	94° 29'.8	314° 33'.7	33.0	229° 20'.5	26.5	322° 58'.1	26.7	228° 38'.5	04.6	229° 20'.5	26.5	322° 58'.1	26.7	Alnair	27° 42'.3	46° 53'.2 S	299° 31'.9	23.6	293° 09'.0	15.1	24.4	9.3	54°	03:33	04:21	04:59	05:58	07:04	08:10			
	109° 32'.3	329° 33'.1	32.1	244° 21'.4	26.9	338° 00'.0	26.6	243° 40'.8	04.6	244° 21'.4	26.9	338° 00'.0	26.6	Alnilam	275° 45'.6	1° 11'.6 S	314° 32'.1	22.7	307° 43'.1	15.1	15.1	9.3	52°	03:42	04:27	05:03	06:00	07:04	08:08			
	124° 34'.8	344° 32'.5	31.3	259° 22'.2	27.4	353° 01'.9	26.4	258° 43'.1	04.7	259° 22'.2	27.4	353° 01'.9	26.4	Alphard	217° 55'.6	8° 43'.4 S	329° 32'.3	21.9	322° 17'.2	15.1	05.8	9.4	50°	03:51	04:33	05:07	06:02	07:04	08:07			
	139° 37'.2	359° 31'.9	30.4	274° 23'.1	27.9	8° 03'.9	26.3	273° 45'.5	04.7	274° 23'.1	27.9	8° 03'.9	26.3				344° 32'.5	21.0	336° 51'.3	15.1	3° 56'.4 N	9.3	54.2	45°	04:08	04:45	05:16	06:06	07:05	08:04		
	154° 39'.7	14° 31'.3	16° 29'.5 N	289° 24'.0	18° 28'.3 S	23° 05'.8	18° 26'.1 N	288° 47'.8	15° 04'.8 S	154° 39'.7	14° 31'.3	16° 29'.5 N	289° 24'.0	18° 28'.3 S	Alphecca	126° 10'.4	26° 40'.3 N	359° 32'.6	10° 20'.1 N	351° 25'.4	15.1	3° 47'.1 N	9.4	54.2	N 40°	04:21	04:55	05:23	06:09	07:05	08:02	
	169° 42'.2	29° 30'.7	28.7	304° 24'.9	28.8	38° 07'.7	26.0	303° 50'.1	04.8	169° 42'.2	29° 30'.7	28.7	304° 24'.9	28.8	Alpheratz	357° 42'.3	29° 10'.4 N	14° 32'.8	19.3	5° 59'.5	15.1	37.7	9.4	35°	04:32	05:03	05:29	06:12	07:06	08:00		
	184° 44'.6	44° 30'.0	27.8	319° 25'.8	29.2	53° 09'.7	25.9	318° 52'.4	04.9	184° 44'.6	44° 30'.0	27.8	319° 25'.8	29.2	Altair	62° 07'.2	8° 54'.8 N	29° 33'.0	18.4	20° 33'.6	15.1	28.3	9.4	30°	04:41	05:10	05:34	06:14	07:06	07:59		
	199° 47'.1	59° 29'.4	26.9	334° 26'.7	29.7	68° 11'.6	25.7	333° 54'.8	04.9	199° 47'.1	59° 29'.4	26.9	334° 26'.7	29.7	Ankaa	353° 14'.6	42° 13'.4 S	44° 33'.2	17.5	35° 07'.7	15.1	18.9	9.5	20°	04:54	05:21	05:43	06:18	07:07	07:56		
	214° 49'.6	74° 28'.8	26.1	349° 27'.6	30.1	83° 13'.5	25.6	348° 57'.1	04.9	214° 49'.6	74° 28'.8	26.1	349° 27'.6	30.1	Antares	112° 25'.2	26° 27'.7 S	59° 33'.3	16.6	49° 41'.8	15.1	09.4	9.4	N 10°	05:05	05:30	05:51	06:22	07:07	07:53		
	229° 52'.0	89° 28'.2	25.2	4° 28'.5	30.6	98° 15'.4	25.5	3° 59'.4	05.0	229° 52'.0	89° 28'.2	25.2	4° 28'.5	30.6			74° 33'.5	15.8	64° 15'.9	15.1	00.0	9.5	0°	05:13	05:37	05:58	06:25	07:08	07:51			
	244° 54'.5	104° 27'.6	24.3	19° 29'.4	31'.1	113° 17'.4	25.3	19° 01'.7	05.0	244° 54'.5	104° 27'.6	24.3	19° 29'.4	31'.1	Arcturus	145° 55'.1	19° 06'.6 N	89° 33'.7	14.9	78° 50'.0	15.1	2° 50'.5 N	9.4	S 10°	05:19	05:44	06:05	06:28	07:08	07:48		
	259° 56'.9	119° 27'.0	23.5	34° 30'.3	31.5	128° 19'.3	25.2	34° 04'.1	05.1	259° 56'.9	119° 27'.0	23.5	34° 30'.3	31.5	Atria	107° 26'.1	69° 03'.3 S	104° 33'.9	14.0	93° 24'.1	15.1	41.1	9.5	20°	05:25	05:51	06:13	06:32	07:09	07:46		
	274° 59'.4	134° 26'.4	22.6	49° 31'.2	32.0	143° 21'.2	25.1	49° 06'.4	05.1	274° 59'.4	134° 26'.4	22.6	49° 31'.2	32.0	Avia	234° 18'.2	59° 33'.4 S	119° 34'.0	13.2	107° 58'.2	15.1	31.6	9.5	30°	05:29	05:57	06:21	06:36	07:10	07:43		
	290° 01'.9	149° 25'.7	21.7	64° 32'.1	32.4	158° 23'.1	24.9	64° 08'.7	05.2	290° 01'.9	149° 25'.7	21.7	64° 32'.1	32.4	Bellatrix	278° 31'.2	6° 21'.7 N	134° 34'.2	12.3	122° 32'.3	15.1	22.1	9.5	35°	05:31	06:00	06:26	06:38	07:10	07:42		
305° 04'.3	164° 25'.1	20.9	79° 32'.9	32.9	173° 25'.1	24.8	79° 11'.0	05.2	305° 04'.3	164° 25'.1	20.9	79° 32'.9	32.9	Betelgeuse	271° 00'.5	7° 24'.5 N	149° 34'.4	11.4	137° 06'.4	15.1	12.6	9.5	54.3	40°	05:33	06:04	06:31	06:41	07:10	07:40		
320° 06'.8	179° 24'.5	20.0	94° 33'.8	33.3	188° 27'.0	24.7	94° 13'.4	05.3	320° 06'.8	179° 24'.5	20.0	94° 33'.8	33.3			164° 34.6	10.5	151° 40.5	15.1	03.1	9.6	45°	05:34	06:08	06:38	06:44	07:11	07:38				
27 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							S 50°	05:35	06:12	06:45	06:48	07:12	07:35			
	335° 09'.3	194° 23'.9	16° 19'.1 N	109° 34'.7	18° 33'.8 S	203° 28'.9	18° 24'.5 N	109° 15'.7	15° 05'.3 S	335° 09'.3	194° 23'.9	16° 19'.1 N	109° 34'.7	18° 33'.8 S	Canopus	263° 56'.1	52° 42'.1 S	179° 34'.8	10° 09'.7 N	166° 14'.6	15.1	1° 53'.5 N	9.5	54.3	S 50°	05:35	06:12	06:45	06:48	07:12	07:35	
	350° 11'.7	209° 23'.3	18.2	124° 35'.6	34.2	218° 30'.8	24.4	124° 18'.0	05.4	350° 11'.7	209° 23'.3	18.2	124° 35'.6	34.2	Capella	280° 33'.3	46° 00'.4 N	194° 34'.9	08.8	180° 48'.7	15.1	44.0	9.6	52°	05:35	06:14	06:48	06:50	07:12	07:34		
	5° 14'.2	224° 22'.7	17.4	139° 36'.5	34.7	233° 32'.8	24.3	139° 20'.3	05.4	5° 14'.2	224° 22'.7	17.4	139° 36'.5	34.7	Deneb	49° 30'.4	45° 20'.3 N	209° 35'.1	07.9	195° 22'.8	15.1	34.4	9.5	54°	05:35	06:16	06:52	06:51	07:12	07:33		
	20° 16'.7	239° 22'.1	16.5	154° 37'.4	35.2	248° 34'.7	24.1	154° 22'.0	05.5	20° 16'.7	239° 22'.1	16.5	154° 37'.4	35.2	Denebola	182° 33'.1	14° 29'.5 S	224° 35'.3	07.0	209° 56'.9	15.1	24.9	9.6	56°	05:35	06:18	06:56	06:53	07:13	07:32		
	35° 19'.1	254° 21'.5	15.6	169° 38'.3	35.6	263° 36'.6	24.0	169° 25'.6	05.5	35° 19'.1	254° 21'.5	15.6	169° 38'.3	35.6	Diphda	348° 54'.8	17° 54'.2 S	239° 35'.5	06.2	224° 31'.0	15.0	15.3	9.6	58°	05:35	06:21	07:01	06:56	07:13	07:30		
	50° 21'.6	269° 20'.9	14.7	184° 39'.1	36.1	278° 38'.5	23.9	184° 27'.3	05.6	50° 21'.6	269° 20'.9	14.7	184° 39'.1	36.1			254° 35'.6	05.3	239° 05'.0	15.1	05.7	9.6	S 60°	05:35	06:23	07:06	06:58	07:13	07:29			
	65° 24'.0	284° 20'.3	13.9	199° 40'.0	36.5	293° 40'.5	23.7	199° 29'.6	05.6	65° 24'.0	284° 20'.3	13.9	199° 40'.0	36.5	Dubhe	193° 51'.5	61° 40'.3 N	269° 35'.8	04.4	253° 39'.1	15.0	0° 56'.1 N	9.6	S 62°	05:35	06:26	07:12	07:01	07:14	07:27		
	80° 26'.5	299° 19'.6	13.0	214° 40'.9	37.0	308° 42'.4	23.6	214																								

2014 August 29, 30, 31 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise		Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	02:15	03:51	10:12	11:54	13:43					
29	00	337° 07.5	193° 55.1	15° 36.3 N	110° 16.8	18° 55.5 S	205° 01.5	18° 18.0 N	111° 07.0	15° 07.7 S	Acamar	315° 17.6	40° 14.6 S	179° 43.5	9° 27.4 N	145° 15.7	14.2	5° 45.1 S	9.4	54.9	N 70°	-	02:47	04:06	10:01	11:35	13:12						
	01	352° 10.0	208° 54.5	35.4	125° 17.7	55.9	220° 03.4	17.9	126° 09.4	07.8	Achernar	335° 25.9	57° 09.5 S	194° 43.7	26.5	159° 48.9	14.2	54.5	9.3	55.0	68°	01:08	03:10	04:18	09:51	11:19	12:49						
	02	7° 12.5	223° 53.9	34.4	140° 18.6	56.4	235° 05.3	17.8	141° 11.7	07.9	Acruz	173° 08.8	63° 10.9 S	209° 43.9	25.6	174° 22.1	14.1	6° 03.8 S	9.2		66°	01:56	03:28	04:28	09:44	11:07	12:31						
	03	22° 14.9	238° 53.3	33.5	155° 19.4	56.8	250° 07.3	17.6	156° 14.0	07.9	Adhara	255° 12.1	28° 59.5 S	224° 44.1	24.7	188° 55.2	14.1	13.0	9.3		64°	02:25	03:42	04:36	09:38	10:57	12:17						
	04	37° 17.4	253° 52.7	32.6	170° 20.3	57.3	265° 09.2	17.5	171° 16.3	08.0	Aldebaran	290° 48.4	16° 32.2 N	239° 44.2	23.8	203° 28.3	14.1	22.3	9.2		62°	02:47	03:54	04:44	09:32	10:48	12:05						
	05	52° 19.9	268° 52.1	31.7	185° 21.2	57.7	280° 11.1	17.4	186° 18.6	08.0		196° 20.5	55° 53.0 N	254° 44.4	23.0	218° 01.4	14.0	31.5	9.2		60°	03:04	04:04	04:50	09:27	10:41	11:55						
	06	67° 22.3	283° 51.5	30.8	200° 22.0	58.2	295° 13.0	17.2	201° 20.9	08.1	Alioth	260° 20.5	55° 53.0 N	269° 44.6	22.1	232° 34.4	14.0	40.7	9.2		N 58°	03:18	04:13	04:55	09:23	10:35	11:46						
	07	82° 24.8	298° 50.9	29.9	215° 22.9	58.6	310° 15.0	17.1	216° 23.3	08.1	Alkaid	152° 58.6	49° 14.7 N	284° 44.8	21.2	247° 07.4	14.0	49.9	9.2	55.1	56°	03:30	04:20	05:00	09:20	10:29	11:38						
	08	97° 27.3	313° 50.3	29.0	230° 23.8	59.0	325° 16.9	17.0	231° 25.6	08.2		27° 42.3	46° 53.2 S	299° 45.0	20.3	261° 40.4	13.9	59.1	9.1		54°	03:40	04:27	05:04	09:16	10:24	11:32						
	09	112° 29.7	328° 49.7	28.0	245° 24.6	59.5	340° 18.8	16.8	246° 27.9	08.2	Alnilam	275° 45.6	1° 11.6 S	314° 45.2	19.4	276° 13.3	13.9	7° 08.2 S	9.1		52°	03:48	04:33	05:08	09:13	10:19	11:25						
	10	127° 32.2	343° 49.2	27.1	260° 25.5	59.9	355° 20.8	16.7	261° 30.2	08.3	Alphard	217° 55.6	8° 43.4 S	329° 45.4	18.5	290° 46.2	13.9	17.3	9.1		50°	03:56	04:38	05:12	09:11	10:15	11:20						
	11	142° 34.6	358° 48.6	26.2	275° 26.4	59.0 S	10° 22.7	16.6	276° 32.5	08.3		290° 45.6	17.6	344° 45.6	17.6	305° 19.1	13.8	26.4	9.1		45°	04:12	04:49	05:19	09:05	10:06	11:08						
	12	157° 37.1	13° 48.0	15° 25.3 N	290° 27.2	19° 00.8 S	25° 24.6	18° 16.4 N	291° 34.8	15° 08.4 S	Alphecca	126° 10.4	26° 40.3 N	359° 45.7	9° 16.7 N	319° 51.9	13.8	7° 35.5 S	9.0	55.2	N 40°	04:24	04:58	05:26	09:00	09:58	10:58						
	13	172° 39.6	28° 47.4	24.4	305° 28.1	01.3	40° 26.6	16.3	306° 37.1	08.4	Alpheratz	357° 42.3	29° 10.4 N	14° 45.9	15.8	334° 24.7	13.7	44.5	9.0		35°	04:34	05:05	05:31	08:56	09:52	10:50						
	14	187° 42.0	43° 46.8	23.4	320° 28.9	01.7	55° 28.5	16.2	321° 39.5	08.5	Altair	62° 07.2	8° 54.8 N	29° 46.1	15.0	348° 57.4	13.7	53.5	9.0		30°	04:42	05:11	05:36	08:52	09:46	10:42						
	15	202° 44.5	58° 46.2	22.5	335° 29.8	02.2	70° 30.4	16.0	336° 41.8	08.5	Ankaa	353° 14.6	42° 13.4 S	44° 46.3	14.1	3° 30.1	13.6	8° 02.5 S	8.9		20°	04:55	05:21	05:44	08:46	09:37	10:29						
	16	217° 47.0	73° 45.6	21.6	350° 30.7	02.6	85° 32.4	15.9	351° 44.1	08.6	Antares	112° 25.2	26° 27.7 S	59° 46.5	13.2	18° 02.7	13.6	11.4	8.9		N 10°	05:05	05:30	05:51	08:40	09:28	10:18						
	17	232° 49.4	88° 45.1	20.7	5° 31.5	03.1	100° 34.3	15.8	6° 46.4	08.6		74° 46.7	13.3	74° 46.7	13.3	32° 35.3	13.6	20.3	8.9	55.3	0°	05:12	05:36	05:57	08:35	09:20	10:08						
	18	247° 51.9	103° 44.5	19.7	20° 32.4	03.5	115° 36.2	15.6	21° 48.7	08.7	Arcturus	145° 55.2	19° 06.6 N	89° 46.9	11.4	47° 07.9	13.5	29.2	8.8		S 10°	05:18	05:42	06:04	08:30	09:12	09:58						
	19	262° 54.4	118° 43.9	18.8	35° 33.2	04.0	130° 38.2	15.5	36° 51.0	08.7	Atria	107° 26.1	69° 03.3 S	104° 47.1	10.5	61° 40.4	13.5	38.0	8.9		20°	05:22	05:48	06:10	08:24	09:04	09:47						
	20	277° 56.8	133° 43.3	17.9	50° 34.1	04.4	145° 40.1	15.3	51° 53.3	08.8	Avior	234° 18.2	59° 33.4 S	119° 47.3	09.6	76° 12.9	13.5	46.8	8.9		30°	05:26	05:54	06:18	08:18	08:55	09:34						
	21	292° 59.3	148° 42.7	17.0	65° 35.0	04.8	160° 42.0	15.2	66° 55.7	08.8	Bellatrix	278° 31.2	6° 21.7 N	134° 47.4	08.7	90° 45.4	13.3	55.6	8.8		35°	05:27	05:57	06:22	08:14	08:49	09:27						
	22	308° 01.7	163° 42.1	16.0	80° 35.8	05.3	175° 44.0	15.1	81° 58.0	08.9	Betelgeuse	271° 00.5	7° 24.5 S	149° 47.6	07.8	105° 17.7	13.4	9° 04.4 S	8.7	55.4	40°	05:28	06:00	06:27	08:10	08:43	09:19						
23	323° 04.2	178° 41.6	15.1	95° 36.7	05.7	190° 45.9	14.9	97° 00.3	08.9		164° 47.8	06.9	119° 50.1	13.3	13.1	8.7			45°	05:29	06:03	06:32	08:06	08:36	09:10								
30	00	338° 06.7	193° 41.0	15° 14.2 N	110° 37.5	19° 06.2 S	205° 47.8	18° 14.8 N	112° 02.6	15° 09.0 S	Canopus	263° 56.0	52° 42.1 S	179° 48.0	9° 06.0 N	134° 22.4	13.3	9° 21.8 S	8.6	55.4	S 50°	05:29	06:06	06:39	08:00	08:28	08:58						
	01	353° 09.1	208° 40.4	13.2	125° 38.4	06.6	220° 49.8	14.7	127° 04.9	09.0	Capella	280° 33.3	46° 00.4 N	194° 48.2	05.1	148° 54.7	13.2	30.4	8.6		52°	05:29	06:08	06:42	07:58	08:24	08:53						
	02	8° 11.6	223° 39.8	12.3	140° 39.3	07.1	235° 51.7	14.5	142° 07.9	09.1	Deneb	49° 30.5	45° 20.3 N	209° 48.4	04.2	168° 57.9	13.1	39.0	8.6		54°	05:29	06:09	06:45	07:55	08:19	08:47						
	03	23° 14.1	238° 39.2	11.4	155° 40.1	07.5	250° 53.6	14.4	157° 09.5	09.1	Denebola	182° 33.1	14° 29.5 S	224° 48.6	03.4	177° 59.0	13.1	47.6	8.5	55.5	56°	05:28	06:11	06:49	07:52	08:15	08:41						
	04	38° 16.5	253° 38.7	10.5	170° 41.0	08.0	265° 55.6	14.3	172° 11.9	09.2	Diphda	348° 54.8	17° 54.2 S	239° 48.8	02.5	192° 31.1	13.1	56.1	8.5		58°	05:28	06:13	06:53	07:49	08:09	08:34						
	05	53° 19.0	268° 38.1	09.5	185° 41.8	08.4	280° 57.5	14.1	187° 14.2	09.2		254° 49.0	01.6	207° 03.2	13.0	10° 04.6 S	8.4				S 60°	05:27	06:15	06:57	07:45	08:03	08:26						
	06	68° 21.5	283° 37.5	08.6	200° 42.7	08.8	295° 59.4	14.0	202° 16.5	09.3	Dubhe	193° 51.5	61° 40.3 N	269° 49.2	00.7	221° 35.2	13.0	13.0	8.4		S 62°	05:26	06:17	07:03	07:41	07:57	08:17						
	07	83° 23.9	298° 36.9	07.7	215° 43.5	09.3	311° 01.4	13.9	217° 18.8	09.3	Elinath	278° 11.7	28° 36.9 N	284° 49.3	8° 59.8 S	236° 07.2	12.9	21.4	8.3	55.6													
	08	98° 26.4	313° 36.3	06.7	230° 44.4	09.7	326° 03.3	13.7	232° 21.1	09.4	Eltanin	90° 45.5	51° 29.7 N	299° 49.5	58.9	250° 39.1	12.9	29.7	8.4														
	09	113° 28.9	328° 35.8	05.8	245° 45.2	10.2	341° 05.2	13.6	247° 23.4	09.5	Enif	13° 46.7	9° 56.8 N	314° 49.7	58.0	265° 11.0	12.8	38.1	8.2														
	10	128° 31.3	343° 35.2	04.8	260° 46.1	10.6	356° 07.2	13.5	262° 25.7	09.5	Fomalhaut	35° 22.0	29° 32.4 S	329° 49.9	57.1	279° 42.8	12.8	46.3	8.3														
	11	143° 33.8	358° 34.6	03.9	275° 46.9	11.1	11° 09.1	13.3	277° 28.0	09.6		344° 50.1	56.2	294° 14.6	12.7	54.6	8.1			55.7	N 72°	20:07	21:40	-	19:00	18:53	18:44						
	12	158° 36.2	13° 34.0	15° 03.0 N	290° 47.8	19° 11.5 S	26° 11.0	18° 13.2 N	292° 30.3	15° 09.6 S	Gacrux	172° 00.3	57° 11.8 S	359° 50.3	8° 55.3 N	308° 46.3	12.6	11° 02.7 S	8.2	55.7	N 70°	19:52	21:09	-	19:13	19:14	19:16						
	13	173° 38.7	28° 33.5	02.0	305° 48.6	11.9	41° 13.0	13.0	307° 32.7	09.7	Giennah	175° 51.7	17° 37.4 S	14° 50.5	54.4	323° 17.9	12.7	10.9	8.1		68°	19:41	20:47	22:43	19:24								

2014 September 1, 2, 3 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	1		2	3	
M o n d a y	00	340° 05.0	193° 13.5	14° 28.7 N	111° 18.2	19° 27.3 S	207° 20.7	18° 08.3 N	113° 53.5	15° 11.5 S	Acamar	315° 17.6	40° 14.6 S	179° 57.3	8° 22.9 N	111° 09.9	10.5	15° 20.8 S	6.0	56.6	N 72°	-	02:37	04:06	15:44	-	-				
	01	355° 07.4	208° 13.0	27.8	126° 19.1	27.7	222° 22.6	08.2	128° 55.8	11.6	Achernar	335° 25.8	57° 09.5 S	194° 57.5	22.0	125° 39.4	10.4	26.8	5.9	56.7	68°	01:39	03:24	04:29	14:18	15:40	16:45				
	02	10° 09.9	223° 12.4	26.8	141° 19.9	28.2	237° 24.6	08.0	143° 58.1	11.6	Acruz	173° 08.9	63° 10.9 S	209° 57.7	21.1	140° 08.8	10.4	32.7	5.8	66°	66°	02:15	03:40	04:38	13:54	15:10	16:14				
	03	25° 12.3	238° 11.9	25.8	156° 20.7	28.6	252° 26.5	07.9	159° 00.4	11.7	Adhara	255° 12.1	28° 59.5 S	224° 57.9	20.2	154° 38.2	10.3	38.5	5.7	64°	64°	02:40	03:52	04:45	13:35	14:48	15:50				
	04	40° 14.8	253° 11.3	24.9	171° 21.6	29.0	267° 28.4	07.8	179° 02.7	11.7	Aldebaran	290° 48.4	16° 32.2 N	239° 58.1	19.3	169° 07.5	10.3	44.2	5.7	56.8	62°	02:59	04:03	04:51	13:20	14:31	15:32				
	05	55° 17.3	268° 10.7	23.9	186° 22.4	29.5	282° 30.4	07.6	189° 05.0	11.8		196° 07.0		254° 58.3	18.4	183° 36.8	10.2	49.9	5.5	60°	60°	03:14	04:12	04:57	13:07	14:16	15:17				
	06	70° 19.7	283° 10.2	22.9	201° 23.2	29.9	297° 32.3	07.5	204° 07.3	11.8	Alioth	260° 20.5	55° 53.0 N	269° 58.5	17.5	198° 06.0	10.1	55.4	5.5	58°	58°	03:27	04:20	05:02	12:57	14:03	15:04				
	07	85° 22.2	298° 09.6	22.0	216° 24.1	30.4	312° 34.3	07.4	219° 09.6	11.9	Alkaid	152° 58.6	49° 14.7 N	284° 58.7	16.5	212° 35.1	10.1	16° 00.9 S	5.5	56°	56°	03:37	04:27	05:06	12:47	13:53	14:53				
	08	100° 24.7	313° 09.1	21.0	231° 24.9	30.8	327° 36.2	07.2	234° 11.9	11.9	Alnair	27° 42.3	46° 53.2 S	299° 58.9	15.6	227° 04.2	10.0	06.4	5.3	56.9	54°	03:46	04:33	05:10	12:39	13:43	14:43				
	09	115° 27.1	328° 08.5	20.0	246° 25.8	31.2	342° 38.1	07.1	249° 14.2	12.0	Anilam	275° 45.6	1° 11.6 S	314° 59.1	14.7	241° 33.2	9.9	11.7	5.3	52°	52°	03:55	04:38	05:13	12:31	13:35	14:34				
	10	130° 29.6	343° 07.9	19.1	261° 26.6	31.7	357° 40.1	07.0	264° 16.5	12.0	Alphard	217° 55.6	8° 43.4 S	329° 59.3	13.8	256° 02.1	9.8	17.0	5.1	50°	50°	04:02	04:43	05:16	12:24	13:27	14:26				
	11	145° 32.1	358° 07.4	18.1	276° 27.4	32.1	12° 42.0	06.8	279° 18.8	12.1		190° 07.0		344° 59.5	12.9	270° 30.9	9.8	22.1	5.1	57.0	45°	04:16	04:53	05:23	12:10	13:11	14:09				
	12	160° 34.5	313° 06.8	14° 17.1 N	291° 28.3	19° 32.5 S	27° 43.9	18° 06.7 N	294° 21.1	15° 12.2 S	Alphecca	126° 10.4	26° 40.3 N	359° 59.7	8° 12.0 N	284° 59.7	9.8	16° 27.2 S	5.0	57.0	N 40°	04:28	05:01	05:29	11:58	12:58	13:56				
	13	175° 37.0	28° 06.3	16.1	306° 29.1	33.0	42° 45.9	06.6	309° 23.4	12.2	Alpheratz	357° 42.3	29° 10.4 N	14° 59.9	11.1	299° 28.5	9.6	32.2	5.0	35°	35°	04:37	05:07	05:33	11:48	12:46	13:44				
	14	190° 39.4	43° 05.7	15.2	321° 29.9	33.4	57° 47.8	06.4	324° 25.7	12.3	Altair	62° 07.2	8° 54.8 N	30° 00.1	10.2	313° 57.1	9.6	37.2	4.8	57.1	30°	04:44	05:13	05:37	11:39	12:37	13:34				
	15	205° 41.9	58° 05.2	14.2	336° 30.8	33.8	72° 49.8	06.3	339° 28.1	12.3	Ankaa	353° 14.6	42° 13.4 S	45° 00.3	09.3	328° 25.7	9.6	42.0	4.7	20°	20°	04:56	05:22	05:45	11:24	12:20	13:16				
	16	220° 44.4	73° 04.6	13.2	351° 31.6	34.3	87° 51.7	06.2	354° 30.4	12.4	Antares	112° 25.2	26° 27.7 S	60° 00.5	08.4	342° 54.3	9.5	46.7	4.7	10°	10°	05:05	05:30	05:51	11:11	12:05	13:01				
	17	235° 46.8	88° 04.0	12.2	6° 32.4	34.7	102° 53.6	06.0	9° 32.7	12.4		175° 00.7	07.5	357° 22.8	9.4	51.4	4.6	57.2	0°	0°	05:11	05:36	05:56	10:58	11:51	12:47					
	18	250° 49.3	103° 03.5	11.3	21° 33.2	35.1	117° 55.6	05.9	24° 35.0	12.5	Arcturus	145° 55.2	19° 06.6 N	90° 00.9	06.6	11° 51.2	9.3	56.0	4.5	S 10°	S 10°	05:16	05:41	06:02	10:46	11:38	12:33				
	19	265° 51.8	118° 02.9	10.3	36° 34.1	35.6	132° 57.5	05.8	39° 37.3	12.5	Atria	107° 26.2	69° 03.3 S	105° 01.1	05.7	26° 19.5	9.3	17° 00.5 S	4.4	20°	20°	05:20	05:46	06:08	10:33	11:23	12:18				
	20	280° 54.2	133° 02.4	09.3	51° 34.9	36.0	147° 59.5	05.6	54° 39.6	12.6	Avior	234° 18.1	59° 33.3 S	120° 01.3	04.7	40° 47.8	9.2	04.9	3.4	57.3	30°	05:23	05:50	06:14	10:18	11:07	12:01				
	21	295° 56.7	148° 01.8	08.3	66° 35.7	36.4	163° 01.4	05.5	69° 41.9	12.6	Bellatrix	278° 31.2	6° 21.7 N	135° 01.5	03.8	55° 16.0	9.1	09.2	4.2	35°	35°	05:23	05:53	06:18	10:10	10:57	11:50				
	22	310° 59.2	163° 01.3	07.4	81° 36.6	36.9	178° 03.3	05.3	84° 44.2	12.7	Betelgeuse	271° 00.5	7° 24.5 N	150° 01.7	02.9	69° 44.1	9.1	13.4	4.1	40°	40°	05:24	05:55	06:22	10:00	10:46	11:39				
23	326° 01.6	178° 00.7	06.4	96° 37.4	37.3	193° 05.3	05.2	99° 46.5	12.7		165° 01.9	02.0	84° 12.2	9.0	17.5	4.0	57.4	45°	45°	05:24	05:58	06:27	09:48	10:33	11:26						
T u e s d a y	00	341° 04.1	193° 00.2	14° 05.4 N	111° 38.2	19° 37.7 S	208° 07.2	18° 05.1 N	114° 48.8	15° 12.8 S	Canopus	263° 56.0	52° 42.1 S	180° 02.1	8° 01.1 N	98° 40.2	9.0	17° 21.5 S	4.0	57.4	S 50°	05:23	06:00	06:33	09:35	10:18	11:09				
	01	356° 06.6	207° 59.6	04.4	126° 39.1	38.2	223° 09.2	04.9	129° 51.1	12.9	Capella	280° 33.3	46° 00.4 N	195° 02.3	00.2	113° 08.2	8.9	25.5	3.8	52°	52°	05:22	06:01	06:35	09:28	10:10	11:01				
	02	11° 09.0	222° 59.1	03.4	141° 39.9	38.6	238° 11.1	04.8	144° 53.4	12.9	Deneb	49° 30.5	45° 20.3 S	210° 02.5	7° 59.2 N	127° 36.1	8.8	29.3	3.7	57.5	54°	05:22	06:03	06:38	09:21	10:02	10:53				
	03	26° 11.5	237° 58.5	02.5	156° 40.7	39.0	253° 13.0	04.7	159° 55.7	13.0	Denebola	182° 33.1	14° 29.5 S	225° 02.7	58.4	142° 03.9	8.8	33.0	3.7	56°	56°	05:21	06:04	06:41	09:13	09:53	10:43				
	04	41° 13.9	252° 58.0	01.5	171° 41.5	39.4	268° 15.0	04.5	174° 58.0	13.0	Diphda	348° 54.8	17° 54.2 S	240° 02.9	57.5	156° 31.7	8.7	36.7	3.5	58°	58°	05:20	06:05	06:45	09:04	09:43	10:33				
	05	56° 16.4	267° 57.4	00.5	186° 42.4	39.9	283° 16.9	04.4	190° 00.3	13.1		255° 03.1	56.6	170° 59.4	8.6	40.2	3.5	57.6	S 60°	S 60°	05:19	06:07	06:49	08:54	09:31	10:20					
	06	71° 18.9	282° 56.9	13° 59.5 S	201° 43.2	40.3	298° 18.9	04.3	205° 02.6	13.1	Dubhe	193° 51.5	61° 40.3 N	270° 03.3	55.6	185° 27.0	8.6	43.7	3.3	S 62°	S 62°	05:17	06:08	06:53	08:42	09:17	10:05				
	07	86° 21.3	297° 56.3	58.5	216° 44.0	40.7	313° 20.8	04.1	220° 04.9	13.2	Elmath	278° 11.6	28° 36.9 N	285° 03.5	54.7	199° 54.6	8.5	47.0	3.3												
	08	101° 23.8	312° 55.8	57.5	231° 44.8	41.2	328° 22.7	04.0	235° 07.2	13.2	Eltanin	90° 45.6	51° 29.7 N	300° 03.7	53.8	214° 22.1	8.5	50.3	3.1	57.7											
	09	116° 26.3	327° 55.2	56.6	246° 45.7	41.6	343° 24.7	03.9	250° 09.5	13.2	Enif	135° 46.0	9° 56.8 N	315° 03.9	52.9	228° 49.6	8.4	53.4	3.1												
	10	131° 28.7	342° 54.7	55.6	261° 46.5	42.0	358° 26.6	03.7	265° 11.8	13.3	Fomalhaut	33° 22.0	29° 32.4 S	330° 04.1	52.0	243° 17.0	8.3	56.5	2.9												
	11	146° 31.2	357° 54.1	54.6	276° 47.3	42.5	13° 28.6	03.6	280° 14.1	13.4		345° 04.3	51.1	257° 44.3	8.3	59.4	2.9	57.8	N 72°	N 72°	19:50	21:16	-	18:29	-	-	-				
	12	161° 33.7	12° 53.6	13° 53.6 N	291° 48.1	19° 42.9 S	28° 30.5	18° 03.5 N	295° 16.4	15° 13.5 S	Gacrux	172° 00.4	57° 11.8 S	0° 04.5	7° 50.2 N	272° 11.6	8.2	18° 02.3 S	2.7	57.8	N 70°	19:38	20:51	23:17	19:23	19:41	20:29				
	13	176° 36.1	27° 53.0	52.6	306° 49.0	43.3	43° 32.4	03.3	310° 18.7	13.5	Giennah	175° 51.7	17° 37.4 S	15° 04.7	49.3	286° 38.8	8.1	05.0	2.7	68°	68°	19:28	20:32	22:13	19:57	20:26	21:18				
	14	191° 38.6	42° 52.5	51.6	321° 49.8	43.7	58° 34.4	03.2	325° 21.1	13.6	Hadar	148° 47.0	60° 26.7 S	30° 04.9	48.3	301° 05.9	8.1	07.7	2.5	57.9	66°	19:19	20:17	21:40	20:21	20:56	21:49				
	15	206° 41.1	57° 51.9	50.6	336° 50.6	44.2	73° 36.3	03.0	340° 23.3	13.6	Hamal	327° 59.6	23° 31.9 N	45° 05.1	47.4	315° 33.0	8.0	10.2	2.4	64°	64°	19:12	20:04	21:16	20:40	21:18	22:12				
	16	221° 43.5	72° 51.4	49.6	351° 51.4	44.6	88° 38.3	02.9	355° 25.6	13.7	Kaus Aust.	83° 42.5	34° 22.5 S	60° 05.3	46.5	330° 00.0	8.0	12.6	2.4	62°	62°	19:06	19:54	20:58	20:55						

2014 September 4, 5, 6 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	4		5	6	
Thursday	00	343° 02.4	192° 34.1	13° 17.6 N	112° 17.5	19° 58.2 S	209° 40.4	17° 58.6 N	116° 39.2	15° 15.4 S	131° 41.5	15.5	Acamar	315° 17.5	40° 14.6 S	180° 11.8	7° 17.2 N	71° 57.5	6.4	18° 31.4 S	1.4	59.0	N 72°	-	02:57	04:20	19:29	18:57	18:46		
	01	358° 04.8	207° 33.6	16.6	127° 18.3	58.7	224° 42.4	58.5	131° 41.5	15.5	131° 41.5	15.5	Achernar	335° 25.8	57° 09.5 S	195° 12.0	16.3	86° 22.9	6.4	30.0	1.5	59.1	N 70°	01:15	03:20	04:31	18:06	18:18	18:23		
	02	13° 07.3	222° 33.1	15.5	142° 19.1	59.1	239° 44.3	58.3	146° 43.8	15.6	146° 43.8	15.6	Acruv	173° 08.9	63° 10.9 S	210° 12.2	15.3	100° 48.3	6.4	28.5	1.5	66°	68°	02:03	03:37	04:40	17:27	17:51	18:05		
	03	28° 09.8	237° 32.5	14.5	157° 19.9	59.5	254° 46.3	58.2	161° 46.1	15.6	161° 46.1	15.6	Adhara	255° 12.0	28° 59.5 S	225° 12.4	14.4	115° 13.7	6.3	27.0	1.8	64°	66°	02:53	04:02	04:54	16:38	17:13	17:38		
	04	43° 12.2	252° 32.0	13.5	172° 20.8	59.9	269° 48.2	58.1	176° 48.4	15.7	176° 48.4	15.7	Aldebaran	290° 48.4	16° 32.2 N	240° 12.6	13.5	129° 39.0	6.3	25.2	1.8	59.2	62°	03:10	04:12	04:59	16:21	16:59	17:28		
	05	58° 14.7	267° 31.5	12.5	187° 21.6	20° 00.3 S	284° 50.2	57.9	191° 50.7	15.7	191° 50.7	15.7		196° 20.5	55° 53.0 N	255° 12.8	12.6	144° 04.3	6.3	23.4	2.0	60°	60°	03:23	04:20	05:04	16:07	16:48	17:19		
	06	73° 17.2	282° 30.9	11.5	202° 22.4	00.8	299° 52.1	57.8	206° 53.0	15.8	206° 53.0	15.8	Alioth	260° 20.5	55° 53.0 N	270° 13.0	11.7	158° 29.6	6.3	21.4	2.1	59.3	N 58°	03:35	04:27	05:08	15:55	16:37	17:12		
	07	88° 19.6	297° 30.4	10.5	217° 23.2	01.2	314° 54.0	57.6	221° 55.2	15.8	221° 55.2	15.8	Alkaid	152° 58.6	49° 14.7 N	285° 13.2	10.7	172° 54.9	6.2	19.3	2.2	59.3	56°	03:45	04:33	05:12	15:45	16:28	17:05		
	08	103° 22.1	312° 29.9	09.4	232° 24.0	01.6	329° 56.0	57.5	236° 57.5	15.9	236° 57.5	15.9	Alnair	27° 42.3	46° 53.2 S	300° 13.4	09.8	187° 20.1	6.2	17.1	2.3	54°	54°	03:53	04:38	05:15	15:35	16:21	16:59		
	09	118° 24.5	327° 29.3	08.4	247° 24.8	02.0	344° 57.9	57.4	251° 59.8	15.9	251° 59.8	15.9	Anilam	275° 45.6	1° 11.6 S	315° 13.7	08.9	201° 45.3	6.2	14.8	2.5	52°	52°	04:00	04:43	05:18	15:27	16:13	16:53		
	10	133° 27.0	342° 28.8	07.4	262° 25.6	02.5	359° 59.9	57.2	267° 02.1	16.0	267° 02.1	16.0	Alphard	217° 55.5	8° 43.3 S	330° 13.9	08.0	216° 10.5	6.1	12.3	2.5	59.4	50°	04:07	04:47	05:21	15:20	16:07	16:48		
	11	148° 29.5	357° 28.3	06.4	277° 26.4	02.9	15° 01.8	57.1	282° 04.4	16.1	282° 04.4	16.1		345° 14.1	07.0	230° 35.6	6.1	09.8	2.7			45°	45°	04:20	04:56	05:26	15:04	15:53	16:37		
	12	163° 31.9	12° 27.7	13° 05.4 N	292° 27.2	20° 03.3 S	30° 03.8	17° 57.0 N	297° 06.7	15° 16.1 S	297° 06.7	15° 16.1 S	Alphecca	126° 10.4	26° 40.3 N	0° 14.3	7° 06.1 N	245° 00.7	6.1	18° 07.1 S	2.9	59.4	N 40°	04:31	05:04	05:31	14:51	15:42	16:28		
	13	178° 34.4	27° 27.2	04.4	307° 28.0	03.7	45° 05.7	56.8	312° 09.0	16.2	312° 09.0	16.2	Alpheratz	357° 42.2	29° 10.4 N	15° 14.5	05.2	259° 25.8	6.1	04.2	2.9	59.5	35°	04:39	05:10	05:35	14:40	15:32	16:21		
	14	193° 36.9	42° 26.7	03.3	322° 28.8	04.1	60° 07.7	56.7	327° 11.3	16.2	327° 11.3	16.2	Altair	62° 07.2	8° 54.8 N	30° 14.7	04.3	273° 50.9	6.0	01.3	3.1	30°	30°	04:46	05:15	05:39	14:30	15:23	16:14		
	15	208° 39.3	57° 26.2	02.3	337° 29.6	04.6	75° 09.6	56.6	342° 13.6	16.3	342° 13.6	16.3	Ankaa	353° 14.5	42° 13.4 S	45° 14.9	03.4	288° 15.9	6.0	17° 58.2 S	3.2	20°	20°	04:57	05:23	05:45	14:13	15:08	16:02		
	16	223° 41.8	72° 25.6	01.3	352° 30.4	05.0	90° 11.6	56.4	357° 15.9	16.3	357° 15.9	16.3	Antares	112° 25.2	26° 27.7 S	60° 15.1	02.4	302° 40.9	6.0	55.0	3.3	59.6	N 10°	05:05	05:29	05:51	13:58	14:55	15:51		
	17	238° 44.3	87° 25.1	00.3	7° 31.2	05.4	105° 13.5	56.3	12° 18.2	16.4	12° 18.2	16.4		75° 15.3	01.5	317° 05.9	6.0	51.7	3.4			0°	0°	05:10	05:35	05:55	13:45	14:43	15:42		
	18	253° 46.7	102° 24.6	12° 59.2 N	22° 32.0	05.8	120° 15.4	56.2	27° 20.5	16.5	27° 20.5	16.5	Arcturus	145° 55.2	19° 06.6 N	90° 15.5	00.6	331° 30.9	6.0	48.3	3.6		S 10°	05:15	05:39	06:00	13:31	14:31	15:32		
	19	268° 49.2	117° 24.1	58.2	37° 32.8	06.2	135° 17.4	56.0	42° 22.8	16.5	42° 22.8	16.5	Atria	107° 26.2	69° 03.3 S	105° 15.7	6° 59.7 N	345° 55.9	5.9	44.7	3.7	59.7	20°	05:18	05:43	06:05	13:16	14:18	15:21		
	20	283° 51.7	132° 23.5	57.2	52° 33.6	06.7	150° 19.3	56.9	57° 25.1	16.6	57° 25.1	16.6	Avia	234° 18.1	59° 33.3 S	0° 20.8	58.7	41.0	3.8			30°	30°	05:19	05:47	06:11	13:00	14:03	15:09		
	21	298° 54.1	147° 23.0	56.2	67° 34.4	07.1	165° 21.3	55.8	72° 27.4	16.6	72° 27.4	16.6	Bellatrix	278° 31.1	6° 21.7 N	135° 16.1	57.8	14° 45.7	6.0	37.2	3.9		35°	05:19	05:49	06:14	12:50	13:54	15:03		
	22	313° 56.6	162° 22.5	55.1	82° 35.2	07.5	180° 23.2	55.6	87° 29.7	16.7	87° 29.7	16.7	Betelgeuse	271° 00.5	7° 24.5 N	150° 16.4	56.9	29° 10.7	5.9	33.3	4.1	59.8	40°	05:19	05:50	06:17	12:39	13:44	14:55		
	23	328° 59.0	177° 21.9	54.1	97° 36.0	07.9	195° 25.2	55.5	102° 32.0	16.7	102° 32.0	16.7		165° 16.6	56.0	43° 35.6	5.9	29.2	4.1			45°	45°	05:18	05:52	06:21	12:26	13:33	14:45		
Friday	00	344° 01.5	192° 21.4	12° 53.1 N	112° 36.8	20° 08.3 S	210° 27.1	17° 55.4 N	117° 34.3	15° 16.8 S	117° 34.3	15° 16.8 S	Canopus	263° 56.0	52° 42.1 S	180° 16.8	6° 55.0 N	58° 00.5	5.8	17° 25.1 S	4.3	59.8	S 50°	05:17	05:54	06:26	12:10	13:19	14:34		
	01	359° 04.0	207° 20.9	52.1	127° 37.6	08.7	225° 29.1	55.2	132° 36.5	16.8	132° 36.5	16.8	Capella	280° 33.2	46° 00.4 N	195° 17.0	54.1	72° 25.3	5.9	20.8	4.5	59.9	52°	05:16	05:55	06:28	12:02	13:12	14:29		
	02	14° 06.4	222° 20.4	51.0	142° 38.4	09.2	240° 31.0	55.1	147° 38.8	16.9	147° 38.8	16.9	Deneb	49° 30.5	45° 20.3 N	210° 17.2	53.2	86° 50.2	5.8	16.3	4.5	54°	54°	05:15	05:56	06:31	11:54	13:05	14:23		
	03	29° 08.9	237° 19.9	50.0	157° 39.2	09.6	255° 33.0	55.0	162° 41.1	17.0	162° 41.1	17.0	Denebola	182° 33.1	14° 29.5 S	225° 17.4	52.3	101° 15.0	5.9	11.8	4.7	60.0	56°	05:13	05:56	06:34	11:45	12:57	14:17		
	04	44° 11.4	252° 19.3	49.0	172° 40.0	10.0	270° 34.9	54.8	177° 43.4	17.0	177° 43.4	17.0	Diphda	348° 54.8	17° 54.2 S	240° 17.6	51.3	115° 39.9	5.8	07.1	4.7	60.0	58°	05:12	05:57	06:36	11:34	12:47	14:10		
	05	59° 13.8	267° 18.8	47.9	187° 40.8	10.4	285° 36.9	54.7	192° 45.7	17.1	192° 45.7	17.1		255° 17.8	50.4	130° 04.7	5.8	02.4	4.9			S 60°	05:10	05:58	06:40	11:22	12:37	14:02			
	06	74° 16.3	282° 18.3	46.9	202° 41.6	10.8	300° 38.8	54.5	207° 40.8	17.1	207° 40.8	17.1	Dubhe	193° 51.4	61° 40.3 N	270° 18.0	49.5	144° 29.5	5.9	16° 57.5 S	5.1	60.1	S 62°	05:08	05:59	06:43	11:07	12:24	13:52		
	07	89° 18.8	297° 17.8	45.9	217° 42.4	11.2	315° 40.8	54.4	222° 50.3	17.2	222° 50.3	17.2	Elinath	278° 11.6	28° 36.9 N	285° 18.2	48.6	158° 54.4	5.8	52.4	5.1										
	08	104° 21.2	312° 17.2	44.8	232° 43.2	11.7	330° 42.7	54.3	237° 52.6	17.2	237° 52.6	17.2	Eltanin	90° 45.6	51° 29.7 N	300° 18.4	47.6	173° 19.2	5.8	47.3	5.3										
	09	119° 23.7	327° 16.7	43.8	247° 44.0	12.1	345° 44.7	54.1	252° 54.9	17.3	252° 54.9	17.3	Enif	13° 46.7	9° 56.8 N	315° 18.7	46.7	187° 44.0	5.8	42.0	5.3										
	10	134° 26.1	342° 16.2	42.8	262° 44.8	12.5	0° 46.6	54.0	267° 57.2	17.4	267° 57.2	17.4	Fomalhaut	35° 22.0	29° 32.4 S	330° 18.9	45.8	202° 08.8	5.8	36.7	5.5										
	11	149° 28.6	357° 15.7	41.7	277°																										

2014 September 7, 8, 9 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	7			Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	7		8	9		8	9				
Sunday	00	345° 59.8	191° 56.7	12° 03.1 N	113° 14.8	20° 28.2 S	212° 00.7	17° 48.9 N	119° 24.2	15° 19.5 S	134° 26.5	19.6 S	Acamar	315° 17.5	40° 14.6 S	180° 26.9	6° 10.4 N	29° 56.5	6.3	11° 50.6 S	9.5	61.0	N 72°	00:33	03:16	04:34	18:38	18:31	18:25					
	01	1° 02.3	206° 56.2	02.0	128° 15.5	28.6	227° 02.7	48.8	134° 26.5	19.6 S	134° 26.5	19.6 S	Achernar	335° 25.8	57° 09.5 S	195° 27.1	09.5	44° 21.8	6.2	41.1	9.5	68°	01:47	03:35	04:44	18:25	18:25	18:26						
	02	16° 04.7	221° 55.7	00.9	143° 16.3	29.0	242° 04.6	48.6	149° 28.7	19.7	149° 28.7	19.7	Acruz	173° 08.9	63° 10.9 S	210° 27.3	08.6	58° 47.0	6.3	31.6	9.7	66°	02:22	03:50	04:51	18:14	18:21	18:26						
	03	31° 07.2	236° 55.2	11° 59.9 N	158° 17.1	29.4	257° 06.6	48.5	164° 31.0	19.7	164° 31.0	19.7	Adhara	255° 12.0	28° 59.5 S	225° 27.6	07.6	73° 12.3	6.4	21.9	9.7	64°	02:47	04:02	04:57	18:05	18:17	18:27						
	04	46° 09.6	251° 54.7	58.8	173° 17.9	29.8	272° 08.5	48.4	179° 33.3	19.8	179° 33.3	19.8	Aldebaran	290° 48.4	16° 32.2 N	240° 27.8	06.7	87° 37.7	6.3	12.2	9.7	62°	03:05	04:12	05:03	17:57	18:13	18:27						
	05	61° 12.1	266° 54.2	57.8	188° 18.7	30.2	287° 10.5	48.2	194° 35.6	19.8	194° 35.6	19.8	Alnilam	260° 48.4	28° 59.5 S	255° 28.0	05.7	102° 03.0	6.4	02.5	9.9	60°	03:20	04:20	05:07	17:51	18:10	18:27						
	06	76° 14.6	281° 53.7	56.7	203° 19.4	30.6	302° 12.4	48.1	209° 37.9	19.9	209° 37.9	19.9	Alioth	196° 20.5	55° 53.0 N	270° 28.2	04.8	116° 28.4	6.4	10° 52.6 S	10.0	61.1	03:33	04:28	05:11	17:45	18:07	18:28						
	07	91° 17.0	296° 53.1	55.7	218° 20.2	31.0	317° 14.4	47.9	224° 40.2	19.9	224° 40.2	19.9	Alkaid	260° 48.4	28° 59.5 S	285° 28.4	03.9	130° 53.8	6.4	42.6	10.0	58°	03:43	04:34	05:14	17:40	18:05	18:28						
	08	106° 19.5	311° 52.6	54.6	233° 23.1	31.4	332° 16.3	47.8	239° 42.5	20.0	239° 42.5	20.0	Alnair	27° 42.3	46° 53.2 S	300° 28.6	02.9	145° 19.2	6.5	32.6	10.1	54°	03:59	04:44	05:20	17:32	18:01	18:28						
	09	121° 22.0	326° 52.1	53.5	248° 21.8	31.8	347° 18.3	47.7	254° 44.8	20.1	254° 44.8	20.1	Alnilam	275° 45.6	1° 11.6 S	315° 28.8	02.0	159° 44.7	6.4	22.5	10.1	52°	04:06	04:48	05:23	17:28	17:59	18:28						
	10	136° 24.4	341° 51.6	52.5	263° 22.6	32.2	2° 20.2	47.5	269° 47.0	20.1	269° 47.0	20.1	Alphard	217° 55.5	8° 43.3 S	330° 29.1	01.1	174° 10.1	6.5	12.4	10.3	50°	04:12	04:52	05:25	17:25	17:57	18:29						
	11	151° 26.9	356° 51.1	51.4	278° 23.3	32.6	17° 22.2	47.4	284° 49.3	20.2	284° 49.3	20.2	Alphecca	126° 10.4	26° 40.3 N	345° 29.3	00.1	188° 35.6	6.6	02.1	10.3	45°	04:25	05:00	05:30	17:17	17:54	18:29						
	12	166° 29.4	11° 50.6	11° 50.3 N	293° 24.1	20° 33.0 S	32° 24.1	17° 47.3 N	299° 51.6	15° 20.2 S	299° 51.6	15° 20.2 S	Alpheratz	126° 10.4	26° 40.3 N	0° 29.5	5° 59.2 N	203° 01.2	6.5	9° 51.8 S	10.4	61.1	N 40°	04:34	05:07	05:34	17:11	17:51	18:29					
	13	181° 31.8	26° 50.1	49.3	308° 24.9	33.4	47° 26.1	47.1	314° 53.9	20.3	314° 53.9	20.3	Alkaid	357° 42.2	29° 10.4 N	15° 29.7	58.3	217° 26.7	6.6	41.4	10.4	35°	04:42	05:12	05:38	17:06	17:49	18:30						
	14	196° 34.3	41° 49.6	48.2	323° 25.7	33.9	62° 28.0	47.0	329° 56.2	20.4	329° 56.2	20.4	Altair	62° 07.2	8° 54.8 N	30° 29.9	57.3	231° 52.3	6.6	31.0	10.5	30°	04:48	05:17	05:41	17:01	17:46	18:30						
	15	211° 36.7	56° 49.1	47.1	338° 26.4	34.3	77° 30.0	46.9	344° 58.5	20.4	344° 58.5	20.4	Ankaa	353° 14.5	42° 13.4 S	45° 30.1	56.4	246° 17.9	6.7	20.5	10.6	20°	04:58	05:24	05:46	16:53	17:42	18:30						
	16	226° 39.2	71° 48.6	46.1	353° 27.2	34.7	92° 31.9	46.7	0° 00.7	20.5	0° 00.7	20.5	Antares	112° 25.2	26° 27.7 S	60° 30.3	55.5	260° 43.6	6.6	09.9	10.7	10°	05:05	05:29	05:50	16:46	17:39	18:31						
	17	241° 41.7	86° 48.1	45.0	8° 28.0	35.1	107° 33.9	46.6	15° 03.0	20.5	15° 03.0	20.5	Arcturus	112° 25.2	26° 27.7 S	75° 30.6	54.5	275° 09.2	6.7	8° 59.2 S	10.7	61.2	0°	05:10	05:34	05:54	16:39	17:36	18:31					
	18	256° 44.1	101° 47.6	43.9	23° 28.8	35.5	122° 35.9	46.5	30° 05.3	20.6	30° 05.3	20.6	Arcturus	145° 55.2	19° 06.6 N	90° 30.8	53.6	289° 34.9	6.7	48.5	10.7	S 10°	05:13	05:37	05:58	16:33	17:33	18:32						
	19	271° 46.6	116° 47.1	42.9	38° 29.5	35.9	137° 37.8	46.3	45° 07.6	20.6	45° 07.6	20.6	Arcturus	145° 55.2	19° 06.6 N	105° 31.0	52.6	304° 00.6	6.8	37.8	10.9	20°	05:15	05:40	06:03	16:25	17:29	18:32						
	20	286° 49.1	131° 46.6	41.8	53° 30.3	36.3	152° 39.8	46.2	60° 09.9	20.7	60° 09.9	20.7	Arcturus	145° 55.2	19° 06.6 N	120° 31.2	51.7	318° 26.4	6.8	26.9	10.9	30°	05:16	05:43	06:07	16:17	17:25	18:33						
	21	301° 51.5	146° 46.1	40.7	68° 31.1	36.7	167° 41.7	46.1	75° 12.2	20.8	75° 12.2	20.8	Bellatrix	278° 31.1	6° 21.7 N	135° 31.4	50.8	332° 52.2	6.8	16.0	10.9	35°	05:15	05:44	06:10	16:13	17:23	18:33						
	22	316° 54.0	161° 45.6	39.7	83° 31.8	37.1	182° 43.7	45.9	90° 14.5	20.8	90° 14.5	20.8	Betelgeuse	271° 00.5	7° 24.5 N	150° 31.6	49.8	347° 18.0	6.8	05.1	11.0	40°	05:14	05:46	06:13	16:07	17:21	18:33						
23	331° 56.5	176° 45.1	38.6	98° 32.6	37.5	197° 45.6	45.8	105° 16.7	20.9	105° 16.7	20.9	Betelgeuse	271° 00.5	7° 24.5 N	165° 31.8	48.9	1° 43.8	6.9	7° 54.1 S	11.1	45°	05:13	05:47	06:16	16:01	17:18	18:34							
Monday	00	346° 58.9	191° 44.6	11° 37.5 N	113° 33.4	20° 37.9 S	212° 47.6	17° 45.7 N	120° 19.0	15° 20.9 S	120° 19.0	15° 20.9 S	Canopus	263° 55.9	52° 42.1 S	180° 32.1	5° 48.0 N	16° 09.7	6.8	7° 43.0 S	11.1	61.2	S 50°	05:10	05:48	06:20	15:54	17:14	18:35					
	01	2° 01.4	206° 44.1	36.5	128° 34.2	38.3	227° 49.5	45.5	135° 21.3	21.0	135° 21.3	21.0	Capella	280° 33.2	46° 00.4 N	195° 32.3	47.0	30° 35.5	7.0	31.9	11.1	52°	05:09	05:48	06:22	15:50	17:13	18:35						
	02	17° 03.9	221° 43.6	35.4	143° 34.9	38.7	242° 51.5	45.4	150° 23.6	21.1	150° 23.6	21.1	Deneb	49° 30.5	45° 20.4 N	210° 32.5	46.1	45° 01.5	6.9	20.8	11.3	54°	05:08	05:48	06:24	15:46	17:11	18:35						
	03	32° 06.3	236° 43.1	34.3	158° 35.7	39.1	257° 53.4	45.3	165° 25.9	21.1	165° 25.9	21.1	Denebola	182° 33.1	14° 29.5 S	225° 32.7	45.1	59° 27.4	7.0	09.5	11.2	56°	05:06	05:49	06:26	15:42	17:09	18:35						
	04	47° 08.8	251° 42.6	33.3	173° 36.5	39.5	272° 55.4	45.1	180° 28.2	21.2	180° 28.2	21.2	Diphda	348° 54.8	17° 54.2 S	240° 32.9	44.2	73° 53.4	7.0	6° 58.3 S	11.3	58°	05:04	05:49	06:28	15:37	17:07	18:36						
	05	62° 11.2	266° 42.1	32.2	188° 37.2	39.9	287° 57.4	45.0	195° 30.4	21.2	195° 30.4	21.2	Diphda	348° 54.8	17° 54.2 S	255° 33.1	43.3	88° 19.4	7.0	47.0	11.4	S 60°	05:01	05:49	06:31	15:32	17:04	18:36						
	06	77° 13.7	281° 41.6	31.1	203° 38.0	40.3	302° 59.3	44.9	210° 32.7	21.3	210° 32.7	21.3	Dubhe	193° 51.4	61° 40.3 N	270° 33.4	42.3	102° 45.4	7.1	35.6	11.4	S 62°	04:58	05:50	06:34	15:26	17:02	18:37						
	07	92° 16.2	296° 41.1	30.0	218° 38.8	40.7	318° 01.3	44.7	225° 35.0	21.4	225° 35.0	21.4	Elinath	278° 11.6	28° 37.0 N	285° 33.6	41.4	117° 11.5	7.1	24.2	11.4													
	08	107° 18.6	311° 40.7	29.0	233° 39.6	41.1	333° 03.2	44.6	240° 37.3	21.4	240° 37.3	21.4	Eltanin	90° 45.6	51° 29.7 N	300° 33.8	40.4	131° 37.6	7.1	12.8	11.5													
	09	122° 21.1	326° 40.2	27.9	248° 40.3	41.5	348° 05.2	44.5	255° 39.6	21.5	255° 39.6	21.5	Enif	13° 46.0	9° 56.8 N	315° 34.0	39.5	146° 03.7	7.1	01.3	11.5													
	10	137° 23.6	341° 39.7	26.8	263° 41.1	41.9	3° 07.1	44.3	270° 41.9	21.5	270° 41.9	21.5	Fomalhaut	35° 22.7	29° 32.5 S	330° 34.2	38.6	160° 29.8	7.2	5° 49.8 S	11.6													
	11	152° 26.0	356° 39.2	25.7	278° 41.9	42.3	18° 09.1	44.2	285° 44.1	21.6	285° 44.1	21.6	F																					

2014 September 10, 11, 12 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.8			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	10	11		12					
10 Wednesday	00	348° 57.2	191° 21.1	10° 45.5 N	114° 10.0	20° 57.0 S	214° 21.5	17° 39.2 N	122° 08.5	15° 23.8 S	137° 10.8	23.8	Acamar	315° 17.5	40° 14.6 S	180° 42.5	5° 02.8 N	349° 23.0	8.1	1° 41.3 N	11.9	60.6	N 72°	01:26	03:33	04:48	18:19	18:13	18:06			
	01	3° 59.7	206° 20.6	44.4	129° 10.7	57.4	229° 23.5	39.1	137° 10.8	23.8	137° 10.8	23.8	Achernar	335° 25.8	57° 09.5 S	195° 42.7	01.8	3° 50.1	8.2	53.2	11.8	68°	02:11	03:49	04:56	18:26	18:27	18:30				
	02	19° 02.1	221° 20.1	43.3	144° 11.5	57.8	244° 25.5	39.0	152° 13.1	23.9	152° 13.1	23.9	Acruz	173° 08.9	63° 10.9 S	210° 42.9	00.9	18° 17.3	8.1	2° 05.0 N	11.8	66°	02:40	04:02	05:02	18:32	18:39	18:48				
	03	34° 04.6	236° 19.7	42.2	159° 12.2	58.2	259° 27.4	38.8	167° 15.3	24.0	167° 15.3	24.0	Adhara	255° 12.0	28° 59.5 S	225° 43.1	4° 59.9 N	32° 44.4	8.2	16.8	11.7	64°	03:01	04:13	05:07	18:37	18:48	19:02				
	04	49° 07.1	251° 19.2	41.1	174° 13.0	58.5	274° 29.4	38.7	182° 17.6	24.0	182° 17.6	24.0	Aldebaran	290° 48.3	16° 32.2 N	240° 43.4	59.0	47° 11.6	8.2	28.5	11.8	62°	03:17	04:21	05:11	18:41	18:56	19:14				
	05	64° 09.5	266° 18.7	40.0	189° 13.8	58.9	289° 31.3	38.5	197° 19.9	24.1	197° 19.9	24.1		260° 20.5	55° 53.0 N	255° 43.6	58.0	61° 38.8	8.2	40.3	11.7	60.5	03:30	04:29	05:15	18:45	19:03	19:25				
	06	79° 12.0	281° 18.2	38.9	204° 14.5	59.3	304° 33.3	38.4	212° 22.2	24.2	212° 22.2	24.2	Alioth	196° 20.5	55° 53.0 N	270° 43.8	57.1	76° 06.0	8.3	52.0	11.7	58°	03:41	04:35	05:18	18:48	19:09	19:33				
	07	94° 14.4	296° 17.7	37.8	219° 15.3	59.7	319° 35.3	38.3	227° 24.4	24.1	227° 24.4	24.1	Alkaid	152° 58.7	49° 14.7 N	285° 44.0	56.1	90° 33.3	8.3	3° 03.7 N	11.6	56°	03:51	04:41	05:21	18:50	19:14	19:41				
	08	109° 16.9	311° 17.3	36.7	234° 16.0	21° 00.1 S	334° 37.2	38.1	242° 26.7	24.3	242° 26.7	24.3	Alnair	27° 42.3	46° 53.2 S	300° 44.2	55.2	105° 00.6	8.2	15.3	11.6	60.4	04:06	04:50	05:26	18:55	19:23	19:54				
	09	124° 19.4	326° 16.8	35.6	249° 16.8	00.5	349° 39.2	38.0	257° 29.0	24.0	257° 29.0	24.0	Alnilam	275° 45.5	1° 11.6 S	315° 44.5	54.2	119° 27.8	8.4	26.9	11.6	54°	04:12	04:53	05:28	18:57	19:27	20:00				
	10	139° 21.8	341° 16.3	34.5	264° 17.5	00.9	4° 41.1	37.9	272° 31.3	24.4	272° 31.3	24.4	Alphard	217° 55.5	8° 43.3 S	330° 44.7	53.3	133° 55.2	8.3	38.5	11.6	50°	04:17	04:57	05:30	18:59	19:31	20:05				
	11	154° 24.3	356° 15.8	33.4	279° 18.3	01.3	19° 43.1	37.7	287° 33.5	24.4	287° 33.5	24.4		345° 44.9	52.3	345° 44.9	52.3	148° 22.5	8.3	50.1	11.5	45°	04:29	05:04	05:34	19:03	19:39	20:16				
	12	169° 26.8	11° 15.3	10° 32.3 N	294° 19.0	21° 01.7 S	34° 45.1	17° 37.6 N	302° 35.8	15° 24.5 S	302° 35.8	15° 24.5 S	Alphecca	126° 10.4	26° 40.3 N	0° 45.1	4° 51.4 N	162° 49.8	8.4	4° 01.6 N	11.5	60.3	N 40°	04:37	05:10	05:37	19:07	19:45	20:25			
	13	184° 29.2	26° 14.9	31.2	309° 19.8	02.1	49° 47.0	37.5	317° 38.1	24.6	317° 38.1	24.6	Alpheratz	357° 42.2	29° 10.4 N	15° 45.3	50.4	177° 17.2	8.4	13.1	11.4	35°	04:44	05:14	05:40	19:10	19:51	20:33				
	14	199° 31.7	41° 14.4	30.1	324° 20.5	02.4	64° 49.0	37.3	332° 40.4	24.6	332° 40.4	24.6	Altair	62° 07.2	8° 54.8 N	30° 45.6	49.5	191° 44.6	8.3	24.5	11.4	30°	04:50	05:18	05:42	19:13	19:56	20:40				
	15	214° 34.2	56° 13.9	29.0	339° 21.2	02.8	79° 50.9	37.2	347° 42.6	24.7	347° 42.6	24.7	Ankaa	353° 14.5	42° 13.4 S	45° 45.8	48.6	206° 11.9	8.5	35.9	11.4	20°	04:59	05:24	05:47	19:17	20:04	20:52				
	16	229° 36.6	71° 13.4	27.9	354° 22.0	03.2	94° 52.9	37.1	2° 44.9	24.7	2° 44.9	24.7	Antares	112° 25.3	26° 27.7 S	60° 46.0	47.6	220° 39.4	8.4	47.3	11.3	60.2	N 10°	05:05	05:29	05:50	19:21	20:12	21:02			
	17	244° 39.1	86° 13.0	26.8	9° 22.7	03.6	109° 54.9	36.9	7° 46.2	24.8	7° 46.2	24.8		75° 46.2	46.7	75° 46.2	46.7	235° 06.8	8.4	58.6	11.3	0°	05:09	05:33	05:53	19:25	20:19	21:12				
	18	259° 41.5	101° 12.5	25.7	24° 23.5	04.0	124° 56.8	36.8	32° 49.5	24.9	32° 49.5	24.9	Arcturus	145° 55.2	19° 06.6 N	90° 46.4	45.7	249° 34.2	8.5	5° 09.9 N	11.2	S 10°	05:11	05:36	05:57	19:29	20:26	21:22				
	19	274° 44.0	116° 12.0	24.6	39° 24.2	04.4	139° 58.8	36.7	47° 51.8	24.9	47° 51.8	24.9	Atria	107° 26.3	69° 03.3 S	105° 46.7	44.8	264° 01.7	8.5	21.1	11.1	20°	05:12	05:38	06:00	19:34	20:34	21:33				
	20	289° 46.5	131° 11.5	23.5	54° 25.0	04.8	155° 00.8	36.5	62° 54.0	25.0	62° 54.0	25.0	Avia	234° 18.1	59° 33.3 S	120° 46.9	43.8	278° 29.2	8.5	32.3	11.1	30°	05:12	05:40	06:03	19:39	20:43	21:45				
	21	304° 48.9	146° 11.1	22.4	69° 25.7	05.2	170° 02.7	36.4	77° 56.3	25.1	77° 56.3	25.1	Bellatrix	278° 31.1	6° 21.7 N	135° 47.1	42.9	292° 56.7	8.5	43.4	11.1	35°	05:11	05:40	06:05	19:42	20:48	21:52				
	22	319° 51.4	161° 10.6	21.3	84° 26.5	05.5	185° 04.7	36.3	92° 58.6	25.1	92° 58.6	25.1	Betelgeuse	271° 00.4	7° 24.5 N	150° 47.3	41.9	307° 24.2	8.5	54.5	11.1	60.0	40°	05:09	05:41	06:08	19:45	20:54	22:01			
23	334° 53.9	176° 10.1	20.2	99° 27.2	05.9	200° 06.6	36.1	108° 00.9	25.2	108° 00.9	25.2		165° 47.5	41.0	165° 47.5	41.0	321° 51.7	8.6	6° 05.6 N	11.0	45°	05:07	05:41	06:10	19:49	21:01	22:10					
11 Thursday	00	349° 56.3	191° 09.6	10° 19.1 N	114° 28.0	21° 06.3 S	215° 08.6	17° 36.0 N	123° 03.1	15° 25.2 S	123° 03.1	15° 25.2 S	Canopus	263° 55.9	52° 42.1 S	180° 47.8	4° 40.0 N	336° 19.3	8.5	6° 16.6 N	10.9	60.0	S 50°	05:04	05:41	06:13	19:53	21:09	22:22			
	01	4° 58.8	206° 09.2	18.0	129° 28.7	06.7	230° 10.6	35.9	138° 05.4	25.3	138° 05.4	25.3	Capella	280° 33.2	46° 00.4 N	195° 48.0	39.1	350° 46.8	8.6	27.5	10.9	59.9	52°	05:02	05:41	06:15	19:55	21:13	22:27			
	02	20° 01.3	221° 08.7	16.8	144° 29.4	07.1	245° 12.5	35.7	153° 07.7	25.3	153° 07.7	25.3	Deneb	49° 30.5	45° 20.4 N	210° 48.2	38.1	5° 14.4	8.6	38.4	10.8	54°	05:00	05:41	06:16	19:58	21:18	22:33				
	03	35° 03.7	236° 08.2	15.7	159° 30.2	07.5	260° 14.5	35.6	168° 09.9	25.4	168° 09.9	25.4	Denebola	182° 33.1	14° 29.5 S	225° 48.4	37.2	19° 42.0	8.6	49.2	10.8	56°	04:58	05:41	06:18	20:00	21:22	22:40				
	04	50° 06.2	251° 07.7	14.6	174° 30.9	07.9	275° 16.5	35.5	183° 12.2	25.5	183° 12.2	25.5	Diphda	348° 54.7	17° 54.2 S	240° 48.6	36.2	34° 09.6	8.6	7° 00.2	10.7	59.8	58°	04:55	05:41	06:20	20:03	21:28	22:47			
	05	65° 08.7	266° 07.3	13.5	189° 31.7	08.2	290° 18.4	35.3	198° 14.5	25.5	198° 14.5	25.5		255° 48.9	35.3	255° 48.9	35.3	48° 37.2	8.6	10.7	10.7	S 60°	04:52	05:40	06:22	20:06	21:33	22:56				
	06	80° 11.1	281° 06.8	12.4	204° 32.4	08.6	305° 20.4	35.2	213° 16.8	25.6	213° 16.8	25.6	Dubhe	193° 51.4	61° 40.3 N	270° 49.1	34.3	63° 04.8	8.7	21.4	10.6	60.1	S 62°	04:49	05:40	06:24	20:10	21:40	23:06			
	07	95° 13.6	296° 06.3	11.3	219° 33.2	09.0	320° 22.4	35.1	228° 19.0	25.7	228° 19.0	25.7	Elmath	278° 11.6	28° 37.0 S	285° 49.3	33.4	77° 32.5	8.6	32.0	10.6	59.7										
	08	110° 16.0	311° 05.8	10.2	234° 33.9	09.4	335° 24.3	34.9	243° 21.3	25.7	243° 21.3	25.7	Eltanin	90° 45.6	51° 29.7 N	300° 49.5	32.4	92° 00.1	8.7	42.6	10.5		Lat	Sunset	Twilight		Moonset					
	09	125° 18.5	326° 05.4	09.1	249° 34.6	09.8	350° 26.3	34.8	258° 23.6	25.8	258° 23.6	25.8	Enif	135° 46.0	9° 56.8 N	315° 49.7	31.5	106° 27.8	8.7	53.1	10.4		Civil	Nautical	10	11	12					
	10	140° 21.0	341° 04.9	08.0	264° 35.4	10.2	5° 28.2	34.7	273° 25.9	25.8	273° 25.9	25.8	Fomalhaut	35° 22.7	29° 32.5 S	330° 50.0	30.5	120° 55.5	8.7	8° 03.5 N	10.4	59.6										
	11	155° 23.4	356° 04.4	06.8	279° 36.1	10.6	20° 30.2	34.5	288° 2																							

2014 September 16, 17, 18 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	16		17	18				
Tuesday	00	354° 52.0	190° 14.8	8° 02.6 N	115° 54.5	21° 50.9 S	219° 05.0	17° 20.0 N	127° 35.2	15° 32.7 S	Acamar	315° 17.5	40° 14.6 S	181° 14.4	2° 45.2 N	273° 12.6	10.7	18° 33.5 N	0.4	55.6	N 72°	02:23	04:04	05:16	-	20:18	22:09				
	01	9° 54.5	205° 14.4	01.5	130° 55.2	51.3	234° 07.0	19.9	142° 37.4	32.8	Achernar	335° 25.7	57° 09.6 S	196° 14.6	44.3	287° 42.3	10.8	33.9	0.4	55.5	N 70°	02:50	04:16	05:20	20:06	21:21	22:47				
	02	24° 57.0	220° 13.9	00.3	145° 55.9	51.6	249° 09.0	19.8	157° 39.7	32.8	Acruz	173° 08.9	63° 10.9 S	211° 14.9	43.3	302° 12.1	10.8	34.3	0.2	66°	68°	03:11	04:26	05:23	20:49	21:57	23:14				
	03	39° 59.4	235° 13.5	7° 59.1 N	160° 56.6	52.0	264° 11.0	19.6	172° 42.0	32.0	Adhara	255° 12.0	28° 59.5 S	226° 15.1	42.3	316° 41.9	10.8	34.5	0.2	64°	66°	03:27	04:33	05:26	21:18	22:22	23:34				
	04	55° 01.9	250° 13.0	58.0	175° 57.3	52.3	279° 12.9	19.5	187° 44.2	33.0	Aldebaran	290° 48.3	16° 32.2 N	241° 15.3	41.4	331° 11.7	10.9	34.7	0.0	62°	64°	03:39	04:40	05:28	21:40	22:41	23:50				
	05	70° 04.3	265° 12.6	56.8	190° 58.0	52.7	294° 14.9	19.4	202° 46.5	33.0	Alphard	217° 55.5	8° 43.3 S	331° 16.7	35.6	58° 11.3	11.1	33.7	0.5	55.4	60°	03:58	04:50	05:32	22:12	23:10	24:14				
	06	85° 06.8	280° 12.2	55.6	205° 58.7	53.1	309° 16.9	19.2	217° 48.7	33.1	Alioth	196° 20.6	55° 53.0 N	271° 15.8	39.4	0° 11.4	11.0	34.7	0.1	58.4	N 58°	04:06	04:54	05:34	22:25	23:22	24:24				
	07	100° 09.3	295° 11.7	54.5	220° 59.4	53.4	324° 18.9	19.1	232° 51.0	33.1	Alkaid	152° 58.7	49° 14.6 N	286° 16.0	38.5	14° 41.4	10.9	34.6	0.2	56°	56°	04:12	04:58	05:35	22:35	23:32	24:32				
	08	115° 11.7	310° 11.3	53.3	236° 00.1	53.8	339° 20.9	19.0	247° 53.3	33.2	Alnair	27° 42.3	46° 53.2 S	301° 16.2	37.5	29° 11.3	11.0	34.4	0.3	54°	54°	04:18	05:01	05:36	22:45	23:40	24:40				
	09	130° 14.2	325° 10.8	52.1	251° 00.8	54.1	354° 22.8	18.9	262° 55.5	33.3	Anilim	275° 45.5	1° 11.6 S	316° 16.4	36.6	43° 41.3	11.0	34.1	0.4	55.3	52°	04:23	05:04	05:38	22:53	23:48	24:46				
	10	145° 16.7	340° 10.4	51.0	266° 01.5	54.5	9° 24.8	18.7	277° 57.8	33.3	Alphard	217° 55.5	8° 43.3 S	331° 16.7	35.6	58° 11.3	11.1	33.7	0.5	50°	50°	04:27	05:06	05:39	23:01	23:55	24:53				
	11	160° 19.1	355° 10.0	49.8	281° 02.2	54.8	24° 26.8	18.6	293° 50.0	33.4	Alphard	217° 55.5	8° 43.3 S	331° 16.7	35.6	58° 11.3	11.1	33.7	0.5	50°	45°	04:36	05:11	05:41	23:17	-	00:10				
	12	175° 21.6	10° 09.5	7° 48.6 N	296° 02.9	21° 55.2 S	39° 28.8	17° 18.5 N	308° 02.3	15° 33.5 S	Alphecca	126° 10.5	26° 40.3 N	1° 17.1	2° 33.7 N	87° 11.4	11.2	18° 32.6 N	0.7	55.3	N 40°	04:44	05:15	05:43	23:30	-	00:22				
	13	190° 24.1	25° 09.1	47.5	311° 03.6	55.5	54° 30.7	18.3	323° 04.6	33.5	Alpheratz	357° 42.2	29° 10.4 N	16° 17.3	32.7	101° 41.6	11.1	31.9	0.7	55.2	35°	04:49	05:19	05:44	23:41	-	00:33				
	14	205° 26.5	40° 08.6	46.3	326° 04.3	55.9	69° 32.7	18.2	338° 06.8	33.6	Altair	62° 07.2	8° 54.8 N	31° 17.5	31.7	116° 41.7	11.2	31.2	0.9	30°	30°	04:54	05:22	05:45	23:51	-	00:42				
	15	220° 29.0	55° 08.2	45.1	341° 05.0	56.2	84° 34.7	18.1	353° 09.1	33.7	Ankaa	353° 14.5	42° 13.4 S	46° 17.8	30.8	130° 11.9	11.2	30.3	0.9	20°	20°	05:00	05:26	05:48	-	00:08	00:58				
	16	235° 31.5	70° 07.8	44.0	356° 05.7	56.6	99° 36.7	17.9	8° 11.3	33.7	Antares	112° 25.3	26° 27.7 S	61° 18.0	29.8	145° 12.1	11.3	29.4	1.1	55.1	N 10°	05:04	05:29	05:50	-	00:23	01:12				
	17	250° 33.9	85° 07.3	42.8	114° 06.4	56.9	114° 38.7	17.8	23° 13.6	33.8	Arcturus	145° 55.2	19° 06.6 N	76° 18.2	28.8	159° 42.4	11.2	28.3	1.1	50°	0°	05:07	05:31	05:51	-	00:37	01:25				
	18	265° 36.4	100° 06.9	41.6	26° 07.0	57.3	129° 40.6	17.7	38° 15.8	33.8	Arcturus	145° 55.2	19° 06.6 N	91° 18.4	27.9	174° 12.6	11.4	27.2	1.2	50°	S 10°	05:07	05:32	05:53	00:01	00:50	01:37				
	19	280° 38.8	115° 06.5	40.5	41° 07.7	57.6	144° 42.6	17.5	53° 18.1	33.9	Atria	107° 26.4	69° 03.3 S	106° 17.8	26.9	188° 43.0	11.3	26.0	1.3	20°	20°	05:07	05:32	05:54	00:16	01:05	01:51				
	20	295° 41.3	130° 06.0	39.3	56° 08.4	58.0	159° 44.6	17.4	68° 20.4	34.0	Avior	234° 18.0	59° 33.3 S	121° 18.9	25.9	203° 13.3	11.4	24.7	1.4	30°	30°	05:04	05:32	05:56	00:34	01:22	02:07				
	21	310° 43.8	145° 05.6	38.1	71° 09.1	58.4	174° 46.6	17.3	83° 22.6	34.0	Bellatrix	278° 31.1	6° 21.7 N	136° 19.1	25.0	217° 43.7	11.4	23.3	1.5	55.0	35°	05:02	05:32	05:57	00:44	01:32	02:16				
	22	325° 46.2	160° 05.2	36.9	86° 09.8	58.7	189° 48.6	17.1	98° 24.9	34.1	Betelgeuse	271° 00.4	7° 24.5 N	151° 19.3	24.0	232° 14.1	11.5	21.8	1.5	40°	40°	05:00	05:31	05:58	00:55	01:43	02:26				
23	340° 48.7	175° 04.7	35.8	101° 10.5	59.1	204° 50.5	17.0	113° 27.1	34.2	Betelgeuse	271° 00.4	7° 24.5 N	166° 19.6	23.0	246° 44.6	11.5	20.3	1.7	45°	45°	04:56	05:30	05:59	01:09	01:56	02:39					
Wednesday	00	355° 51.2	190° 04.3	7° 34.6 N	116° 11.2	21° 59.4 S	219° 52.5	17° 16.9 N	128° 29.4	15° 34.2 S	Canopus	263° 55.9	52° 42.1 S	181° 19.8	2° 22.1 N	261° 15.1	11.5	18° 18.6 N	1.7	55.0	S 50°	04:51	05:28	06:00	01:25	02:13	02:53				
	01	10° 53.6	205° 03.8	33.4	131° 11.9	59.8	234° 54.5	16.7	143° 31.6	34.3	Capella	280° 33.1	46° 00.4 N	196° 20.0	21.1	275° 45.6	11.6	16.9	1.9	54.9	52°	04:48	05:27	06:01	01:33	02:20	03:00				
	02	25° 56.1	220° 03.4	32.3	146° 12.6	22° 00.1 S	249° 56.5	16.6	158° 33.9	34.4	Deneb	49° 30.5	45° 20.4 N	211° 20.2	20.2	290° 16.2	11.6	15.0	1.9	54°	54°	04:45	05:26	06:01	01:42	02:29	03:08				
	03	40° 58.6	235° 03.0	31.9	161° 13.3	00.5	264° 58.5	16.5	173° 36.2	34.4	Denebola	182° 33.1	14° 29.5 S	226° 20.4	19.2	304° 46.8	11.7	13.1	2.0	56°	56°	04:42	05:25	06:02	01:51	02:38	03:16				
	04	56° 01.0	250° 02.5	29.1	176° 13.9	00.8	280° 00.4	16.3	188° 38.4	34.5	Diphda	348° 54.7	17° 54.2 S	241° 20.7	18.2	319° 17.5	11.6	11.1	2.1	58°	58°	04:38	05:24	06:03	02:02	02:49	03:26				
	05	71° 03.5	265° 02.1	28.7	191° 14.6	01.1	295° 02.4	16.2	203° 40.7	34.6	Diphda	348° 54.7	17° 54.2 S	256° 20.9	17.3	333° 48.1	11.7	09.0	2.2	50°	S 60°	04:33	05:22	06:04	02:15	03:01	03:37				
	06	86° 05.9	280° 01.7	27.6	206° 15.3	01.5	310° 04.4	16.1	218° 42.9	34.6	Dubhe	193° 51.4	61° 40.2 N	271° 21.1	16.3	348° 18.8	11.8	06.8	2.2	54.8	S 62°	04:28	05:21	06:05	02:30	03:15	03:50				
	07	101° 08.4	295° 01.2	26.4	221° 16.0	01.8	325° 06.4	16.0	233° 45.2	34.7	Elath	278° 11.5	28° 37.0 N	286° 21.3	15.3	2° 49.6	11.8	04.6	2.4	50°											
	08	116° 10.9	310° 00.8	25.2	236° 16.7	02.2	340° 08.4	15.8	248° 47.4	34.7	Eltanin	90° 45.7	51° 29.7 N	301° 21.6	14.4	17° 20.4	11.8	02.2	2.4	50°											
	09	131° 13.3	325° 00.4	24.0	251° 17.4	02.5	355° 10.3	15.7	263° 49.7	34.8	Enif	33° 46.0	9° 56.9 N	316° 21.8	13.4	31° 51.2	11.9	17° 59.8 N	2.5	54.7											
	10	146° 15.8	339° 59.9	22.9	266° 18.1	02.9	10° 12.3	15.6	278° 52.0	34.9	Fomalhaut	15° 22.7	29° 32.5 S	331° 22.0	12.4	46° 22.1	11.9	57.3	2.6	54.7											
	11	161° 18.3	354° 59.5	21.7	281° 18.8	03.2	25° 14.3	15.4	293° 54.2	34.9	Fomalhaut	15° 22.7	29° 32.5 S	346° 22.2	11.5	60° 53.0	11.9	54.7	2.7	54.7											
	12	176° 20.7	9° 59.1	7° 20.5 N	296° 19.4	22° 03.6 S	40° 16.3	17° 15.3 N	308° 56.5	15° 35.0 S	Gacrux	172° 00.4	57° 11.7 S	1° 22.5	2° 10.5 N	75° 23.9	12.0	17° 52.0 N	2.7	54.7	N 70°	18:27	19:30	20:54	16:44	17:09	17:20				
	13	191° 23.2	24° 58.6	19.3	311° 20.1	03.9	55° 18.3	15.2	323° 58.7	35.1	Giennah	175° 51.7	17° 37.3 S																		

2014 September 19, 20, 21 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	15.9 S	GHA	Dec	17° 10.6 N	GHA	Dec	13° 37.3 S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	02:44	04:19	05:29	23:51	-	01:29				
19 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	357° 49.4	189° 43.7	6° 37.9 N	116° 43.9	22° 15.9 S	221° 27.7	17° 10.6 N	130° 17.6	15° 37.3 S	145° 19.8	37.4	131° 44.5	Acamar	315° 17.4	40° 14.6 S	181° 30.5	1° 35.7 N	238° 21.8	13.3	15° 24.1 N	5.5	54.2	N 70°	03:07	04:29	05:31	-	00:16	01:45				
	12° 51.9	204° 43.2	36.7	131° 44.5	16.2	236° 29.7	10.4	145° 19.8	37.4	131° 44.5	16.2	236° 29.7	10.4	Acarnar	335° 25.7	57° 09.6 S	196° 30.7	34.7	252° 54.1	13.3	18.6	5.5	68°	03:25	04:37	05:34	-	00:35	01:58				
	27° 54.4	219° 42.8	35.5	146° 45.2	16.6	251° 31.7	10.3	160° 22.1	37.5	160° 22.1	37.5	160° 22.1	37.5	Acruz	173° 08.9	63° 10.8 S	211° 30.9	33.7	267° 26.4	13.3	13.1	5.5	66°	03:38	04:43	05:35	-	00:50	02:08				
	42° 56.8	234° 42.4	34.3	161° 45.9	16.9	266° 33.7	10.2	175° 24.3	37.5	175° 24.3	37.5	175° 24.3	37.5	Adhara	255° 11.9	28° 59.5 S	226° 31.1	32.8	281° 58.7	13.4	07.6	5.7	64°	03:49	04:49	05:37	-	01:02	02:16				
	57° 59.3	249° 42.0	33.1	176° 46.6	17.2	281° 35.7	10.1	190° 26.6	37.6	190° 26.6	37.6	190° 26.6	37.6	Aldebaran	290° 48.3	16° 32.2 N	241° 31.4	31.8	296° 31.1	13.4	01.9	5.7	62°	03:59	04:53	05:38	00:03	01:12	02:24				
	73° 01.8	264° 41.5	31.9	191° 47.2	17.6	296° 37.7	09.9	205° 28.8	37.7	205° 28.8	37.7	205° 28.8	37.7				256° 31.6	30.8	311° 03.5	13.4	14° 56.2 N	5.8	60°	04:06	04:57	05:39	00:14	01:21	02:30				
	88° 04.2	279° 41.1	30.8	206° 47.9	17.9	311° 39.7	09.8	220° 31.1	37.7	220° 31.1	37.7	220° 31.1	37.7	Alioth	196° 20.6	55° 52.9 N	271° 31.8	29.8	325° 35.9	13.5	50.4	5.8	N 58°	04:13	05:01	05:40	00:24	01:29	02:35				
	103° 06.7	294° 40.7	29.6	221° 48.6	18.2	326° 41.7	09.7	235° 33.3	37.8	235° 33.3	37.8	235° 33.3	37.8	Alkaid	152° 58.7	49° 14.6 N	286° 32.0	28.9	340° 08.4	13.5	44.6	5.9	54.1	56°	04:19	05:04	05:41	00:32	01:35	02:40			
	118° 09.2	309° 40.3	28.2	236° 49.2	18.6	341° 43.6	09.5	250° 35.6	37.9	250° 35.6	37.9	250° 35.6	37.9	Alnair	27° 42.3	46° 53.3 S	301° 32.3	27.9	354° 40.9	13.5	38.7	5.9	54°	04:24	05:06	05:42	00:40	01:41	02:45				
	133° 11.6	324° 39.9	27.2	251° 49.9	18.9	356° 45.6	09.4	265° 37.8	37.9	265° 37.8	37.9	265° 37.8	37.9	Alnilam	275° 45.5	1° 11.6 S	316° 32.5	26.9	39° 13.4	13.6	32.8	6.0	52°	04:28	05:09	05:42	00:46	01:47	02:49				
	148° 14.1	339° 39.4	26.0	266° 50.6	19.2	11° 47.6	09.3	280° 40.1	38.0	280° 40.1	38.0	280° 40.1	38.0	Alphard	217° 55.5	8° 43.3 S	331° 32.7	26.0	23° 46.0	13.6	26.8	6.1	50°	04:32	05:11	05:43	00:53	01:52	02:52				
	163° 16.5	354° 39.0	24.8	281° 51.2	19.6	26° 49.6	09.1	295° 42.3	38.1	295° 42.3	38.1	295° 42.3	38.1				346° 32.9	25.0	38° 18.6	13.6	20.7	6.2	45°	04:40	05:15	05:44	01:06	02:02	03:00				
	178° 19.0	379° 38.6	23.6 N	296° 51.9	22° 19.9 S	41° 51.6	17° 09.0 N	310° 44.6	15° 38.1 S	310° 44.6	15° 38.1 S	310° 44.6	15° 38.1 S	Alphecca	126° 10.5	26° 40.3 N	1° 33.1	1° 24.0 N	52° 51.2	13.6	14° 14.5 N	6.2	54.1	N 40°	04:47	05:18	05:45	01:16	02:11	03:07			
	193° 21.5	24° 38.2	22.4	311° 52.6	20.2	56° 53.6	08.9	325° 46.8	38.2	325° 46.8	38.2	325° 46.8	38.2	Alpheratz	357° 42.2	29° 10.4 N	16° 33.4	23.1	67° 23.8	13.7	08.3	6.2	35°	04:51	05:21	05:46	01:26	02:19	03:12				
	208° 23.9	39° 37.7	21.2	326° 53.2	20.6	71° 55.6	08.7	340° 49.1	38.3	340° 49.1	38.3	340° 49.1	38.3	Altair	62° 07.2	8° 54.8 N	31° 33.6	22.1	81° 56.5	13.8	02.1	6.3	30°	04:55	05:23	05:47	01:34	02:25	03:17				
	223° 26.4	54° 37.3	20.0	341° 53.9	20.9	86° 57.6	08.6	355° 51.3	38.3	355° 51.3	38.3	355° 51.3	38.3	Ankaa	353° 14.5	42° 13.4 S	46° 33.8	21.1	96° 29.3	13.7	13° 55.8 N	6.4	20°	05:01	05:26	05:48	01:47	02:37	03:26				
	238° 28.9	69° 36.9	18.8	356° 54.6	21.2	101° 59.6	08.5	10° 53.6	38.4	10° 53.6	38.4	10° 53.6	38.4	Antares	112° 25.3	26° 27.7 S	61° 34.0	20.1	111° 02.0	13.8	49.4	6.5	N 10°	05:04	05:28	05:49	02:00	02:47	03:33				
	253° 31.3	84° 36.5	17.6	11° 55.2	21.6	117° 01.5	08.4	25° 55.8	38.5	25° 55.8	38.5	25° 55.8	38.5				76° 34.0	19.2	125° 34.8	13.8	42.9	6.5	0°	05:06	05:30	05:50	02:11	02:56	03:40				
	268° 33.8	99° 36.1	16.4	26° 55.9	21.9	132° 03.5	08.2	40° 58.1	38.5	40° 58.1	38.5	40° 58.1	38.5	Arcturus	145° 55.2	19° 06.6 N	91° 34.5	18.2	140° 07.6	13.8	36.4	6.5	S 10°	05:06	05:30	05:51	02:22	03:05	03:47				
	283° 36.3	114° 35.6	15.2	41° 56.6	22.2	147° 05.5	08.1	56° 00.3	38.6	56° 00.3	38.6	56° 00.3	38.6	Atria	107° 26.4	69° 03.3 S	106° 34.7	17.2	154° 40.4	13.9	29.9	6.6	20°	05:04	05:30	05:52	02:34	03:15	03:54				
	298° 38.7	129° 35.2	14.0	56° 57.2	22.6	162° 07.5	08.0	71° 02.6	38.7	71° 02.6	38.7	71° 02.6	38.7	Avior	234° 18.0	59° 33.3 S	121° 34.9	16.3	169° 13.3	13.9	23.3	6.7	30°	05:01	05:28	05:52	02:48	03:26	04:03				
	313° 41.2	144° 34.8	12.8	71° 57.9	22.9	177° 09.5	07.8	86° 04.8	38.7	86° 04.8	38.7	86° 04.8	38.7	Bellatrix	278° 31.0	6° 21.7 N	136° 35.1	15.3	183° 46.2	13.9	16.6	6.7	35°	04:58	05:27	05:53	02:56	03:33	04:07				
	328° 43.7	159° 34.4	11.6	86° 58.6	23.2	192° 11.5	07.7	101° 07.1	38.8	101° 07.1	38.8	101° 07.1	38.8	Betelgeuse	271° 00.4	7° 24.5 N	151° 35.4	14.3	198° 19.1	14.0	09.9	6.8	40°	04:54	05:26	05:53	03:05	03:40	04:13				
343° 46.1	174° 34.0	10.4	101° 59.2	23.5	207° 13.5	07.6	116° 09.3	38.9	116° 09.3	38.9	116° 09.3	38.9				166° 35.6	13.4	212° 52.1	14.0	03.1	6.8	45°	04:50	05:24	05:53	03:16	03:49	04:19					
20 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	358° 48.6	189° 33.5	6° 09.3 N	116° 59.9	22° 23.9 S	222° 15.5	17° 07.4 N	131° 11.6	15° 38.9 S	131° 11.6	15° 38.9 S	131° 11.6	Canopus	263° 55.8	52° 42.1 S	181° 35.8	1° 12.4 N	227° 25.1	14.0	12° 56.3 N	6.9	54.1	S 50°	04:44	05:21	05:54	03:29	03:59	04:27				
	13° 51.0	204° 33.1	08.1	132° 00.6	24.2	237° 17.5	07.3	146° 13.8	39.0	146° 13.8	39.0	146° 13.8	Capella	280° 33.1	46° 00.4 N	196° 36.0	11.4	241° 58.1	14.0	49.4	7.0	54.0	52°	04:41	05:20	05:54	03:34	04:04	04:30				
	28° 53.5	219° 32.7	06.9	147° 01.2	24.5	252° 19.5	07.2	161° 16.1	39.1	161° 16.1	39.1	161° 16.1	Deneb	49° 30.5	45° 20.4 N	211° 36.2	10.4	256° 31.1	14.1	42.4	7.0	54°	04:37	05:19	05:54	03:41	04:09	04:34					
	43° 56.0	234° 32.3	05.7	162° 01.9	24.9	267° 21.4	07.0	176° 10.3	39.1	176° 10.3	39.1	176° 10.3	Denebola	182° 33.1	14° 29.5 S	226° 36.5	09.5	271° 04.2	14.1	35.4	7.0	56°	04:33	05:17	05:54	03:48	04:15	04:38					
	58° 58.4	249° 31.9	04.5	177° 02.5	25.2	282° 23.4	06.9	191° 20.6	39.2	191° 20.6	39.2	191° 20.6	Diphda	348° 54.7	17° 54.2 S	241° 36.7	08.5	285° 37.3	14.1	28.4	7.1	58°	04:29	05:15	05:54	03:56	04:22	04:43					
	74° 00.9	264° 31.4	03.3	192° 03.2	25.5	297° 25.4	06.8	206° 22.8	39.3	206° 22.8	39.3	206° 22.8				256° 36.9	07.5	300° 10.4	14.2	21.3	7.2	S 60°	04:24	05:13	05:55	04:06	04:29	04:48					
	89° 03.4	279° 31.0	02.1	207° 03.9	25.9	312° 27.4	06.7	221° 25.1	39.3	221° 25.1	39.3	221° 25.1	39.3	Dubhe	193° 51.4	61° 40.2 N	271° 37.1	06.6	314° 43.6	14.2	14.1	7.2	S 62°	04:18	05:11	05:55	04:16	04:37	04:54				
	104° 05.8	294° 30.6	00.9	222° 04.5	26.2	327° 29.4	06.5	236° 27.3	39.4	236° 27.3	39.4	236° 27.3	39.4	Elinath	278° 11.5	28° 37.0 N	286° 37.4	05.6	329° 16.8	14.2	06.9	7.2											
	119° 08.3	309° 30.2	5° 59.7 N	237° 05.2	26.5	342° 31.4	06.4	251° 29.6	39.5	251° 29.6	39.5	251° 29.6	39.5	Eltanin	90° 45.7	51° 29.7 N	301° 37.6	04.6	343° 50.0	14.2	11° 59.7 N	7.3		Lat	Sunset	Twilight		Moonset					
	134° 10.8	324° 29.8	58.5	252° 05.8	26.8	357° 33.4	06.3	266° 31.8	39.5																								

2014 September 22, 23, 24 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	Nautical		Civil		22		Moonrise		23		24																				
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:04	04:34	05:42	03:05	04:40	06:15					
Monday	00	0° 46'9"	189° 13'6"	5° 11'4" N	117° 31'3"	22° 39'4" S	223° 51'2"	17° 01'2" N	132° 59'4"	15° 42'1" S	Acamar	315° 17'4"	40° 14'6" S	181° 46'4"	0° 25'8" N	206° 14'5"	14'9"	6° 33'2" N	8'9"	54'1"	N 70°	03:23	04:42	05:43	03:14	04:43	06:12				
	01	15° 49'3"	204° 13'2"	10'2"	132° 32'0"	39'7"	238° 53'2"	01'1"	148° 01'6"	42'2"	Achernar	335° 25'7"	57° 09'6" S	196° 46'6"	24'8"	220° 48'4"	14'9"	24'3"	8'9"	54'2"	68°	03:38	04:48	05:44	03:21	04:45	06:10				
	02	30° 51'8"	219° 12'8"	09'0"	147° 32'6"	40'0"	253° 55'2"	01'0"	163° 03'9"	42'2"	Acruz	173° 08'9"	63° 10'8" S	211° 46'9"	23'8"	235° 22'3"	14'9"	15'4"	9'0"	66°	03:50	04:53	05:45	03:27	04:47	06:08					
	03	45° 54'2"	234° 12'4"	07'8"	162° 33'2"	40'3"	268° 57'2"	00'8"	178° 06'1"	42'3"	Adhara	255° 11'9"	28° 59'4" S	226° 47'1"	22'8"	249° 56'2"	14'9"	06'4"	9'0"	64°	03:59	04:58	05:45	03:32	04:49	06:06					
	04	60° 56'7"	249° 12'0"	06'6"	177° 33'9"	40'6"	283° 59'2"	00'7"	193° 08'4"	42'4"	Aldebaran	290° 48'2"	16° 32'2" N	241° 47'3"	21'9"	264° 30'1"	15'0"	5° 57'4" N	9'0"	62°	04:08	05:01	05:46	03:36	04:50	06:05					
	05	75° 59'2"	264° 11'6"	05'4"	192° 34'5"	40'9"	299° 01'2"	00'6"	208° 10'6"	42'4"				256° 47'5"	20'9"	279° 04'1"	14'9"	48'4"	9'1"	60°	04:14	05:05	05:46	03:40	04:51	06:03					
	06	91° 01'6"	279° 11'1"	04'1"	207° 35'2"	41'3"	314° 03'2"	00'3"	223° 12'9"	42'5"	Alioth	196° 20'6"	55° 52'9" N	271° 47'7"	19'9"	293° 38'0"	14'9"	39'3"	9'1"	N 58°	04:20	05:07	05:47	03:43	04:52	06:02					
	07	106° 04'1"	294° 10'7"	02'9"	222° 35'8"	41'6"	329° 05'2"	00'4"	238° 15'1"	42'6"	Alkaid	152° 58'7"	49° 14'6" N	286° 48'0"	18'9"	308° 11'9"	15'0"	30'2"	9'1"	56°	04:25	05:10	05:47	03:46	04:53	06:01					
	08	121° 06'6"	309° 10'3"	01'7"	237° 36'5"	41'9"	344° 07'2"	00'2"	253° 17'3"	42'6"	Alnair	27° 42'3"	46° 53'3" S	301° 48'2"	18'0"	322° 45'9"	14'9"	21'1"	9'1"	54°	04:30	05:12	05:47	03:49	04:54	06:00					
	09	136° 09'0"	324° 09'9"	00'5"	252° 37'1"	42'2"	359° 09'2"	00'1"	268° 16'9"	42'7"	Alnilam	275° 45'4"	1° 11'6" S	316° 48'4"	17'0"	337° 18'8"	15'0"	12'0"	9'1"	52°	04:34	05:14	05:47	03:52	04:55	06:00					
	10	151° 11'5"	339° 09'5"	0° 58'3" N	267° 37'7"	42'5"	14° 11'1"	16° 59'9" N	283° 21'8"	42'8"	Alphard	217° 55'5"	8° 43'3" S	331° 48'6"	16'0"	351° 53'8"	14'9"	02'9"	9'2"	50°	04:37	05:15	05:48	03:54	04:56	05:59					
	11	166° 14'0"	354° 09'1"	58'1" N	282° 38'4"	42'8"	29° 13'1"	59'8" S	298° 21'1"	42'9"				346° 48'8"	15'1"	6° 27'7"	15'0"	4° 53'7" N	9'2"	45°	04:44	05:19	05:48	03:58	04:57	05:57					
	12	181° 16'4"	9° 08'7"	4° 56'9" N	297° 39'0"	22° 43'1" S	44° 15'1"	16° 59'7" N	313° 26'3"	15° 42'9" S	Alphecca	126° 10'5"	26° 40'3" N	1° 49'1"	0° 14'1" N	21° 01'7"	15'0"	4° 44'5" N	9'2"	54'2"	N 40°	04:50	05:21	05:48	04:02	04:59	05:56				
	13	196° 18'9"	24° 08'3"	55'6"	312° 39'7"	43'4"	59° 17'1"	59'5"	328° 28'6"	43'0"	Alpheratz	357° 42'2"	29° 10'5" N	16° 49'3"	13'1"	35° 35'7"	14'9"	35'3"	9'3"	35°	04:54	05:23	05:49	04:06	05:00	05:55					
	14	211° 21'4"	39° 07'9"	54'4"	327° 40'3"	43'8"	74° 19'1"	59'4"	343° 30'8"	43'1"	Altair	62° 07'2"	8° 54'8" N	31° 49'5"	12'1"	50° 09'6"	15'0"	26'0"	9'2"	54'3"	30°	04:57	05:25	05:49	04:09	05:01	05:54				
	15	226° 23'8"	54° 07'5"	53'2"	342° 41'0"	44'1"	89° 21'1"	59'3"	358° 33'0"	43'1"	Ankaa	353° 14'5"	42° 13'4" S	46° 49'7"	11'2"	64° 43'6"	14'9"	16'8"	9'3"	20°	05:01	05:27	05:49	04:14	05:03	05:52					
	16	241° 26'3"	69° 07'1"	52'0"	357° 41'6"	44'4"	104° 23'1"	59'1"	18° 35'3"	43'2"	Antares	112° 25'3"	26° 27'7" S	61° 49'9"	10'2"	79° 17'5"	15'0"	07'5"	9'4"	N 10°	05:04	05:28	05:49	04:19	05:04	05:51					
	17	256° 28'7"	84° 06'6"	50'8"	12° 42'2"	44'7"	119° 25'1"	59'0"	23° 37'5"	43'3"				76° 50'1"	09'2"	93° 51'5"	15'0"	3° 58'2" N	9'3"	0°	05:04	05:28	05:49	04:23	05:06	05:49					
	18	271° 31'2"	99° 06'2"	49'6"	27° 42'9"	45'0"	134° 27'1"	58'9"	43° 39'8"	43'3"	Arcturus	145° 55'2"	19° 06'6" N	91° 50'4"	08'2"	108° 25'5"	14'9"	48'8"	9'3"	S 10°	05:04	05:28	05:49	04:27	05:07	05:48					
	19	286° 33'7"	114° 05'8"	48'4"	42° 43'5"	45'3"	149° 29'1"	58'8"	58° 42'0"	43'4"	Atria	107° 26'4"	69° 03'3" S	106° 50'6"	07'3"	122° 59'4"	15'0"	39'5"	9'4"	20°	05:01	05:27	05:49	04:32	05:09	05:46					
	20	301° 36'1"	129° 05'4"	47'1"	57° 44'2"	45'6"	164° 31'1"	58'6"	73° 44'2"	43'5"	Avio	234° 18'0"	59° 33'3" S	121° 50'8"	06'3"	137° 33'4"	14'9"	30'1"	9'3"	30°	04:57	05:25	05:49	04:37	05:11	05:45					
	21	316° 38'6"	144° 05'0"	45'9"	72° 44'8"	45'9"	179° 33'1"	58'5"	88° 46'5"	43'5"	Bellatrix	278° 31'0"	6° 21'7" N	136° 51'0"	05'3"	152° 07'3"	15'0"	20'8"	9'4"	35°	04:54	05:23	05:48	04:40	05:12	05:44					
	22	331° 41'1"	159° 04'6"	44'7"	87° 45'4"	46'2"	194° 35'1"	58'4"	103° 48'7"	43'6"	Betelgeuse	271° 00'3"	7° 24'5" N	151° 51'2"	04'4"	166° 41'3"	15'0"	11'4"	9'5"	40°	04:49	05:21	05:48	04:43	05:13	05:43					
23	346° 43'5"	174° 04'2"	43'5"	102° 46'1"	46'5"	209° 37'1"	58'2"	118° 51'0"	43'7"				166° 51'5"	03'4"	181° 15'3"	14'9"	01'9"	9'4"	45°	04:44	05:18	05:48	04:47	05:15	05:42						
Tuesday	00	1° 46'0"	189° 03'8"	4° 42'3" N	117° 46'7"	22° 46'9" S	224° 39'1"	16° 58'1" N	133° 53'2"	15° 43'7" S	Canopus	263° 55'8"	52° 42'1" S	181° 51'7"	0° 02'4" N	195° 49'2"	14'9"	2° 52'5" N	9'4"	54'3"	S 50°	04:37	05:15	05:47	04:52	05:16	05:40				
	01	16° 48'0"	204° 03'4"	41'0"	132° 47'3"	47'2"	239° 41'1"	58'0"	148° 55'4"	43'8"	Capella	280° 33'1"	46° 00'4" N	196° 51'9"	01'4"	210° 23'1"	15'0"	4'3"	9'5"	54'4"	52°	04:33	05:13	05:47	04:54	05:17	05:40				
	02	31° 50'9"	219° 03'0"	39'8"	147° 48'0"	47'5"	254° 43'1"	57'9"	163° 57'7"	43'9"	Deneb	49° 30'6"	45° 20'4" S	211° 52'1"	00'5"	224° 57'1"	14'9"	33'6"	9'5"	54°	04:29	05:11	05:47	04:56	05:18	05:39					
	03	46° 53'4"	234° 02'6"	37'6"	162° 48'6"	47'8"	269° 45'1"	57'6"	178° 59'9"	43'9"	Denebola	182° 33'1"	14° 29'5" N	226° 52'3"	0° 00'5" S	239° 31'0"	15'0"	24'1"	9'5"	56°	04:25	05:09	05:46	04:59	05:19	05:38					
	04	61° 55'8"	249° 02'2"	37'4"	177° 49'3"	48'1"	284° 47'1"	57'6"	194° 02'4"	44'0"	Diphda	348° 54'7"	17° 54'2" S	241° 52'6"	01'5"	254° 05'0"	14'9"	14'6"	9'5"	58°	04:20	05:07	05:46	05:02	05:20	05:37					
	05	76° 58'3"	264° 01'8"	36'2"	192° 49'9"	48'4"	299° 49'2"	57'5"	209° 04'4"	44'1"				256° 52'8"	02'5"	268° 38'9"	14'9"	05'1"	9'5"	S 60°	04:14	05:04	05:45	05:05	05:21	05:36					
	06	92° 00'8"	279° 01'3"	35'0"	207° 50'5"	48'7"	314° 51'2"	57'3"	224° 06'6"	44'1"	Dubhe	193° 51'4"	61° 40'2" N	271° 53'0"	03'4"	283° 12'8"	14'9"	1° 55'6" N	9'5"	S 62°	04:07	05:01	05:45	05:09	05:22	05:35					
	07	107° 03'2"	294° 00'9"	33'7"	222° 51'2"	49'0"	329° 53'2"	57'2"	239° 09'8"	44'2"	Elinath	278° 11'5"	28° 37'0" N	286° 53'2"	04'4"	297° 46'7"	14'9"	46'1"	9'6"												
	08	122° 05'7"	309° 00'5"	32'5"	237° 51'8"	49'3"	344° 55'2"	57'1"	254° 11'1"	44'3"	Eltanin	90° 45'7"	51° 29'7" N	301° 53'4"	05'4"	312° 20'6"	14'9"	36'5"	9'5"												
	09	137° 08'2"	324° 00'1"	31'3"	252° 52'4"	49'6"	359° 57'2"	57'0"	269° 13'4"	44'3"	Enif	135° 46'0"	9° 56'9" N	316° 53'6"	06'3"	326° 54'5"	14'9"	27'0"	9'6"												
	10	152° 10'6"	338° 59'7"	30'1"	267° 53'1"	49'9"	14° 59'2"	56'8"	284° 15'6"	44'4"	Fomalhaut	33° 22'0"	29° 32'5" S	331° 53'9"	07'3"	341° 28'4"	14'8"	17'4"	9'6"	54'5"											
	11	167° 13'1"	353° 59'3"	28'9"	282° 53'7"	50'2"	301° 01'2"	56'7"	299° 17'8"	44'5"				346° 54'1"	08'3"	356° 02'2"	14'9"	07'8"	9'5"												
	12	182° 15'6"	8° 58'9"	4° 27'6" N	297° 54'3"	22° 50'5" S	45° 03'2"	16° 56'6" N	314° 20'1"	15° 44'5" S	Gacrux	172° 00'4"	57° 11'7" S	1° 54'3"	0° 09'3" S	10° 36'1"	14'9"	0° 58'3" N	9'6"	54'5"	N 70°	17:59	19:00	20:18	17:27	17:27	17:27				
	13	197° 18'0"	23° 58'5"	26'4"	312° 55'0"	50'8"	60° 05'2"	56'4"	329° 22'3"	44'6"	Giennah	175° 51'7"	17° 37'3" S	16° 54'5"	10'2"	25° 10'0"	14'8"	48'7"	9'6"	68°	17:59	18:54	20:04	17:23	17:27	17:31					
	14	212° 20'5"	38° 58'1"																												

2014 September 25, 26, 27 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		25	26		27		
Thurs day	00		GHA		GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:21	04:48	05:56	07:52	09:33	11:20
	01	3° 44'.3	188° 44'.4	3° 43'.5 N	118° 16'.9	23° 01'.3 S	226° 15'.4	16° 52'.0 N	135° 40'.6	15° 47'.0 S	Acamar	315° 17'.4	40° 14'.6 S	182° 02'.1	0° 44'.3 S	174° 44'.0	14'.1	4° 47'.2 S	9.4	55.0	N 70°	03:38	04:54	05:55	07:43	09:17	10:53				
	02	18° 46'.7	203° 44'.0	42.3	133° 17'.5	01.6	241° 17'.4	51.8	150° 42'.9	47.1	Achernar	335° 25'.7	57° 09'.6 S	197° 02'.3	45.3	189° 17'.1	14'.1	56.6	9.5	68°	03:50	04:59	05:55	07:36	09:04	10:33					
	03	33° 49'.2	218° 43'.6	41.1	148° 18'.1	01.9	256° 19'.4	51.7	165° 45'.1	47.1	Acruz	173° 08'.9	63° 10'.8 S	212° 02'.5	46.3	203° 50'.2	14.0	5° 06'.1 S	9.4	66°	04:01	05:03	05:54	07:30	08:53	10:18					
	04	48° 51'.7	233° 43'.2	39.8	163° 18'.8	02.2	271° 21'.4	51.6	180° 47'.3	47.2	Adhara	255° 11'.9	28° 59'.4 S	227° 02'.8	47.2	218° 23'.2	14.0	15.5	9.4	64°	04:09	05:06	05:54	07:25	08:44	10:05					
	05	63° 54'.1	248° 42'.8	38.6	178° 19'.4	02.5	286° 23'.4	51.5	195° 49'.6	47.3	Aldebaran	290° 48'.2	16° 32'.2 N	242° 03'.0	48.2	232° 56'.2	14.0	24.9	9.4	62°	04:16	05:09	05:54	07:20	08:37	09:54					
	06	78° 56'.6	263° 42'.4	37.4	193° 20'.0	02.8	301° 25'.4	51.3	210° 51'.8	47.3		196° 20'.6	55° 52'.9 N	257° 03'.2	49.2	247° 29'.2	14.0	34.3	9.3	55.1	60°	04:22	05:12	05:53	07:16	08:30	09:45				
	07	93° 59'.0	278° 42.0	36.1	208° 20.6	03.0	316° 27.4	51.2	225° 54.0	47.4	Alioth	260° 20'.6	55° 52'.9 N	272° 03'.4	50.2	262° 02'.2	13.9	43.6	9.4	N 58°	04:27	05:14	05:53	07:13	08:25	09:37					
	08	109° 01'.5	293° 41'.6	34.9	223° 21.2	03.3	331° 29.4	51.1	240° 56.3	47.5	Alkaid	152° 58'.7	49° 14'.6 N	287° 03'.6	51.1	276° 35'.1	13.9	53.0	9.3	56°	04:32	05:16	05:53	07:10	08:20	09:29					
	09	124° 04'.0	308° 41'.2	33.7	238° 21.8	03.6	346° 31.4	51.0	255° 55.5	47.5	Alnair	27° 42'.3	46° 53'.3 S	302° 03'.8	52.1	291° 08.0	13.9	6° 02'.3 S	9.3	54°	04:36	05:17	05:53	07:07	08:15	09:23					
	10	139° 06'.4	323° 40.8	32.5	253° 22.5	03.9	1° 33'.4	50.8	271° 00.7	47.6	Alnilam	275° 45.4	1° 11'.6 S	317° 04.1	53.1	305° 40.9	13.8	11.6	9.3	52°	04:39	05:19	05:52	07:05	08:11	09:17					
	11	154° 08'.9	338° 40.4	31.2	268° 23.1	04.2	16° 35'.4	50.7	286° 03.0	47.7	Alphard	217° 55.5	8° 43'.3 S	332° 04.3	54.1	320° 13.7	13.8	20.9	9.2	50°	04:42	05:20	05:52	07:03	08:07	09:12					
	12	169° 11'.4	353° 40.0	30.0	283° 23.7	04.5	31° 37'.4	50.6	301° 05.2	47.7		190° 20'.6	55° 52'.9 N	347° 04.5	55.0	334° 46.5	13.7	30.1	9.3	55.2	45°	04:48	05:22	05:52	06:58	07:59	09:01				
	13	184° 13'.8	8° 39'.6	3° 28'.8 N	298° 24.3	23° 04.8 S	46° 39.5	16° 50.4 N	316° 07.4	15° 47.8 S	Alphecca	126° 10'.5	26° 40'.3 N	2° 04'.7	0° 56'.0 S	349° 19.2	13.8	6° 39.4 S	9.2	55.2	N 40°	04:53	05:24	05:51	06:54	07:53	08:52				
	14	199° 16'.3	23° 39'.2	27.5	313° 24.9	05.1	61° 41'.5	50.3	331° 09.7	47.9	Alpheratz	357° 42'.2	29° 10'.5 N	17° 04'.9	57.0	3° 52.0	13.6	48.6	9.2	35°	04:56	05:26	05:51	06:50	07:47	08:44					
	15	214° 18'.8	38° 38'.8	26.3	328° 25.5	05.4	76° 43'.5	50.2	346° 11.9	47.9	Altair	62° 07'.3	8° 54'.8 N	32° 05'.1	58.0	18° 24.6	13.7	57.8	9.1	30°	04:59	05:27	05:50	06:47	07:42	08:38					
	16	229° 21'.2	53° 38'.4	25.1	343° 26.2	05.7	91° 45.5	50.1	1° 14'.2	48.0	Ankaa	353° 14'.5	42° 13'.4 S	47° 05.3	58.9	32° 57.3	13.6	7° 06'.9 S	9.1	20°	05:02	05:28	05:50	06:42	07:33	08:26					
	17	244° 23'.7	68° 38'.0	23.8	358° 26.8	05.9	106° 47'.5	49.9	16° 16'.4	48.1	Antares	112° 25.3	26° 27'.7 S	62° 05.6	59.9	47° 29.9	13.6	16.0	9.1	N 10°	05:04	05:28	05:49	06:38	07:26	08:16					
	18	259° 26.2	83° 37.6	22.6	13° 27.4	06.2	121° 49.5	49.8	31° 18.6	48.1		77° 05.8	1° 00.9 S	77° 05.8	1° 00.9 S	62° 02.5	13.5	25.1	9.1	55.3	0°	05:03	05:27	05:48	06:33	07:19	08:06				
	19	274° 28.6	98° 37.2	21.4	28° 28.0	06.5	136° 51.5	49.7	46° 20.9	48.2	Arcturus	145° 55.2	19° 06.6 N	92° 06.0	01.8	76° 35.0	13.5	34.2	9.1	S 10°	05:02	05:26	05:47	06:29	07:12	07:57					
	20	289° 31'.1	113° 36.8	20.1	43° 28.6	06.8	151° 53.5	49.6	61° 23.1	48.3	Atia	107° 26.5	69° 03.3 S	107° 06.2	02.8	91° 07.5	13.4	43.3	9.0	20°	04:59	05:24	05:46	06:25	07:04	07:46					
	21	304° 33'.5	128° 36.4	18.9	58° 29.2	07.1	166° 55.5	49.4	76° 25.3	48.4	Avior	234° 17.9	59° 33.3 S	122° 06.4	03.8	105° 39.9	13.5	52.3	9.0	30°	04:53	05:21	05:45	06:20	06:56	07:35					
	22	319° 36.0	143° 36.0	17.7	73° 29.8	07.4	181° 57.6	49.3	91° 27.6	48.4	Bellatrix	278° 31.0	6° 21.7 N	137° 06.6	04.8	120° 12.4	13.3	8° 01.3 S	8.9	35°	04:49	05:19	05:44	06:17	06:51	07:28					
23	334° 38.5	158° 35.6	16.4	88° 30.5	07.7	196° 59.6	49.2	106° 29.8	48.5	Betelgeuse	271° 00.3	7° 24.5 N	152° 06.9	05.7	134° 44.7	13.4	10.2	8.9	55.4	40°	04:44	05:16	05:43	06:13	06:46	07:21					
	349° 40.9	173° 35.2	15.2	103° 31.1	08.0	212° 01.6	49.1	121° 32.0	48.6		167° 07.1	06.7	167° 07.1	06.7	149° 17.1	13.3	19.1	8.9	45°	04:38	05:13	05:42	06:10	06:39	07:12						
Fri day	00	4° 43'.4	188° 34.8	3° 14'.0 N	118° 31.7	23° 08.2 S	227° 03.6	16° 48.9 N	136° 34.3	15° 48.6 S	Canopus	263° 55.8	52° 42.1 S	182° 07.3	1° 07.7 S	163° 49.4	13.2	8° 28.0 S	8.9	55.4	S 50°	04:30	05:08	05:40	06:05	06:32	07:02				
	01	19° 45'.3	203° 34.4	12.7	133° 32.3	08.5	242° 05.6	48.8	151° 36.5	48.7	Capella	280° 33.0	46° 00.4 N	197° 07.5	08.7	178° 21.6	13.2	36.9	8.8	52°	04:26	05:06	05:40	06:03	06:28	06:57					
	02	34° 48'.3	218° 34.0	11.5	148° 32.9	08.8	257° 07.6	48.7	166° 38.7	48.8	Deneb	49° 30.6	45° 20.4 N	212° 07.7	09.6	192° 53.8	13.2	45.7	8.8	54°	04:21	05:04	05:39	06:01	06:25	06:52					
	03	49° 50'.8	233° 33.6	10.3	163° 33.5	09.1	272° 09.6	48.5	181° 41.0	48.8	Denebola	182° 33.1	14° 29.5 S	227° 07.9	10.6	207° 26.0	13.1	54.5	8.8	56°	04:16	05:01	05:38	05:58	06:20	06:46					
	04	64° 53'.3	248° 33.2	09.0	178° 34.1	09.4	287° 11.6	48.4	196° 43.2	48.9	Diphda	348° 54.7	17° 54.2 S	242° 08.1	11.6	221° 58.1	13.1	9° 03.3 S	8.7	55.5	58°	04:11	04:58	05:37	05:56	06:16	06:39				
	05	79° 55'.7	263° 32.8	07.8	193° 34.7	09.7	302° 13.6	48.3	211° 45.4	49.0		257° 08.3	12.6	257° 08.3	12.6	236° 30.2	13.0	12.0	8.6	S 60°	04:04	04:55	05:36	05:53	06:11	06:32					
	06	94° 58'.2	278° 32.4	06.6	208° 35.4	09.9	317° 15.7	48.2	226° 47.6	49.0	Dubhe	193° 51.4	61° 40.2 N	272° 08.6	13.5	251° 02.2	13.0	20.6	8.7	S 62°	03:56	04:51	05:35	05:49	06:05	06:24					
	07	110° 00'.6	293° 32.0	05.3	223° 36.0	10.2	332° 17.7	48.0	241° 49.9	49.1	Elinath	278° 11.4	28° 37.0 N	287° 08.8	14.5	265° 34.2	13.0	29.3	8.6												
	08	125° 03'.1	308° 31.6	04.1	238° 36.6	10.5	347° 19.7	47.9	256° 52.1	49.2	Eltanin	90° 45.8	51° 29.7 N	302° 09.0	15.5	280° 06.2	12.9	37.9	8.5												
	09	140° 05'.6	323° 31.2	02.9	253° 37.2	10.8	2° 21'.7	47.8	271° 54.1	49.2	Enif	171° 46.0	9° 56.9 N	317° 09.2	16.5	294° 38.1	12.9	46.4	8.6	55.6											
	10	155° 08'.0	338° 30.8	01.6	268° 37.8	11.1	17° 23'.7	47.7	286° 56.6	49.3	Fomalhaut	35° 22.0	29° 32.5 S	332° 09.4	17.4	309° 10.0	12.8	55.0	8.5		Lat	Sunset	Twilight		Moonset						
	11	170° 10'.5	353° 30.4	00.4	283° 38.4	11.4	32° 25'.7	47.5	301° 58.8	49.4		13° 46.7	29° 32.5 S	347° 09.6	18.4	323° 41.8	12.8	10° 03.5 S	8.4				25	26	27						
	12	185° 13'.0	8° 30.0	2° 59.1 N	298° 39.0	23° 11.6 S	47° 27.7	16° 47.4 N	317° 01.0	15° 49.5 S	Gacrux	172° 00.4	57° 11.7 S	2° 09.8	1° 19.4 S	338° 13.6	12.7	10° 11.9 S	8.4	55.6	N 70°	17:45	18:46	20:02	17:27	17:27	17:30				
	13	200° 15'.4	23° 29.6	57.9	313° 39.6	11.9	62° 29.7	47.3	332° 03.3	49.5	Giennah	175° 51.7	17° 37.3 S	17° 10.1	20.3	352° 45.3	12.7	20.3	8.3	68°	17:46	18:41	19:49	17:36	17:42	17:51					
	14	215° 17.9	38° 29.2	56.7	328° 40.2	12.2	77° 31.8	47.2	347° 05.5	49.6	Hamal	148° 47.1	60° 26.6 S	32° 10.3	21.3	7° 17.0	12.6	28.6	8.3	55.7	66°	17:47	18:38	19:39	17:43	17:53	18:01				
	15	230° 20'.4	53° 28.8	55.4	343° 40.8	12.5	92° 33.8	47.0	2° 07.7	49.7	Hadar	327° 59.4	33° 31.9 N	47° 10.5	22.3	21° 48.6	12.6	36.9	8.3	64°	17:47	18:34	19:31	17:49	18:03	18:17					
	16	245° 22'.8	68° 28.4	54.2	358° 41.4	12.8	107° 35.8	46.9	17° 10.0	49.7	Kaus Aust.	83° 42'.6	34° 22'.5 S	62° 10.7	23.3	3															

2014 October 1, 2, 3 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	1		2	3	
Wednesday	00	9° 39' 1"	187° 47.5	0° 44.8 N	119° 42.8	23° 40.1 S	231° 06.1	16° 34.0 N	141° 01.5	15° 57.0 S	156° 03.7	57.1	Acamar	315° 17.4	40° 14.6 S	182° 32.4	3° 04.4 S	102° 27.1	7.6	18° 30.4 S	0.5	58.1	N 72°	03:54	05:15	06:23	-	17:12	17:00		
	01	24° 41.6	202° 47.1	43.5	134° 43.3	40.4	246° 08.2	33.8	156° 03.7	57.1	156° 03.7	57.1	Achernar	335° 25.6	57° 09.6 S	197° 32.6	05.3	116° 53.7	7.6	29.9	0.7	68°	04:14	05:20	06:16	16:07	16:25	16:32			
	02	39° 44.0	217° 46.7	42.3	149° 43.9	40.6	261° 10.2	33.7	171° 05.9	57.1	171° 05.9	57.1	Acruz	173° 08.9	63° 10.8 S	212° 32.8	06.3	131° 20.3	7.5	29.2	0.8	58.2	04:22	05:22	06:13	16:07	16:25	16:32			
	03	54° 46.5	232° 46.3	41.0	164° 44.5	40.9	276° 12.2	33.6	186° 08.1	57.2	186° 08.1	57.2	Adhara	255° 11.9	28° 59.5 S	227° 33.0	07.3	145° 46.8	7.6	28.4	0.9	64°	04:28	05:24	06:11	14:34	14:52	15:40			
	04	69° 48.9	247° 45.9	39.8	179° 45.1	41.1	291° 14.3	33.5	201° 10.4	57.3	201° 10.4	57.3	Aldebaran	290° 48.2	16° 32.2 N	242° 33.2	08.2	160° 13.4	7.4	27.5	1.0	62°	04:33	05:25	06:09	14:16	14:57	15:28			
	05	84° 51.4	262° 45.6	38.5	194° 45.6	41.3	306° 16.3	33.3	216° 12.6	57.4	216° 12.6	57.4		257° 33.4	09.2	257° 33.4	09.2	174° 39.8	7.5	26.5	1.2	60°	04:37	05:26	06:07	14:02	14:45	15:18			
	06	99° 53.9	277° 45.2	37.3	209° 46.2	41.6	321° 18.3	33.2	231° 14.8	57.4	231° 14.8	57.4	Alioth	266° 20.6	55° 52.9 N	272° 33.6	10.2	189° 06.3	7.4	25.3	1.2	58.3	04:41	05:27	06:06	13:50	14:34	15:10			
	07	114° 56.3	292° 44.8	36.0	224° 46.8	41.8	336° 20.4	33.1	246° 17.0	57.5	246° 17.0	57.5	Alkaid	152° 58.7	49° 14.6 N	287° 33.8	11.1	203° 32.7	7.5	24.1	1.4	56°	04:44	05:28	06:05	13:39	14:24	15:02			
	08	129° 58.8	307° 44.4	34.8	239° 47.3	42.1	351° 22.4	33.0	261° 19.2	57.6	261° 19.2	57.6	Alnair	27° 42.3	46° 53.3 S	302° 34.0	12.1	217° 59.2	7.4	22.7	1.4	54°	04:47	05:28	06:03	13:29	14:16	14:55			
	09	145° 01.3	322° 44.0	33.5	254° 47.9	42.3	36° 24.4	33.8	276° 21.5	57.6	276° 21.5	57.6	Alnilam	275° 45.4	1° 11.6 S	317° 34.2	13.1	232° 25.6	7.3	21.3	1.6	52°	04:49	05:29	06:02	13:21	14:08	14:49			
	10	160° 03.7	337° 43.6	32.3	269° 48.5	42.6	31° 26.5	32.7	291° 23.7	57.7	291° 23.7	57.7	Alphard	217° 55.4	8° 43.3 S	332° 34.4	14.1	246° 51.9	7.4	19.7	1.7	58.4	04:51	05:29	06:01	13:13	14:01	14:43			
	11	175° 06.2	352° 43.2	31.0	284° 49.0	42.8	36° 28.5	32.6	306° 25.9	57.8	306° 25.9	57.8		347° 34.6	15.0	347° 34.6	15.0	261° 18.3	7.3	18.0	1.9	58.4	04:51	05:29	06:01	13:13	14:01	14:43			
	12	190° 08.7	7° 42.8	0° 29.8 N	299° 49.6	23° 43.0 S	51° 30.5	16° 32.5 N	321° 28.1	15° 57.9 S	321° 28.1	15° 57.9 S	Alphecca	126° 10.5	26° 40.3 N	2° 34.8	3° 16.0 S	275° 44.6	7.3	18° 16.1 S	1.9	58.4	N 40°	04:59	05:30	05:57	12:44	13:34	14:21		
	13	205° 11.1	22° 42.4	28.5	314° 50.2	43.3	66° 32.6	32.4	336° 30.3	57.9	336° 30.3	57.9	Alpheratz	357° 42.2	29° 10.5 N	17° 35.0	17.0	290° 10.9	7.3	14.2	2.0	35°	05:01	05:30	05:55	12:32	13:24	14:12			
	14	220° 13.6	37° 42.0	27.3	329° 50.8	43.5	81° 34.6	32.4	351° 32.6	58.0	351° 32.6	58.0	Altair	62° 07.3	8° 54.8 N	32° 35.2	17.9	304° 37.2	7.3	12.2	2.2	58.5	30°	05:02	05:30	05:54	12:22	13:15	14:05		
	15	235° 16.1	52° 41.6	26.0	344° 51.3	43.8	96° 36.6	32.1	6° 34.8	58.1	6° 34.8	58.1	Ankaa	353° 14.5	42° 13.5 S	47° 35.4	18.9	319° 03.5	7.3	10.0	2.3	20°	05:04	05:29	05:51	12:05	12:59	13:52			
	16	250° 18.5	67° 41.2	24.8	359° 51.9	44.0	111° 38.7	32.0	21° 37.0	58.1	21° 37.0	58.1	Antares	112° 25.3	26° 27.7 S	62° 35.6	19.9	333° 29.8	7.2	07.7	2.4	10°	05:03	05:28	05:49	11:51	12:46	13:40			
	17	265° 21.0	82° 40.9	23.5	14° 52.5	44.2	126° 40.7	31.9	36° 39.2	58.2	36° 39.2	58.2		77° 35.8	20.8	77° 35.8	20.8	347° 56.0	7.3	05.3	2.5	58.6	0°	05:01	05:25	05:46	11:37	12:33	13:29		
	18	280° 23.4	97° 40.5	22.3	29° 53.0	44.5	141° 42.7	31.7	51° 41.4	58.3	51° 41.4	58.3	Arcturus	145° 55.3	19° 06.6 N	92° 36.0	21.8	2° 22.3	7.2	02.8	2.6	10°	04:58	05:23	05:44	11:23	12:20	13:19			
	19	295° 25.9	112° 40.1	21.0	44° 53.6	44.7	156° 44.8	31.6	66° 43.7	58.3	66° 43.7	58.3	Atria	170° 26.6	69° 03.3 S	107° 36.2	22.8	16° 48.5	7.2	00.2	2.8	20°	04:53	05:19	05:41	11:08	12:07	13:07			
	20	310° 28.4	127° 39.7	19.8	59° 54.2	45.0	171° 46.8	31.5	81° 45.9	58.4	81° 45.9	58.4	Avior	234° 17.9	59° 33.3 S	122° 36.4	23.7	31° 14.7	7.2	17° 57.4 S	2.8	30°	04:45	05:13	05:37	10:51	11:51	12:54			
	21	325° 30.8	142° 39.3	18.5	74° 54.7	45.2	186° 48.8	31.4	96° 48.1	58.5	96° 48.1	58.5	Bellatrix	278° 31.0	6° 21.7 N	137° 36.6	24.7	45° 40.9	7.1	54.6	3.0	58.7	35°	04:40	05:10	05:35	10:41	11:42	12:46		
	22	340° 33.3	157° 38.9	17.3	89° 55.3	45.4	201° 50.9	31.3	111° 50.3	58.6	111° 50.3	58.6	Betelgeuse	271° 00.3	7° 24.5 N	152° 36.8	25.7	60° 07.0	7.2	51.6	3.1	40°	04:34	05:06	05:33	10:30	11:31	12:37			
23	355° 35.8	172° 38.5	16.0	104° 55.9	45.7	216° 52.9	31.1	126° 52.5	58.6	126° 52.5	58.6		167° 37.0	26.7	167° 37.0	26.7	74° 33.2	7.2	48.5	3.2	45°	04:26	05:01	05:30	10:17	11:19	12:27				
Thursday	00	10° 38.2	187° 38.1	0° 14.8 N	119° 56.4	23° 45.9 S	231° 54.9	16° 31.0 N	141° 54.8	15° 58.7 S	156° 57.0	58.8	Canopus	263° 55.7	52° 42.1 S	182° 37.2	3° 27.6 S	88° 59.4	7.1	17° 45.3 S	3.3	58.7	S 50°	04:16	04:55	05:27	10:01	11:04	12:15		
	01	25° 40.7	202° 37.7	13.5	134° 57.0	46.1	246° 57.0	30.9	156° 57.0	58.8	156° 57.0	58.8	Capella	280° 33.0	46° 00.4 N	197° 37.4	28.6	103° 25.5	7.1	42.0	3.4	58.8	52°	04:11	04:52	05:26	09:53	10:57	12:09		
	02	40° 43.2	217° 37.3	12.3	149° 57.6	46.4	261° 59.0	30.8	171° 59.0	58.8	171° 59.0	58.8	Deneb	49° 30.6	45° 20.4 N	212° 37.6	29.6	117° 51.6	7.2	38.6	3.5	54°	04:05	04:48	05:24	09:45	10:50	12:03			
	03	55° 45.6	232° 36.9	11.0	164° 58.1	46.6	277° 01.0	30.7	187° 01.4	58.9	187° 01.4	58.9	Denebola	182° 33.1	14° 29.4 N	227° 37.8	30.5	132° 17.8	7.1	35.1	3.7	56°	03:59	04:45	05:22	09:35	10:41	11:56			
	04	70° 48.1	247° 36.6	09.8	179° 58.7	46.8	292° 03.1	30.5	202° 03.6	59.0	202° 03.6	59.0	Diphda	348° 54.7	17° 54.2 S	242° 38.0	31.5	146° 43.9	7.1	31.4	3.7	58°	03:52	04:40	05:20	09:24	10:31	11:47			
	05	85° 50.6	262° 36.2	08.5	194° 59.3	47.1	307° 05.1	30.4	217° 05.9	59.1	217° 05.9	59.1		257° 38.2	32.5	257° 38.2	32.5	161° 10.0	7.1	27.7	3.9	58.9	S 60°	03:43	04:36	05:18	09:12	10:20	11:38		
	06	100° 53.0	277° 35.8	07.3	209° 59.8	47.3	322° 07.1	30.2	232° 08.1	59.1	232° 08.1	59.1	Dubhe	193° 51.4	61° 40.1 N	272° 38.4	33.4	175° 36.1	7.1	23.8	4.0	59.0	S 62°	03:33	04:30	05:16	08:57	10:07	11:28		
	07	115° 55.5	292° 35.4	06.0	225° 00.4	47.5	337° 09.2	30.3	247° 10.3	59.2	247° 10.3	59.2	Elmath	278° 11.4	28° 37.0 N	287° 38.6	34.4	190° 02.2	7.1	19.8	4.1	59.0									
	08	130° 57.9	307° 35.0	04.7	240° 00.9	47.8	352° 11.2	30.0	262° 12.5	59.3	262° 12.5	59.3	Eltanin	90° 45.8	51° 29.7 N	302° 38.8	35.4	204° 28.3	7.1	15.7	4.2	59.0	Lat	Sunset	Twilight		1	Moonset			
	09	146° 00.4	322° 34.6	03.5	255° 01.5	48.0	7° 13.3	29.9	277° 14.7	59.3	277° 14.7	59.3	Enif	13° 46.0	9° 56.9 N	317° 39.0	36.3	218° 54.4	7.0	11.5	4.4	59.0									
	10	161° 02.9	337° 34.2	02.2	270° 02.1	48.2	22° 15.3	29.8	292° 16.9	59.4	292° 16.9	59.4	Fomalhaut	35° 22.7	29° 32.5 S	332° 39.2	37.3	233° 20.4	7.1	07.1	4.4	59.0									
	11	176° 05.3	352° 33.8	01.0	285° 02.6	48.5	37° 17.3	29.7	307° 19.2																						

2014 October 4, 5, 6 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	4		5	6				
Saturday	00	12° 36' 5	187° 19.3	0° 45.4 S	120° 23.2	23° 56.8 S	233° 32.8	16° 25.2 N	143° 41.2	16° 02.1 S	158° 43.4	02.2	Acamar	315° 17.4	40° 14.6 S	182° 46.6	4° 14.0 S	61° 54.2	7.4	13° 03.5 S	8.3	59.9	N 72°	04:08	05:29	06:36	16:52	16:46	16:40		
	01	27° 39.0	202° 18.9	46.6	135° 23.8	57.1	248° 34.9	25.1	158° 43.4	02.2	158° 43.4	02.2	Achernar	335° 25.6	57° 09.6 S	197° 46.8	15.0	76° 20.6	7.3	12° 55.2 S	8.5	68°	04:18	05:30	06:31	16:35	16:37	16:37			
	02	42° 41.4	217° 18.5	47.9	150° 24.3	57.3	263° 36.9	25.0	173° 45.6	02.3	173° 45.6	02.3	Acruz	173° 08.9	63° 10.8 S	212° 47.0	15.9	90° 46.9	7.4	46.7	8.5	66°	04:26	05:31	06:27	16:21	16:29	16:35			
	03	57° 43.9	232° 18.2	49.1	165° 24.9	57.5	278° 38.9	24.9	188° 47.8	02.4	188° 47.8	02.4	Adhara	255° 11.8	28° 59.5 S	227° 47.2	16.9	105° 13.3	7.4	38.2	8.6	64°	04:32	05:32	06:23	16:10	16:23	16:33			
	04	72° 46.4	247° 17.8	50.4	180° 25.4	57.7	293° 41.0	24.7	203° 50.0	02.3	203° 50.0	02.3	Aldebaran	290° 48.2	16° 32.2 N	242° 47.4	17.9	119° 39.7	7.4	29.6	8.7	62°	04:37	05:32	06:20	16:01	16:17	16:32			
	05	87° 48.8	262° 17.4	51.6	195° 26.0	57.9	308° 43.0	24.6	218° 52.2	02.5	218° 52.2	02.5					257° 47.6	18.8	134° 06.1	7.4	20.9	8.7	60.0	04:41	05:33	06:17	15:53	16:13	16:30		
	06	102° 51.3	277° 17.0	52.9	210° 26.5	58.2	323° 45.1	24.5	233° 54.0	02.6	233° 54.0	02.6	Alioth	166° 20.6	55° 52.9 N	272° 47.8	19.8	148° 32.5	7.4	12.2	8.9	60°	04:45	05:33	06:15	15:45	16:08	16:29			
	07	117° 53.8	292° 16.6	54.2	225° 27.1	58.4	338° 47.1	24.4	248° 56.7	02.6	248° 56.7	02.6	Alkaid	152° 58.7	49° 14.6 N	287° 48.0	20.8	162° 58.9	7.5	03.3	8.9	58°	04:48	05:33	06:13	15:39	16:05	16:28			
	08	132° 56.2	307° 16.2	55.4	240° 27.6	58.6	353° 49.2	24.3	263° 58.9	02.7	263° 58.9	02.7	Alnair	27° 42.3	46° 53.3 S	302° 48.2	21.7	177° 25.4	7.5	11° 54.4 S	9.0	56°	04:50	05:34	06:11	15:34	16:02	16:27			
	09	147° 58.7	322° 15.8	56.7	255° 28.2	58.8	368° 51.2	24.1	279° 01.1	02.8	279° 01.1	02.8	Alnilam	275° 45.4	1° 11.6 S	317° 48.4	22.7	191° 51.9	7.4	45.4	9.4	54°	04:53	05:34	06:09	15:29	15:59	16:26			
	10	163° 01.2	337° 15.4	57.9	270° 28.7	59.0	383° 53.3	24.0	294° 03.3	02.8	294° 03.3	02.8	Alphard	217° 55.4	8° 43.3 S	332° 48.6	23.6	206° 18.3	7.5	36.3	9.2	60.1	04:54	05:34	06:07	15:24	15:56	16:25			
	11	178° 03.6	352° 15.0	59.2	285° 29.3	59.2	398° 55.3	23.9	309° 05.5	02.9	309° 05.5	02.9					347° 48.8	24.6	220° 44.8	7.6	27.1	9.3	50°	04:56	05:34	06:06	15:20	15:54	16:25		
	12	193° 06.1	7° 14.6	1° 00.4 S	300° 29.8	23° 59.5 S	53° 57.3	16° 23.8 N	324° 07.7	16° 03.0 S	324° 07.7	16° 03.0 S	Alphecca	126° 10.5	26° 40.2 N	2° 49.0	4° 25.6 S	235° 11.4	7.5	11° 17.8 S	9.3	45°	05:00	05:33	06:00	15:04	15:44	16:22			
	13	208° 08.5	22° 14.2	01.7	315° 30.4	59.7	68° 59.4	23.7	339° 09.9	03.1	339° 09.9	03.1	Alpheratz	357° 42.2	29° 10.5 N	17° 49.1	26.5	249° 37.9	7.5	08.5	9.4	30°	05:02	05:32	06:00	14:57	15:40	16:21			
	14	223° 11.0	37° 13.8	02.9	330° 30.9	59.9	84° 01.4	23.5	354° 12.2	03.1	354° 12.2	03.1	Altair	62° 07.3	8° 54.8 N	32° 49.3	27.5	264° 04.0	7.6	10° 59.1 S	9.5	30°	05:04	05:32	05:56	14:52	15:37	16:20			
	15	238° 13.5	52° 13.4	04.2	345° 31.5	24° 00.1 S	99° 03.5	23.4	9° 14.4	03.2	9° 14.4	03.2	Ankaa	353° 14.5	42° 13.5 S	47° 49.5	28.5	278° 31.0	7.6	49.6	9.6	20°	05:04	05:30	05:52	14:42	15:31	16:18			
	16	253° 15.9	67° 13.0	05.4	0° 32.0	00.3	114° 05.5	23.3	24° 16.6	03.3	24° 16.6	03.3	Antares	112° 25.4	26° 27.7 S	62° 49.7	29.4	292° 57.6	7.6	40.0	9.6	60.2	05:05	05:27	05:48	14:33	15:25	16:16			
	17	268° 18.4	82° 12.7	06.7	15° 32.6	00.5	129° 07.6	23.2	37° 39.8	03.4	37° 39.8	03.4					77° 49.9	30.4	307° 24.2	7.6	30.4	9.7	10°	05:00	05:24	05:45	14:25	15:21	16:15		
	18	283° 20.9	97° 12.3	08.0	30° 33.1	00.7	144° 09.6	23.1	54° 21.0	03.4	54° 21.0	03.4	Arcturus	145° 55.3	19° 06.6 N	92° 50.1	31.4	321° 50.8	7.6	20.7	9.8	10°	04:56	05:21	05:42	14:17	15:16	16:14			
	19	298° 23.3	112° 11.9	09.2	45° 33.7	01.0	159° 11.7	22.9	69° 23.2	03.5	69° 23.2	03.5	Atria	107° 26.6	69° 03.2 S	107° 50.3	32.3	336° 17.4	7.7	10.9	9.9	20°	04:50	05:16	05:38	14:09	15:10	16:12			
	20	313° 25.8	127° 11.5	10.5	60° 34.2	01.2	174° 13.7	22.8	84° 25.4	03.6	84° 25.4	03.6	Avior	234° 17.8	59° 33.2 S	122° 50.5	33.3	350° 44.1	7.6	01.0	9.9	30°	04:42	05:10	05:34	13:59	15:05	16:11			
	21	328° 28.3	142° 11.1	11.7	75° 34.7	01.4	189° 15.8	22.7	99° 27.6	03.6	99° 27.6	03.6	Bellatrix	278° 30.9	6° 21.7 N	137° 50.7	34.2	5° 10.7	7.7	9° 51.1 S	10.0	35°	04:36	05:06	05:31	13:53	15:01	16:10			
	22	343° 30.7	157° 10.7	13.0	90° 35.3	01.6	204° 17.8	22.6	114° 29.9	03.7	114° 29.9	03.7	Betelgeuse	271° 00.3	7° 24.5 N	152° 50.9	35.2	19° 37.4	7.7	41.1	10.0	40°	04:29	05:01	05:28	13:46	14:57	16:09			
23	358° 33.2	172° 10.3	14.2	105° 35.8	01.8	219° 19.9	22.5	129° 32.1	03.8	129° 32.1	03.8					167° 51.1	36.2	34° 04.1	7.7	31.1	10.1	60.3	04:20	04:55	05:25	13:39	14:53	16:07			
Sunday	00	13° 35.6	187° 09.9	1° 15.5 S	120° 36.4	24° 02.0 S	234° 21.9	16° 22.3 N	144° 34.3	16° 03.9 S	144° 34.3	16° 03.9 S	Canopus	263° 55.7	52° 42.1 S	182° 51.2	4° 37.1 S	48° 30.8	7.8	9° 21.0 S	10.2	60.3	S 50°	04:09	04:48	05:21	13:30	14:47	16:06		
	01	28° 38.1	202° 09.5	16.7	135° 36.9	02.2	249° 24.0	22.2	159° 36.5	03.9	159° 36.5	03.9	Capella	280° 32.9	46° 00.4 N	197° 51.4	38.1	62° 57.6	7.7	10.8	10.3	52°	04:03	04:45	05:19	13:25	14:45	16:05			
	02	43° 40.6	217° 09.1	18.0	150° 37.5	02.4	264° 26.0	22.1	174° 38.7	04.0	174° 38.7	04.0	Deneb	49° 30.6	45° 20.4 N	212° 51.6	39.1	72° 24.3	7.8	00.5	10.3	54°	03:57	04:41	05:17	13:21	14:42	16:05			
	03	58° 43.0	232° 08.7	19.2	165° 38.0	02.6	279° 28.1	22.0	189° 40.9	04.1	189° 40.9	04.1	Denebola	182° 33.1	14° 29.4 N	227° 51.8	40.0	91° 51.1	7.8	8° 50.2 S	10.4	56°	03:50	04:36	05:14	13:16	14:39	16:04			
	04	73° 45.5	247° 08.3	20.5	180° 38.6	02.8	294° 30.1	21.9	204° 43.1	04.1	204° 43.1	04.1	Diphda	348° 54.7	17° 54.2 S	242° 52.0	41.0	106° 17.9	7.8	39.8	10.4	58°	03:42	04:32	05:12	13:10	14:36	16:03			
	05	88° 48.0	262° 07.9	21.7	195° 39.1	03.1	309° 32.2	21.7	219° 45.3	04.2	219° 45.3	04.2					257° 52.2	41.9	120° 44.7	7.8	29.4	10.5	S 60°	03:33	04:26	05:09	13:03	14:32	16:02		
	06	103° 50.4	277° 07.5	23.0	210° 39.6	03.3	324° 34.2	21.6	234° 47.6	04.3	234° 47.6	04.3	Dubhe	193° 51.3	61° 40.1 N	272° 52.4	42.9	135° 11.5	7.8	08.9	10.5	60.4	Lat	Sunset							
	07	118° 52.9	292° 07.2	24.3	225° 40.2	03.5	339° 36.2	21.5	249° 49.8	04.4	249° 49.8	04.4	Elinath	278° 11.4	28° 37.0 N	287° 52.6	43.9	149° 38.3	7.9	18.4	10.7	60.4	S 62°	03:22	04:20	05:06	12:56	14:28	16:01		
	08	133° 55.4	307° 06.8	25.5	240° 40.7	03.7	354° 38.3	21.4	264° 52.0	04.4	264° 52.0	04.4	Eltanin	90° 45.9	51° 29.7 N	302° 52.8	44.8	164° 05.2	7.8	7° 57.7 S	10.6	60.4	Lat	Sunset							
	09	148° 57.8	322° 06.4	26.8	255° 41.3	03.9	369° 40.3	21.3	279° 54.2	04.5	279° 54.2	04.5	Enif	13° 46.0	9° 56.9 N	317° 53.0	45.8	178° 32.0	7.9	47.1	10.7	60.4	Lat	Sunset							
	10	164° 00.3	337° 06.0	28.0	270° 41.8	04.1	24° 42.4	21.2	294° 56.4	04.6	294° 56.4	04.6	Fomalhaut	35° 22.7	29° 32.5 S	332° 53.1	46.7	192° 58.9	7.9	36.4	10.8	60.4	Lat	Sunset							
	11	179° 02.8	352° 05.6	29.3	285° 42.3	04.3	39° 44.4	21.0	309° 58.6	04.6	309° 58.6	04.6																			

2014 October 7, 8, 9 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	7		Moonrise	
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil				8	9	
Tuesday	00	15° 33' 9	186° 51' 0	2° 15' 6 S	121° 02' 2	24° 11' 7 S	236° 00' 4	16° 16' 7 N	146° 20' 4	16° 07' 3 S	146° 20' 4	16° 07' 3 S	Acamar	315° 17' 3	40° 14' 6 S	183° 00' 2	5° 23' 2 S	22° 10' 4	8.4	0° 22' 5 S	11' 7	60.4	N 72°	04:23	05:42	06:50	16:34	16:28	16:22			
	01	30° 36' 4	201° 50' 6	16.9	136° 02' 7	11.9	251° 02' 5	16.6	161° 22' 6	07.4	161° 22' 6	07.4	Achernar	335° 25' 6	57° 09' 6 S	198° 00' 4	24.1	36° 37' 8	8.3	10.8	11.8	68°	04:31	05:42	06:43	16:38	16:39	16:41				
	02	45° 38' 8	216° 50' 2	18.2	151° 03' 2	12.1	266° 04' 5	16.4	176° 24' 8	07.5	176° 24' 8	07.5	Acruz	173° 08' 9	63° 10' 8 S	213° 00' 6	25.1	51° 05' 1	8.4	0° 01' 0 N	11' 7	66°	04:42	05:41	06:33	16:43	16:54	17:07				
	03	60° 41' 3	231° 49' 8	19.4	166° 03' 8	12.3	281° 06' 6	16.3	191° 27' 0	07.5	191° 27' 0	07.5	Adhara	255° 11' 8	28° 59' 5 S	228° 00' 7	26.1	65° 32' 5	8.4	12.7	11.8	64°	04:46	05:41	06:29	16:45	17:00	17:17				
	04	75° 43' 8	246° 49' 4	20.7	181° 04' 3	12.4	296° 08' 6	16.2	206° 29' 2	07.6	206° 29' 2	07.6	Aldebaran	290° 48' 2	16° 32' 2 N	243° 00' 9	27.0	79° 59' 9	8.3	24.5	11.7	62°	04:49	05:41	06:25	16:47	17:05	17:25				
	05	90° 46' 2	261° 49' 0	21.9	196° 04' 8	12.6	311° 10' 7	16.1	221° 31' 4	07.7	221° 31' 4	07.7		196° 04' 8		258° 01' 1	28.0	94° 27' 2	8.4	36.2	11.8	60°	04:52	05:40	06:22	16:49	17:10	17:33				
	06	105° 48' 7	276° 48' 6	23.2	211° 05' 4	12.8	326° 12' 7	16.0	236° 33' 6	07.8	236° 33' 6	07.8	Alioth	260° 20' 6	55° 52' 8 N	273° 01' 3	28.9	108° 54' 6	8.4	48.0	11.7	N 58°	04:54	05:40	06:19	16:51	17:14	17:39				
	07	120° 51' 2	291° 48' 2	24.4	228° 05' 9	13.0	341° 14' 8	15.9	251° 35' 8	07.8	251° 35' 8	07.8	Alkaid	152° 58' 7	49° 14' 6 N	288° 01' 5	29.9	123° 22' 0	8.4	59.7	11.7	56°	04:56	05:39	06:17	16:52	17:17	17:45				
	08	135° 53' 6	306° 47' 8	25.7	241° 06' 4	13.2	356° 16' 9	15.7	266° 38' 0	07.9	266° 38' 0	07.9	Alnair	27° 42' 4	46° 53' 3 S	303° 01' 7	30.8	137° 49' 4	8.4	1° 11' 4 N	11.8	54°	04:58	05:39	06:14	16:53	17:21	17:50				
	09	150° 56' 1	321° 47' 4	26.9	256° 06' 9	13.4	1° 18' 9	15.6	281° 40' 5	13.4	281° 40' 5	13.4	Anilam	275° 45' 3	1° 11' 6 S	318° 01' 8	31.8	152° 16' 8	8.4	23.2	11.7	52°	05:00	05:39	06:12	16:54	17:24	17:55				
	10	165° 58' 0	336° 47' 0	28.2	271° 07' 5	13.6	26° 21' 0	15.5	296° 42' 4	08.1	296° 42' 4	08.1	Alphard	217° 55' 4	8° 43' 3 S	333° 02' 0	32.7	166° 44' 2	8.4	34.9	11.7	50°	05:01	05:38	06:11	16:55	17:26	17:59				
	11	181° 01' 6	351° 46' 6	29.4	286° 08' 0	13.8	41° 23' 0	15.4	311° 44' 7	08.1	311° 44' 7	08.1		348° 02' 2	33.7	348° 02' 2	33.7	181° 11' 6	8.4	46.6	11.6	45°	05:03	05:37	06:06	16:57	17:32	18:09				
	12	196° 03' 5	6° 46' 2	2° 30' 7 S	301° 08' 5	24° 14' 0 S	56° 25' 1	16° 15' 3 N	326° 46' 9	16° 08' 2 S	326° 46' 9	16° 08' 2 S	Alphecca	126° 10' 6	26° 40' 2 N	3° 02' 4	5° 34' 7 S	195° 39' 0	8.4	1° 58' 2 N	11' 7	60.3	N 40°	05:05	05:36	06:03	16:59	17:37	18:17			
	13	211° 06' 0	21° 45' 8	31.9	316° 09' 1	14.2	71° 27' 2	15.2	341° 49' 1	08.3	341° 49' 1	08.3	Alpheratz	357° 42' 2	29° 10' 5 N	18° 02' 6	35' 6	210° 06' 4	8.5	2° 09' 9 N	11' 6	35°	05:05	05:35	06:00	17:01	17:41	18:23				
	14	226° 08' 4	36° 45' 4	33.2	331° 09' 6	14.3	86° 29' 2	15.0	356° 51' 3	08.3	356° 51' 3	08.3	Altair	62° 07' 3	8° 54' 8 N	33° 02' 7	36' 6	224° 33' 9	8.4	21.5	11' 6	30°	05:06	05:33	05:57	17:02	17:45	18:29				
	15	241° 10' 9	51° 45' 0	34.4	346° 10' 1	14.5	101° 31' 3	14.9	11° 53' 5	08.4	11° 53' 5	08.4	Ankaa	353° 14' 5	42° 13' 5 S	48° 02' 9	37.5	239° 01' 3	8.4	33.1	11' 6	20°	05:05	05:31	05:53	17:05	17:52	18:40				
	16	256° 13' 3	66° 44' 6	35.7	1° 10' 6	14.7	116° 33' 3	14.8	26° 55' 7	08.5	26° 55' 7	08.5	Antares	112° 25' 4	26° 27' 7 S	63° 03' 1	38.5	253° 28' 7	8.4	44.7	11' 6	N 10°	05:03	05:27	05:48	17:07	17:58	18:49				
	17	271° 15' 8	81° 44' 2	36.9	16° 11' 2	14.9	131° 35' 4	14.7	41° 57' 9	08.6	41° 57' 9	08.6		78° 03' 3	39.4	78° 03' 3	39.4	267° 56' 1	8.5	56.3	11' 6	0°	04:59	05:24	05:44	17:09	18:03	18:57				
	18	286° 18' 3	96° 43' 8	38.2	31° 11' 7	15.1	146° 37' 5	14' 6	57° 00' 1	08' 6	57° 00' 1	08' 6	Arcturus	145° 55' 3	19° 06' 6 N	93° 03' 5	40.4	282° 23' 6	8.4	3° 07' 9 N	11' 5	S 10°	04:54	05:19	05:40	17:11	18:09	19:06				
	19	301° 20' 7	111° 43' 4	39.4	46° 12' 2	15.3	161° 39' 5	14.5	72° 02' 3	08' 7	72° 02' 3	08' 7	Atria	107° 26' 6	69° 03' 2 S	108° 03' 6	41.3	296° 51' 0	8.4	19.4	11' 5	60.2	20°	04:47	05:13	05:36	17:14	18:15	19:15			
	20	316° 23' 2	126° 43' 0	40.7	61° 12' 7	15.5	176° 41' 6	14.3	87° 04' 5	08.8	87° 04' 5	08.8	Avia	234° 17' 8	59° 33' 2 S	123° 03' 8	42.3	311° 18' 4	8.5	30.9	11' 5	30°	04:38	05:06	05:30	17:17	18:22	19:26				
	21	331° 25' 7	141° 42' 6	41.9	76° 13' 3	15.6	191° 43' 6	14' 2	102° 06' 7	08' 9	102° 06' 7	08' 9	Bellatrix	278° 30' 9	6° 21' 7 N	138° 04' 0	43.3	325° 45' 9	8.4	42.4	11' 4	35°	04:31	05:01	05:27	17:18	18:26	19:32				
	22	346° 28' 1	156° 42' 2	43.2	91° 13' 8	15.8	206° 45' 7	14.1	117° 08' 9	08' 9	117° 08' 9	08' 9	Betelgeuse	271° 00' 2	7° 24' 5 N	153° 04' 2	44.2	340° 13' 3	8.5	53' 8	11' 4	40°	04:24	04:56	05:24	17:20	18:30	19:39				
23	1° 30' 6	171° 41' 8	44.4	106° 14' 3	16.0	221° 47' 8	14.0	132° 11' 1	09.0	132° 11' 1	09.0		168° 04' 3	45.2	168° 04' 3	45.2	354° 40' 8	8.4	4° 05' 2 N	11' 4	45°	04:14	04:50	05:19	17:22	18:36	19:47					
Wednesday	00	16° 33' 1	186° 41' 4	2° 45' 7 S	121° 14' 8	24° 16' 2 S	236° 49' 8	16° 13' 9 N	147° 13' 3	16° 09' 1 S	147° 13' 3	16° 09' 1 S	Canopus	263° 55' 6	52° 42' 1 S	183° 04' 5	5° 46' 1 S	9° 08' 2	8.5	4° 16' 6 N	11' 4	60.2	S 50°	04:01	04:41	05:14	17:25	18:42	19:57			
	01	31° 35' 5	201° 41' 0	47.0	136° 15' 4	16.4	251° 51' 9	13.8	162° 15' 5	09' 1	162° 15' 5	09' 1	Capella	280° 32' 9	46° 00' 5 N	198° 04' 7	47.1	23° 35' 7	8.4	28.0	11' 3	52°	03:55	04:37	05:12	17:26	18:45	20:02				
	02	46° 38' 0	216° 40' 6	48.2	151° 15' 9	16.6	266° 53' 9	13.6	177° 17' 8	09' 2	177° 17' 8	09' 2	Deneb	49° 30' 6	45° 20' 4 N	213° 04' 9	48.0	38° 03' 1	8.5	39.3	11' 3	60.1	54°	03:49	04:33	05:09	17:27	18:48	20:07			
	03	61° 40' 5	231° 40' 2	49.5	166° 16' 4	16.7	281° 56' 0	13.5	192° 20' 0	09.3	192° 20' 0	09.3	Denebola	182° 33' 1	14° 29' 4 N	228° 05' 1	49.0	52° 30' 6	8.4	50' 6	11' 2	56°	03:41	04:28	05:07	17:28	18:52	20:13				
	04	76° 42' 9	246° 39' 0	50.7	181° 16' 9	16.9	296° 58' 1	13.4	207° 22' 2	09.4	207° 22' 2	09.4	Diphda	348° 54' 7	17° 54' 2 S	243° 05' 2	49.9	66° 58' 0	8.5	5° 01' 8 N	11' 2	58°	03:32	04:23	05:03	17:30	18:56	20:19				
	05	91° 45' 4	261° 39' 4	52.0	196° 17' 5	17.1	312° 00' 1	13' 3	222° 24' 4	09.4	222° 24' 4	09.4				258° 05' 4	50.9	81° 25' 5	8.4	13' 0	11' 2	S 60°	03:22	04:17	05:00	17:32	19:01	20:27				
	06	106° 47' 8	276° 39' 0	53.2	211° 18' 0	17.3	327° 02' 2	13' 2	237° 26' 6	09.5	237° 26' 6	09.5	Dubhe	193° 51' 3	61° 40' 1 N	273° 05' 6	51.8	95° 52' 9	8.5	24' 2	11' 1											
	07	121° 50' 3	291° 38' 6	54.5	228° 18' 5	17.5	342° 04' 2	13' 1	252° 28' 8	09.6	252° 28' 8	09.6	Elmath	278° 11' 3	28° 37' 0 N	110° 20' 4	52.8	110° 20' 4	8.4	35.3	11' 1	60.0	52°	03:49	04:33	05:09	17:27	18:48	20:07			
	08	136° 52' 8	306° 38' 2	55.7	241° 19' 0	17.6	357° 06' 3	12' 9	267° 31' 0	09.7	267° 31' 0	09.7	Eltanin	90° 45' 9	51° 29' 7 N	303° 05' 9	53.7	124° 47' 8	8.5	46.4	11' 1											
	09	151° 55' 2	321° 37' 8	57.0	256° 19' 5	17.8	12° 08' 4	12.8	282° 33' 2	09.7	282° 33' 2	09.7	Enif	13° 46' 0	9° 56' 9 N	318° 06' 1	54.7	139° 15' 3	8.4	57.5	11' 0											
	10	166° 57' 7	336° 37' 4	58.2	271° 20' 1	18.0	27° 1																									

2014 October 10, 11, 12 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -1.9			SATURN +0.6			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
																Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical		Civil	10		11	12	
10		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:37	05:55	07:04	16:16	16:06	15:30				
	00	18° 31'.3	186° 22'.1	3° 45'.7 S	121° 39'.7	24° 24'.5 S	238° 28'.9	16° 08'.4 N	148° 59'.1	16° 12'.6 S	164° 01'.3	12.6	Acamar	315° 17'.3	40° 14'.7 S	183° 12'.9	6° 31'.7 S	343° 05'.8	8.5	12° 22'.4 N	8.4	59.0	N 70°	04:43	05:54	06:56	16:45	16:54	17:13				
	01	33° 33'.8	201° 21'.7	46.9	136° 40'.2	24'.7	253° 31'.0	08'.2	164° 01'.3	12.6	164° 01'.3	12.6	Achernar	335° 25'.6	57° 09'.7 S	198° 13'.0	32.7	357° 33'.3	8.5	30.8	8.3	58.9	68°	04:47	05:52	06:48	17:07	17:24	17:54				
	02	48° 36'.3	216° 21'.3	48.2	151° 40'.7	24.9	268° 33'.1	08'.1	179° 03'.6	12.7	179° 03'.6	12.7	Acruz	173° 08'.9	63° 10'.7 S	213° 13'.2	33'.6	12° 00'.8	8.4	39.1	8.2		66°	04:51	05:51	06:42	17:24	17:47	18:21				
	03	63° 38'.7	231° 20'.9	49.4	166° 41'.2	25.0	283° 35'.2	08'.0	194° 05'.8	12.8	194° 05'.8	12.8	Adhara	255° 11'.8	28° 59'.5 S	228° 13'.4	34.6	26° 28'.2	8.5	47.3	8.2		64°	04:54	05:49	06:37	17:38	18:06	18:42				
	04	78° 41'.2	246° 20'.5	50.7	181° 41'.7	25.2	298° 37'.2	07'.9	209° 08'.0	12.9	209° 08'.0	12.9	Aldebaran	290° 48'.1	16° 32'.2 N	243° 13'.5	35.5	40° 55'.7	8.5	55.5	8.1	58.8	62°	04:57	05:48	06:33	17:50	18:21	19:00				
	05	93° 43'.7	261° 20'.1	51.9	196° 42'.3	25.4	313° 39'.3	07'.8	224° 10'.2	12.9	224° 10'.2	12.9		260° 12'.5		258° 13'.7	36.5	55° 23'.2	8.4	13° 03'.6 N	7.9		60°	04:59	05:47	06:29	18:00	18:33	19:14				
	06	108° 46'.1	276° 19'.7	53.2	211° 42'.8	25.5	328° 41'.4	07'.7	239° 12'.4	13.0	239° 12'.4	13.0	Alioth	196° 20'.6	55° 52'.8 N	273° 13'.9	37.4	69° 50'.6	8.5	11.5	7.9		N 58°	05:01	05:46	06:26	18:09	18:44	19:26				
	07	123° 48'.6	291° 19'.3	54.4	226° 43'.3	25.7	343° 43'.4	07'.6	254° 14'.6	13.1	254° 14'.6	13.1	Alkaid	152° 58'.7	49° 14'.5 N	288° 14'.0	38.4	84° 18'.1	8.5	19.4	7.8	58.7	56°	05:02	05:45	06:23	18:17	18:54	19:37				
	08	138° 51'.0	306° 18'.9	55.7	241° 43'.8	25.8	358° 45'.5	07'.4	269° 16'.8	13.2	269° 16'.8	13.2	Alnair	27° 42'.4	46° 53'.3 S	303° 14'.2	39.3	98° 45'.6	8.5	27.2	7.7		54°	05:04	05:44	06:20	18:24	19:02	19:46				
	09	153° 53'.5	321° 18'.4	56.9	256° 44'.3	26.0	373° 47'.6	07'.3	284° 19'.0	13.2	284° 19'.0	13.2	Anilam	275° 45'.3	1° 11'.6 S	318° 14'.4	40.3	113° 13'.1	8.5	34.9	7.7		52°	05:05	05:44	06:17	18:30	19:10	19:54				
	10	168° 56'.0	336° 18'.0	58.1	271° 44'.8	26.2	387° 49'.7	07'.2	299° 21'.2	13.3	299° 21'.2	13.3	Alphard	217° 55'.4	8° 43'.3 S	333° 14'.5	41.2	127° 40'.6	8.5	42.6	7.5	58.6	50°	05:05	05:43	06:15	18:36	19:16	20:02				
	11	183° 58'.4	351° 17'.6	59.4	286° 45'.3	26.3	43° 51'.7	07'.1	314° 23'.4	13.4	314° 23'.4	13.4		348° 14'.7	42.2	142° 08'.1	8.5	50'.1	7.4				45°	05:07	05:41	06:10	18:48	19:31	20:18				
	12	199° 00'.9	6° 17'.2	4° 00'.6 S	301° 45'.8	24° 26'.5 S	58° 53'.8	16° 07'.0 N	329° 25'.6	16° 13'.5 S	329° 25'.6	16° 13'.5 S	Alphecca	126° 10'.6	26° 40'.2 N	3° 14'.9	6° 43'.1 S	156° 35'.6	8.5	13° 57'.5 N	7.4	58.6	N 40°	05:08	05:39	06:06	18:58	19:43	20:31				
	13	214° 03'.4	21° 16'.8	01.9	316° 46'.3	26.6	73° 55'.9	06.9	344° 27'.8	13.5	344° 27'.8	13.5	Alpheratz	357° 42'.2	29° 10'.5 N	18° 15'.0	44.0	171° 03'.1	8.5	14° 04'.9 N	7.2	58.5	35°	05:08	05:37	06:02	19:07	19:53	20:42				
	14	229° 05'.8	36° 16'.4	03.1	331° 46'.8	26.8	88° 57'.9	06.8	359° 30'.0	13.6	359° 30'.0	13.6	Altair	62° 07'.3	8° 54'.8 N	33° 15'.2	45.0	185° 30'.6	8.5	12.1	7.2		30°	05:07	05:35	05:59	19:15	20:02	20:52				
	15	244° 08'.3	51° 16'.0	04.4	346° 47'.4	27.0	104° 00'.0	06.7	14° 32'.2	13.7	14° 32'.2	13.7	Ankaa	353° 14'.5	42° 13'.5 S	48° 15'.4	45.9	199° 58'.1	8.6	19.3	7.0	58.4	20°	05:06	05:31	05:53	19:28	20:18	21:09				
	16	259° 10'.8	66° 15'.6	05.6	1° 47'.9	27.1	119° 02'.1	06.5	29° 34'.4	13.7	29° 34'.4	13.7	Antares	112° 25'.4	26° 27'.7 S	63° 15'.5	46.9	214° 25'.7	8.5	26.3	7.0		N 10°	05:03	05:27	05:48	19:40	20:32	21:24				
	17	274° 13'.2	81° 15'.2	06.9	16° 48'.4	27.3	134° 04'.2	06.4	78° 15'.7	13.8	78° 15'.7	13.8		228° 53'.2	8.6	33'.3	6.9						0°	04:58	05:23	05:43	19:51	20:45	21:37				
	18	289° 15'.7	96° 14'.8	08.1	31° 48'.9	27.4	149° 06'.2	06.3	59° 38'.8	13.9	59° 38'.8	13.9	Arcturus	145° 55'.3	19° 06'.6 N	93° 15'.9	48.8	243° 20'.8	8.5	40'.2	6.8	58.3	S 10°	04:53	05:17	05:38	20:02	20:58	21:51				
	19	304° 18'.2	111° 14'.4	09.4	46° 49'.4	27.6	164° 08'.3	06.2	74° 41'.0	14.0	74° 41'.0	14.0	Atria	107° 26'.7	69° 03'.2 S	108° 16'.0	49.7	257° 48'.3	8.6	47.0	6.6		20°	04:45	05:11	05:33	20:14	21:12	22:06				
	20	319° 20'.6	126° 14'.0	10.6	61° 49'.9	27.8	179° 10'.4	06.1	89° 43'.2	14.0	89° 43'.2	14.0	Avior	234° 17'.8	59° 33'.2 S	123° 16'.2	50.7	172° 13'.5	8.5	53.6	6.0		30°	04:34	05:02	05:27	20:28	21:22	22:23				
	21	334° 23'.1	141° 13'.6	11.8	76° 50'.4	27.9	194° 12'.5	06.0	104° 45'.4	14.1	104° 45'.4	14.1	Bellatrix	278° 30'.9	6° 21'.7 N	138° 16'.4	51.6	286° 43'.4	8.6	15° 00'.2 N	6.5	58.2	35°	04:27	04:57	05:23	20:36	21:37	22:33				
22	349° 25'.5	156° 13'.1	13.1	91° 50'.9	28.1	209° 14'.5	05.9	119° 47'.6	14.2	119° 47'.6	14.2	Betelgeuse	271° 00'.2	7° 24'.5 N	153° 16'.5	52.5	301° 11'.0	8.6	06.7	6.4		40°	04:18	04:51	05:19	20:45	21:47	22:44					
23	4° 28'.0	17° 12'.7	14.3	106° 51'.4	28.2	224° 16'.6	05.7	134° 49'.8	14.3	134° 49'.8	14.3		168° 16.7	53.5	315° 38.6	8.6	13.1	6.3				45°	04:08	04:44	05:14	20:56	22:00	22:58					
11	00	19° 30'.5	186° 12'.3	4° 15'.6 S	121° 51'.9	24° 28'.4 S	239° 18'.7	16° 05'.6 N	149° 52'.0	16° 14'.3 S	149° 52'.0	16° 14'.3 S	Canopus	263° 55'.6	52° 42'.1 S	183° 16'.9	6° 54'.4 S	330° 06'.2	8.6	15° 19'.4 N	6'.2	58.1	S 50°	03:54	04:35	05:08	21:09	22:15	23:14				
	01	34° 32'.9	201° 11'.9	16.8	136° 52'.4	28.5	254° 20'.7	05.5	164° 54'.2	14.5	164° 54'.2	14.5	Capella	280° 32'.9	46° 00'.5 N	198° 17'.0	55.4	344° 33'.8	8.7	25.6	6.1		52°	03:48	04:30	05:05	21:15	22:22	23:22				
	02	49° 35'.4	216° 11'.5	18.1	151° 52'.9	28.7	269° 22'.8	05.4	179° 56'.4	14.4	179° 56'.4	14.4	Deneb	49° 30'.7	45° 20'.4 N	213° 17'.2	56.3	359° 01'.5	8.6	31.7	6.0		54°	03:40	04:25	05:02	21:22	22:30	23:30				
	03	64° 37'.9	231° 11'.1	19.3	166° 53'.4	28.8	284° 24'.9	05.3	194° 58'.6	14.6	194° 58'.6	14.6	Denebola	182° 33'.1	14° 29'.4 N	228° 17'.4	57.3	13° 29'.1	8.6	37.7	5.9	58.0	56°	03:32	04:20	04:59	21:29	22:39	23:40				
	04	79° 40'.3	246° 10'.7	20.6	181° 53'.9	29.0	299° 27'.0	05.2	210° 00'.8	14.6	210° 00'.8	14.6	Diphda	348° 54'.7	17° 54'.2 S	243° 17.5	58.2	27° 56'.7	8.7	43.6	5.8		58°	03:22	04:14	04:55	21:38	22:49	23:51				
	05	94° 42'.8	261° 10'.3	21.8	196° 54'.4	29.1	314° 29'.0	05.1	225° 03'.0	14.7	225° 03'.0	14.7		258° 17.7	59.1	42° 24'.4	8.7	49.4	5.7	57.9			S 60°	03:11	04:07	04:51	21:47	23:01	24:04				
	06	109° 45'.3	276° 09.9	23.0	211° 54'.9	29.3	329° 31'.1	05.0	240° 05'.2	14.8	240° 05'.2	14.8	Dubhe	193° 51'.3	61° 40'.1 N	273° 17.8	7° 00'.1 S	56° 52'.1	8.6	55.1	5.6		S 62°	02:57	03:59	04:46	21:59	23:14	24:18				
	07	124° 47.7	291° 09.5	24.3	226° 55'.4	29.4	344° 33'.2	04.8	255° 07'.4	14.8	255° 07'.4	14.8	Elmath	278° 11'.3	28° 37'.0 N	288° 18'.0	01.0	71° 19'.7	8.7	16° 00'.7 N	5.5												
	08	139° 50'.2	306° 09.0	25.5	241° 55'.9	29.6	359° 35'.3	04.7	270° 09'.6	14.9	270° 09'.6	14.9	Eltanin	90° 45'.9	51° 29'.7 N	303° 18'.2	02.0	85° 47.4	8.8	06.2	5.4	57.8											
	09	154° 52'.6	321° 08'.6	26.8	256° 56'.4	29.8	14° 37'.3	04.6	285° 11'.8	15.0	285° 11'.8	15.0	Enif	13° 46'.0	9° 56'.9 N	318° 18'.3	02.9	100° 15'.2	8.7	11.6	5.3			Lat	Sunset	Twilight		Moonset					
	10	169° 55'.1	336° 08.2	28.0	271° 57'.0	29.9	29° 39'.4	04.5	300° 14'.0	15.1	300° 14'.0	15.1	Fomalhaut	35° 22'.7	29° 32'.5 S	333° 18.5	03.9	11															

2014 October 13, 14, 15 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.0			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	13	14	15	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:50	06:09	07:19	-		17:42	19:42				
Monday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:50	06:09	07:19	-	17:42	19:42					
	21° 28'7"	185° 52'5"	5° 15'1" S	122° 15'9"	24° 35'3" S	240° 58'5"	16° 00'3" N	151° 37'5"	16° 17'9" S	Acamar	315° 17'3"	40° 14'7" S	183° 24'5"	7° 39'5" S	304° 32'5"	9.7	18° 22'0" N	1.3	56.4	N 70°	04:55	06:05	07:08	17:55	19:03	20:27					
	36° 31'2"	200° 52'1"	16.4	137° 16'4"	35'5"	256° 00'5"	00'2"	166° 39'7"	17.9	Achernar	335° 25'6"	57° 09'7" S	198° 24'6"	40'5"	319° 01'2"	9.7	23'3"	1.2	68°	68°	04:58	06:02	06:59	18:39	19:42	20:56					
	51° 33'7"	215° 51'6"	17.6	152° 16'9"	35'6"	271° 02'6"	00'1"	181° 41'9"	18'0	Acruz	173° 08'9"	63° 10'7" S	213° 24'8"	41'4"	333° 29'9"	9.8	24'5"	1.1	66°	66°	05:01	06:00	06:52	19:08	20:09	21:18					
	66° 36'1"	230° 51'2"	18.9	167° 17'4"	35'8"	286° 04'7"	00'0"	196° 44'1"	18'1	Adhara	255° 11'8"	28° 59'5" S	228° 24'9"	42'3"	347° 58'7"	9.8	25'6"	0.9	56'3"	64°	05:03	05:58	06:46	19:30	20:29	21:36					
	81° 38'6"	245° 50'8"	20.1	182° 17'9"	35.9	301° 06'8"	15° 59'8" N	211° 46'3"	18'2	Aldebaran	290° 48'1"	16° 32'2" N	243° 25'1"	43'3"	2° 27'5"	9.8	26'5"	0.9	62°	62°	05:05	05:56	06:41	19:48	20:46	21:50					
	96° 41'1"	260° 50'4"	21.3	197° 18'3"	36.0	316° 08'9"	59'7"	226° 48'5"	18'2				258° 25'2"	44'2"	16° 56'3"	9.9	27'4"	0.8	60°	60°	05:06	05:54	06:36	20:03	20:59	22:02					
	111° 43'5"	275° 50'0"	22.6	212° 18'8"	36'2"	331° 11'0"	59'6"	241° 50'7"	18'3	Alioth	166° 20'6"	55° 52'8" N	273° 25'4"	45'1"	31° 25'2"	9.9	28'2"	0.7	56'2"	N 58°	05:07	05:53	06:32	20:15	21:11	22:12					
	126° 46'0"	290° 49'5"	23.8	227° 19'3"	36'3"	346° 13'1"	59'5"	256° 52'9"	18'4	Alkaid	152° 58'7"	49° 14'5" N	288° 25'6"	46'1"	45° 54'1"	10.0	28'9"	0.6	56°	56°	05:08	05:51	06:29	20:26	21:22	22:21					
	141° 48'5"	305° 49'1"	25.0	242° 19'8"	36'4"	1° 15'1"	59'4"	271° 55'1"	18'5	Alnilam	27° 42'4"	46° 53'3" S	303° 25'7"	47'0"	60° 23'1"	9.9	29'5"	0.5	54°	54°	05:09	05:50	06:26	20:36	21:31	22:29					
	156° 50'9"	320° 48'7"	26.3	257° 20'3"	36'6"	16° 17'2"	59'3"	286° 57'3"	18'5	Alnair	275° 45'3"	1° 11'6" S	318° 25'9"	47'9"	74° 52'0"	10.1	30'0"	0.4	56'1"	52°	05:10	05:49	06:23	20:44	21:39	22:36					
	171° 53'4"	335° 48'3"	27.5	272° 20'8"	36'7"	31° 19'3"	59'2"	301° 59'5"	18'6	Alphard	217° 55'4"	8° 43'3" S	333° 26'0"	48'9"	89° 21'1"	10.0	30'4"	0.3	50°	50°	05:10	05:47	06:20	20:52	21:46	22:43					
	186° 55'9"	350° 47'9"	28.7	287° 21'3"	36'8"	46° 21'4"	59'1"	317° 50'7"	18'7				348° 26'2"	49'8"	103° 50'1"	10.1	30'7"	0.2	45°	45°	05:11	05:45	06:14	21:08	22:01	22:57					
	201° 58'3"	5° 47'4"	5° 30'0" S	302° 21'8"	24° 36'9" S	61° 23'5"	15° 59'0" N	332° 03'9"	16° 18'8" S	Alphecca	126° 10'6"	26° 40'2" N	3° 26'3"	7° 50'7" S	118° 19'2"	10.1	18° 30'9" N	0.1	56'0"	N 40°	05:11	05:42	06:09	21:21	22:14	23:08					
	217° 00'8"	20° 47'0"	31.2	317° 22'3"	37'1"	76° 25'6"	58'9"	347° 06'1"	18'8	Alpheratz	357° 42'2"	29° 10'5" N	18° 26'5"	51'7"	132° 48'3"	10.2	31'0"	0.0	35°	35°	05:10	05:39	06:05	21:33	22:25	23:18					
	232° 03'2"	35° 46'6"	32.5	332° 22'8"	37'2"	91° 27'7"	58'7"	2° 08'3"	18'9	Altair	62° 07'3"	8° 54'8" N	33° 26'6"	52'6"	147° 17'5"	10.2	31'0"	0.1	30°	30°	05:09	05:37	06:01	21:43	22:34	23:26					
	247° 05'7"	50° 46'2"	33.7	347° 23'3"	37'3"	106° 29'7"	58'6"	17° 10'5"	19'0	Ankaa	353° 14'5"	42° 13'5" S	48° 26'8"	53'5"	161° 46'7"	10.3	30'9"	0.2	55'9"	20°	05:07	05:32	05:54	22:00	22:51	23:41					
	262° 08'2"	65° 45'8"	34.9	2° 23'8"	37'5"	121° 31'8"	58'5"	32° 12'6"	19'1	Antares	112° 25'4"	26° 27'7" S	63° 26'9"	54'5"	176° 16'0"	10.3	30'7"	0.3	N 10°	10°	05:03	05:27	05:48	22:15	23:05	23:54					
	277° 10'6"	80° 45'3"	36.2	17° 24'2"	37'6"	136° 33'9"	58'4"	47° 14'8"	19'1				78° 27'1"	55'4"	190° 45'3"	10.3	30'4"	0.4	0°	0°	04:58	05:22	05:43	22:29	23:18	24:06					
	292° 13'1"	95° 44'9"	37.4	32° 24'7"	37'7"	151° 36'0"	58'3"	62° 17'0"	19'2	Arcturus	145° 55'3"	19° 06'5" N	93° 27'2"	56'3"	205° 14'6"	10.4	30'0"	0.4	55'8"	S 10°	04:51	05:16	05:37	22:43	23:31	24:18					
	307° 15'6"	110° 44'5"	38.6	47° 25'2"	37'9"	166° 38'1"	58'2"	77° 19'2"	19'3	Atria	107° 26'7"	69° 03'2" S	108° 27'4"	57'3"	219° 44'0"	10.4	29'6"	0.6	20°	20°	04:42	05:08	05:31	22:58	23:46	24:30					
	322° 18'0"	125° 44'1"	39.9	62° 25'7"	38'0"	181° 40'2"	58'1"	92° 21'4"	19'3	Avior	234° 17'7"	59° 33'2" S	123° 27'5"	58'2"	234° 34'0"	10.5	29'0"	0.0	30°	30°	04:30	04:59	05:23	23:15	-	00:02					
	337° 20'5"	140° 43'6"	41.1	77° 26'2"	38'1"	196° 42'3"	58'0"	107° 23'6"	19'4	Bellatrix	278° 30'9"	6° 21'7" N	138° 27'7"	59'1"	248° 42'9"	10.5	28'3"	0.7	35°	35°	04:23	04:53	05:19	23:25	-	00:11					
352° 23'0"	155° 43'2"	42.3	92° 26'7"	38'2"	211° 44'4"	57'9"	122° 25'8"	19'5	Betelgeuse	271° 00'2"	7° 24'5" N	153° 27'8"	8° 00'1" S	263° 12'4"	10.5	27'6"	0.9	55'7"	40°	04:13	04:46	05:14	23:36	-	00:22						
7° 25'4"	170° 42'8"	43.6	107° 27'2"	38'4"	226° 46'4"	57'8"	137° 28'0"	19'6				168° 27'9"	01'0"	277° 41'9"	10.6	26'7"	0.9	45°	45°	04:02	04:38	05:08	23:49	-	00:35						
Tuesday	22° 27'9"	185° 42'4"	5° 44'8" S	122° 27'7"	24° 38'5" S	241° 48'5"	15° 57'6" N	152° 30'2"	16° 19'6" S	Canopus	263° 55'6"	52° 42'1" S	183° 28'1"	8° 01'9" S	292° 11'5"	10.6	18° 25'8" N	1'1	55'7"	S 50°	03:47	04:28	05:02	-	00:06	00:50					
	37° 30'4"	200° 42'0"	46.0	137° 28'1"	38'6"	256° 50'6"	57'5"	167° 32'4"	19'7	Capella	280° 32'9"	46° 00'5" N	198° 28'2"	02'9"	306° 41'1"	10.7	24'7"	1'1	55'6"	52°	03:40	04:23	04:58	-	00:13	00:57					
	52° 32'8"	215° 41'5"	47.3	152° 28'6"	38'7"	271° 52'7"	57'4"	182° 34'6"	19'8	Deneb	49° 30'7"	45° 20'5" N	213° 28'4"	03'8"	321° 10'8"	10.7	23'6"	1'1	54°	54°	03:32	04:18	04:55	-	00:22	01:05					
	67° 35'3"	230° 41'1"	48.5	167° 29'1"	38'9"	286° 54'8"	57'3"	197° 36'8"	19'9	Denebola	182° 33'1"	14° 29'4" N	228° 28'5"	04'7"	335° 40'5"	10.7	22'4"	1'4	56°	56°	03:23	04:12	04:51	-	00:32	01:14					
	82° 37'4"	245° 40'7"	49.7	182° 29'6"	39'0"	301° 56'9"	57'2"	212° 39'0"	19'9	Diphda	348° 54'7"	17° 54'2" S	243° 28'7"	05'6"	350° 10'2"	10.8	21'0"	1'4	58°	58°	03:12	04:05	04:47	-	00:42	01:24					
	97° 40'2"	260° 40'3"	50.9	197° 30'1"	39'1"	316° 59'0"	57'1"	227° 41'2"	20'0				258° 28'8"	06'6"	4° 40'0"	10.9	19'6"	1'5	55'5"	S 60°	02:59	03:57	04:42	00:04	00:55	01:36					
	112° 42'7"	275° 39'8"	52.2	212° 30'6"	39'2"	332° 01'1"	57'0"	242° 43'4"	20'1	Dubhe	193° 51'3"	61° 40'1" N	273° 29'0"	07'5"	19° 09'9"	10.8	18'1"	1'6"		S 62°	02:44	03:48	04:36	00:18	01:10	01:49					
	127° 45'1"	290° 39'4"	53.4	227° 31'1"	39'4"	347° 03'2"	56'9"	257° 45'6"	20'2	Elnarh	278° 11'3"	28° 37'0" N	288° 29'1"	08'4"	33° 39'7"	11'0	16'5"	1'6"													
	142° 47'6"	305° 39'0"	54.6	242° 31'6"	39'5"	2° 05'2"	56'8"	272° 47'8"	20'2	Eltanin	90° 45'9"	51° 29'7" N	303° 29'3"	09'4"	48° 09'7"	10.9	14'9"	1'8"	55'4"												
	157° 50'1"	320° 38'6"	55.9	257° 32'0"	39'6"	17° 07'3"	56'7"	287° 50'0"	20'3	Enif	135° 46'1"	9° 56'9" N	318° 29'4"	10'3"	62° 39'6"	11'0	13'1"	1'9"													
	172° 52'5"	335° 38'1"	57.1	272° 32'5"	39'7"	32° 09'4"	56'6"	302° 52'2"	20'4	Fomalhaut	15° 22'7"	29° 32'5" S	333° 29'6"	11'2"	77° 09'6"	11'1"	11'2"	1'9"													
	187° 55'0"	350° 37'7"	58'3"	287° 33'0"	39'8"	47° 11'5"	56'5"	317° 54'3"	20'5				348° 29'7"	12'1"	91° 39'7"	11'1"	09'3"	2'1"													
	202° 57'5"	5° 37'5"	5° 59'6" S	302° 33'5"	24° 40'0" S	62° 13'6"	15° 56'3" N	332° 56'5"	16° 20'5" S	Gacrux	172° 00'4"	57° 11'6" S	3° 29'9"	8° 13'1" S	106° 09'8"	11'2"	18° 07'2" N	2'1	55'3"	N 70°	16:22	17:25	18:35	14:36	15:12	15:28					
	217° 59'9"	20° 36'9"	6° 00'8" S	317° 34'0"	40'1"	77° 15'7"	56'2"	347° 58'7"	20'6	Giennah	175° 51'7"	17° 37'3" S	18° 30'0"	14'0"	120° 40'0"	11'1"	05'1"	2'2"	68°	68°	16:31	17:28	18:32	13:52	14:33	14:58					
	233° 02'4"	35° 36'4"	02.0																												

2014 October 16, 17, 18 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9		MARS +0.9		JUPITER -2.0		SATURN +0.6		STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise			
	GHA		Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d		HP	Nautical		Civil	16	17	18
16 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	GHA		GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec											N 72°	05:03	06:22	07:33	21:27	23:06	24:42	
	24° 26'.2	185° 21'.8	6° 43'.7 S	122° 50'.8	24° 44'.0 S	243° 29'.0	15° 52'.5 N	154° 15'.5	16° 23'.2 S	169° 17'.7	23'.3	Acamar	315° 17'.3	40° 14'.7 S	183° 34'.9	8° 46'.4 S	268° 43'.5	12.8	15° 59'.1 N	4.9	54.6	N 70°	05:06	06:17	07:21	21:56	23:25	24:53
	39° 28'.6	200° 21'.4	44'.9	137° 51'.3	44'.2	258° 31'.1	52'.4	169° 17'.7	23'.3	169° 17'.7	23'.3	Achernar	335° 25'.6	57° 09'.7 S	198° 35'.0	47'.3	283° 15'.3	12.8	54'.2	5.1	68°	05:08	06:13	07:11	22:17	23:39	25:02	
	54° 31'.1	215° 20'.9	46'.2	152° 51'.8	44'.3	273° 33'.2	52'.3	184° 19'.9	23'.4	184° 19'.9	23'.4	Acruz	173° 08'.8	63° 10'.7 S	213° 35'.2	48'.2	297° 47'.1	12.8	49'.1	5.1	54.5	66°	05:10	06:09	07:02	22:33	23:51	25:10
	69° 33'.6	230° 20'.5	47'.4	167° 52'.2	44'.4	288° 35'.3	52'.2	199° 22'.1	23'.4	199° 22'.1	23'.4	Adhara	255° 11'.7	28° 59'.5 S	228° 35'.3	49'.1	312° 18'.9	12.9	44'.0	5.1	64°	05:11	06:06	06:55	22:47	-	00:01	
	84° 36'.0	245° 20'.0	48'.6	182° 52'.7	44'.5	303° 37'.4	52'.0	214° 24'.2	23'.5	214° 24'.2	23'.5	Aldebaran	290° 48'.1	16° 32'.2 N	243° 35'.4	50'.1	326° 50'.8	12.9	38'.9	5.3	62°	05:12	06:04	06:49	22:58	-	00:09	
	99° 38'.5	260° 19'.6	49'.8	197° 53'.2	44'.6	318° 39'.5	51'.9	229° 26'.4	23'.6	229° 26'.4	23'.6		196° 20'.6	55° 52'.8 N	273° 35'.7	51'.9	355° 54'.7	13.0	28'.3	5.4	60°	05:13	06:01	06:44	23:08	-	00:17	
	114° 41'.0	275° 19'.2	51'.0	212° 53'.7	44'.7	333° 41'.6	51'.8	244° 28'.6	23'.7	244° 28'.6	23'.7	Alioth	260° 20'.6	55° 52'.8 N	273° 35'.7	51'.9	355° 54'.7	13.0	28'.3	5.4	N 58°	05:14	05:59	06:39	23:17	-	00:23	
	129° 43'.4	290° 18'.7	52'.3	227° 54'.1	44'.8	348° 43'.7	51'.7	259° 30'.8	23'.7	259° 30'.8	23'.7	Alkaid	152° 58'.7	49° 14'.5 N	288° 35'.9	52'.8	10° 26'.7	13.1	22'.9	5.4	56°	05:14	05:57	06:35	23:24	-	00:28	
	144° 45'.9	305° 18'.3	53'.5	242° 54'.6	44'.9	3° 45'.8	51'.6	274° 33'.0	23'.8	274° 33'.0	23'.8		27° 42'.4	46° 53'.3 S	303° 36'.0	53'.7	24° 58'.8	13.0	17'.5	5.5	54°	05:14	05:55	06:31	23:31	-	00:33	
	159° 48'.3	320° 17'.9	54'.7	257° 55'.1	45'.0	18° 47'.9	51'.5	289° 35'.2	23'.9	289° 35'.2	23'.9	Alnilam	275° 45'.3	1° 11'.6 S	318° 36'.1	54'.7	39° 30'.8	13.2	12.0	5.6	54.4	52°	05:15	05:54	06:28	23:37	-	00:38
	174° 50'.8	335° 17'.4	55'.9	272° 55'.6	45'.1	33° 50'.0	51'.4	304° 37'.4	23'.9	304° 37'.4	23'.9	Alphard	217° 55'.3	8° 43'.3 S	333° 36'.3	55'.6	54° 03'.0	13.2	06'.4	5.6	50°	05:15	05:52	06:25	23:42	-	00:42	
	189° 53'.3	350° 17'.0	57'.1	287° 56'.0	45'.2	48° 52'.1	51'.3	319° 39'.6	24'.0	319° 39'.6	24'.0		348° 36'.4	56'.5	68° 35'.2	13'.2	00'.8	5.7			45°	05:14	05:48	06:18	23:53	-	00:51	
	204° 55'.7	5° 16'.6	6° 58'.4 S	302° 56'.5	24° 45'.3 S	63° 54'.2	15° 51'.2 N	334° 41'.8	16° 24'.1 S	334° 41'.8	16° 24'.1 S	Alphecca	126° 10'.6	26° 40'.2 N	3° 36'.5	8° 57'.4 S	83° 07'.4	13.2	14° 55'.1 N	5.7	54.4	N 40°	05:14	05:45	06:12	-	00:03	00:58
	219° 58'.2	20° 16'.1	59'.6	317° 57'.0	45'.4	78° 56'.3	51'.1	349° 44'.0	24'.2	349° 44'.0	24'.2	Alpheratz	357° 42'.2	29° 10'.5 N	18° 36'.6	58'.3	97° 39'.6	13.3	49'.4	5.9	35°	05:12	05:42	06:07	-	00:11	01:04	
	235° 00'.7	35° 15'.7	7° 00'.8 S	332° 57'.5	45'.5	93° 58'.4	51'.0	4° 46'.2	24'.2	4° 46'.2	24'.2	Altair	62° 07'.3	8° 54'.8 N	33° 36'.8	59'.2	112° 11'.9	13.3	43'.5	5.9	30°	05:11	05:39	06:03	-	00:18	01:10	
	250° 03'.1	50° 15'.2	02'.0	347° 57'.9	45'.6	109° 00'.5	50'.9	19° 48'.3	24'.3	19° 48'.3	24'.3	Ankaa	353° 14'.5	42° 13'.5 S	48° 36'.9	59'.0	126° 44'.2	13.4	37'.6	5.9	20°	05:07	05:33	05:55	-	00:31	01:20	
	265° 05'.6	65° 14'.8	03'.2	2° 58'.4	45'.7	124° 02'.6	50'.8	34° 50'.5	24'.4	34° 50'.5	24'.4	Antares	112° 25'.4	26° 27'.7 S	63° 37'.0	01'.1	141° 16'.6	13.4	31'.7	6.0	N 10°	05:03	05:27	05:49	-	00:41	01:28	
	280° 08'.1	80° 14'.4	04'.5	17° 58'.9	45'.8	139° 04'.7	50'.7	49° 52'.7	24'.5	49° 52'.7	24'.5		78° 37'.2	02'.0	155° 49'.0	13'.5	25'.7	6.1			0°	04:57	05:21	05:42	00:06	00:51	01:36	
	295° 10'.5	95° 13'.9	05'.7	32° 59'.3	45'.9	154° 06'.8	50'.6	64° 54'.9	24'.5	64° 54'.9	24'.5	Arcturus	145° 55'.3	19° 06'.5 N	93° 37'.3	02'.9	170° 21'.5	13.5	19'.6	6.1	54.3	S 10°	04:49	05:14	05:35	00:18	01:02	01:44
	310° 13'.0	110° 13'.5	06'.9	47° 59'.8	46'.0	169° 08'.9	50'.5	79° 57'.1	24'.6	79° 57'.1	24'.6	Atria	107° 26'.7	69° 03'.2 S	108° 37'.4	03'.8	184° 54'.0	13.5	13'.5	6.2	20°	04:40	05:06	05:28	00:30	01:12	02:01	
	325° 15'.4	125° 13'.0	08'.1	63° 00'.3	46'.1	184° 11'.0	50'.4	94° 59'.3	24'.7	94° 59'.3	24'.7	Avior	234° 17'.7	59° 33'.2 S	123° 37'.6	04'.7	199° 26'.5	13.5	07'.3	6.2	30°	04:27	04:56	05:20	00:45	01:25	02:52	
	340° 17'.9	140° 12'.6	09'.3	78° 00'.8	46'.2	199° 13'.1	50'.3	110° 01'.5	24'.8	110° 01'.5	24'.8	Bellatrix	278° 30'.9	6° 21'.7 N	138° 37'.7	05'.7	213° 59'.0	13.6	01'.0	6.3	35°	04:18	04:49	05:15	00:53	01:32	02:07	
355° 20'.4	155° 12'.2	10'.5	93° 01'.2	46'.3	214° 15'.2	50'.1	125° 03'.7	24'.8	125° 03'.7	24'.8	Betelgeuse	271° 00'.2	7° 24'.5 N	153° 37'.8	06'.6	228° 31'.6	13.7	13° 54'.7 N	6.3	40°	04:08	04:42	05:10	01:03	01:40	02:13		
10° 22'.8	170° 11'.7	11'.8	108° 01'.7	46'.4	229° 17'.3	50'.0	140° 05'.9	24'.9	140° 05'.9	24'.9		168° 38'.0	07'.5	243° 04'.3	13'.6	48'.4	6.5			45°	03:56	04:33	05:03	01:14	01:49	02:20		
17 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	25° 25'.3	185° 11'.3	7° 13'.0 S	123° 02'.2	24° 46'.5 S	244° 19'.4	15° 49'.9 N	155° 08'.1	16° 25'.0 S	155° 08'.1	16° 25'.0 S	Canopus	263° 55'.6	52° 42'.1 S	183° 38'.1	9° 08'.4 S	257° 36'.9	13.8	13° 41'.9 N	6'.5	54.3	S 50°	03:40	04:22	04:55	01:28	02:00	02:29
	40° 27'.8	200° 10'.8	14'.2	138° 02'.6	46'.6	259° 21'.5	49'.8	170° 10'.2	25'.1	170° 10'.2	25'.1	Capella	280° 32'.8	46° 00'.5 N	198° 38'.2	09'.3	272° 09'.7	13.7	35'.4	6.5	52°	03:32	04:16	04:52	01:34	02:05	02:33	
	55° 30'.2	215° 10'.4	15'.4	153° 03'.1	46'.7	274° 23'.6	49'.7	185° 12'.4	25'.1	185° 12'.4	25'.1	Deneb	49° 30'.7	45° 20'.5 N	213° 38'.4	10'.2	286° 42'.2	13.8	28'.9	6.6	54°	03:23	04:10	04:48	01:41	02:11	02:37	
	70° 32'.7	230° 10'.0	16'.6	168° 03'.6	46'.8	289° 25'.7	49'.6	200° 14'.6	25'.2	200° 14'.6	25'.2	Denebola	182° 33'.1	14° 29'.4 N	228° 38'.5	11'.2	301° 15'.2	13.8	22'.3	6.6	56°	03:13	04:04	04:44	01:49	02:17	02:42	
	85° 35'.2	245° 09'.5	17'.8	183° 04'.1	46'.8	304° 27'.8	49'.5	215° 16'.8	25'.3	215° 16'.8	25'.3	Diphda	348° 54'.7	17° 54'.2 S	243° 38'.6	12'.1	315° 48'.0	13.8	15'.7	6.8	58°	03:01	03:56	04:39	01:57	02:25	02:47	
	100° 37'.6	260° 09'.1	19'.1	198° 04'.5	46'.9	319° 29'.9	49'.4	230° 19'.0	25'.4	230° 19'.0	25'.4		258° 38'.7	13'.0	330° 20'.8	13'.9	08'.9	6.7			54.2	S 60°	02:47	03:47	04:33	02:07	02:33	02:53
	115° 40'.1	275° 08'.6	20'.3	213° 05'.0	47'.0	334° 32'.1	49'.3	245° 21'.2	25'.4	245° 21'.2	25'.4	Dubhe	193° 51'.2	61° 40'.1 N	273° 38'.9	13'.9	344° 53'.7	13.9	02'.2	6.8		S 62°	02:30	03:37	04:27	02:19	02:42	03:00
	130° 42'.6	290° 08'.2	21'.5	228° 05'.5	47'.1	349° 34'.2	49'.2	260° 23'.4	25'.5	260° 23'.4	25'.5	Elmath	278° 11'.3	28° 37'.0 N	288° 39'.0	14'.8	359° 26'.6	14.0	12° 55'.4 N	6.9								
	145° 45'.0	305° 07'.7	22'.7	243° 05'.9	47'.2	4° 36'.3	49'.1	275° 25'.6	25'.6	275° 25'.6	25'.6	Eltanin	90° 46'.0	51° 29'.7 N	303° 39'.1	15'.7	13° 59'.6	13.9	48'.5	6.9								
	160° 47'.5	320° 07'.3	23'.9	258° 06'.4	47'.3	19° 38'.4	49'.0	290° 27'.8	25'.7	290° 27'.8	25'.7	Enif	33° 46'.1	9° 56'.9 N	318° 39'.2	16'.6	28° 32'.5	14.0	41'.6	7.0								
	175° 49'.9	335° 06'.9	25'.1	273° 06'.9	47'.4	34° 40'.5	48'.9	305° 30'.0	25'.7	305° 30'.0	25'.7	Fomalhaut	15° 22'.8	29° 32'.5 S	333° 39'.4	17'.6	43° 05'.5	14.1	34'.6	7.0								
	190° 52'.4	350° 06'.4	26'.3	288° 07'.3	47'.5	49° 42'.6	48'.8	320° 32'.1	25'.8	320° 32'.1	25'.8		348° 39'.5	18'.5	57° 38'.6													

2014 October 22, 23, 24 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.0			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	22			Moonrise		
	Nautical			Civil		22			Moonrise			24																							
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:29	06:48	08:04	05:28	07:09	08:55									
22	30° 21'.0	184° 16.2	9° 36.7 S	123° 57.2	24° 54.9 S	248° 33.4	15° 37.8 N	159° 30.4	16° 34.0 S	Acamar	315° 17.3	40° 14.7 S	183° 51.7	10° 56.6 S	204° 49.7	14.1	3° 39.9 S	9.6	55.1	N 70°	05:29	06:40	07:47	05:22	06:55	08:32									
01	45° 23'.5	199° 15.7	37.9	138° 57.7	54.9	263° 35.5	37.7	174° 32.5	34.0	Achernar	335° 25.6	57° 09.7 S	198° 51.8	57.4	219° 22.8	14.1	49.5	9.6	68°	05:29	06:34	07:34	05:16	06:45	08:15										
02	60° 25'.9	214° 15.2	39.1	153° 58.1	55.0	278° 37.6	37.6	189° 34.7	34.1	Acruz	173° 08.8	63° 10.7 S	213° 51.9	58.3	233° 55.9	14.0	59.1	9.6	66°	05:28	06:28	07:23	05:12	06:36	08:01										
03	75° 28'.4	229° 14.7	40.3	168° 58.6	55.0	293° 39.8	37.5	204° 36.9	34.2	Adhara	255° 11.7	28° 59.5 S	228° 52.0	59.2	248° 28.9	14.1	4° 08.7 S	9.5	64°	05:28	06:23	07:14	05:08	06:28	07:49										
Wed	90° 30'.8	244° 14.3	41.4	183° 59.0	55.1	308° 41.9	37.4	219° 39.1	34.3	Aldebaran	290° 48.1	16° 32.2 N	243° 52.1	11° 00.1 S	263° 02.0	14.0	18.2	9.6	55.2	62°	05:28	06:19	07:06	05:05	06:22	07:40									
05	105° 33'.3	259° 13.8	42.6	198° 59.5	55.1	323° 44.0	37.3	234° 41.3	34.3		260° 20.5	55° 52.8 N	273° 52.2	01.9	292° 07.9	13.9	37.3	9.6	60°	05:27	06:16	06:59	05:02	06:16	07:31										
06	120° 35'.8	274° 13.3	43.8	213° 59.9	55.1	338° 46.2	37.2	249° 43.5	34.4	Alioth	166° 20.5	55° 52.8 N	273° 52.2	01.9	292° 07.9	13.9	37.3	9.6	N 58°	05:26	06:12	06:53	04:59	06:11	07:24										
07	135° 38'.2	289° 12.8	45.0	229° 00.4	55.2	353° 48.3	37.1	264° 45.6	34.5	Alkaid	152° 58.7	49° 14.5 N	288° 52.3	02.7	306° 40.8	13.9	46.9	9.5	56°	05:26	06:09	06:48	04:57	06:07	07:18										
08	150° 40'.7	304° 12.3	46.1	244° 00.8	55.2	368° 50.4	37.0	279° 47.8	34.6	Alnair	27° 42.4	46° 53.4 S	303° 52.4	03.6	321° 13.7	13.9	56.4	9.5	54°	05:25	06:06	06:43	04:55	06:03	07:12										
Thurs	165° 43'.2	319° 11.9	47.3	259° 01.2	55.3	383° 52.6	36.9	294° 50.0	34.6	Alnilam	275° 45.2	1° 11.6 S	318° 52.5	04.5	335° 56.6	13.8	5° 05.9 S	9.5	55.3	52°	05:24	06:04	06:38	04:53	06:00	07:07									
10	180° 45'.6	334° 11.4	48.5	274° 01.7	55.3	398° 54.7	36.8	309° 52.2	34.7	Alphard	217° 55.3	8° 43.4 S	333° 52.6	05.4	350° 19.4	13.8	15.4	9.4	50°	05:24	06:01	06:35	04:51	05:56	07:02										
11	195° 48'.1	349° 10.9	49.7	289° 02.1	55.3	413° 56.8	36.7	324° 54.4	34.8		290° 20.5	55° 52.8 N	348° 52.7	06.3	374° 24.8	13.7	24.8	9.5	45°	05:22	05:56	06:26	04:48	05:49	06:52										
12	210° 50'.6	364° 10.4	50.8 S	304° 02.6	55.4 S	429° 59.0	36.6 N	339° 56.5	34.9 S	Alphecca	126° 10.6	26° 40.2 N	3° 52.8	11° 07.2 S	19° 24.9	13.7	5° 34.3 S	9.4	55.3	N 40°	05:20	05:51	06:19	04:45	05:44	06:44									
13	225° 53'.0	379° 09.9	52.0	319° 03.0	55.4	444° 01.1	36.5	354° 58.7	34.9	Alpheratz	357° 42.2	29° 10.5 N	18° 52.9	08.0	33° 57.6	13.7	43.7	9.5	35°	05:17	05:47	06:13	04:42	05:39	06:37										
14	240° 55'.5	394° 09.4	53.2	334° 03.5	55.5	459° 02.2	36.4	370° 00.9	35.0	Altair	62° 07.4	8° 54.8 N	33° 53.0	08.9	48° 30.3	13.6	53.2	9.4	30°	05:15	05:43	06:07	04:40	05:35	06:31										
15	255° 58'.0	409° 09.0	54.4	349° 03.9	55.5	474° 05.3	36.3	385° 03.1	35.1	Ankaa	353° 14.5	42° 13.5 S	48° 53.1	09.8	63° 02.9	13.6	6° 02.6 S	9.3	55.4	20°	05:09	05:35	05:58	04:36	05:27	06:20									
16	271° 00'.4	424° 08.5	55.5	4° 04.4	55.5	489° 07.5	36.2	400° 05.3	35.1	Antares	112° 25.4	26° 27.7 S	63° 53.2	10.7	77° 35.5	13.5	11.9	9.4	N 10°	05:03	05:28	05:49	04:32	05:21	06:11										
17	286° 02'.9	439° 08.0	56.7	19° 04.8	55.6	504° 09.6	36.1	415° 07.5	35.2		78° 53.3	11.6	92° 08.0	13.5	21.3	9.3			0°	04:55	05:20	05:41	04:29	05:15	06:02										
18	301° 05'.3	454° 07.5	57.9	34° 05.2	55.6	519° 11.7	36.0	430° 09.6	35.3	Arcturus	145° 55.3	19° 06.5 N	93° 53.4	12.4	106° 40.5	13.5	30.6	9.3	S 10°	04:46	05:11	05:33	04:26	05:09	05:53										
19	316° 07'.8	469° 07.0	59.0	49° 05.7	55.6	534° 13.9	35.9	445° 11.8	35.4	Atria	107° 26.8	69° 03.2 S	108° 53.4	13.3	121° 13.0	13.4	39.9	9.3	20°	04:35	05:01	05:24	04:23	05:02	05:44										
20	331° 10'.3	484° 06.5	10° 00.2 S	64° 06.1	55.6	549° 16.0	35.8	460° 14.0	35.4	Avior	234° 17.6	59° 33.2 S	123° 53.5	14.2	135° 45.4	13.4	49.2	9.3	55.5	30°	04:20	04:49	05:14	04:19	04:55	05:34									
21	346° 12'.7	499° 06.1	01.4	79° 06.6	55.7	564° 18.1	35.7	475° 16.2	35.5	Bellatrix	278° 30.8	6° 21.7 N	138° 53.6	15.1	150° 17.8	13.3	58.5	9.2	35°	04:10	04:42	05:08	04:17	04:51	05:28										
22	1° 15'.2	154° 05.6	02.6	94° 07.0	55.7	579° 20.3	35.6	490° 18.4	35.6	Betelgeuse	271° 00.1	7° 24.5 N	153° 53.7	16.0	164° 50.1	13.3	7° 07.7 S	9.3	40°	03:59	04:33	05:01	04:14	04:46	05:21										
23	16° 17'.7	169° 05.1	03.7	109° 07.5	55.8	594° 22.4	35.5	609° 20.5	35.7		168° 53.8	16.8	179° 22.4	13.3	17.0	9.1			45°	03:44	04:22	04:53	04:11	04:41	05:13										
23	31° 20'.1	184° 04.6	10° 04.9 S	124° 07.9	24° 55.8 S	249° 24.6	15° 35.4 N	160° 22.7	16° 35.7 S	Canopus	263° 55.5	52° 42.1 S	183° 53.9	11° 17.7 S	193° 54.7	13.2	7° 26.1 S	9.2	55.5	S 50°	03:26	04:09	04:43	04:08	04:34	05:03									
01	46° 22'.6	199° 04.1	06.1	139° 08.3	55.8	264° 26.7	35.3	175° 24.9	35.8	Capella	280° 32.8	46° 00.5 N	198° 54.0	18.6	208° 26.9	13.1	35.3	9.1	55.6	52°	03:17	04:02	04:39	04:07	04:31	04:59									
02	61° 25'.1	214° 03.6	07.2	154° 08.8	55.9	279° 28.8	35.2	190° 27.1	35.9	Deneb	49° 30.7	45° 20.5 N	213° 54.1	19.5	222° 59.0	13.2	44.4	9.2	54°	03:06	03:55	04:34	04:05	04:28	04:54										
03	76° 27'.5	229° 03.1	08.4	169° 09.2	55.9	294° 31.0	35.1	205° 29.3	36.0	Denebola	182° 33.0	14° 29.4 N	228° 54.2	20.4	237° 31.2	13.0	53.6	9.0	56°	02:54	03:47	04:29	04:03	04:25	04:49										
04	91° 30'.0	244° 02.6	09.6	184° 09.7	55.9	309° 33.1	35.0	220° 31.4	36.0	Diphda	348° 54.7	17° 54.3 S	243° 54.3	21.2	252° 03.2	13.1	8° 02.6 S	9.1	58°	02:40	03:38	04:23	04:01	04:21	04:43										
05	106° 32'.4	259° 02.2	10.7	199° 10.1	56.0	324° 35.2	34.9	235° 33.6	36.1		258° 54.3	22.1	266° 35.3	12.9	11.7	9.0			S 60°	02:23	03:28	04:16	03:59	04:16	04:37										
06	121° 34'.9	274° 01.7	11.9	214° 10.6	56.0	339° 37.4	34.8	250° 35.8	36.2	Dubhe	193° 51.2	61° 40.0 N	273° 54.4	23.0	281° 07.2	13.0	20.7	9.0	55.7	S 62°	02:01	03:16	04:08	03:56	04:11	04:29									
07	136° 37'.4	289° 01.2	13.1	229° 11.0	56.0	354° 39.5	34.8	265° 38.0	36.3	Elinath	278° 11.2	28° 37.9 S	288° 54.5	23.9	295° 39.2	12.9	29.7	8.9		Lat	Sunset	Twilight		Moonset											
08	151° 39'.8	304° 00.7	14.2	244° 11.4	56.1	369° 41.6	34.7	280° 40.2	36.3	Eltanin	90° 46.0	51° 29.7 N	303° 54.6	24.7	310° 11.1	12.8	38.6	8.9		Civil	Nautical	22	23	24											
09	166° 42'.3	319° 00.2	15.4	259° 11.9	56.1	384° 43.8	34.6	295° 42.3	36.4	Enif	33° 46.1	9° 56.9 N	318° 54.7	25.6	324° 42.9	12.8	47.5	8.9																	
10	181° 44'.8	333° 59.7	16.6	274° 12.3	56.1	399° 45.9	34.5	310° 44.5	36.5	Fomalhaut	15° 22.8	29° 32.6 S	333° 54.8	26.5	339° 14.7	12.7	56.4	8.9	55.8																
11	196° 47'.2	348° 59.2	17.7	289° 12.8	56.2	414° 48.1	34.4	325° 46.7	36.6		348° 54.9	27.4	353° 46.4	12.7	9° 05.3 S	8.8			N 72°	15:23	16:39	17:57	15:30	15:24	15:17										
12	211° 49'.7	3° 58.7	10° 18.9 S	304° 13.2	24° 56.2 S	429° 50.2	15° 34.3 N	340° 48.9	16° 36.6 S	Gacrux	172° 00.3	57° 11.6 S	3° 54.9	11° 28.2 S	8° 18.1	12.7	9° 14.1 S	8.8	55.8	N 70°	15:40	16:47	17:58	15:39	15:39	15:41									
13	226° 52'.2	18° 58.2	20.0	319° 13.6	56.2	434° 52.3	34.2	355° 51.1	36.7	Giennah	175° 51.6	17° 37.3 S	18° 55.0	29.1	22° 49.8	12.6	22.9	8.7	68°	15:53	16:53	17:58	15:46	15:52	15:										

2014 October 25, 26, 27 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.0			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA		Dec	GHA		Dec	GHA		Dec	GHA		Dec	GHA		Dec	Name	SHA	Dec	GHA		Dec	GHA		v		Dec	d		HP	Nautical	Civil
25	00	33° 18'.4	183° 40'.8	11° 00'.5 S	124° 28'.9	24° 56'.9 S	251° 07'.3	15° 30'.9 N	162° 07'.3	16° 39'.3 S	177° 09'.5	39'.4	Acamar	315° 17'.3	40° 14'.7 S	183° 57'.8	11° 59'.5 S	170° 44'.2	10.7	14° 00'.1 S	6.8	56.6	N 72°	05:41	07:02	08:21	10:48	12:58	-		
	01	48° 20'.9	198° 40'.3	01'.6	139° 29'.4	56'.9	266° 09'.4	30'.8	177° 09'.5	39'.4	Achernar	335° 25'.6	57° 09'.7 S	198° 57'.9	12° 00'.4 S	185° 13'.9	10.7	185° 13'.9	10.7	06.9	6.8	68°	05:39	06:52	08:01	10:12	11:50	13:16			
	02	63° 23'.3	213° 39'.8	02'.8	154° 29'.8	56'.9	281° 11'.6	30'.7	192° 11'.7	39'.5	Acruz	173° 08'.8	63° 10'.7 S	213° 58'.0	01'.3	199° 43'.6	10.6	13.7	6.8	66°	05:37	06:38	07:33	09:26	10:48	11:59					
	03	78° 25'.8	228° 39'.3	03'.9	169° 30'.3	56'.9	296° 13'.7	30'.6	207° 13'.9	39'.5	Adhara	255° 11'.7	28° 59'.5 S	228° 58'.0	02'.1	214° 13'.2	10.5	20.5	6.6	64°	05:36	06:32	07:23	09:10	10:28	11:37					
	04	93° 28'.3	243° 38'.8	05'.1	184° 30'.7	57'.0	311° 15'.9	30'.5	222° 16'.0	39'.6	Aldebaran	290° 48'.0	16° 32'.2 N	243° 58'.1	03'.0	228° 47'.7	10.5	27.1	6.6	62°	05:35	06:27	07:14	08:57	10:12	11:19					
	05	108° 30'.7	258° 38'.2	06'.2	199° 31'.1	57'.0	326° 18'.0	30'.4	237° 18'.2	39'.7				258° 58'.2	03'.9	243° 12'.2	10.4	33.7	6.6	56.7	60°	05:34	06:23	07:06	08:46	09:58	11:04				
	06	123° 33'.2	273° 37'.7	07'.4	214° 31'.6	57'.0	341° 20'.2	30'.3	252° 20'.4	39.8	Alioth	196° 20'.5	55° 52'.7 N	273° 58'.3	04'.7	257° 11'.6	10.4	40.3	6.4	N 58°	05:33	06:19	07:00	08:37	09:47	10:51					
	07	138° 35'.7	288° 37'.2	08'.5	229° 32'.0	57'.0	356° 22'.3	30'.2	267° 22'.6	39.9	Alkaid	152° 58'.7	49° 14'.5 N	288° 58'.3	05.6	272° 41'.0	10.3	46.7	6.4	56°	05:32	06:15	06:54	08:28	09:37	10:40					
	08	153° 38'.1	303° 36'.7	09'.7	244° 32'.4	57.0	11° 24'.5	30.1	282° 24'.8	39.9	Alnair	27° 42'.4	46° 53'.4 S	303° 58'.4	06.4	286° 40'.3	10.3	53.1	6.3	54°	05:30	06:12	06:49	08:21	09:28	10:31					
	09	168° 40'.6	318° 36'.2	10.8	259° 32'.9	57.0	26° 26'.6	30.0	297° 26'.9	40.0	Alnilam	275° 45'.2	1° 11'.6 S	318° 58'.5	07.3	301° 09'.6	10.2	59.4	6.2	52°	05:29	06:09	06:44	08:14	09:20	10:22					
	10	183° 43'.0	333° 35'.7	12.0	274° 33'.3	57.0	41° 28'.8	30.0	312° 29'.1	40.0	Alphard	217° 55'.3	8° 43'.4 S	333° 58'.6	08.2	315° 38'.8	10.1	15° 05'.6 S	6.1	56.8	50°	05:28	06:06	06:39	08:08	09:13	10:14				
	11	198° 45'.5	348° 35'.2	13.1	289° 33'.7	57.0	56° 30'.9	29.9	327° 31'.3	40.2				348° 58'.6	09.0	330° 07'.9	10.1	11.7	6.1	45°	05:25	06:00	06:30	07:56	08:58	09:58					
	12	213° 48'.0	3° 34'.7	11° 14'.2 S	304° 34'.2	24° 57.0 S	71° 33'.1	15° 29'.8 N	342° 33'.5	16° 40'.2 S	Alphecca	126° 10'.6	26° 40'.2 N	3° 58'.7	12° 09'.9 S	344° 37.0	10.1	15° 17'.8 S	6.0	56.8	N 40°	05:23	05:54	06:22	07:45	08:46	09:45				
	13	228° 50'.4	18° 34'.2	15.4	319° 34'.6	57.0	86° 35'.2	29.7	357° 35'.6	40.3	Alpheratz	357° 42'.2	29° 10'.5 N	18° 58'.8	10.7	359° 06'.1	10.0	23.8	5.9	35°	05:20	05:49	06:15	07:36	08:35	09:33					
	14	243° 52'.9	33° 33'.7	16.5	334° 35'.0	57.0	101° 37'.4	29.6	12° 37'.8	40.4	Altair	62° 07'.4	8° 54'.8 N	33° 58'.8	11.6	13° 35'.1	9.9	29.7	5.8	30°	05:17	05:45	06:09	07:28	08:26	09:23					
	15	258° 55'.4	48° 33'.2	17.7	349° 35.4	57.0	116° 39'.5	29.5	27° 40'.0	40.5	Ankaa	353° 14'.5	42° 13'.6 S	48° 58'.9	12.5	28° 04.0	9.9	35.5	5.8	56.9	20°	05:10	05:36	05:59	07:14	08:10	09:06				
	16	273° 57'.8	63° 32'.6	18.8	4° 35'.9	57.0	131° 41'.7	29.4	42° 42'.2	40.5	Antares	112° 25'.4	26° 27'.7 S	63° 59.0	13.3	42° 32'.9	9.8	41.3	5.6	N 10°	05:03	05:28	05:49	07:03	07:56	08:51					
	17	289° 00'.3	78° 32'.1	19.9	19° 36.3	57.1	146° 43'.8	29.3	57° 44'.4	40.6				78° 59'.0	14.2	57° 01'.7	9.8	46.9	5.6	0°	04:55	05:19	05:41	06:51	07:43	08:37					
	18	304° 02'.8	93° 31'.6	21.1	34° 36.7	57.1	161° 46.0	29.2	72° 46.5	40.7	Arcturus	145° 55'.3	19° 06.5 N	93° 59.1	15.0	71° 30.5	9.7	52.5	5.5	S 10°	04:45	05:10	05:32	06:40	07:31	08:24					
	19	319° 05'.2	108° 31'.1	22.2	49° 37.2	57.1	176° 48.1	29.1	87° 48.7	40.8	Atria	107° 26.8	69° 03.2 S	108° 59.2	15.9	85° 59.2	9.7	58.0	5.4	57.0	20°	04:33	04:59	05:22	06:29	07:17	08:09				
	20	334° 07'.7	123° 30.6	23.4	64° 37.6	57.1	191° 50.3	29.0	102° 50.9	40.8	Avior	234° 17.6	59° 33.2 S	123° 59.2	16.8	100° 27.9	9.6	16° 03.4 S	5.4	30°	04:16	04:46	05:11	06:15	07:01	07:52					
	21	349° 10'.2	138° 30.1	24.5	79° 38.0	57.1	206° 52.4	28.9	117° 53.1	40.9	Bellatrix	278° 30.8	6° 21.7 N	138° 59.3	17.6	114° 56.5	9.5	08.8	5.2	35°	04:06	04:38	05:04	06:08	06:52	07:42					
	22	4° 12'.6	153° 29.6	25.6	94° 38.5	57.1	221° 54.6	28.9	132° 55.2	41.0	Betelgeuse	271° 00.1	7° 24.5 S	153° 59.4	18.5	129° 25.0	9.5	14.0	5.2	40°	03:54	04:28	04:57	05:59	06:42	07:31					
23	19° 15.1	168° 29.1	26.8	109° 38.9	57.1	236° 56.7	28.8	147° 57.4	41.1				168° 59.5	19.3	143° 53.5	9.5	19.2	5.0	45°	03:39	04:17	04:48	05:49	06:30	07:18						
26	00	34° 17'.5	183° 28'.5	11° 27'.9 S	124° 39'.3	24° 57.1 S	251° 58'.9	15° 28'.7 N	162° 59'.6	16° 41'.1 S	178° 01'.8	41'.2	Canopus	263° 55'.5	52° 42'.1 S	183° 59'.5	12° 20'.2 S	158° 22.0	9.4	16° 24'.2 S	5.0	57.1	S 50°	03:19	04:03	04:38	05:37	06:16	07:02		
	01	49° 20'.0	198° 28.0	29.1	139° 39.8	57.1	267° 01.0	28'.6	178° 01'.8	41'.2	Capella	280° 32'.7	46° 00'.5 N	198° 59.6	21.0	172° 50.4	9.4	29.2	4.9	52°	03:09	03:56	04:33	05.31	06.09	06.54					
	02	64° 22'.5	213° 27.5	30.2	154° 40.2	57.1	282° 03.2	28'.5	193° 03'.9	41'.3	Deneb	49° 30'.8	45° 20'.5 N	213° 59.7	21.9	187° 18.8	9.3	34.1	4.8	54°	02:58	03:48	04:27	05.25	06.02	06.46					
	03	79° 24'.9	228° 27.0	31.3	169° 40.6	57.1	297° 05.3	28'.3	208° 06'.1	41'.4	Denebola	182° 33'.0	14° 29.4 S	228° 59.7	22.7	201° 15.1	9.2	38.9	4.7	56°	02:44	03:39	04.21	05.18	05.53	06.37					
	04	94° 27.4	243° 26.5	32.5	184° 41.1	57.1	312° 07.5	28'.4	223° 08'.3	41'.4	Diphda	348° 54'.7	17° 54.3 S	243° 59.8	23.6	216° 47.3	9.2	43.6	4.7	58°	02:29	03:30	04.15	05.10	05.44	06.26					
	05	109° 29.9	258° 26.0	33.6	199° 41.5	57.1	327° 09.6	28'.2	238° 10.5	41'.5				258° 59.9	24.5	230° 43.5	9.2	48.3	4.5	57.2	S 60°	02:09	03:18	04.07	05.01	05.33	06.14				
	06	124° 32'.3	273° 25.4	34.7	214° 41.9	57.1	342° 11.8	28'.1	253° 12'.7	41.6	Dubhe	193° 51'.2	61° 40.0 N	273° 59.9	25.3	245° 11.7	9.1	52.8	4.4												
	07	139° 34'.8	288° 24.9	35.9	229° 42.3	57.1	357° 13.9	28'.0	268° 14.8	41.7	Elmath	278° 11'.2	28° 37.0 N	289° 00.0	26.2	259° 39.8	9.0	57.2	4.4												
	08	154° 37'.3	303° 24.4	37.0	244° 42.8	57.1	12° 16.1	27.9	283° 17.0	41.7	Eltanin	90° 46.0	51° 29.7 N	304° 00.0	27.0	274° 07.8	9.0	17° 01.6 S	4.2												
	09	169° 39'.7	318° 23.9	38.1	259° 43.2	57.1	27° 18.3	27.9	298° 19.1	41.8	Enif	33° 46.1	9° 56.9 N	319° 00.1	27.9	288° 35.8	9.0	05.8	4.2												
	10	184° 42.2	333° 23.4	39.3	274° 43.6	57.1	42° 20.4	27.8	313° 21.4	41.9	Fomalhaut	15° 22.8	29° 32.6 S	334° 00.2	28.7	303° 03.8	8.9	10.0	4.1	57.3	Lat	Sunset	Twilight		Moonset						
	11	199° 44'.6	348° 22.9	40.4	289° 44.1	57.1	57° 22.6	27.7	328° 23.5	42.0				349° 00.2	29.6	317° 31.7	8.9	14.1	3.9												
	12	214° 47'.1	3° 22'.3	11° 41'.5 S	304° 44.5	24° 57.1 S	72° 24.7	15° 27.6 N	343° 25'.7	16° 42.0 S	Gacrux	172° 00'.3	57° 11'.6 S	4° 00'.3	12° 30.4 S	331° 59.6	8.8	17° 18.0 S	3.9	57.3	N 70°	15:25	16:34	17:46	15:45	15:56	16:20				
	13	229° 49'.6	18° 21'.8	42.7	319° 44.9	57.1	87° 26.9	27.5	358° 27.9	42.1	Giennah	175° 51'.6	17° 37.3 S	19° 00'.4	31.3	346° 27.4	8.8	21.9	3.8	68°	15:41	16:42	17:48	16.12	16.33	17.13					
	14	244° 52'.0	33° 21'.3	43.8	334° 45.3	57.0	102° 29.0	27.4	13° 30'.1	42.2	Hamal	148° 47'.1	60° 26.5 S	34° 00																	

2014 October 28, 29, 30 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.0			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	MOON		
	GHA		Dec	GHA		Dec	GHA		Dec	GHA		Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		28	29		30		
Tuesday	00	36° 15.8	183° 03.3	12° 21.9 S	124° 59.8	24° 56.6 S	253° 42.4	15° 24.4 N	164° 44.0	16° 44.7 S	164° 44.0	16° 44.7 S	Acamar	315° 17.3	40° 14.7 S	184° 02.4	13° 00.9 S	132° 17.1	7.6	18° 32.3 S	0.1	58.0	N 72°	05:54	07:15	08:38	-	15:32	15:16		
	01	51° 18.3	198° 02.8	23.0	140° 00.3	56.6	268° 44.6	24.3	179° 46.2	44.8	179° 46.2	44.8	Achernar	335° 25.6	57° 09.8 S	199° 02.4	01.7	146° 43.7	7.6	32.4	0.1	68°	05:48	06:55	07:58	13:25	13:59	14:19			
	02	66° 20.7	213° 02.3	24.2	155° 00.7	56.6	283° 46.8	24.2	194° 48.4	44.9	194° 48.4	44.9	Acruz	173° 08.8	63° 10.7 S	214° 02.5	02.6	161° 10.3	7.6	32.3	0.2	66°	05:46	06:47	07:44	12:55	13:34	14:00			
	03	81° 23.2	228° 01.7	25.3	170° 01.1	56.6	298° 48.9	24.1	209° 50.6	45.0	209° 50.6	45.0	Adhara	255° 11.6	28° 59.5 S	229° 02.5	03.4	175° 36.9	7.6	32.1	0.2	64°	05:44	06:40	07:32	12:33	13:15	13:45			
	04	96° 25.7	243° 01.2	26.4	185° 01.5	56.5	313° 51.1	24.0	224° 52.7	45.0	224° 52.7	45.0	Aldebaran	290° 48.0	16° 32.2 N	244° 02.6	04.2	190° 03.5	7.5	31.9	0.4	62°	05:42	06:35	07:23	12:15	12:59	13:32			
	05	111° 28.1	258° 00.7	27.5	200° 02.0	56.5	328° 53.3	23.9	239° 54.9	45.1	239° 54.9	45.1		196° 02.9		259° 02.6	05.1	204° 30.0	7.5	31.5	0.6	58.1	60°	05:41	06:30	07:14	12:00	12:45	13:21		
	06	126° 30.6	273° 00.1	28.6	215° 02.4	56.5	343° 55.4	23.8	254° 57.1	45.2	254° 57.1	45.2	Alioth	260° 20.5	55° 52.7 N	274° 02.7	05.9	218° 56.5	7.5	30.9	0.6	N 58°	05:39	06:25	07:07	11:47	12:34	13:12			
	07	141° 33.1	287° 59.6	29.6	230° 02.8	56.5	358° 57.6	23.8	269° 59.3	45.3	269° 59.3	45.3	Alkaid	152° 58.7	49° 14.4 N	289° 02.7	06.7	233° 23.0	7.5	30.3	0.7	56°	05:37	06:21	07:00	11:36	12:24	13:03			
	08	156° 35.5	302° 59.1	30.8	245° 03.2	56.4	313° 59.8	23.7	285° 01.4	45.3	285° 01.4	45.3	Alnair	27° 42.5	46° 53.4 S	304° 02.8	07.6	247° 49.5	7.5	29.6	0.9	54°	05:36	06:17	06:54	11:27	12:15	12:56			
	09	171° 38.0	317° 58.5	31.9	260° 03.7	56.4	329° 01.9	23.6	300° 03.6	45.4	300° 03.6	45.4	Alnilam	275° 45.2	1° 11.6 S	319° 02.8	08.4	262° 20.5	7.5	28.7	0.9	52°	05:34	06:14	06:49	11:18	12:07	12:49			
	10	186° 40.5	332° 58.0	33.0	275° 04.1	56.4	344° 04.1	23.5	315° 05.8	45.5	315° 05.8	45.5	Alphard	217° 55.3	8° 43.4 S	334° 02.9	09.3	276° 42.5	7.4	27.8	1.1	50°	05:33	06:11	06:44	11:10	12:00	12:43			
	11	201° 42.9	347° 57.4	34.2	290° 04.5	56.4	359° 06.3	23.4	330° 07.9	45.6	330° 07.9	45.6				349° 02.9	10.1	291° 08.9	7.5	26.7	1.2	58.2	45°	05:29	06:04	06:34	10:54	11:45	12:30		
	12	216° 45.4	2° 56.9	12° 35.3 S	305° 04.9	24° 56.4 S	74° 08.4	15° 23.3 N	345° 10.1	16° 45.6 S	345° 10.1	16° 45.6 S	Alphecca	126° 10.6	26° 40.2 N	4° 03.0	13° 10.9 S	305° 35.4	7.4	18° 25.5 S	1.3	58.2	N 40°	05:26	05:58	06:25	10:41	11:32	12:19		
	13	231° 47.9	17° 56.4	36.4	320° 05.3	56.3	89° 10.6	23.2	0° 12.3	45.7	0° 12.3	45.7	Alpheratz	357° 42.2	29° 10.5 N	19° 03.0	11.8	320° 01.8	7.4	24.2	1.4	35°	05:22	05:52	06:18	10:29	11:21	12:10			
	14	246° 50.3	32° 55.8	37.5	335° 05.8	56.3	104° 12.8	23.1	15° 14.5	45.8	15° 14.5	45.8	Altair	62° 07.4	8° 54.8 N	34° 03.1	12.6	334° 28.2	7.5	22.8	1.6	30°	05:19	05:47	06:11	10:19	11:12	12:02			
	15	261° 52.8	47° 55.3	38.6	350° 06.2	56.3	119° 14.9	23.1	30° 16.6	45.9	30° 16.6	45.9	Ankaa	353° 14.5	42° 13.6 S	49° 03.1	13.4	348° 54.7	7.4	21.2	1.6	20°	05:11	05:37	06:00	10:02	10:56	11:48			
	16	276° 55.2	62° 54.7	39.7	5° 06.6	56.2	134° 17.1	23.0	45° 18.8	45.9	45° 18.8	45.9	Antares	112° 25.4	26° 27.7 S	64° 03.2	14.3	3° 21.1	7.4	19.6	1.8	58.3	N 10°	05:03	05:28	05:50	09:47	10:42	11:36		
	17	291° 57.7	77° 54.2	40.8	20° 07.0	56.2	149° 19.3	23.9	60° 21.0	46.0	60° 21.0	46.0				79° 03.2	15.1	17° 47.5	7.4	17.8	1.9	0°	04:54	05:19	05:40	09:33	10:29	11:24			
	18	307° 00.2	92° 53.7	41.9	35° 07.5	56.2	164° 21.4	22.8	75° 23.2	46.1	75° 23.2	46.1	Arcturus	145° 55.3	19° 06.5 N	94° 03.3	15.9	32° 13.9	7.4	15.9	2.0	S 10°	04:44	05:09	05:31	09:19	10:15	11:13			
	19	322° 02.6	107° 53.1	43.0	50° 07.9	56.2	179° 23.6	22.7	90° 25.3	46.2	90° 25.3	46.2	Atria	107° 26.8	69° 03.2 S	109° 03.3	16.8	46° 40.3	7.4	13.9	2.1	20°	04:30	04:57	05:20	09:04	10:01	11:00			
	20	337° 05.1	122° 52.6	44.1	65° 08.3	56.1	194° 25.8	22.6	105° 27.5	46.2	105° 27.5	46.2	Avior	234° 17.5	59° 33.2 S	124° 03.3	17.6	61° 06.7	7.3	11.8	2.2	30°	04:13	04:43	05:08	08:47	09:45	10:46			
	21	352° 07.6	137° 52.0	45.2	80° 08.7	56.1	209° 27.9	22.5	120° 29.7	46.3	120° 29.7	46.3	Bellatrix	278° 30.8	6° 21.7 N	139° 03.4	18.4	75° 33.0	7.4	09.6	2.3	35°	04:02	04:34	05:01	08:37	09:36	10:38			
	22	7° 10.0	152° 51.5	46.3	95° 09.1	56.1	224° 30.1	22.5	135° 31.9	46.4	135° 31.9	46.4	Betelgeuse	271° 00.1	7° 24.5 N	154° 03.4	19.3	89° 59.4	7.4	07.3	2.4	58.4	40°	03:49	04:24	04:53	08:25	09:25	10:29		
23	22° 12.5	167° 50.9	47.4	110° 09.6	56.0	239° 32.3	22.4	150° 34.0	46.5	150° 34.0	46.5				169° 03.5	20.1	104° 25.8	7.4	04.9	2.6	45°	03:33	04:12	04:44	08:12	09:12	10:18				
Wednesday	00	37° 15.0	182° 50.4	12° 48.5 S	125° 10.0	24° 56.0 S	254° 34.4	15° 22.3 N	165° 36.2	16° 46.5 S	165° 36.2	16° 46.5 S	Canopus	263° 55.4	52° 42.1 S	184° 03.5	13° 20.9 S	118° 52.2	7.4	18° 02.3 S	2.7	58.4	S 50°	03:12	03:56	04:32	07:56	08:57	10:04		
	01	52° 17.4	197° 49.8	49.6	140° 10.4	56.0	269° 36.6	22.2	180° 38.4	46.6	180° 38.4	46.6	Capella	280° 32.7	46° 00.5 N	199° 03.6	21.8	133° 18.6	7.4	17° 59.6 S	2.8	58.2	52°	03:01	03:49	04:27	07:48	08:50	09:58		
	02	67° 19.9	212° 49.3	50.7	155° 10.8	56.9	284° 38.8	22.1	195° 40.6	46.7	195° 40.6	46.7	Deneb	49° 30.8	45° 20.5 N	214° 03.6	22.6	147° 45.0	7.3	56.8	2.8	54°	02:49	03:41	04:21	07:39	08:42	09:51			
	03	82° 22.4	227° 48.7	51.8	170° 11.2	55.9	299° 40.9	22.0	210° 42.7	46.8	210° 42.7	46.8	Denebola	182° 33.0	14° 29.4 N	229° 03.7	23.4	162° 31.3	7.4	54.0	3.1	56°	02:35	03:32	04:14	07:30	08:33	09:44			
	04	97° 24.8	242° 48.2	52.9	185° 11.7	55.9	314° 43.1	21.9	225° 44.9	46.8	225° 44.9	46.8	Diphda	348° 54.7	17° 54.3 S	244° 03.7	24.2	176° 37.7	7.4	50.9	3.1	58.5	58°	02:17	03:21	04:07	07:19	08:23	09:35		
	05	112° 27.3	257° 47.7	54.0	200° 12.1	55.8	329° 45.3	21.8	240° 47.1	46.9	240° 47.1	46.9				259° 03.7	25.1	191° 04.1	7.4	47.8	3.2	58.6	S 60°	01:56	03:08	03:59	07:06	08:11	09:25		
	06	127° 29.7	272° 47.1	55.1	215° 12.5	55.8	344° 47.5	21.8	255° 49.2	47.0	255° 49.2	47.0	Dubhe	193° 51.1	61° 40.0 N	274° 03.8	25.9	205° 30.5	7.4	44.6	3.3	58.7	S 62°	01:26	02:53	03:49	06:52	07:57	09:14		
	07	142° 32.2	287° 46.6	56.2	230° 12.9	55.8	359° 49.6	21.7	270° 51.4	47.1	270° 51.4	47.1	Einahr	278° 11.2	28° 37.0 N	289° 03.8	26.7	219° 56.9	7.4	41.3	3.5	30°									
	08	157° 34.7	302° 46.0	57.3	245° 13.3	55.7	14° 51.8	21.6	285° 53.6	47.1	285° 53.6	47.1	Eltanin	90° 46.0	51° 29.7 N	304° 03.9	27.6	234° 23.3	7.4	37.8	3.6		Lat	Sunset	Twilight		Moonset				
	09	172° 37.1	317° 45.5	58.4	260° 13.8	55.7	29° 54.0	21.5	300° 55.8	47.2	300° 55.8	47.2	Enif	35° 46.1	9° 56.9 N	319° 03.9	28.4	248° 49.7	7.4	34.2	3.6										
	10	187° 39.6	332° 44.9	59.5	275° 14.2	55.7	44° 56.1	21.4	315° 57.9	47.3	315° 57.9	47.3	Fomalhaut	13° 22.8	29° 32.6 S	334° 04.0	29.2	263° 16.1	7.5	30.6	3.8										
	11	202° 42.1	347° 44.4	13° 00.6 S	290° 14.6	55.6	59° 58.3	21.3	331° 00.1	47.4	331° 00.1	47.4				349° 04.0	30.0	277° 42.6	7.4	26.8	3.9	58.6									

2014 November 3, 4, 5 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.1			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	MOONRISE		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	3	4		5					
Monday	00	42° 10.7	181° 41.7	14° 56.4 S	125° 59.7	24° 49.0 S	258° 56.6	15° 12.5 N	169° 56.7	16° 55.5 S	Acamar	315° 17.3	40° 14.8 S	184° 06.4	14° 57.9 S	53° 35.3	9.4	2° 00.0 S	11.3	59.6	N 72°	06:18	07:42	09:16	14:49	14:43	14:37					
	01	57° 13.1	196° 41.1	57.5	141° 00.1	48.9	273° 58.8	12.4	184° 58.9	55.6	Achernar	335° 25.6	57° 09.8 S	199° 06.4	58.7	68° 03.7	9.4	1° 48.7 S	11.4	68°	68°	06:07	07:16	08:23	14:50	14:56	15:03					
	02	72° 15.6	211° 40.5	58.5	156° 00.5	48.8	289° 01.0	12.3	200° 01.1	55.6	Acruz	173° 08.7	63° 10.7 S	214° 06.5	59.4	82° 32.1	9.3	37.3	11.4	66°	66°	06:03	07:06	08:06	14:51	15:01	15:12					
	03	87° 18.0	226° 39.9	59.5	171° 00.9	48.7	304° 03.2	12.3	215° 03.1	55.7	Adhara	255° 11.6	28° 59.5 S	229° 06.5	15° 00.2 S	97° 00.4	9.4	25.9	11.4	64°	64°	06:00	06:57	07:51	14:52	15:05	15:20					
	04	102° 20.5	241° 39.2	15° 00.5 S	186° 01.4	48.7	319° 05.4	12.2	230° 05.4	55.8	Aldebaran	290° 48.0	16° 32.2 N	244° 06.5	01.0	111° 28.8	9.4	14.5	11.4	62°	62°	05:57	06:50	07:40	14:52	15:09	15:27					
	05	117° 23.0	256° 38.6	01.6	201° 01.8	48.6	334° 07.6	12.1	245° 07.6	55.9					259° 06.5	01.8	125° 57.2	9.4	03.1	11.4	60°	60°	05:54	06:44	07:30	14:52	15:12	15:33				
	06	132° 25.4	271° 38.0	02.6	216° 02.2	48.5	349° 09.8	12.0	260° 09.7	55.9	Alioth	196° 20.5	55° 52.7 N	274° 06.5	02.6	140° 25.6	9.5	0° 51.7 S	11.4	N 58°	58°	05:51	06:38	07:21	14:53	15:15	15:39					
	07	147° 27.9	286° 37.4	03.6	231° 02.6	48.4	4° 12.0	12.0	275° 11.9	56.0	Alkaid	152° 58.7	49° 14.4 N	289° 06.5	03.3	154° 54.1	9.4	40.3	11.4	56°	56°	05:48	06:33	07:13	14:53	15:17	15:43					
	08	162° 30.4	301° 36.8	04.6	246° 03.0	48.3	19° 14.2	11.9	290° 14.1	56.1	Alnair	27° 42.5	46° 53.4 S	304° 06.5	04.1	169° 22.5	9.4	28.9	11.4	54°	54°	05:46	06:28	07:06	14:54	15:20	15:48					
	09	177° 32.8	316° 36.2	05.7	261° 03.4	48.2	34° 16.4	11.8	305° 16.2	56.2	Anilam	275° 45.2	1° 11.6 S	319° 06.5	04.9	183° 50.9	9.4	17.5	11.4	52°	52°	05:44	06:24	07:00	14:54	15:22	15:52					
	10	192° 35.3	331° 35.6	06.7	276° 03.8	48.1	49° 18.6	11.7	320° 18.4	56.2	Alphard	217° 55.2	8° 43.4 S	334° 06.5	05.7	198° 19.3	9.4	06.0	11.4	50°	50°	05:42	06:20	06:54	14:54	15:24	15:55					
	11	207° 37.8	346° 35.0	07.7	291° 04.2	48.0	64° 20.6	11.7	335° 20.6	56.3					349° 06.5	06.5	212° 47.7	9.4	0° 05.4 N	11.4	45°	45°	05:37	06:11	06:42	14:55	15:28	16:03				
	12	222° 40.2	1° 34.4	15° 08.7 S	306° 04.6	24° 47.9 S	79° 23.0	15° 11.6 N	350° 22.7	16° 56.4 S	Alphecca	126° 10.6	26° 40.1 N	4° 06.5	15° 07.2 S	227° 16.1	9.4	0° 16.8 N	11.4	59.6	N 40°	05:32	06:04	06:32	14:55	15:31	16:09					
	13	237° 42.7	16° 33.8	09.7	321° 05.0	47.8	94° 25.2	11.5	5° 24.9	56.5	Alpheratz	357° 42.2	29° 10.6 N	19° 06.5	08.0	241° 44.5	9.4	28.2	11.4	35°	35°	05:27	05:57	06:24	14:56	15:35	16:15					
	14	252° 45.2	31° 33.2	10.8	336° 05.4	47.8	109° 27.4	11.4	20° 27.1	56.5	Altair	62° 07.4	8° 54.8 N	34° 06.5	08.8	256° 12.9	9.4	39.6	11.5	30°	30°	05:23	05:51	06:16	14:56	15:37	16:20					
	15	267° 47.6	46° 32.6	11.8	351° 05.8	47.7	124° 29.6	11.4	35° 29.2	56.6	Ankaa	353° 14.5	42° 13.6 S	49° 06.5	09.6	270° 41.3	9.4	51.1	11.4	20°	20°	05:14	05:40	06:03	14:57	15:42	16:28					
	16	282° 50.1	61° 32.0	12.8	6° 06.3	47.6	139° 31.8	11.3	50° 31.4	56.7	Antares	112° 25.4	26° 27.7 S	64° 06.5	10.3	285° 09.7	9.4	1° 02.5 N	11.4	N 10°	10°	05:04	05:29	05:51	14:57	15:46	16:36					
	17	297° 52.5	76° 31.4	13.8	21° 06.7	47.5	154° 34.0	11.2	65° 33.6	56.8					79° 06.5	11.1	299° 38.1	9.4	13.9	11.4	0°	0°	04:54	05:19	05:40	14:58	15:50	16:43				
	18	312° 55.0	91° 30.8	14.8	36° 07.1	47.4	169° 36.2	11.1	80° 35.8	56.8	Arcturus	145° 55.3	19° 06.5 N	94° 06.5	11.9	314° 06.5	9.4	25.3	11.3	S 10°	10°	04:42	05:07	05:29	14:58	15:54	16:50					
	19	327° 57.5	106° 30.1	15.9	51° 07.5	47.3	184° 38.4	11.1	95° 37.9	56.9	Atria	107° 26.8	69° 03.1 S	109° 06.5	12.7	328° 34.9	9.4	36.6	11.4	20°	20°	04:27	04:54	05:17	14:59	15:59	16:58					
	20	342° 59.9	121° 29.5	16.9	66° 07.9	47.2	199° 40.6	11.0	110° 40.1	57.0	Avior	234° 17.5	59° 33.3 S	124° 06.5	13.5	343° 03.3	9.4	48.0	11.4	30°	30°	04:07	04:38	05:03	15:00	16:04	17:07					
	21	358° 02.4	136° 28.9	17.9	81° 08.3	47.1	214° 42.8	10.9	125° 42.3	57.0	Bellatrix	278° 30.7	6° 21.7 N	139° 06.5	14.2	357° 31.7	9.4	59.4	11.3	35°	35°	03:55	04:28	04:55	15:00	16:07	17:12					
	22	13° 04.9	151° 28.3	18.9	96° 08.7	47.0	229° 45.0	10.8	140° 44.4	57.0	Betelgeuse	271° 00.1	7° 24.4 N	154° 06.5	15.0	12° 00.1	9.4	2° 10.7 N	11.4	59.5	40°	40°	03:41	04:16	04:46	15:01	16:10	17:18				
23	28° 07.3	166° 27.7	19.9	111° 09.1	46.9	244° 47.2	10.8	155° 46.6	57.2					169° 06.4	15.8	26° 28.5	9.4	22.1	11.3	45°	45°	03:22	04:02	04:35	15:02	16:14	17:25					
Tuesday	00	43° 09.8	181° 27.1	15° 20.9 S	126° 09.5	24° 46.8 S	259° 49.4	15° 10.7 N	170° 48.8	16° 57.3 S	Canopus	263° 55.4	52° 42.1 S	184° 06.4	15° 16.5 S	40° 56.9	9.4	2° 33.4 N	11.3	59.5	S 50°	02:58	03:45	04:22	15:02	16:18	17:33					
	01	58° 12.3	196° 26.5	21.9	141° 09.9	46.7	274° 51.6	10.6	185° 50.9	57.3	Capella	280° 32.7	46° 00.5 N	199° 06.4	17.3	55° 25.3	9.3	44.7	11.3	52°	52°	02:46	03:36	04:15	15:03	16:21	17:37					
	02	73° 14.7	211° 25.9	23.0	156° 10.3	46.6	289° 53.8	10.5	200° 53.1	57.4	Deneb	49° 30.8	45° 20.5 N	214° 06.4	18.1	69° 53.6	9.4	56.0	11.3	54°	54°	02:31	03:27	04:09	15:03	16:23	17:42					
	03	88° 17.2	226° 25.2	24.0	171° 10.7	46.5	304° 56.0	10.5	215° 55.3	57.5	Denebola	182° 33.0	14° 29.3 S	229° 06.4	18.9	84° 22.0	9.4	3° 07.3 N	11.2	56°	56°	02:14	03:16	04:01	15:04	16:25	17:46					
	04	103° 19.6	241° 24.6	25.0	186° 11.1	46.4	319° 58.3	10.4	230° 57.4	57.6	Diphda	348° 54.7	17° 54.3 S	244° 06.4	19.6	98° 50.4	9.3	18.5	11.2	58°	58°	01:53	03:04	03:52	15:04	16:28	17:52					
	05	118° 22.1	256° 24.0	26.0	201° 11.5	46.3	335° 00.5	10.3	245° 59.6	57.6					259° 06.4	20.4	113° 18.7	9.3	29.7	11.2	S 60°	60°	01:24	02:49	03:42	15:05	16:32	17:57				
	06	133° 24.6	271° 23.4	27.0	216° 12.0	46.2	350° 02.7	10.2	261° 01.8	57.7	Dubhe	193° 51.1	61° 40.0 N	274° 06.4	21.2	127° 47.0	9.4	40.9	11.2	S 62°	62°	00:37	02:31	03:31	15:05	16:35	18:04					
	07	148° 27.0	286° 22.8	28.0	231° 12.4	46.1	5° 04.9	10.2	276° 03.9	57.8	Elinath	278° 11.1	28° 37.0 S	289° 06.4	21.9	142° 15.4	9.3	52.1	11.2													
	08	163° 29.5	301° 22.2	29.0	246° 12.8	46.0	20° 07.1	10.1	291° 06.1	57.9	Eltanin	90° 46.1	51° 29.6 N	304° 06.4	22.7	156° 43.7	9.3	4° 03.3 N	11.1			Lat	Sunset	Twilight		Moonset						
	09	178° 32.0	316° 21.5	30.0	261° 13.2	45.9	35° 09.3	10.0	306° 08.3	57.9	Enif	135° 46.1	9° 56.9 N	319° 06.4	23.5	171° 12.0	9.3	14.4	11.1													
	10	193° 34.4	331° 20.9	31.0	276° 13.6	45.8	50° 11.5	09.9	321° 10.4	58.0	Fomalhaut	35° 22.8	29° 32.6 S	334° 06.4	24.3	185° 40.3	9.3	25.5	11.1													
	11	208° 36.9	346° 20.3	32.0	291° 14.0	45.7	65° 13.7	09.9	336° 12.6	58.1					349° 06.4	25.0	200° 08.6	9.3	36.6	11.0	59.4	N 72°	14:10	15:43	17:08	02:08	04:04	06:00				
	12	223° 39.4	1° 19.7	15° 33.0 S	306° 14.4	24° 45.6 S	80° 15.9	15° 09.8 N	351° 14.8	16° 58.2 S	Gacrux	172° 00.2	57° 11.6 S	4° 06.4	15° 25.8 S	214° 36.9	9.3	4° 47.6 N	11.0	59.4	N 70°	14:41	15:58	17:13	02:11	03:59	05:48					
	13	238° 41.8	16° 19.1	34.0	321° 14.8	45.5	95° 18.1	09.7	6° 16.9	58.2	Giennah	175° 51.6	17° 37.3 S	19° 06.4	26.6																	

2014 November 6, 7, 8 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.1			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise					
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	6		7	8				
Th u r s d a y	00	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	N 72°	06:29	07:56	09:37	14:31	14:23	14:08
	01	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	N 70°	06:22	07:39	09:01	14:54	15:00	15:13
	02	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	68°	06:17	07:26	08:36	15:12	15:26	15:49
	03	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	66°	06:12	07:15	08:17	15:27	15:46	16:15
	04	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	64°	06:08	07:06	08:01	15:39	16:03	16:35
	05	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	62°	06:04	06:58	07:48	15:49	16:16	16:51
	06	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	60°	06:00	06:51	07:37	15:58	16:28	17:05
	07	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	N 58°	05:57	06:44	07:28	16:06	16:38	17:17
	08	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	56°	05:54	06:39	07:19	16:13	16:47	17:27
	09	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	54°	05:51	06:34	07:12	16:19	16:54	17:36
	10	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	52°	05:49	06:29	07:05	16:24	17:01	17:44
	11	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	50°	05:46	06:25	06:59	16:29	17:08	17:51
	12	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	45°	05:40	06:15	06:46	16:40	17:21	18:07
	13	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	N 40°	05:35	06:07	06:36	16:49	17:33	18:19
	14	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	35°	05:30	06:00	06:26	16:57	17:42	18:30
	15	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	30°	05:25	05:53	06:18	17:04	17:51	18:40
	16	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	20°	05:15	05:41	06:04	17:16	18:05	18:56
	17	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	N 10°	05:05	05:30	05:52	17:27	18:18	19:11
	18	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	0°	04:54	05:19	05:40	17:37	18:31	19:24
	19	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	S 10°	04:41	05:06	05:28	17:47	18:43	19:38
	20	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	20°	04:25	04:52	05:16	17:57	18:56	19:52
	21	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	30°	04:05	04:35	05:01	18:10	19:11	20:09
	22	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	35°	03:52	04:25	04:52	18:17	19:20	20:19
23	45° 08'.1	180° 57'.1	16° 08'.8	S	126° 29'.0	24° 41'.6	S	261° 35'.6	15° 07'.2	N	172° 32'.8	17° 00'.8	S	Acamar	315° 17'.2	40° 14'.8	S	184° 05'.8	15° 53'.2	S	15° 27'.4	8.8	10° 55'.6	N	9.1	58.9	40°	03:36	04:13	04:42	18:25	19:30	20:30	
F r i d a y	00	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	S 50°	02:51	03:39	04:17	18:46	19:56	20:59
	01	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	52°	02:38	03:30	04:10	18:52	20:02	21:07
	02	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	54°	02:23	03:20	04:03	18:58	20:10	21:15
	03	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	56°	02:04	03:09	03:54	19:05	20:18	21:24
	04	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	58°	01:40	02:55	03:45	19:12	20:27	21:35
	05	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	S 60°	01:06	02:39	03:34	19:21	20:38	21:47
	06	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	S 62°	-	02:19	03:22	19:30	20:51	22:02
	07	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	Lat	Sunset	Twilight		Moonset		
	08	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4			Nautical	6	7	8	
	09	46° 07'.2	180° 41'.6	16° 32'.0	S	126° 38'.7	24° 38'.6	S	262° 28'.9	15° 05'.5	N	173° 24'.8	17° 02'.6	S	Canopus	263° 55'.4	52° 42'.2	S	184° 05'.2	16° 11'.1	S	2° 31'.8	8.6	14° 13'.3	N	7.2	58.4	N 72°	13:49	15:30	16:57	07:58	09:59	12:06
	10</																																	

2014 November 9, 10, 11 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.1			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	9		Moonrise				
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	g		10	11								
Sunday	00	48° 05'.5	180° 09.8	17° 17.3	S	126° 58.0	24° 31.8	S	264° 16.1	15° 02.3	N	175° 08.7	17° 06.1	S	Acamar	315° 17.2	40° 14.8	S	184° 03.4	16° 46.1	S	336° 37.2	8.9	18° 07.1	N	2.3	57.0	N 72°	06:41	08:10	10:01	-	-	17:03	
	01	63° 07.9	195° 09.2	18.2		141° 58.4	31.7		279° 18.3	02.2		190° 10.8	06.2		Achernar	335° 25.6	57° 09.8	S	199° 03.3	46.8		351° 05.1	8.9	09.4		2.2	68°	06:26	07:36	08:49	16:26	17:23	18:00		
	02	78° 10.4	210° 08.5	19.2		156° 58.8	31.5		294° 20.5	02.2		205° 13.0	06.3		Acruz	173° 08.6	63° 10.6	S	214° 03.3	47.5		5° 33.0	9.0	11.6		2.2	56.9	06:20	07:24	08:28	16:56	17:51	18:58		
	03	93° 12.9	225° 07.8	20.1		171° 59.2	31.4		309° 22.8	02.1		220° 15.2	06.3		Adhara	255° 11.6	28° 59.5	S	229° 02.2	48.2		20° 01.0	9.0	13.8		2.0	64°	06:15	07:14	08:11	17:18	18:13	19:17		
	04	108° 15.3	240° 07.1	21.0		186° 59.6	31.2		324° 25.0	02.0		235° 17.3	06.4		Aldebaran	290° 48.0	16° 32.2	N	244° 03.2	48.9		34° 29.0	9.0	15.8		1.9	62°	06:11	07:05	07:57	17:36	18:30	19:33		
	05	123° 17.8	255° 06.4	21.9		202° 00.0	31.0		339° 27.3	02.0		250° 19.5	06.5						259° 03.1	49.6		48° 57.0	9.0	17.7		1.8	56.8	06:06	06:57	07:45	17:50	18:45	19:46		
	06	138° 20.3	270° 05.8	22.9		217° 00.4	30.9		354° 29.5	01.9		265° 21.7	06.6		Alioth	196° 20.4	55° 52.7	N	274° 03.1	50.4		63° 25.0	9.1	19.5		1.7	N 58°	06:03	06:51	07:35	18:03	18:57	19:57		
	07	153° 22.7	285° 05.1	23.8		232° 00.8	30.7		9° 31.7	01.8		280° 23.8	06.6		Alkaid	152° 58.7	49° 14.4	N	289° 03.0	51.1		77° 53.1	9.1	21.2		1.6	56°	05:59	06:44	07:26	18:14	19:08	20:07		
	08	168° 25.2	300° 04.4	24.7		247° 01.2	30.6		24° 34.0	01.8		295° 26.0	06.8		Alnair	27° 42.5	46° 53.4	S	304° 03.0	51.8		92° 21.2	9.1	22.8		1.5	54°	05:56	06:39	07:18	18:23	19:17	20:15		
	09	183° 27.7	315° 03.7	25.6		262° 01.6	30.4		315° 36.7	01.7		310° 28.2	06.7		Anilim	275° 45.1	1° 11.7	S	319° 02.9	52.5		106° 49.3	9.2	24.3		1.4	56.7	52°	05:53	06:34	07:11	18:32	19:25	20:23	
	10	198° 30.1	330° 03.1	26.5		277° 02.0	30.3		54° 38.5	01.7		325° 30.3	06.9		Alphard	217° 55.2	8° 43.4	S	334° 02.9	53.2		121° 17.5	9.1	25.7		1.3	50°	05:50	06:29	07:04	18:40	19:33	20:30		
	11	213° 32.6	345° 02.4	27.4		292° 02.4	30.1		69° 40.7	01.6		340° 32.5	06.9						349° 02.8	53.9		135° 45.6	9.3	27.0		1.2	45°	05:44	06:19	06:51	18:56	19:49	20:45		
	12	228° 35.1	0° 01.7	17° 28.4	S	307° 02.8	24° 30.0	S	84° 42.9	15° 01.5	N	355° 34.7	17° 07.0	S	Alphecca	126° 10.6	26° 40.1	N	4° 02.8	16° 54.6	S	150° 13.9	9.2	18° 28.2	N	1.1	56.6	N 40°	05:38	06:10	06:39	19:09	20:02	20:57	
	13	243° 37.5	15° 01.0	29.3		322° 03.2	29.8		99° 45.2	01.5		10° 36.8	07.1		Alpheratz	357° 42.2	29° 10.6	N	19° 02.7	55.3		164° 42.1	9.3	29.3		1.0	35°	05:32	06:03	06:29	19:21	20:13	21:07		
	14	258° 40.0	30° 00.3	30.2		337° 03.6	29.6		114° 47.4	01.4		25° 39.0	07.2		Altair	62° 07.4	8° 54.8	N	34° 02.7	56.1		179° 10.4	9.3	30.3		0.9	30°	05:27	05:56	06:21	19:31	20:23	21:16		
	15	273° 42.4	44° 59.6	31.1		352° 04.0	29.5		129° 49.7	01.3		40° 41.1	07.2		Ankaa	353° 14.5	42° 13.6	S	49° 02.6	56.8		193° 38.7	9.3	31.2		0.7	56.5	20°	05:16	05:43	06:06	19:48	20:40	21:31	
	16	288° 44.9	59° 59.0	32.0		7° 04.4	29.3		144° 51.9	01.3		55° 43.3	07.3		Antares	112° 25.4	26° 27.7	S	64° 02.5	57.5		208° 07.0	9.4	31.9		0.7	N 10°	05:06	05:31	05:53	20:03	20:55	21:45		
	17	303° 47.4	74° 58.3	32.9		22° 04.8	29.2		159° 54.1	01.2		70° 45.5	07.4						79° 02.5	58.2		222° 35.4	9.4	32.6		0.6	0°	04:54	05:19	05:40	20:17	21:08	21:58		
	18	318° 49.8	89° 57.6	33.8		37° 05.2	29.0		174° 56.4	01.1		85° 47.6	07.4		Arcturus	145° 55.2	19° 06.5	N	94° 02.4	58.9		237° 03.8	9.5	33.2		0.4	S 10°	04:40	05:06	05:28	20:31	21:22	22:10		
	19	333° 52.3	104° 56.9	34.7		52° 05.6	28.8		189° 58.6	01.1		100° 49.8	07.6		Atria	170° 26.9	69° 03.1	S	109° 02.4	59.6		251° 32.3	9.4	33.6		0.4	20°	04:24	04:51	05:14	20:46	21:37	22:24		
	20	348° 54.8	119° 56.2	35.7		67° 06.0	28.7		205° 00.9	01.0		115° 52.0	07.5		Avior	234° 17.4	59° 33.3	S	124° 02.3	17° 00.3	S	266° 00.7	9.6	34.0		0.0	30°	04:02	04:33	04:59	21:03	21:54	22:39		
	21	3° 57.2	134° 55.5	36.6		82° 06.4	28.5		220° 03.1	01.0		130° 54.1	07.7		Bellatrix	278° 30.7	6° 21.6	N	139° 02.3	01.0		280° 29.3	9.5	34.3		0.1	35°	03:49	04:22	04:50	21:14	22:03	22:48		
	22	18° 59.7	149° 54.8	37.5		97° 06.8	28.3		235° 05.4	00.9		145° 56.3	07.7		Betelgeuse	271° 00.0	7° 24.4	N	154° 02.2	01.7		294° 57.8	9.6	34.4		0.1	56.3	40°	03:33	04:09	04:39	21:25	22:15	22:58	
23	34° 02.2	164° 54.2	38.4		112° 07.2	28.2		250° 07.6	00.8		160° 58.5	07.8						169° 02.2	02.4		309° 26.4	9.6	34.5		0.0	45°	03:12	03:54	04:27	21:39	22:28	23:10			
Monday	00	49° 04.6	179° 53.5	17° 39.3	S	127° 07.6	24° 28.0	S	265° 09.9	15° 00.8	N	176° 00.6	17° 07.9	S	Canopus	263° 55.3	52° 42.2	S	184° 02.1	17° 03.1	S	323° 55.0	9.7	18° 34.5	N	0.2	56.3	S 50°	02:45	03:34	04:12	21:55	22:44	23:25	
	01	64° 07.1	194° 52.8	40.2		142° 08.0	27.9		280° 12.1	00.7		191° 02.8	08.0		Capella	280° 32.6	46° 00.5	N	199° 02.0	03.8		338° 23.7	9.7	34.3		0.2	52°	02:31	03:25	04:05	22:03	22:51	23:32		
	02	79° 09.6	209° 52.1	41.1		157° 08.4	27.7		295° 14.3	00.6		206° 05.0	08.0		Deneb	49° 30.9	45° 20.5	N	214° 02.0	04.6		352° 52.4	9.8	34.1		0.3	56.2	54°	02:14	03:14	03:57	22:12	23:00	23:39	
	03	94° 12.0	224° 51.4	42.0		172° 08.2	27.4		310° 16.6	00.6		221° 07.3	08.2		Denebola	182° 32.9	14° 29.3	S	229° 01.9	05.3		7° 21.2	9.7	33.8		0.5	56°	01:53	03:01	03:48	22:21	23:09	23:48		
	04	109° 14.5	239° 50.7	42.9		187° 09.8	27.4		325° 18.8	00.5		236° 09.1	08.1		Diphda	348° 54.7	17° 54.3	S	244° 01.9	06.0		21° 49.9	9.9	33.3		0.5	58°	01:26	02:47	03:38	22:33	23:19	23:57		
	05	124° 16.9	254° 50.0	43.8		202° 09.6	27.2		340° 21.1	00.5		251° 11.4	08.3						259° 01.8	06.7		36° 18.8	9.8	32.8		0.6	56.1	S 60°	00:43	02:29	03:27	22:45	23:32	24:08	
	06	139° 19.4	269° 49.3	44.7		217° 10.0	27.0		355° 23.3	00.4		266° 13.6	08.3		Dubhe	193° 51.0	61° 40.0	N	274° 01.8	07.4		50° 47.6	9.9	32.2		0.8	S 62°	-	02:07	03:13	23:00	23:46	24:20		
	07	154° 21.9	284° 48.6	45.6		232° 10.4	26.9		10° 25.6	00.3		281° 15.8	08.4		Elinath	278° 11.1	28° 37.0	N	289° 01.7	08.1		65° 16.5	10.0	31.4		0.8									
	08	169° 24.3	299° 48.0	46.5		247° 10.8	26.7		25° 27.8	00.3		296° 17.9	08.5		Eltanin	90° 46.1	51° 29.6	N	304° 01.6	08.8		79° 45.5	10.0	30.6		0.9									
	09	184° 26.8	314° 47.3	47.4		262° 11.2	26.5		40° 30.1	00.2		311° 20.1	08.5		Enif	13° 46.2	9° 56.9	N	319° 01.6	09.5		94° 14.5	10.0	29.7		1.0	56.0								
	10	199° 29.3	329° 46.6	48.3		277° 11.6	26.4		55° 32.3	00.1		326° 22.3	08.6		Fomalhaut	15° 22.8	29° 32.6	S	334° 01.5	10.2		108° 43.5	10.1	28.7		1.2									
	11	214° 31.7	344° 45.9	49.2		292° 12.0	26.2		70° 34.6	00.1		341° 24.4	08.7						349° 01.5	10.9		123° 12.6	10.1	27.5		1.2									
	12	229° 34.2	359° 45.2	17° 50.1	S	307° 12.4	24° 26.0	S	85° 36.8	15° 00.0	N	356° 26.6	17° 08.8	S	Gacrux	172° 00.2	57° 11.5	S	4° 01.4	17° 11.6	S	137° 41.7	10.2	18° 26.3	N	1.3	55.9	N 72°	13:25	15:16	16:46	-	-	14:34	
	13	244° 36.7	14° 44.5	51.0		322° 12.8	25.9		100° 39.1	00.0		11° 28.8	08.8		Giennah	175° 51.5	17° 37.3	S	19° 01.3	12.3		152° 10.9	10.2	25.0		1.4	N 70°	14:09	15:35	16:54	12:23	13:13	13:36		
	14	259° 39.1	29° 43.8	51.9		337° 13.2	25.7		115°																										

2014 November 12, 13, 14 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9		MARS +1.0		JUPITER -2.1		SATURN +0.5		STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	12	Moonrise	14	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°		06:52	08:24		10:32	18:54	20:37
Wednesday	00	51° 02' 9	179° 19' 8	18° 21' 8 S	127° 26' 8	24° 19' 6 S	266° 57' 9	14° 57' 9 N	177° 44' 5	17° 11' 4 S	Acamar	315° 17' 2	40° 14' 8 S	183° 59' 0	17° 36' 4 S	299° 41' 9	11' 9	16° 43' 1 N	4' 4	55.0	N 72°	06:52	08:24	10:32	18:54	20:37	22:14
	01	66° 05' 4	194° 19' 1	22' 7	142° 27' 2	19' 4	282° 00' 2	57' 8	192° 46' 6	11' 5	Achernar	335° 25' 6	57° 09' 8 S	198° 58' 9	37' 1	314° 12' 8	12' 0	38' 7	4' 5	68°	N 70°	06:42	08:03	09:36	19:29	20:59	22:28
	02	81° 07' 8	209° 18' 4	23' 5	157° 27' 6	19' 2	297° 02' 4	57' 8	207° 48' 8	11' 5	Acruz	173° 08' 6	63° 10' 6 S	213° 58' 8	37' 8	328° 43' 8	12' 0	34' 2	4' 6	66°	N 68°	06:35	07:47	09:03	19:54	21:17	22:40
	03	96° 10' 3	224° 17' 7	24' 4	172° 28' 0	19' 1	312° 04' 7	57' 7	222° 51' 0	11' 6	Adhara	255° 11' 5	28° 59' 5 S	228° 58' 7	38' 5	343° 14' 8	12' 0	29' 6	4' 6	64°	N 66°	06:28	07:33	08:39	20:13	21:30	22:49
	04	111° 12' 8	239° 17' 0	25' 2	187° 28' 4	18' 9	327° 07' 0	57' 6	237° 53' 1	11' 7	Aldebaran	290° 47' 9	16° 32' 2 N	243° 58' 7	39' 1	357° 45' 9	12' 1	25' 0	4' 7	62°	N 64°	06:22	07:22	08:20	20:28	21:42	22:57
	05	126° 15' 2	254° 16' 3	26' 1	202° 28' 8	18' 7	342° 09' 2	57' 6	252° 55' 3	11' 8				258° 58' 6	39' 8	12° 17' 0	12' 2	20' 3	4' 8	54' 9	N 60°	06:13	07:04	07:53	20:52	22:00	23:09
	06	141° 17' 7	269° 15' 5	27' 0	217° 29' 2	18' 5	357° 11' 5	57' 5	267° 57' 4	11' 8	Alioth	166° 20' 4	55° 52' 6 N	273° 58' 5	40' 5	26° 48' 2	12' 3	15' 5	4' 8	58°	N 58°	06:09	06:57	07:42	21:01	22:07	23:14
	07	156° 20' 2	284° 14' 8	27' 8	232° 29' 6	18' 3	12° 13' 7	57' 5	282° 59' 6	11' 9	Alkaid	152° 58' 7	49° 14' 3 N	288° 58' 4	41' 2	41° 19' 5	12' 2	10' 7	4' 9	56°	N 56°	06:05	06:50	07:32	21:09	22:14	23:19
	08	171° 22' 6	299° 14' 1	28' 7	247° 30' 0	18' 1	27° 16' 0	57' 4	298° 01' 8	12' 0	Alnilam	27° 42' 5	46° 53' 4 S	303° 58' 4	41' 9	55° 50' 7	12' 4	05' 8	5' 0	54°	N 54°	06:01	06:44	07:24	21:17	22:19	23:23
	09	186° 25' 1	314° 13' 4	29' 5	262° 30' 4	17' 9	42° 18' 3	57' 3	313° 03' 9	12' 0	Alnair	275° 45' 1	1° 11' 7 S	318° 58' 3	42' 5	70° 22' 1	12' 4	00' 8	5' 0	52°	N 52°	05:58	06:39	07:16	21:23	22:24	23:27
	10	201° 27' 5	329° 12' 7	30' 4	277° 30' 8	17' 7	57° 20' 5	57' 3	328° 06' 1	12' 1	Alphard	217° 55' 1	8° 43' 4 S	333° 58' 2	43' 2	84° 53' 5	12' 4	15° 55' 8 N	5' 2	54' 8	N 50°	05:55	06:34	07:09	21:29	22:29	23:30
	11	216° 30' 0	344° 11' 9	31' 3	292° 31' 2	17' 5	72° 22' 8	57' 2	343° 08' 3	12' 2				348° 58' 1	43' 9	99° 24' 9	12' 5	50' 6	5' 2	45°	N 45°	05:48	06:23	06:55	21:42	22:39	23:37
	12	231° 32' 5	359° 11' 2	18° 32' 1 S	307° 31' 6	24° 17' 4 S	87° 25' 0	14° 57' 2 N	358° 10' 4	17° 12' 3 S	Alphecca	126° 10' 6	26° 40' 1 N	3° 58' 0	17° 44' 6 S	113° 56' 4	12' 5	15° 45' 4 N	5' 2	54' 8	N 40°	05:41	06:14	06:43	21:52	22:48	23:43
	13	246° 34' 9	14° 10' 5	33' 0	322° 32' 0	17' 2	102° 27' 3	57' 1	13° 12' 6	12' 3	Alpheratz	357° 42' 2	29° 10' 6 N	18° 58' 0	45' 2	128° 27' 9	12' 6	40' 2	5' 4	35°	N 35°	05:35	06:05	06:32	22:01	22:55	23:48
	14	261° 37' 4	29° 09' 8	33' 8	337° 32' 4	17' 0	117° 29' 6	57' 1	28° 14' 7	12' 4	Altair	62° 07' 5	8° 54' 8 N	33° 57' 9	45' 9	142° 59' 5	12' 6	34' 8	5' 4	30°	N 30°	05:29	05:58	06:23	22:09	23:01	23:51
	15	276° 39' 9	44° 09' 1	34' 7	352° 32' 8	16' 8	132° 31' 8	57' 0	43° 16' 9	12' 5	Ankaa	353° 14' 5	42° 13' 6 S	48° 57' 8	46' 6	157° 31' 1	12' 7	29' 4	5' 4	20°	N 20°	05:18	05:44	06:08	22:22	23:12	24:03
	16	291° 42' 3	59° 08' 3	35' 5	7° 33' 2	16' 6	147° 34' 1	57' 0	58° 19' 1	12' 6	Antares	112° 25' 4	26° 27' 7 S	63° 57' 7	47' 2	172° 02' 8	12' 7	24' 0	5' 6	54' 7	N 10°	05:06	05:32	05:54	22:34	23:21	24:07
	17	306° 44' 8	74° 07' 6	36' 4	22° 33' 6	16' 4	162° 36' 4	56' 9	73° 21' 2	12' 6				78° 57' 6	47' 9	186° 34' 5	12' 8	18' 4	5' 6	54' 7	N 0°	04:54	05:19	05:41	22:45	23:30	24:14
	18	321° 47' 3	89° 06' 9	37' 2	37° 34' 0	16' 2	177° 38' 6	56' 8	88° 23' 4	12' 7	Arcturus	145° 55' 2	19° 06' 4 N	93° 57' 6	48' 6	201° 06' 3	12' 8	12' 8	5' 6	54' 7	S 10°	04:39	05:05	05:28	22:56	23:39	24:20
	19	336° 49' 7	104° 06' 2	38' 1	52° 34' 4	16' 0	192° 40' 9	56' 8	103° 25' 6	12' 8	Atria	107° 26' 9	69° 03' 1 S	108° 57' 4	49' 3	215° 38' 1	12' 8	07' 2	5' 8	20°	N 20°	04:22	04:50	05:13	23:08	23:48	24:27
	20	351° 52' 2	119° 05' 4	38' 9	67° 34' 8	15' 8	207° 43' 1	56' 7	118° 27' 7	12' 8	Avia	234° 17' 4	59° 33' 3 S	123° 57' 5	49' 9	230° 09' 9	13' 0	01' 4	5' 8	30°	N 30°	04:00	04:31	04:57	23:21	23:59	24:35
	21	6° 54' 6	134° 04' 7	39' 8	82° 35' 2	15' 6	222° 45' 4	56' 7	133° 29' 9	12' 9	Bellatrix	278° 30' 7	6° 21' 6 N	138° 57' 3	50' 6	244° 41' 9	12' 9	14° 55' 6 N	5' 8	35°	N 35°	03:46	04:20	04:47	23:29	-	00:05
	22	21° 57' 1	149° 04' 0	40' 6	97° 35' 6	15' 4	237° 47' 7	56' 6	148° 32' 0	13' 0	Betelgeuse	271° 00' 0	7° 24' 4 N	153° 57' 2	51' 3	259° 13' 8	13' 0	49' 8	5' 9	54' 6	N 40°	03:29	04:06	04:36	23:37	-	00:12
23	36° 59' 6	164° 03' 3	41' 5	112° 36' 0	15' 2	252° 49' 9	56' 6	163° 34' 2	13' 1				168° 57' 1	51' 9	273° 45' 8	13' 1	43' 9	6' 0	45°	N 45°	03:07	03:50	04:23	23:48	-	00:21	
Thursday	00	52° 02' 0	179° 02' 5	18° 42' 3 S	127° 36' 4	24° 15' 0 S	267° 52' 2	14° 56' 5 N	178° 36' 4	17° 13' 1 S	Canopus	263° 55' 3	52° 42' 2 S	183° 57' 1	17° 52' 6 S	288° 17' 9	13' 1	14° 37' 9 N	6' 1	54' 6	S 50°	02:38	03:29	04:08	24:00	-	00:30
	01	67° 04' 5	194° 01' 8	43' 1	142° 36' 8	14' 8	282° 54' 5	56' 4	193° 38' 5	13' 2	Capella	280° 32' 6	46° 00' 5 N	198° 57' 0	53' 3	302° 50' 0	13' 1	31' 8	6' 1	52°	N 52°	02:23	03:19	04:00	-	00:06	00:35
	02	82° 07' 0	209° 01' 1	44' 0	157° 37' 2	14' 6	297° 56' 7	56' 4	208° 40' 7	13' 3	Deneb	49° 30' 9	45° 20' 5 N	213° 56' 9	53' 9	317° 22' 1	13' 2	25' 7	6' 1	54°	N 54°	02:05	03:07	03:52	-	00:12	00:40
	03	97° 09' 4	224° 00' 4	44' 8	172° 37' 6	14' 4	312° 59' 0	56' 3	223° 45' 9	13' 4	Denebola	182° 32' 9	14° 29' 3 S	228° 56' 8	54' 6	331° 54' 3	13' 3	19' 6	6' 3	56°	N 56°	01:43	02:54	03:42	-	00:19	00:45
	04	112° 11' 9	238° 59' 6	45' 7	187° 38' 0	14' 2	328° 01' 3	56' 3	238° 42' 0	13' 4	Diphda	348° 54' 7	17° 54' 3 S	243° 56' 7	55' 3	346° 26' 6	13' 2	13' 3	6' 3	58°	N 58°	01:11	02:39	03:32	-	00:27	00:51
	05	127° 14' 4	253° 58' 9	46' 5	202° 38' 4	14' 0	343° 03' 5	56' 2	253° 47' 2	13' 5				258° 56' 6	55' 9	0° 58' 8	13' 4	07' 0	6' 3	54' 5	S 60°	00:06	02:19	03:19	00:08	00:36	00:58
	06	142° 16' 8	268° 58' 2	47' 3	217° 38' 8	13' 8	358° 05' 8	56' 2	268° 49' 3	13' 6	Dubhe	193° 51' 0	61° 39' 9 N	273° 56' 6	56' 6	15° 31' 2	13' 3	00' 7	6' 4	54' 5	S 62°	-	01:55	03:05	00:20	00:46	01:06
	07	157° 19' 3	283° 57' 4	48' 2	232° 39' 2	13' 6	1° 38' 1	56' 1	283° 51' 5	13' 6	Elinath	278° 11' 1	28° 37' 0 N	288° 56' 5	57' 3	30° 03' 5	13' 4	13° 54' 3 N	6' 5	54' 5	N 62°	-	01:55	03:05	00:20	00:46	01:06
	08	172° 21' 8	298° 56' 7	49' 0	247° 39' 6	13' 4	28° 10' 3	56' 1	298° 53' 7	13' 7	Eltanin	90° 46' 1	51° 29' 6 N	303° 56' 4	57' 9	44° 35' 9	13' 5	47' 8	6' 5	54' 5	N 54°	01:43	02:54	03:42	-	00:19	00:45
	09	187° 24' 2	313° 56' 0	49' 9	262° 40' 0	13' 2	43° 12' 6	56' 0	313° 55' 8	13' 8	Enif	35° 46' 2	9° 56' 9 N	318° 56' 3	58' 6	59° 08' 4	13' 5	41' 3	6' 6	54' 5	N 54°	01:11	02:39	03:32	-	00:27	00:51
	10	202° 26' 7	328° 55' 3	50' 7	277° 40' 4	13' 0	58° 14' 9	55' 9	328° 58' 0	13' 9	Fomalhaut	13° 22' 8	29° 32' 6 S	333° 56' 2	59' 3	73° 40' 9	13' 5	34' 7	6' 6	54' 5	N 54°	00:06	02:19	03:19	00:08	00:36	00:58
	11	217° 29' 1	343° 54' 5	51' 5	292° 40' 8	12' 8	73° 17' 1	55' 9	344° 00' 2																		

2014 November 15, 16, 17 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.2			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:03	08:38	11:25	23:49	-	01:23			
15 S a t u r d a y	00	54° 00'.3	178° 27.0	19° 21.8 S	127° 55.5	24° 05.0 S	269° 41.3	14° 53.9 N	180° 20.1	17° 16.6 S	180° 20.1	17° 16.6 S	Acamar	315° 17.2	40° 14.8 S	183° 52.6	18° 24.1 S	266° 42.8	14.7	8° 48.0 N	8.3	54.2	N 70°	06:52	08:15	09:55	23:57	-	01:25			
	01	69° 02.8	193° 26.3	22.6	142° 55.9	04.8	284° 43.5	53.9	195° 22.3	16.7	195° 22.3	16.7	Achernar	335° 25.7	57° 09.8 S	198° 52.5	24.7	281° 16.5	14.8	39.7	8.5	68°	06:43	07:57	09:17	-	00:03	01:26				
	02	84° 05.2	208° 25.5	23.4	157° 56.3	04.6	299° 45.8	53.8	210° 24.5	16.7	210° 24.5	16.7	Acruz	173° 08.6	63° 10.6 S	213° 52.4	25.3	295° 50.3	14.8	31.2	8.4	66°	06:36	07:42	08:50	-	00:08	01:28				
	03	99° 07.7	223° 24.8	24.2	172° 56.7	04.4	314° 48.1	53.8	225° 26.6	16.8	225° 26.6	16.8	Adhara	255° 11.5	28° 59.5 S	228° 52.3	26.0	310° 24.1	14.9	22.8	8.5	64°	06:29	07:30	08:30	-	00:12	01:29				
	04	114° 10.2	238° 24.0	25.0	187° 57.1	04.1	329° 50.4	53.7	240° 28.8	16.9	240° 28.8	16.9	Aldebaran	290° 47.9	16° 32.2 N	243° 52.2	26.6	324° 58.0	14.8	14.3	8.5	62°	06:24	07:20	08:14	-	00:16	01:30				
	05	129° 12.6	253° 23.3	25.8	202° 57.5	03.9	344° 52.7	53.7	255° 31.0	17.0	255° 31.0	17.0					258° 52.1	27.3	339° 31.8	14.9	05.8	8.5	60°	06:19	07:11	08:00	-	00:19	01:30			
	06	144° 15.1	268° 22.5	26.6	217° 57.9	03.7	359° 54.9	53.6	270° 33.1	17.0	270° 33.1	17.0	Alioth	196° 20.4	55° 52.6 N	273° 52.0	27.9	354° 05.7	14.9	7° 57.3 N	8.6	N 58°	06:14	07:03	07:48	-	00:22	01:31				
	07	159° 17.6	283° 21.8	27.4	232° 58.3	03.5	14° 57.2	53.6	285° 35.3	17.1	285° 35.3	17.1	Alkaid	152° 58.7	49° 14.3 N	288° 51.9	28.5	8° 39.6	14.9	48.7	8.6	56°	06:10	06:56	07:38	-	00:25	01:32				
	08	174° 20.0	298° 21.0	28.2	247° 58.7	03.3	29° 59.5	53.5	300° 37.4	17.2	300° 37.4	17.2	Alnilam	27° 42.6	46° 53.4 S	303° 51.8	29.2	23° 13.5	14.9	40.1	8.7	54°	06:06	06:49	07:29	-	00:27	01:32				
	09	189° 22.5	313° 20.3	29.0	262° 59.1	03.0	45° 01.8	53.5	315° 39.6	17.3	315° 39.6	17.3	Alnair	275° 45.1	1° 11.7 S	318° 51.7	29.8	37° 47.4	15.0	31.4	8.6	52°	06:02	06:44	07:21	-	00:29	01:33				
	10	204° 25.0	328° 19.5	29.7	277° 59.5	02.8	60° 04.1	53.4	330° 41.8	17.3	330° 41.8	17.3	Alphard	217° 55.1	8° 43.4 S	333° 51.6	30.4	52° 21.4	14.9	22.8	8.8	50°	05:59	06:38	07:14	-	00:31	01:33				
	11	219° 27.4	343° 18.7	30.5	292° 59.9	02.6	75° 06.3	53.4	345° 43.9	17.4	345° 43.9	17.4					348° 51.5	31.1	66° 55.3	15.0	14.0	8.7	45°	05:51	06:27	06:59	-	00:35	01:34			
	12	234° 29.9	358° 18.0	19° 31.3 S	308° 00.3	24° 02.4 S	90° 08.6	14° 53.3 N	0° 46.1	17° 17.5 S	0° 46.1	17° 17.5 S	Alphecca	126° 10.6	26° 40.1 N	3° 51.4	18° 31.7 S	81° 29.3	15.0	7° 05.3 N	8.8	54.2	N 40°	05:44	06:17	06:46	-	00:39	01:35			
	13	249° 32.4	13° 17.2	32.1	323° 00.7	02.1	105° 10.9	53.3	15° 48.2	17.5	15° 48.2	17.5	Alpheratz	357° 42.2	29° 10.6 N	18° 51.3	32.4	96° 03.3	15.0	6° 56.5 N	8.8	35°	05:38	06:08	06:35	-	00:42	01:36				
	14	264° 34.8	28° 16.5	32.9	338° 01.1	01.9	120° 13.2	53.2	30° 50.4	17.6	30° 50.4	17.6	Altair	62° 07.5	8° 54.8 N	33° 51.2	33.0	110° 37.3	15.0	47.7	8.8	54.3	30°	05:31	06:00	06:26	-	00:44	01:36			
	15	279° 37.3	43° 15.7	33.7	353° 01.5	01.7	135° 15.5	53.2	45° 52.6	17.7	45° 52.6	17.7	Ankaa	353° 14.6	42° 13.6 S	48° 51.1	33.6	125° 11.3	15.0	38.9	8.8	20°	05:19	05:46	06:09	00:01	00:49	01:38				
	16	294° 39.7	58° 14.9	34.5	8° 01.9	01.5	150° 17.8	53.1	60° 54.7	17.8	60° 54.7	17.8	Antares	112° 25.4	26° 27.7 S	63° 50.9	34.3	139° 45.3	15.1	30.1	8.9	N 10°	05:07	05:33	05:55	00:07	00:53	01:39				
	17	309° 42.2	73° 14.2	35.3	23° 02.3	01.2	165° 20.0	53.1	75° 56.9	17.8	75° 56.9	17.8					78° 50.8	34.9	154° 19.4	15.0	21.2	8.9	0°	04:54	05:19	05:41	00:14	00:57	01:40			
	18	324° 44.7	88° 13.4	36.1	38° 02.7	01.0	180° 22.3	53.0	90° 59.1	17.9	90° 59.1	17.9	Arcturus	145° 55.2	19° 06.4 N	93° 50.7	35.5	168° 53.4	15.1	12.3	9.0	S 10°	04:39	05:05	05:27	00:20	01:01	01:40				
	19	339° 47.1	103° 12.7	36.8	53° 03.1	00.8	195° 24.6	53.0	106° 01.2	18.0	106° 01.2	18.0	Atria	107° 26.9	69° 03.1 S	108° 50.6	36.1	183° 27.5	15.1	03.3	8.9	20°	04:21	04:49	05:13	00:27	01:05	01:41				
	20	354° 49.6	118° 11.9	37.6	68° 03.5	00.5	210° 26.9	52.9	121° 03.4	18.0	121° 03.4	18.0	Avior	234° 17.3	59° 33.3 S	123° 50.5	36.8	198° 01.6	15.0	5° 54.4 N	9.0	30°	03:58	04:29	04:55	00:35	01:09	01:43				
	21	9° 52.1	133° 11.1	38.4	83° 03.9	00.3	225° 29.2	52.9	136° 05.5	18.1	136° 05.5	18.1	Bellatrix	278° 30.7	6° 21.6 N	138° 50.4	37.4	212° 35.6	15.1	45.4	9.1	35°	03:43	04:17	04:45	00:39	01:12	01:43				
	22	24° 54.5	148° 10.4	39.2	98° 04.3	00.1	240° 31.5	52.8	151° 07.7	18.2	151° 07.7	18.2	Betelgeuse	271° 00.0	7° 24.4 N	153° 50.3	38.0	227° 09.7	15.1	36.3	9.0	40°	03:26	04:03	04:34	00:44	01:15	01:44				
23	39° 57.0	163° 09.6	40.0	113° 04.7	23° 59.9 S	255° 33.8	52.8	166° 09.9	18.3	166° 09.9	18.3					168° 50.2	38.7	241° 43.8	15.1	27.3	9.1	45°	03:03	03:46	04:20	00:50	01:18	01:45				
16 S u n d a y	00	54° 59.5	178° 08.8	19° 40.7 S	128° 05.1	23° 59.6 S	270° 36.0	14° 52.7 N	181° 12.0	17° 18.3 S	181° 12.0	17° 18.3 S	Canopus	263° 55.3	52° 42.2 S	183° 50.1	18° 39.3 S	256° 17.9	15.1	5° 18.2 N	9.1	54.3	S 50°	02:32	03:24	04:04	00:57	01:22	01:46			
	01	70° 01.9	193° 08.1	41.5	143° 05.5	59.4	285° 38.3	52.7	196° 14.2	18.4	196° 14.2	18.4	Capella	280° 32.6	46° 00.5 N	198° 50.0	39.9	270° 52.0	15.1	09.1	9.1	52°	02:16	03:14	03:56	01:00	01:24	01:47				
	02	85° 04.4	208° 07.3	42.3	158° 05.9	59.2	300° 40.6	52.6	211° 16.3	18.5	211° 16.3	18.5	Deneb	49° 30.9	45° 20.5 N	213° 49.9	40.6	285° 26.1	15.1	00.0	9.1	54°	01:57	03:02	03:47	01:04	01:26	01:47				
	03	100° 06.8	223° 06.5	43.1	173° 06.3	58.9	315° 42.9	52.6	226° 18.5	18.5	226° 18.5	18.5	Denebola	182° 32.9	14° 29.3 S	228° 49.7	41.2	300° 00.2	15.1	4° 50.9 N	9.2	56°	01:31	02:47	03:37	01:08	01:28	01:48				
	04	115° 09.3	238° 05.8	43.8	188° 06.7	58.7	330° 45.2	52.5	241° 20.7	18.6	241° 20.7	18.6	Diphda	348° 54.7	17° 54.3 S	243° 49.6	41.8	314° 34.3	15.2	41.7	9.2	58°	00:54	02:31	03:26	01:12	01:31	01:48				
	05	130° 11.8	253° 05.0	44.6	203° 07.1	58.5	345° 47.5	52.5	256° 22.8	18.7	256° 22.8	18.7					258° 49.5	42.4	329° 08.5	15.1	32.5	9.2	S 60°	-	02:10	03:12	01:17	01:34	01:49			
	06	145° 14.2	268° 04.2	45.4	218° 07.5	58.2	0° 49.8	52.4	271° 25.0	18.8	271° 25.0	18.8	Dubhe	193° 50.9	61° 39.9 N	273° 49.4	43.1	343° 42.6	15.1	23.3	9.2	S 62°	-	01:43	02:57	01:23	01:37	01:50				
	07	160° 16.7	283° 03.5	46.2	233° 07.9	58.0	15° 52.0	52.4	286° 27.1	18.8	286° 27.1	18.8	Elmath	278° 11.1	28° 37.0 S	288° 49.3	43.7	358° 16.7	15.1	14.1	9.2	54.4										
	08	175° 19.2	298° 02.7	46.9	248° 08.3	57.8	30° 54.3	52.3	301° 29.3	18.9	301° 29.3	18.9	Eltanin	90° 46.1	51° 29.6 N	303° 49.2	44.3	12° 50.8	15.1	04.9	9.3		Lat	Sunset	Twilight		Moonset					
	09	190° 21.6	313° 01.9	47.7	263° 08.7	57.5	45° 56.6	52.3	316° 31.3	19.0	316° 31.3	19.0	Enif	13° 46.2	9° 56.9 N	318° 49.1	44.9	27° 24.9	15.2	3° 55.6 N	9.3		Civil	Nautical	15	16	17					
	10	205° 24.1	328° 01.2	48.5	278° 09.1	57.3	60° 58.9	52.2	331° 33.6	19.0	331° 33.6	19.0	Fomalhaut	15° 22.9	29° 32.6 S	333° 48.9	45.6	41° 59.1	15.1	46.3	9.3											
	11	220° 26.6	343° 00.4	49.2	293° 09.5	57.1	76° 01.2	52.2	346° 35.8	19.1	346° 35.8	19.1					348° 48.8	46.2	56° 33.2	15.1	37.0	9.3										

2014 November 18, 19, 20 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.2			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:13	08:53	-	02:59	04:37	06:21			
Tuesday	00	56° 57.7	177° 31.5	20° 17.0 S	128° 24.4	23° 48.0 S	272° 26.1	14° 50.5 N	182° 55.8	17° 21.8 S	Acamar	315° 17.2	40° 14.8 S	183° 44.3	19° 08.8 S	235° 27.9	14.6	2° 16.0 S	9.7	54.9	N 70°	07:01	08:27	10:17	02:55	04:27	06:03					
	01	72° 00.2	192° 30.7	17.7	143° 24.8	47.8	287° 28.4	50.4	197° 57.9	21.8	Achernar	335° 25.7	57° 09.9 S	198° 44.2	09.4	250° 01.5	14.5	25.7	9.6	55.0	68°	06:52	08:07	09:31	02:51	04:18	05:48					
	02	87° 02.7	207° 29.9	18.4	158° 25.2	47.5	302° 30.7	50.4	213° 00.1	21.9	Acruz	173° 08.5	63° 10.6 S	213° 44.1	10.0	264° 35.0	14.4	35.3	9.7	66°	06:43	07:51	09:02	02:49	04:12	05:37						
	03	102° 05.1	222° 29.1	19.2	173° 25.6	47.3	317° 33.0	50.3	228° 02.2	22.0	Adhara	255° 11.5	28° 59.6 S	228° 44.0	10.6	279° 08.4	14.5	45.0	9.6	64°	06:36	07:38	08:40	02:46	04:06	05:27						
	04	117° 07.6	237° 28.3	19.9	188° 26.0	47.0	332° 35.3	50.3	243° 04.4	22.0	Aldebaran	290° 47.9	16° 32.2 N	243° 43.8	11.2	293° 41.9	14.4	54.6	9.6	62°	06:30	07:27	08:22	02:44	04:01	05:19						
	05	132° 10.1	252° 27.5	20.6	203° 26.4	46.8	347° 37.6	50.3	258° 06.6	22.1		196° 20.4	55° 52.6 N	258° 43.7	11.8	308° 15.3	14.3	3° 04.2 S	9.6	60°	06:25	07:17	08:07	02:42	03:56	05:12						
	06	147° 12.5	267° 26.7	21.4	218° 26.8	46.5	2° 39.9	50.2	273° 07.6	22.2	Alioth	260° 20.4	55° 52.6 N	273° 43.6	12.4	322° 48.6	14.4	13.8	9.6	55.1	N 58°	06:20	07:09	07:55	02:41	03:52	05:05					
	07	162° 15.0	282° 25.9	22.1	233° 27.2	46.3	17° 42.2	50.2	288° 10.9	22.3	Alkaid	152° 58.7	49° 14.3 N	288° 43.4	13.0	337° 22.0	14.3	23.4	9.7	56°	06:15	07:01	07:44	02:40	03:49	05:00						
	08	177° 17.4	297° 25.2	22.8	248° 27.6	46.0	32° 44.5	50.1	303° 13.3	22.3	Alnair	27° 42.6	46° 53.4 S	303° 43.3	13.6	351° 55.3	14.3	33.1	9.6	54°	06:11	06:55	07:35	02:38	03:46	04:55						
	09	192° 19.9	312° 24.4	23.5	263° 28.0	45.8	47° 46.8	50.1	318° 15.2	22.4	Alnilam	275° 45.1	1° 11.7 S	318° 43.2	14.2	6° 28.6	14.2	42.7	9.6	52°	06:07	06:48	07:26	02:37	03:43	04:50						
	10	207° 22.4	327° 23.6	24.3	278° 28.4	45.5	62° 49.1	50.0	333° 17.4	22.5	Alphard	217° 55.1	8° 43.4 S	333° 43.0	14.8	21° 01.8	14.2	52.3	9.5	50°	06:03	06:43	07:19	02:36	03:41	04:46						
	11	222° 24.8	342° 22.8	25.0	293° 28.8	45.2	77° 51.4	50.0	348° 19.5	22.5		260° 20.4	55° 52.6 N	348° 42.9	15.4	35° 35.0	14.1	4° 01.8 S	9.6	55.2	45°	05:55	06:31	07:03	02:34	03:35	04:38					
	12	237° 27.3	357° 22.0	20° 25.7 S	308° 29.2	23° 45.0 S	92° 53.7	14° 50.0 N	3° 21.7	17° 22.6 S	Alphecca	126° 10.6	26° 40.1 N	3° 42.8	19° 15.9 S	50° 08.1	14.2	4° 11.4 S	9.6	55.2	N 40°	05:47	06:20	06:49	02:32	03:31	04:31					
	13	252° 29.8	12° 21.2	26.4	323° 29.6	44.7	107° 56.0	49.9	18° 23.8	22.7	Alpheratz	357° 42.3	29° 10.6 N	18° 42.6	16.5	64° 41.3	14.0	21.0	9.5	35°	05:40	06:11	06:38	02:31	03:27	04:24						
	14	267° 32.2	27° 20.4	27.1	338° 30.0	44.5	122° 58.4	49.9	33° 26.0	22.8	Altair	62° 07.5	8° 54.8 N	33° 42.5	17.1	79° 14.3	14.1	30.5	9.6	30°	05:34	06:03	06:28	02:29	03:23	04:19						
	15	282° 34.7	42° 19.6	27.8	353° 30.4	44.2	138° 00.7	49.8	48° 28.2	22.8	Ankaa	353° 14.6	42° 13.6 S	48° 42.4	17.7	93° 47.4	14.0	40.1	9.5	55.3	20°	05:21	05:48	06:11	02:27	03:17	04:10					
	16	297° 37.2	57° 18.8	28.6	8° 30.8	43.9	153° 03.0	49.8	63° 30.3	22.9	Antares	112° 25.4	26° 27.7 S	63° 42.2	18.3	108° 20.4	14.0	49.6	9.5	50°	05:08	05:34	05:56	02:25	03:12	04:01						
	17	312° 39.6	72° 18.0	29.3	23° 31.2	43.7	168° 05.3	49.7	78° 27.1	23.0		168° 05.3	43.7	78° 42.1	18.9	122° 53.4	13.9	59.1	9.5	50°	0°	04:54	05:20	05:42	02:23	03:07	03:54					
	18	327° 42.1	87° 17.2	30.0	38° 31.6	43.4	183° 07.6	49.7	93° 34.7	23.0	Arcturus	145° 55.2	19° 06.4 N	93° 42.0	19.5	137° 26.3	13.9	5° 08.6 S	9.5	50°	S 10°	04:39	05:05	05:27	02:21	03:02	03:46					
	19	342° 44.5	102° 16.4	30.7	53° 32.0	43.2	198° 09.9	49.7	108° 36.8	23.1	Atria	107° 26.9	69° 03.1 S	108° 41.8	20.1	151° 59.2	13.8	18.1	9.5	55.4	20°	04:20	04:48	05:12	02:19	02:57	03:38					
	20	357° 47.0	117° 15.6	31.4	68° 32.4	42.9	213° 12.2	49.6	123° 39.0	23.2	Avia	234° 17.3	59° 33.3 S	123° 41.7	20.7	166° 32.0	13.8	27.6	9.5	55.4	30°	03:56	04:28	04:54	02:17	02:52	03:29					
	21	12° 49.5	132° 14.8	32.1	83° 32.8	42.6	228° 14.5	49.6	138° 41.1	23.2	Bellatrix	278° 30.7	6° 21.6 N	138° 41.6	21.3	181° 04.8	13.8	37.1	9.4	35°	03:41	04:15	04:44	02:15	02:48	03:24						
	22	27° 51.9	147° 14.0	32.8	98° 33.2	42.4	243° 16.8	49.5	153° 43.3	23.3	Betelgeuse	271° 00.0	7° 24.4 N	153° 41.4	21.8	195° 37.6	13.7	46.5	9.5	40°	03:22	04:01	04:32	02:14	02:45	03:18						
23	42° 54.4	162° 13.2	33.6	113° 33.6	42.1	258° 19.1	49.5	168° 45.5	23.4		168° 41.4	22.4	210° 10.3	13.6	56.0	9.4			45°	02:59	03:43	04:17	02:12	02:40	03:11							
Wednesday	00	57° 56.9	177° 12.4	20° 34.3 S	128° 34.0	23° 41.9 S	273° 21.4	14° 49.4 N	183° 47.6	17° 23.5 S	Canopus	263° 55.3	52° 42.2 S	183° 41.2	19° 23.0 S	224° 42.9	13.7	6° 05.4 S	9.4	55.5	S 50°	02:26	03:20	04:00	02:10	02:35	03:03					
	01	72° 59.3	192° 11.6	35.0	143° 34.4	41.6	288° 23.7	49.4	198° 49.8	23.5	Capella	280° 32.6	46° 00.5 N	198° 41.0	23.6	239° 15.6	13.5	14.8	9.3	52°	02:09	03:09	03:52	02:09	02:33	02:59						
	02	88° 01.8	207° 10.8	35.7	158° 34.8	41.3	303° 26.0	49.4	213° 51.9	23.6	Deneb	49° 30.9	45° 20.5 N	213° 40.9	24.2	253° 48.1	13.6	24.1	9.4	54°	01:48	02:56	03:42	02:08	02:30	02:55						
	03	103° 04.3	222° 10.0	36.4	173° 35.2	41.1	318° 28.3	49.3	228° 54.1	23.7	Denebola	182° 32.9	14° 29.3 S	228° 40.7	24.8	268° 20.7	13.5	33.5	9.3	56°	01:20	02:41	03:32	02:07	02:28	02:51						
	04	118° 06.7	237° 09.2	37.1	188° 35.6	40.8	333° 30.6	49.3	243° 56.3	23.7	Diphda	348° 54.7	17° 54.3 S	243° 40.6	25.4	282° 53.2	13.4	42.8	9.4	55.6	58°	00:32	02:23	03:20	02:06	02:25	02:46					
	05	133° 09.2	252° 08.4	37.8	203° 36.0	40.5	348° 33.0	49.2	258° 58.4	23.8		263° 55.3	52° 42.2 S	258° 40.5	25.9	297° 25.6	13.4	52.2	9.2		S 60°	-	02:00	03:06	02:05	02:21	02:40					
	06	148° 11.7	267° 07.5	38.5	218° 36.4	40.3	3° 35.3	49.2	274° 00.6	23.9	Dubhe	193° 50.9	61° 39.9 N	273° 40.3	26.5	311° 58.0	13.3	7° 01.4 S	9.3		S 62°	-	01:30	02:49	02:03	02:17	02:33					
	07	163° 14.1	282° 06.7	39.2	233° 36.8	40.0	18° 37.6	49.2	289° 02.7	24.0	Elinath	278° 11.1	28° 37.0 N	288° 40.2	27.1	326° 30.3	13.3	10.7	9.3													
	08	178° 16.6	297° 05.9	39.9	248° 37.2	39.7	33° 39.9	49.1	304° 04.9	24.0	Eltanin	90° 46.2	51° 29.6 N	303° 40.0	27.7	341° 02.6	13.2	20.0	9.2													
	09	193° 19.0	312° 05.1	40.6	263° 37.6	39.5	48° 42.2	49.1	319° 07.1	24.1	Enif	13° 46.2	9° 56.9 N	318° 39.9	28.3	355° 34.8	13.2	29.2	9.2	55.7												
	10	208° 21.5	327° 04.3	41.3	278° 38.0	39.2	63° 44.5	49.0	334° 09.2	24.2	Fomalhaut	15° 22.9	29° 32.6 S	333° 39.8	28.8	10° 07.0	13.2	38.4	9.2													
	11	223° 24.0	342° 03.5	42.0	293° 38.4	38.9	78° 46.8	49.0	349° 11.4	24.2		172° 00.1	57° 11.5 S	348° 39.6	29.4	24° 39.2	13.0	47.6	9.1													
	12	238° 26.4	357° 02.7	20° 42.7 S	308° 38.8	23° 38.7 S	93° 49.1	14° 48.9 N	4° 13.5	17° 24.3 S	Gacrux	172° 00.1	57° 11.5 S	3° 39.5	19° 30.0 S	39° 11.2	13.1	7° 56.7 S	9.1	55.7	N 70°	13:13	15:03	16:28	13:52	13:52	13:52					
	13	253° 28.9	12° 01.9	43.4	323° 39.2	38.4	108° 51.4	48.9	19° 15.7	24.4	Giennah	175° 51.5	17° 37.3 S	18° 39.3	30.6	53° 43.3	12.9	8° 05.8 S	9.1	55.8	68°	13:58	15:23	16:38	13:57	14:02	14:08					
	14	268° 31.4	27° 01.1</																													

2014 November 21, 22, 23 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.2			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise								
21 Fri day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:23	09:07	-	08:13	10:17	-								
	00	59° 55'.1	176° 33'.3	21° 07'.1 S	128° 53'.3	23° 28'.7 S	275° 12'.5	14° 47'.5 N	185° 31'.3	17° 26'.8 S	183° 34'.2	19° 50'.4 S	201° 47'.6	10.8	13° 00'.9 S	7.5	56.7	N 70°	07:10	08:38	10.44	07:43	09:25	11:01													
	01	74° 57'.6	191° 32'.4	07.7	143° 53'.7	28'.4	290° 14'.9	47.5	200° 33'.5	26.9	198° 34'.0	51.0	216° 17'.4	10.8	08.4	7.5	68°	68°	07:00	08:16	09:46	07:21	08:52	10:17													
	02	90° 00'.1	206° 31'.6	08.4	158° 54'.1	28'.1	305° 17'.2	47.5	215° 35'.7	27.0	213° 33'.8	51.5	230° 47'.2	10.7	15.9	7.4	56.8	66°	06:51	07:59	09:13	07:03	08:29	09:48													
	03	105° 02'.5	221° 30'.8	09.0	173° 54'.5	27.8	320° 19'.5	47.4	230° 37'.8	27.0	228° 33'.7	52.1	245° 16'.9	10.6	23.3	7.4	64°	64°	06:43	07:45	08:49	06:49	08:11	09:26													
	04	120° 05'.0	236° 29'.9	09.7	188° 54'.9	27.5	335° 21'.8	47.4	245° 40'.0	27.1	243° 33'.5	52.7	259° 46'.5	10.6	30.7	7.3	62°	62°	06:36	07:34	08:30	06:38	07:56	09:08													
	05	135° 07'.5	251° 29'.1	10.3	203° 55'.3	27.3	350° 24'.1	47.4	260° 42'.1	27.2	258° 33'.4	53.2	274° 16'.1	10.5	38.0	7.2	60°	60°	06:30	07:23	08:15	06:28	07:43	08:53													
	06	150° 09'.9	266° 28'.3	11.0	218° 55'.7	27.0	5° 26'.5	47.3	275° 44'.3	27.3	273° 33'.2	53.8	288° 45'.6	10.5	45.2	7.2	56.9	N 58°	06:25	07:14	08:02	06:19	07:32	08:41													
	07	165° 12'.4	281° 27'.5	11.6	233° 56'.1	26.7	20° 28'.8	47.3	290° 46'.5	27.3	288° 33'.1	54.3	303° 15'.1	10.4	52.4	7.1	56°	56°	06:20	07:07	07:50	06:12	07:23	08:30													
	08	180° 14'.9	296° 26'.6	12.3	248° 56'.5	26.4	35° 31'.1	47.3	305° 48'.6	27.4	303° 32'.9	54.9	317° 44'.5	10.3	59.5	7.0	54°	54°	06:15	06:59	07:40	06:05	07:14	08:21													
	09	195° 17'.3	311° 25'.8	12.9	263° 56'.9	26.1	50° 33'.4	47.2	320° 50'.8	27.5	318° 32'.8	55.4	332° 13'.8	10.2	14° 06'.5 S	7.0	52°	52°	06:11	06:53	07:31	05:59	07:07	08:12													
	10	210° 19'.8	326° 25'.0	13.6	278° 57'.3	25.8	65° 35'.8	47.2	335° 52'.9	27.5	333° 32'.6	56.0	346° 43'.0	10.2	13.5	6.9	57.0	50°	06:07	06:47	07:24	05:53	07:00	08:05													
	11	225° 22'.3	341° 24'.1	14.2	293° 57'.7	25.5	80° 38'.1	47.1	350° 55'.1	27.6	348° 32'.4	56.5	1° 12'.2	10.1	20.4	6.8	45°	45°	05:58	06:34	07:07	05:42	06:46	07:48													
	12	240° 24'.7	356° 23'.3	21° 14'.9 S	308° 58'.2	23° 25'.2 S	95° 40'.4	14° 47'.1 N	5° 57'.3	17° 27'.7 S	3° 32'.3	19° 57'.1 S	15° 41'.3	10.1	14° 27'.2 S	6.7	57.0	N 40°	05:50	06:23	06:53	05:32	06:34	07:35													
	13	255° 27'.2	11° 22'.5	15.5	323° 58'.6	24.9	110° 42'.7	47.1	20° 59'.4	27.8	18° 32'.1	57.6	30° 10'.4	10.0	33.9	6.7	57.1	35°	05:43	06:14	06:41	05:24	06:24	07:24													
	14	270° 29'.6	26° 21'.6	16.2	338° 59'.0	24.7	125° 45'.1	47.0	36° 01'.6	27.8	33° 32'.0	58.2	44° 39'.4	9.9	40.6	6.6	30°	30°	05:36	06:05	06:31	05:16	06:15	07:14													
	15	285° 32'.1	41° 20'.8	16.8	353° 59'.4	24.4	140° 47'.4	47.0	51° 03'.7	27.9	48° 31'.8	58.7	59° 08'.3	9.8	47.2	6.5	20°	20°	05:23	05:49	06:13	05:04	06:00	06:57													
	16	300° 34'.6	56° 20'.0	17.4	8° 59'.8	24.1	155° 49'.7	47.0	66° 05'.9	28.0	63° 31'.6	59.3	73° 37'.1	9.8	53.7	6.5	10°	N 10°	05:09	05:35	05:57	04:53	05:47	06:43													
	17	315° 37'.0	71° 19'.1	18.1	24° 00'.2	23.8	170° 52'.1	46.9	81° 08'.1	28.0	78° 31'.5	59.8	88° 05'.9	9.7	15° 00'.2 S	6.4	57.2	0°	04:55	05:20	05:42	04:43	05:35	06:29													
	18	330° 39'.5	86° 18'.3	18.7	39° 00'.6	23.5	185° 54'.4	46.9	96° 10'.2	28.1	93° 31'.3	20° 00'.3 S	102° 34'.6	9.7	06.6	6.3	S 10°	04:39	05:05	05:28	04:33	05:23	06:16														
	19	345° 42.0	101° 17'.5	19.4	54° 01'.0	23.2	200° 56'.7	46.9	111° 12'.4	28.2	108° 31'.2	00.9	117° 03'.3	9.6	12.9	6.2	20°	20°	04:19	04:48	05:12	04:22	05:10	06:01													
	20	0° 44'.4	116° 16'.6	20.0	69° 01'.4	22.9	215° 59'.0	46.8	126° 14'.5	28.2	123° 31'.0	01.4	131° 31'.9	9.5	19.1	6.1	30°	30°	03:55	04:27	04:53	04:10	04:55	05:44													
	21	15° 46'.9	131° 15'.8	20.6	84° 01'.8	22.6	231° 01'.4	46.8	141° 16'.7	28.3	138° 30'.8	02.0	146° 00'.4	9.5	25.2	6.1	57.3	35°	03:39	04:14	04:42	04:03	04:46	05:35													
22	30° 49'.4	146° 14'.9	21.3	99° 02'.2	22.3	246° 03'.7	46.8	156° 18'.9	28.4	153° 30'.7	02.5	160° 28'.9	9.4	31.3	6.0	40°	40°	03:20	03:58	04:30	03:55	04:37	05:24														
23	45° 51'.8	161° 14'.1	21.9	114° 02'.6	22.0	261° 06'.0	46.7	171° 21'.0	28.5	168° 30'.5	03.1	174° 57'.3	9.3	37.3	5.9	45°	45°	02:55	03:40	04:15	03:46	04:25	05:11														
22 Sat day	00	60° 54'.3	176° 13'.3	21° 22'.5 S	129° 03'.0	23° 21'.7 S	276° 08'.4	14° 46'.7 N	186° 23'.2	17° 28'.5 S	183° 30'.4	20° 03'.6 S	189° 25'.6	9.3	15° 43'.2 S	5.8	57.3	S 50°	02:21	03:16	03:56	03:35	04:12	04:55													
	01	75° 56'.7	191° 12'.4	23.2	144° 03'.4	21.4	291° 10'.7	46.7	201° 25'.3	28.6	198° 30'.2	04.1	203° 53'.9	9.2	49.0	5.7	57.4	52°	02:03	03:04	03:48	03:29	04:05	04:48													
	02	90° 59'.2	206° 11'.6	23.8	159° 03'.8	21.1	306° 13'.0	46.6	216° 27'.5	28.1	213° 30'.0	04.7	218° 22'.1	9.1	54.7	5.7	54°	54°	01:40	02:51	03:38	03:24	03:58	04:40													
	03	106° 01'.1	221° 10'.8	24.4	174° 04'.2	20.8	321° 15'.3	46.6	231° 29'.7	28.7	228° 29'.9	05.2	232° 50'.2	9.1	16° 00'.4 S	5.6	56°	56°	01:07	02:15	03:27	03:18	03:50	04:31													
	04	121° 04'.7	236° 09'.9	25.1	189° 04'.6	20.5	336° 17'.7	46.6	246° 31'.7	28.8	243° 29'.7	05.8	247° 18'.3	9.0	06.0	5.4	58°	-	-	02:35	03:14	03:11	03:41	04:21													
	05	136° 06'.6	251° 09'.1	25.7	204° 05'.0	20.2	351° 20'.0	46.5	261° 34'.0	28.9	258° 29'.5	06.3	261° 46'.3	8.9	11.4	5.4	57.5	S 60°	-	01:51	02:59	03:03	03:31	04:09													
	06	151° 09'.1	266° 08'.2	26.3	219° 05'.4	19.9	6° 22'.3	46.5	276° 36'.2	28.9	273° 29'.4	06.8	276° 14'.2	8.9	16.8	5.3	S 62°	-	01:16	02:42	02:54	03:20	03:55														
	07	166° 11'.5	281° 07'.4	26.9	234° 05'.8	19.6	21° 24'.7	46.5	291° 38'.3	29.0	288° 29'.2	07.4	290° 42'.1	8.8	22.1	5.2	-	-	-	-	-	-	-	-													
	08	181° 14'.0	296° 06'.5	27.6	249° 06'.2	19.3	36° 27'.0	46.4	306° 40'.5	29.1	303° 29'.0	07.9	305° 09'.9	8.8	27.3	5.2	-	-	-	-	-	-	-	-													
	09	196° 16'.5	311° 05'.7	28.2	264° 06'.7	19.0	51° 29'.3	46.4	321° 42'.6	29.2	318° 28'.9	08.5	319° 37'.7	8.7	32.5	5.0	57.6	-	-	-	-	-	-	-													
	10	211° 18'.9	326° 04'.9	28.8	279° 07'.1	18.7	66° 31'.7	46.3	336° 44'.8	29.2	333° 28'.7	09.0	334° 05'.4	8.6	37.5	4.9	-	-	-	-	-	-	-	-													
	11	226° 21'.4	341° 04'.0	29.4	294° 07'.5	18.4	81° 34'.0	46.3	351° 47'.0	29.3	348° 28'.5	09.5	348° 33'.0	8.6	42.4	4.9	-	-	-	-	-	-	-	-													
	12	241° 23'.9	356° 02'.3	21° 30'.1 S	309° 07'.9	23° 18'.1 S	96° 36'.3	14° 46'.3 N	6° 49'.1	17° 29'.4 S	3° 28'.4	20° 10'.1 S	3° 00'.6	8.5	16° 47'.3 S	4.7	57.6	N 70°	12:48	14:53	16:21	13:55	14:02	14:20													
	13	256° 26'.3	11° 02'.3	30.7	324° 08'.3	17.8	111° 38'.7	46.2	21° 51'.3	29.4	17° 28'.2	10.6	17° 28'.1	8.5	52.0	4.7	57.7	68°	13:45	15:15	16:32	14:18	14:35	15:05													
	14	271° 28'.8	26° 01'.5	31.3	339° 08'.7	17.5	126° 41'.0	46.2	36° 53'.4	29.5	33° 28'.0	11.1	31° 55'.6	8.4	56.7	4.6	66°	66°	14:18	15:32	16:41	14:36	14:59	15:34													
	15	286° 31'.2	41° 00'.6	31.9	354° 09'.1	17.2	141° 43'.3	46.2	51° 55'.6	29.6	48° 27'.9	11.7	46° 23'.0	8.4	17° 01'.3 S	4.4	64°	64°	14:42	15:46	16:48	14:51	15:18	15:56													
	16	301° 33'.7	55° 59'.8	32.5	9° 09'.5	16.9	156° 45'.7	46.2	66° 57'.8	29.6	63° 27'.7	12.2	60° 50'.4	8.3	05.7	4.4	62°	62°	15:01	15:58	16:55	15:03	15:33	16:14													
	17	316° 36'.2	70° 58'.9	33.1	24° 09'.9	16.6	171° 48'.0	46.1	81° 59'.9	29.7	78° 27'.5	12.7	75° 17'.7	8.2	10.1	4.3																					

2014 November 24, 25, 26 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.2			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	24	Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:33	09:21	-	-	14:09	13:36				
Monday	00	62° 52'.6	175° 32'.5	21° 51'.7 S	129° 22'.5	23° 07'.0 S	278° 00'.5	14° 45'.2 N	188° 06'.9	17° 31'.9 S	203° 09'.1	31'.9	Acamar	315° 17'.2	40° 14'.9 S	183° 22'.1	20° 28'.4 S	162° 59'.6	6.9	18° 33'.6 S	0.9	58.4	N 70°	07:19	08:49	11:29	12:11	12:44	12:56			
	01	77° 55'.0	190° 31'.6	52'.3	144° 22'.9	06'.7	293° 02'.9	45'.1	203° 09'.1	31'.9	198° 22'.0	29'.4	Achernar	335° 25'.7	57° 09'.9 S	198° 22'.0	29'.4	177° 25'.5	6.9	34'.5	0.8	58.5	68°	07:07	08:26	10:02	11:23	12:05	12:52			
	02	92° 57'.5	205° 30'.8	52'.8	159° 23'.3	06'.4	308° 05'.2	45'.1	218° 11'.2	32'.0	213° 21'.8	29'.9	Acrux	173° 08'.5	63° 10'.6 S	213° 21'.8	29'.9	191° 51'.4	6.8	35'.3	0.6	66°	06:58	08:08	09:25	10:52	11:38	12:08				
	03	108° 00'.0	220° 29'.9	53'.4	174° 23'.7	06'.0	323° 07'.6	45'.1	233° 13'.4	32'.1	228° 21'.6	30'.4	Adhara	255° 11'.5	28° 59'.6 S	228° 21'.6	30'.4	206° 17'.2	6.8	35'.9	0.6	64°	06:49	07:53	08:58	10:29	11:17	11:51				
	04	123° 02'.4	235° 29'.0	54'.0	189° 24'.1	05'.7	338° 09'.9	45'.0	248° 15'.5	32'.1	243° 21'.4	30'.9	Aldebaran	290° 47'.9	16° 32'.2 N	243° 21'.4	30'.9	220° 43'.0	6.8	36'.9	0.4	62°	06:42	07:40	08:38	10:10	11:00	11:37				
	05	138° 04'.9	250° 28'.2	54'.6	204° 24'.6	05'.4	353° 12'.3	45'.0	263° 17'.7	32'.2	258° 21'.2	31'.4				258° 21'.2	31'.4	235° 08'.8	6.8	36'.9	0.4	60°	06:36	07:29	08:22	09:55	10:45	11:25				
	06	153° 07'.4	265° 27'.3	55'.1	219° 25'.0	05'.1	8° 14'.6	45'.0	278° 19'.9	32'.2	273° 21'.1	31'.9	Alioth	196° 20'.3	55° 52'.6 N	273° 21'.1	31'.9	249° 34'.6	6.7	37'.3	0.2	58°	06:30	07:20	08:08	09:42	10:33	11:15				
	07	168° 09'.8	280° 26'.4	55'.7	234° 25'.4	04'.8	23° 17'.0	44'.9	293° 22'.0	32'.3	288° 20'.9	32'.4	Alkaid	152° 58'.6	49° 14'.3 N	288° 20'.9	32'.4	264° 00'.3	6.8	37'.5	0.0	56°	06:25	07:12	07:56	09:31	10:23	11:06				
	08	183° 12'.3	295° 25'.6	56'.3	249° 25'.8	04'.4	38° 19'.3	44'.9	308° 24'.2	32'.4	303° 20'.7	32'.9	Alnair	27° 42'.6	46° 53'.4 S	303° 20'.7	32'.9	278° 26'.1	6.7	37'.5	0.0	54°	06:20	07:04	07:46	09:21	10:14	10:58				
	09	198° 14'.7	310° 24'.7	56'.9	264° 26'.2	04'.1	53° 21'.7	44'.9	323° 26'.4	32'.5	318° 20'.5	33'.4	Alnilam	275° 45'.1	1° 11'.7 S	318° 20'.5	33'.4	292° 51'.8	6.7	37'.5	0.0	52°	06:15	06:57	07:36	09:12	10:05	10:50				
	10	213° 17'.2	325° 23'.8	57'.4	279° 26'.6	03'.8	68° 24'.0	44'.9	338° 28'.5	32'.5	333° 20'.3	33'.9	Alphard	217° 55'.0	8° 43'.4 S	333° 20'.3	33'.9	307° 17'.5	6.6	37'.4	0.3	50°	06:11	06:51	07:28	09:04	09:58	10:44				
	11	228° 19'.7	340° 23'.0	58'.0	294° 27'.0	03'.5	83° 26'.4	44'.8	353° 30'.7	32'.6	348° 20'.2	34'.4				348° 20'.2	34'.4	321° 43'.1	6.7	37'.1	0.4	45°	06:02	06:38	07:10	08:48	09:42	10:30				
	12	243° 22'.1	355° 22'.1	21° 58'.6 S	309° 27'.4	23° 03'.2 S	98° 28'.7	14° 44'.8 N	8° 32'.8	17° 32'.7 S	3° 20'.0	20° 34'.9 S	Alphecca	126° 10'.6	26° 40'.0 N	3° 20'.0	20° 34'.9 S	336° 08'.8	6.6	18° 36'.7 S	0.5	58.6	N 40°	05:53	06:26	06:56	08:34	09:29	10:18			
	13	258° 24'.6	10° 21'.3	59'.1	324° 27'.8	02'.8	113° 31'.1	44'.8	23° 35'.0	32'.8	18° 19'.8	35'.4	Alpheratz	357° 42'.3	29° 10'.6 N	18° 19'.8	35'.4	350° 34'.4	6.6	36'.2	0.6	58.7	35°	05:45	06:16	06:44	08:22	09:18	10:09			
	14	273° 27'.1	25° 20'.4	59'.7	339° 28'.2	02'.5	128° 33'.4	44'.7	38° 37'.2	32.8	33° 19'.6	35'.9	Altair	62° 07'.5	8° 54'.8 S	33° 19'.6	35'.9	5° 00'.0	6.7	35'.6	0.8	30°	05:38	06:07	06:33	08:12	09:08	10:00				
	15	288° 29'.5	40° 19'.5	22° 00'.3 S	354° 28'.6	02'.2	143° 35'.8	44'.7	53° 39'.3	32.9	48° 19'.4	36'.4	Ankaa	353° 14'.6	42° 13'.7 S	48° 19'.4	36'.4	19° 25'.7	6.6	34'.8	0.9	20°	05:24	05:51	06:15	07:55	08:51	09:45				
	16	303° 32'.0	55° 18'.6	00'.8	9° 29'.1	01.9	158° 38'.1	44'.7	68° 41'.5	33.0	63° 19'.2	36.9	Antares	112° 25'.4	26° 27'.7 S	63° 19'.2	36.9	33° 51'.3	6.6	33'.9	0.9	N 10°	05:10	05:36	05:59	07:40	08:37	09:32				
	17	318° 34'.5	70° 17'.8	01.4	24° 29'.5	01.5	173° 40'.5	44'.7	83° 41'.6	33.0	78° 19'.1	37.4				78° 19'.1	37.4	48° 16'.9	6.5	33'.0	1.2	0°	04:55	05:21	05:43	07:26	08:23	09:20				
	18	333° 36'.9	85° 16'.9	01.9	39° 29'.9	01'.2	188° 42'.8	44'.6	98° 45'.8	33.1	93° 18'.9	37.9	Arcturus	145° 55'.2	19° 06'.4 N	93° 18'.9	37.9	62° 42'.4	6.6	31'.8	1.2	S 10°	04:39	05:05	05:28	07:11	08:09	09:07				
	19	348° 39'.4	100° 16'.0	02'.5	54° 30'.3	00.9	203° 45'.2	44'.6	113° 48'.0	33.2	108° 17'.6	38'.4	Atria	107° 26'.9	69° 03'.1 S	108° 17'.6	38'.4	77° 08'.0	6.6	30'.6	1.3	20°	04:19	04:47	05:11	06:56	07:54	08:54				
	20	3° 41'.8	115° 15'.2	03'.1	69° 30'.7	00'.6	218° 47'.5	44'.6	128° 50'.1	33.2	123° 18'.5	38.9	Avior	234° 17'.2	59° 33'.3 S	123° 18'.5	38.9	91° 33'.6	6.5	29'.3	1.5	30°	03:53	04:26	04:52	06:39	07:38	08:39				
	21	18° 44'.3	130° 14'.3	03'.6	84° 31'.1	00'.2	233° 49'.9	44'.6	143° 52'.3	33.3	138° 18'.3	39'.4	Bellatrix	278° 30'.6	6° 21'.6 N	138° 18'.3	39'.4	105° 59'.1	6.6	27'.8	1.6	35°	03:37	04:12	04:41	06:29	07:28	08:31				
	22	33° 46'.8	145° 13'.4	04'.2	99° 31'.5	22° 59'.9 S	248° 52'.2	44'.5	158° 54'.4	33.4	153° 18'.1	39.9	Betelgeuse	270° 59'.9	7° 24'.4 N	153° 18'.1	39.9	120° 24'.7	6.6	26'.2	1.7	40°	03:17	03:56	04:28	06:17	07:17	08:21				
23	48° 49'.2	160° 12'.6	04'.7	114° 31'.9	59'.6	263° 54'.6	44'.5	173° 56'.6	33.4	168° 17'.9	40.4				168° 17'.9	40.4	134° 50'.3	6.5	24'.5	1.8	45°	02:52	03:37	04:13	06:04	07:04	08:09					
Tuesday	00	63° 51'.7	175° 11'.7	22° 05'.3 S	129° 32'.3	22° 59'.3 S	278° 56'.9	14° 44'.5 N	188° 58'.8	17° 33'.5 S	204° 00'.9	33'.6	Canopus	263° 55'.2	52° 42'.2 S	183° 17'.8	20° 40'.9 S	149° 15'.8	6.6	18° 22'.7 S	1.9	58.8	S 50°	02:16	03:12	03:53	05:48	06:48	07:55			
	01	78° 54'.2	190° 10'.8	05'.8	144° 32'.7	58'.9	293° 59'.3	44'.4	204° 00'.9	33'.6	198° 17'.6	41'.4	Capella	280° 32'.5	46° 00'.5 N	198° 17'.6	41'.4	163° 41'.4	6.5	20'.8	2.1	52°	01:56	03:00	03:44	05:40	06:40	07:48				
	02	93° 56'.6	205° 09'.9	06'.4	159° 33'.2	58'.6	309° 01'.6	44'.4	219° 03'.1	33'.6	213° 17'.4	41'.9	Deneb	49° 31'.0	45° 20'.4 N	213° 17'.4	41'.9	178° 06'.9	6.6	18'.7	2.2	58.9	54°	01:31	02:46	03:34	05:31	06:32	07:41			
	03	108° 59'.1	220° 09'.1	06'.9	174° 33'.6	58'.3	324° 04'.0	44'.4	234° 05'.3	33.7	228° 17'.2	42'.4	Denebola	182° 32'.8	14° 29'.3 S	228° 17'.2	42'.4	192° 32'.5	6.5	16'.5	2.3	56°	00:54	02:09	03:23	05:22	06:23	07:33				
	04	124° 01'.6	235° 08'.2	07'.5	189° 34'.0	57'.9	339° 06'.3	44'.4	249° 07'.4	33'.8	243° 17'.0	42'.9	Diphda	348° 54'.7	17° 54'.3 S	243° 17'.0	42'.9	206° 58'.0	6.6	14'.2	2.4	58°	-	02:28	03:09	05:11	06:12	07:23				
	05	139° 04'.0	250° 07'.3	08'.0	204° 34'.4	57'.6	354° 08'.7	44'.3	264° 09'.6	33.9	258° 16'.8	43'.4				258° 16'.8	43'.4	221° 23'.6	6.5	11'.8	2.5	S 60°	-	01:41	02:54	04:58	06:00	07:13				
	06	154° 06'.5	265° 06'.5	08'.6	219° 34'.8	57'.3	9° 11'.0	44'.3	279° 11'.7	33.9	273° 16'.6	43'.8	Dubhe	193° 50'.8	61° 39'.9 N	273° 16'.6	43'.8	235° 49'.1	6.6	09'.3	2.7	S 62°	-	01:01	02:35	04:43	05:45	07:00				
	07	169° 09'.0	280° 05'.6	09'.1	234° 35'.2	57'.0	24° 13'.4	44'.3	294° 13'.9	34.0	288° 16'.4	44'.3	Einath	278° 11'.0	28° 37'.0 N	288° 16'.4	44'.3	250° 14'.7	6.6	06'.6	2.8											
	08	184° 11'.4	295° 04'.7	09'.7	249° 35'.6	56'.6	39° 15'.7	44'.3	309° 16'.1	34.1	303° 16'.3	44.8	Eltanin	90° 46'.2	51° 29'.6 N	303° 16'.3	44.8	264° 40'.3	6.6	03'.8	2.8											
	09	199° 13'.9	310° 03'.8	10'.2	264° 36'.0	56'.3	54° 18'.1	44'.2	324° 18'.2	34.1	318° 16'.1	45.3	Enif	135° 46'.2	9° 56'.9 N	318° 16'.1	45.3	279° 05'.9	6.6	01'.0	3.1											
	10	214° 16'.3	325° 03'.0	10'.8	279° 36'.4	56'.0	69° 20'.5	44.2	339° 20'.4	34.2	333° 15'.9	45.8	Fomalhaut	15° 22'.9	29° 32'.6 S	333° 15'.9	45.8	293° 31'.5	6.6	17° 57'.9 S	3.1	59.0	Lat	Sunset	Twilight		24	Moonset				
	11	229° 18'.8	340° 02'.1	11'.3	294° 36'.8	55'.6	84° 22'.8	44.2	354° 22'.5	34.3	348° 15'.7	46.3				348° 15'.7	46.3	307° 57'.1	6.6	54'.8	3.2											

2014 November 27, 28, 29 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9		MARS +1.0		JUPITER -2.2		SATURN +0.5		STARS			SUN		MOON				Lat	Twilight		Sunrise		Moonrise			
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:42	09:36	-	13:25	13:18	13:11
Th u r s d a y	27 00	65° 50' 0	174° 29' 4	22° 30' 6 S	129° 52' 1	22° 43' 0 S	280° 50' 2	14° 43' 3 N	190° 42' 5	17° 36' 8 S	180° 42' 5	17° 36' 8 S	Acamar	315° 17' 2	40° 14' 9 S	183° 08' 4	21° 03' 8 S	121° 59' 1	7.5	14° 41' 8 S	7.1	59.2	N 70°	07:27	09:00	-	13:01	13:03	13:04
	01	80° 52' 5	189° 28' 5	31' 1	144° 52' 5	42' 7	295° 52' 6	43' 3	205° 44' 7	36' 9	198° 08' 2	04' 3	Achernar	335° 25' 7	57° 09' 9 S	198° 08' 2	04' 3	136° 25' 6	7.6	34' 7	7.3	59.3	68°	07:15	08:35	10:18	12:43	12:51	12:58
	02	95° 54' 9	204° 27' 6	31' 6	159° 52' 9	42' 3	310° 54' 9	43' 3	220° 46' 8	36' 9	230° 08' 0	04' 8	Acruis	173° 08' 4	63° 10' 6 S	213° 08' 0	04' 8	150° 52' 2	7.7	27' 4	7.3		66°	07:04	08:15	09:36	12:28	12:42	12:52
	03	110° 57' 4	219° 26' 7	32' 1	174° 53' 3	42' 0	325° 57' 3	43' 2	235° 49' 0	37' 0	248° 07' 8	05' 2	Adhara	255° 11' 4	28° 59' 6 S	228° 07' 8	05' 2	165° 18' 9	7.7	20' 1	7.4		64°	06:55	08:00	09:07	12:15	12:33	12:48
	04	125° 59' 8	234° 25' 8	32' 6	189° 53' 8	41' 6	340° 59' 7	43' 2	250° 51' 2	37' 1	243° 07' 6	05' 7	Aldebaran	290° 47' 9	16° 32' 2 N	243° 07' 6	05' 7	179° 45' 6	7.7	12' 7	7.5		62°	06:48	07:46	08:46	12:05	12:26	12:44
	05	141° 02' 3	249° 24' 9	33' 1	204° 54' 2	41' 3	356° 02' 0	43' 2	265° 53' 3	37' 1	258° 07' 4	06' 1				258° 07' 4	06' 1	194° 12' 3	7.8	05' 2	7.6		60°	06:41	07:35	08:28	11:56	12:20	12:41
	06	156° 04' 8	264° 24' 0	33' 5	219° 54' 6	40' 9	11° 04' 4	43' 2	280° 55' 5	37' 2	273° 07' 2	06' 6	Alioth	166° 20' 3	55° 52' 6 N	208° 39' 1	7.8	13° 57' 6 S	7.8				N 58°	06:35	07:25	08:14	11:48	12:15	12:38
	07	171° 07' 2	279° 23' 1	34' 0	234° 55' 0	40' 6	26° 06' 8	43' 1	295° 57' 6	37' 3	288° 07' 0	07' 1	Alkaid	152° 58' 6	49° 14' 3 N	288° 07' 0	07' 1	223° 05' 9	7.8	49' 9	7.7		56°	06:29	07:17	08:01	11:41	12:10	12:35
	08	186° 09' 7	294° 22' 2	34' 5	249° 55' 4	40' 2	41° 09' 2	43' 1	310° 59' 8	37' 3	303° 06' 8	07' 5	Alnair	27° 42' 6	46° 53' 4 S	303° 06' 8	07' 5	237° 32' 7	7.9	42' 1	7.8		54°	06:24	07:09	07:51	11:34	12:05	12:33
	09	201° 12' 2	309° 21' 3	35' 0	264° 55' 8	39' 9	56° 11' 5	43' 1	326° 02' 0	37' 4	318° 06' 6	08' 0	Alnilam	275° 45' 0	1° 11' 7 S	318° 06' 6	08' 0	251° 59' 6	7.9	34' 3	8.0		52°	06:19	07:02	07:41	11:29	12:02	12:31
	10	216° 14' 6	324° 20' 4	35' 5	279° 56' 2	39' 5	71° 13' 9	43' 1	341° 04' 1	37' 5	333° 06' 4	08' 4	Alphard	217° 55' 0	8° 43' 4 S	333° 06' 4	08' 4	266° 26' 5	8.0	26' 3	8.0		50°	06:15	06:55	07:32	11:24	11:58	12:29
	11	231° 17' 1	339° 19' 5	36' 0	294° 56' 7	39' 1	86° 16' 3	43' 1	356° 06' 3	37' 5	348° 06' 2	08' 9				348° 06' 2	08' 9	280° 53' 5	7.9	18' 3	8.1		45°	06:05	06:41	07:14	11:12	11:50	12:25
	12	246° 19' 6	354° 18' 6	22° 36' 5 S	309° 57' 1	22° 38' 8 S	101° 18' 6	14° 43' 0 N	11° 08' 5	17° 37' 6 S	3° 06' 0	21° 09' 3 S	Alphecca	126° 10' 6	26° 40' 0 N	3° 06' 0	21° 09' 3 S	295° 20' 4	8.1	13° 10' 2 S	8' 2	59.3	N 40°	05:56	06:29	06:59	11:03	11:44	12:21
	13	261° 22' 0	9° 17' 7	37' 0	324° 57' 5	38' 4	116° 21' 0	43' 0	26° 10' 6	37' 7	18° 05' 8	09' 8	Alpheratz	357° 42' 3	29° 10' 6 N	18° 05' 8	09' 8	309° 47' 5	8.1	02' 0	8' 2		35°	05:48	06:19	06:47	10:55	11:38	12:18
	14	276° 24' 5	24° 16' 8	37' 4	339° 57' 9	38' 1	131° 23' 4	43' 0	41° 12' 8	37' 7	33° 05' 6	10' 2	Altair	62° 07' 5	8° 54' 8 N	33° 05' 6	10' 2	324° 14' 6	8.1	12° 53' 8 S	8' 4		30°	05:40	06:10	06:36	10:48	11:33	12:15
	15	291° 26' 9	39° 16' 0	37' 9	354° 58' 3	37' 7	146° 25' 8	43' 0	56° 14' 9	37' 8	48° 05' 4	10' 7	Ankaa	353° 14' 6	42° 13' 7 S	48° 05' 4	10' 7	338° 41' 7	8.1	45' 4	8.4		20°	05:26	05:53	06:17	10:36	11:24	12:10
	16	306° 29' 4	54° 15' 1	38' 4	9° 58' 7	37' 4	161° 28' 1	43' 0	71° 17' 1	37' 9	63° 05' 1	11' 1	Antares	112° 25' 4	26° 27' 7 S	63° 05' 1	11' 1	353° 08' 0	8.2	37' 0	8.5		N 10°	05:11	05:37	06:00	10:25	11:17	12:06
	17	321° 31' 9	69° 14' 2	38' 9	24° 59' 2	37' 0	176° 30' 5	42' 9	86° 19' 3	37' 9	78° 04' 9	11' 6				78° 04' 9	11' 6	7° 36' 8	8.2	28' 5	8.6		0°	04:56	05:22	05:44	10:15	11:09	12:02
	18	336° 34' 3	84° 13' 3	39' 4	39° 59' 6	36' 7	191° 32' 9	42' 9	101° 21' 4	38' 0	93° 04' 7	12' 0	Arcturus	145° 55' 2	19° 06' 4 N	93° 04' 7	12' 0	22° 03' 2	8' 3	19' 9	8' 6		S 10°	04:39	05:06	05:28	10:05	11:02	11:58
	19	351° 36' 8	99° 12' 4	39' 8	55° 00' 0	36' 3	206° 35' 2	42' 9	116° 23' 6	38' 1	108° 04' 5	12' 5	Atria	107° 26' 9	69° 03' 0 S	108° 04' 5	12' 5	36° 30' 5	8.3	11' 3	8' 7		20°	04:19	04:47	05:11	09:55	10:55	11:54
	20	6° 39' 3	114° 11' 5	40' 3	70° 00' 4	35' 9	221° 37' 6	42' 9	131° 25' 7	38' 1	50° 57' 8	8' 4	Avior	234° 17' 2	59° 33' 3 S	50° 57' 8	8' 4	02' 6	8.7				30°	03:52	04:25	04:52	09:43	10:46	11:49
	21	21° 41' 7	129° 10' 6	40' 8	85° 00' 8	35' 6	236° 40' 0	42' 9	146° 27' 9	38' 2	138° 04' 1	13' 4	Bellatrix	278° 30' 6	6° 21' 6 N	138° 04' 1	13' 4	65° 25' 2	8.4	11° 53' 8 S	8' 9		35°	03:36	04:11	04:40	09:35	10:41	11:46
	22	36° 44' 2	144° 09' 7	41' 3	100° 01' 2	35' 2	251° 42' 4	42' 8	161° 30' 1	38' 3	153° 03' 9	13' 8	Betelgeuse	270° 59' 9	7° 24' 4 N	153° 03' 9	13' 8	79° 52' 6	8.4	44' 9	8.9		40°	03:15	03:55	04:27	09:27	10:35	11:43
23	51° 46' 7	159° 08' 8	41' 7	115° 01' 7	34' 9	266° 44' 7	42' 8	176° 32' 2	38' 4	168° 03' 7	14' 3				168° 03' 7	14' 3	94° 20' 0	8.5	36' 0	9.0		45°	02:49	03:35	04:11	09:18	10:28	11:39	
F r i d a y	28 00	66° 49' 1	174° 07' 9	22° 42' 2 S	130° 02' 1	22° 34' 5 S	281° 47' 1	14° 42' 8 N	191° 34' 4	17° 38' 4 S	181° 34' 4	17° 38' 4 S	Canopus	263° 55' 2	52° 42' 3 S	183° 03' 5	21° 14' 7 S	108° 47' 5	8' 5	11° 27' 0 S	9' 1	59.3	S 50°	02:11	03:09	03:51	09:06	10:20	11:35
	01	81° 51' 6	189° 07' 0	42' 7	145° 02' 5	34' 2	296° 49' 5	42' 8	206° 36' 9	38' 5	198° 03' 3	15' 2	Capella	280° 32' 5	46° 00' 5 N	198° 03' 3	15' 2	123° 15' 0	8' 5	17' 9	9' 2		52°	01:50	02:56	03:41	09:01	10:17	11:33
	02	96° 54' 1	204° 06' 1	43' 2	160° 02' 9	33' 8	311° 51' 9	42' 8	221° 38' 7	38' 6	213° 03' 1	15' 6	Deneb	49° 31' 0	45° 20' 4 N	213° 03' 1	15' 6	137° 42' 5	8' 6	08' 7	9' 2		54°	01:23	02:41	03:31	08:55	10:13	11:31
	03	111° 56' 5	219° 05' 2	43' 6	175° 03' 3	33' 4	326° 54' 3	42' 7	236° 40' 9	38' 6	228° 02' 9	16' 1	Denebola	182° 32' 8	14° 29' 3 N	228° 02' 9	16' 1	152° 10' 1	8' 6	10° 59' 5 S	9' 2		56°	00:39	02:24	03:19	08:49	10:08	11:28
	04	126° 59' 0	234° 04' 3	43' 1	190° 03' 7	33' 1	341° 56' 6	42' 7	251° 43' 0	38' 7	243° 02' 6	16' 5	Diphda	348° 54' 7	17° 54' 3 S	243° 02' 6	16' 5	166° 37' 7	8' 7	50' 3	9' 4		58°	-	02:02	03:05	08:41	10:03	11:26
	05	142° 01' 4	249° 03' 4	44' 6	205° 04' 2	32' 7	356° 59' 0	42' 7	266° 45' 2	38' 8	258° 02' 4	16' 9				258° 02' 4	16' 9	181° 05' 4	8' 7	40' 9	9' 4		S 60°	-	01:32	02:48	08:33	09:57	11:23
	06	157° 03' 9	264° 02' 4	45' 0	220° 04' 6	32' 4	12° 01' 4	42' 7	281° 47' 4	38' 8	273° 02' 2	17' 4	Dubhe	193° 50' 8	61° 39' 9 N	273° 02' 2	17' 4	195° 33' 1	8' 7	31' 5	9' 5		S 62°	-	00:44	02:28	08:23	09:51	11:19
	07	172° 06' 4	279° 01' 5	45' 5	235° 05' 0	32' 0	27° 03' 8	42' 7	296° 49' 5	38' 9	288° 02' 0	17' 8	Einath	278° 11' 0	28° 37' 0 N	288° 02' 0	17' 8	210° 00' 8	8' 8	22' 0	9' 0								
	08	187° 08' 8	294° 00' 6	46' 0	250° 05' 4	31' 6	42° 06' 1	42' 7	311° 51' 7	39' 0	303° 01' 8	18' 3	Eltanin	90° 46' 2	51° 29' 5 N	303° 01' 8	18' 3	224° 28' 6	8' 8	12' 5	9' 6								
	09	202° 11' 3	308° 59' 7	46' 4	265° 05' 8	31' 3	57° 08' 5	42' 6	326° 53' 9	39' 0	318° 01' 6	18'																	

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.3			SATURN +0.5			STARS			SUN			MOON			Lat	Twilight		Sunrise	30	Moonrise	
	GHA	GHA	Dec	GHA	Dec	Dec	GHA	Dec	Dec	GHA	Dec	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		1	2				
Sunday	00	68° 47.4	173° 24.2	23° 03.5 S	130° 22.2	22° 16.8 S	283° 41.5	14° 42.0 N	193° 18.2	17° 41.6 S	193° 18.2	17° 41.6 S	Acamar	315° 17.2	40° 14.9 S	182° 53.1	21° 35.3 S	83° 26.3	10.0	3° 13.8 S	11.1	59.1	N 72°	07:51	09:50	-	13:05	12:59	12:53		
	01	83° 49.9	188° 23.3	03.9 S	145° 22.6	16.4	298° 43.9	42.0	208° 20.4	41.7	208° 20.4	41.7	Achernar	335° 25.7	57° 09.9 S	197° 52.9	35.7	97° 55.3	10.0	02.7	11.1	68°	07:21	08:43	10:36	13:03	13:03	13:08			
	02	98° 52.3	203° 22.4	04.3	160° 23.0	16.0	313° 46.3	42.0	223° 22.5	41.8	223° 22.5	41.8	Acruz	173° 08.4	63° 10.6 S	212° 52.6	36.1	112° 24.3	10.0	2° 51.6 S	11.1	66°	07:10	08:23	09:46	13:02	13:11	13:21			
	03	113° 54.8	218° 21.4	04.7	175° 23.4	15.6	328° 48.7	42.0	238° 24.7	41.8	238° 24.7	41.8	Adhara	255° 11.4	28° 59.6 S	227° 52.4	36.5	126° 53.3	10.1	40.5	11.2	64°	07:01	08:06	09:16	13:01	13:14	13:27			
	04	128° 57.3	233° 20.5	05.1	190° 23.9	15.3	343° 51.1	41.9	253° 26.8	41.9	253° 26.8	41.9	Aldebaran	290° 47.9	16° 32.2 N	242° 52.2	36.9	141° 22.4	10.0	29.3	11.1	62°	06:53	07:52	08:53	13:00	13:16	13:33			
	05	143° 59.7	248° 19.6	05.5	205° 24.3	14.9	358° 53.5	41.9	268° 29.0	42.0	268° 29.0	42.0		196° 20.3	55° 52.5 N	257° 52.0	37.3	155° 51.4	10.1	18.2	11.2	60°	06:46	07:40	08:35	13:00	13:18	13:38			
	06	159° 02.2	263° 18.7	05.9	220° 24.7	14.5	315° 55.9	41.9	283° 31.2	42.0	283° 31.2	42.0	Alioth	260° 20.3	55° 52.5 N	272° 51.8	37.7	170° 20.5	10.1	07.0	11.1	N 58°	06:39	07:30	08:19	12:59	13:20	13:42			
	07	174° 04.7	278° 17.8	06.4	235° 25.1	14.1	28° 58.3	41.9	298° 33.3	42.1	298° 33.3	42.1	Alkaid	152° 58.6	49° 14.2 N	287° 51.5	38.1	184° 49.6	10.0	1° 55.9 S	11.2	56°	06:33	07:21	08:07	12:59	13:22	13:46			
	08	189° 07.1	293° 16.8	06.8	250° 25.6	13.7	44° 00.7	41.9	313° 35.5	42.2	313° 35.5	42.2	Alnair	27° 42.7	46° 53.4 S	302° 51.3	38.5	199° 18.6	10.2	44.7	11.2	54°	06:28	07:13	07:55	12:59	13:24	13:50			
	09	204° 09.6	308° 15.9	07.2	265° 26.0	13.3	59° 03.0	41.9	328° 37.7	42.4	328° 37.7	42.4	Anilnim	275° 45.0	1° 11.7 S	317° 51.1	39.0	213° 47.8	10.1	33.5	11.2	52°	06:23	07:06	07:45	12:58	13:25	13:53			
	10	219° 12.0	323° 15.0	07.6	280° 26.4	13.0	74° 05.4	41.9	343° 39.8	42.3	343° 39.8	42.3	Alphard	217° 55.0	8° 43.5 S	332° 50.8	39.4	228° 16.9	10.1	22.3	11.2	50°	06:18	06:59	07:36	12:58	13:26	13:56			
	11	234° 14.5	338° 14.1	08.0	295° 26.8	12.6	89° 07.8	41.9	358° 42.0	42.4	358° 42.0	42.4		196° 20.3	55° 52.5 N	347° 50.6	39.8	242° 46.0	10.1	11.1	11.2	59.0	06:08	06:45	07:18	12:57	13:29	14:02			
	12	249° 17.0	353° 13.2	23° 08.4 S	310° 27.2	22° 12.2 S	104° 10.2	14° 41.8 N	13° 44.1	17° 42.4 S	13° 44.1	17° 42.4 S	Alphecca	126° 10.6	26° 40.0 N	2° 50.4	21° 40.2 S	257° 15.1	10.2	0° 59.9 S	11.2	59.0	N 40°	05:59	06:32	07:02	12:56	13:32	14:07		
	13	264° 19.4	8° 12.2	08.8	325° 27.7	11.8	119° 12.6	41.8	28° 46.3	42.5	28° 46.3	42.5	Alpheratz	357° 42.3	29° 10.6 N	17° 50.2	40.6	271° 44.3	10.2	48.7	11.2	35°	05:50	06:22	06:49	12:56	13:34	14:12			
	14	279° 21.9	23° 11.3	09.2	340° 28.1	11.4	134° 15.0	41.8	43° 48.5	42.6	43° 48.5	42.6	Altair	62° 07.5	8° 54.8 N	32° 49.9	41.0	286° 13.5	10.1	37.5	11.2	30°	05:43	06:12	06:38	12:55	13:35	14:16			
	15	294° 24.4	38° 10.4	09.6	355° 28.5	11.0	149° 17.4	41.8	58° 50.6	42.6	58° 50.6	42.6	Ankaa	353° 14.6	42° 13.7 S	47° 49.7	41.4	300° 42.6	10.2	26.3	11.2	20°	05:28	05:55	06:19	12:55	13:39	14:23			
	16	309° 26.8	53° 09.5	10.0	10° 28.9	10.6	164° 19.8	41.8	73° 52.8	42.7	73° 52.8	42.7	Antares	112° 25.4	26° 27.7 S	62° 49.5	41.8	315° 11.8	10.2	15.1	11.2	N 10°	05:13	05:39	06:01	12:54	13:42	14:30			
	17	324° 29.3	68° 08.5	10.4	25° 29.4	10.3	179° 22.2	41.8	89° 55.2	42.8	89° 55.2	42.8		348° 54.7	17° 54.3 S	77° 49.3	48.2	329° 41.0	10.2	03.9	11.2	0°	04:57	05:23	05:45	12:53	13:44	14:35			
	18	339° 31.8	83° 07.6	10.7	40° 29.8	09.9	194° 24.6	41.8	103° 57.1	42.8	103° 57.1	42.8	Arcturus	145° 55.1	19° 06.4 N	92° 49.0	42.6	344° 10.2	10.2	0° 07.3 N	11.2	S 10°	04:40	05:06	05:29	12:53	13:47	14:41			
	19	354° 34.2	98° 06.7	11.1	55° 30.2	09.5	209° 27.0	41.8	118° 59.3	42.9	118° 59.3	42.9	Arvia	107° 26.9	69° 03.0 S	107° 48.8	43.0	358° 39.4	10.3	18.5	11.2	20°	04:19	04:47	05:12	12:52	13:50	14:48			
	20	9° 36.7	113° 05.8	11.5	70° 30.6	09.1	224° 29.4	41.7	134° 01.5	43.0	134° 01.5	43.0	Atira	234° 17.1	59° 33.3 S	122° 48.6	43.4	13° 08.7	10.2	29.7	11.2	30°	03:52	04:24	04:51	12:52	13:54	14:55			
	21	24° 39.1	128° 04.8	11.9	85° 31.1	08.7	239° 31.8	41.7	149° 03.6	43.0	149° 03.6	43.0	Bellatrix	278° 30.6	6° 21.6 N	137° 48.3	43.8	27° 37.9	10.2	40.9	11.2	35°	03:35	04:10	04:39	12:51	13:56	15:00			
	22	39° 41.6	143° 03.9	12.3	100° 31.5	08.3	254° 34.2	41.7	164° 05.8	43.1	164° 05.8	43.1	Betelgeuse	270° 59.9	7° 24.4 N	152° 48.1	44.2	42° 07.1	10.3	52.1	11.1	40°	03:13	03:54	04:26	12:51	13:58	15:04			
23	54° 44.1	158° 03.0	12.7	115° 31.9	07.9	269° 36.6	41.7	179° 07.9	43.2	179° 07.9	43.2		167° 47.9	44.6	167° 47.9	44.6	56° 36.4	10.2	1° 03.2 N	11.2	58.9	02:46	03:33	04:09	12:50	14:00	15:10				
Monday	00	69° 46.5	173° 02.1	23° 13.1 S	130° 32.3	22° 07.5 S	284° 39.0	14° 41.7 N	194° 10.1	17° 43.2 S	194° 10.1	17° 43.2 S	Canopus	263° 55.2	52° 42.3 S	182° 47.7	21° 44.9 S	71° 05.6	10.2	1° 14.4 N	11.2	58.9	S 50°	02:07	03:06	03:49	12:50	14:04	15:17		
	01	84° 49.0	188° 01.1	13.5	145° 32.8	07.1	299° 41.4	41.7	209° 12.3	43.3	209° 12.3	43.3	Capella	280° 32.5	46° 00.5 N	197° 47.4	45.3	85° 34.8	10.3	25.6	11.1	52°	01:45	02:53	03:39	12:49	14:05	15:20			
	02	99° 51.5	203° 00.2	13.8	160° 33.2	06.8	314° 43.8	41.7	224° 14.4	43.4	224° 14.4	43.4	Deneb	49° 31.0	45° 20.4 N	212° 47.2	45.7	100° 04.1	10.2	36.7	11.1	54°	01:15	02:38	03:28	12:49	14:07	15:24			
	03	114° 53.9	217° 59.3	14.2	175° 33.6	06.4	329° 46.2	41.7	239° 16.6	43.4	239° 16.6	43.4	Denebola	182° 32.8	14° 29.2 N	227° 47.0	46.1	114° 33.3	10.3	47.8	11.2	56°	00:18	02:19	03:16	12:49	14:09	15:28			
	04	129° 56.4	232° 58.4	14.6	190° 34.0	06.0	344° 48.6	41.7	254° 18.8	43.5	254° 18.8	43.5	Diphda	348° 54.7	17° 54.3 S	242° 46.7	46.5	129° 02.6	10.2	59.0	11.1	58°	-	01:55	03:01	03:16	12:48	14:11	15:32		
	05	144° 58.9	247° 57.4	15.0	205° 34.5	05.6	359° 51.0	41.6	269° 20.9	43.6	269° 20.9	43.6		167° 47.9	44.6	257° 46.5	46.9	143° 31.8	10.3	2° 10.1 N	11.1	S 60°	-	01:23	02:44	02:48	14:13	15:37			
	06	160° 01.3	262° 56.5	15.4	220° 34.9	05.2	14° 53.4	41.6	284° 23.1	43.6	284° 23.1	43.6	Dubhe	193° 50.7	61° 39.9 N	272° 46.3	47.3	158° 01.1	10.3	21.2	11.0	S 62°	-	00:21	02:22	02:47	14:15	15:42			
	07	175° 03.8	277° 55.6	15.7	235° 35.3	04.8	29° 55.8	41.6	299° 25.2	43.7	299° 25.2	43.7	Elinath	278° 11.0	28° 37.0 N	287° 46.0	47.7	172° 30.4	10.2	32.2	11.1										
	08	190° 06.3	292° 54.6	16.1	250° 35.7	04.4	44° 58.2	41.6	314° 27.4	43.8	314° 27.4	43.8	Eltanin	90° 46.2	51° 29.5 S	302° 45.8	48.1	186° 59.6	10.3	43.3	11.0										
	09	205° 08.7	307° 53.7	16.5	265° 36.2	04.0	60° 00.6	41.6	329° 29.6	43.8	329° 29.6	43.8	Enif	13° 46.2	9° 56.9 N	317° 45.6	48.5	201° 28.9	10.2	54.3	11.1	58.8									
	10	220° 11.2	322° 52.8	16.9	280° 36.6	03.6	75° 03.0	41.6	344° 31.7	43.9	344° 31.7	43.9	Fomalhaut	35° 22.9	29° 32.6 S	332° 45.3	48.9	215° 58.1	10.3	3° 05.4 N	11.0										
	11	235° 13.6	337° 51.9	17.2	295° 37.0	03.2	90° 05.4	41.6	359° 33.9	44.0	359° 33.9	44.0																			

2014 December 9, 10, 11 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9		MARS +1.0		JUPITER -2.3		SATURN +0.5		STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise			
											Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP		Nautical	Civil		9	10	11	
Tuesday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Acamar	315° 17.3	40° 14.9' S	181° 58.9	22° 46.9' S	330° 55.5	11.2	17° 26.9' N	3.7	55.3	N 72°	08:12	10:29	-	16:15	18:03	19:43	
	01	77° 39.7	169° 59.5	24° 04.2' S	131° 56.3	20° 45.1' S	292° 25.6	14° 41.5' N	201° 05.9	17° 55.6' S	Achernar	335° 25.8	57° 09.9' S	196° 58.6	47.2	345° 25.7	11.2	22.6	3.7	68°	07:53	09:37	-	16:59	18:31	20:01		
	02	92° 42.1	184° 58.5	04.3	146° 56.7	44.6	307° 28.1	41.5	216° 08.1	55.6	Adhara	255° 11.4	28° 59.7' S	226° 58.0	47.7	14° 26.2	11.3	15.3	3.9	66°	07:25	08:41	10:15	17:50	19:08	20:27		
	03	107° 44.6	199° 57.6	04.5	161° 57.2	44.2	322° 30.5	41.6	231° 10.3	55.7	Aldebaran	290° 47.9	16° 32.2' N	241° 57.8	47.9	28° 56.5	11.4	11.4	4.0	55.2	64°	07:15	08:22	09:37	18:08	19:21	20:36	
	04	122° 47.0	214° 56.6	04.6	176° 57.6	43.7	337° 33.0	41.6	246° 12.4	55.8											62°	07:06	08:07	09:11	18:22	19:32	20:44	
	05	137° 49.5	229° 55.6	04.7	191° 58.1	43.2	352° 35.4	41.6	261° 14.6	55.8											60°	06:58	07:54	08:51	18:34	19:42	20:51	
	06	152° 52.0	244° 54.6	04.9	206° 58.5	42.7	7° 37.9	41.6	276° 16.8	55.9																		
	07	167° 54.4	259° 53.7	05.0	221° 59.0	42.3	22° 40.4	41.6	291° 19.0	56.0	Alioth	296° 20.2	55° 52.5' S	271° 57.2	48.4	57° 57.3	11.5	03.3	4.2	58°	06:51	07:43	08:34	18:44	19:50	20:57		
	08	182° 56.9	274° 52.7	05.1	236° 59.4	41.8	37° 42.8	41.6	306° 21.1	56.0	Alkaid	152° 58.5	49° 14.2' N	286° 56.9	48.6	72° 27.8	11.5	16° 59.1' N	4.2	56°	06:44	07:33	08:20	18:53	19:57	21:03		
	09	197° 59.4	289° 51.7	05.3	251° 59.9	41.3	52° 45.3	41.6	321° 23.3	56.1	Alnilam	27° 42.7	46° 53.4' S	301° 56.7	48.9	86° 58.3	11.6	54.9	4.3	54°	06:38	07:24	08:07	19:01	20:04	21:08		
	10	213° 01.8	304° 50.8	05.4	267° 00.3	40.9	67° 47.8	41.6	336° 25.5	56.1	Alphard	217° 54.9	8° 43.5' S	316° 56.4	49.1	101° 28.9	11.6	50.6	4.4	55.1	52°	06:33	07:16	07:57	19:08	20:10	21:12	
	11	228° 04.3	319° 49.8	05.5	282° 00.8	40.4	82° 50.2	41.6	351° 27.6	56.2											50°	06:28	07:09	07:47	19:15	20:15	21:16	
	12	243° 06.8	334° 48.8	05.7	297° 01.2	39.9	97° 52.7	41.6	6° 29.8	56.3											45°	06:16	06:53	07:27	19:28	20:26	21:25	
	13	258° 09.2	349° 47.8	24° 05.8' S	312° 01.7	20° 39.4' S	112° 55.2	14° 41.7' N	21° 32.0	17° 56.3' S	Alphecca	126° 10.5	26° 40.0' N	1° 55.5	22° 49.9' S	145° 00.9	11.7	16° 37.2' N	4.7	55.1	N 40°	06:06	06:40	07:11	19:40	20:36	21:32	
	14	273° 11.7	4° 46.9	05.9	327° 02.1	39.0	127° 57.6	41.7	36° 34.1	56.4	Alpheratz	357° 42.3	29° 10.6' N	16° 55.3	50.1	159° 31.6	11.9	32.5	4.7	35°	05:57	06:29	06:57	19:49	20:44	21:38		
	15	288° 14.2	19° 45.9	06.1	342° 02.6	38.5	143° 00.1	41.7	51° 36.3	56.5	Altair	62° 07.5	8° 54.7' N	31° 55.0	50.3	174° 02.5	11.8	27.8	4.8	30°	05:49	06:19	06:45	19:58	20:51	21:43		
	16	303° 16.6	34° 44.9	06.2	357° 03.0	38.0	158° 02.6	41.7	66° 38.5	56.5	Ankaa	353° 14.7	42° 13.7' S	46° 54.7	50.6	188° 33.3	11.9	23.0	4.8	55.0	20°	05:33	06:00	06:24	20:12	21:03	21:53	
	17	318° 19.1	49° 44.0	06.3	12° 03.5	37.6	173° 05.0	41.7	81° 40.6	56.6	Antares	112° 25.4	26° 27.6' S	61° 54.4	50.8	203° 04.2	12.0	18.2	4.9	N 10°	05:17	05:43	06:06	20:25	21:14	22:01		
	18	333° 21.5	64° 43.0	06.4	27° 04.0	37.1	188° 07.5	41.7	96° 42.8	56.6											0°	05:00	05:27	05:49	20:37	21:24	22:08	
	19	348° 24.0	79° 42.0	06.6	42° 04.4	36.6	203° 10.0	41.7	111° 45.0	56.7	Arcturus	145° 55.1	19° 06.3' N	91° 53.9	51.3	232° 06.2	12.1	08.3	5.1	S 10°	04:42	05:09	05:32	20:49	21:34	22:16		
	20	3° 26.5	94° 41.0	06.7	57° 04.9	36.1	218° 12.4	41.7	126° 47.2	56.8	Atira	107° 26.8	69° 03.0' S	106° 53.6	51.5	246° 37.3	12.1	03.2	5.2	20°	04:20	04:49	05:13	21:02	21:44	22:24		
	21	18° 28.9	109° 40.1	06.8	72° 05.3	35.7	233° 14.9	41.7	141° 49.3	56.8	Avia	234° 17.1	59° 33.4' S	121° 53.6	51.8	261° 08.4	12.2	15° 58.0' S	5.2	54.9	30°	03:51	04:25	04:52	21:16	21:56	22:33	
	22	33° 31.4	124° 39.1	06.9	87° 05.8	35.2	248° 17.4	41.8	156° 51.5	56.9	Bellatrix	278° 30.6	6° 21.6' N	136° 53.0	52.0	275° 39.6	12.2	52.8	5.3	35°	03:33	04:10	04:39	21:25	22:03	22:39		
23	48° 33.9	139° 38.1	07.0	102° 06.2	34.7	263° 19.8	41.8	171° 53.7	57.0	Betelgeuse	270° 59.9	7° 24.4' N	151° 52.7	52.2	290° 10.8	12.3	47.5	5.3	40°	03:11	03:52	04:25	21:34	22:11	22:45			
	63° 36.3	154° 37.2	07.2	117° 06.7	34.2	278° 22.3	41.8	186° 55.8	57.0											45°	02:41	03:30	04:07	21:45	22:20	22:51		
Wednesday	00	78° 38.8	169° 36.2	24° 07.3' S	132° 07.1	20° 33.7' S	293° 24.8	14° 41.8' N	201° 58.0	17° 57.1' S	Canopus	263° 55.1	52° 42.3' S	181° 52.2	22° 52.7' S	319° 13.4	12.4	15° 36.7' N	5.4	54.9	S 50°	01:58	03:01	03:45	21:59	22:31	23:00	
	01	93° 41.3	184° 35.2	07.4	147° 07.6	33.3	308° 27.2	41.8	217° 00.2	57.2	Capella	280° 32.4	46° 00.6' N	196° 51.9	52.9	333° 44.8	12.4	31.3	5.6	52°	01:32	02:47	03:35	22:05	22:36	23:04		
	02	108° 43.7	199° 34.2	07.5	162° 08.0	32.8	323° 29.7	41.8	232° 02.3	57.1	Deneb	49° 31.0	45° 20.4' N	211° 51.6	53.1	348° 16.2	12.5	25.7	5.6	54.8	54°	00:54	02:30	03:23	22:12	22:42	23:08	
	03	123° 46.2	214° 33.3	07.6	177° 08.5	32.3	338° 32.2	41.8	247° 00.4	57.3	Denebola	182° 32.7	14° 29.2' N	226° 51.3	53.4	2° 47.7	12.5	20.1	5.7	56°	-	02:09	03:09	03:59	22:20	22:48	23:13	
	04	138° 48.7	229° 32.3	07.7	192° 09.0	31.8	353° 34.7	41.8	262° 06.7	57.3	Diphda	348° 54.8	17° 54.4' S	241° 51.1	53.6	17° 19.2	12.6	14.4	5.8	58°	-	01:41	02:53	03:42	22:28	22:55	23:18	
	05	153° 51.1	244° 31.3	07.8	207° 09.4	31.4	8° 37.1	41.9	277° 08.9	57.4											S 60°	-	00:59	02:34	22:38	23:03	23:24	
	06	168° 53.6	259° 30.4	07.9	222° 09.9	30.9	23° 39.6	41.9	292° 11.0	57.4	Dubhe	193° 50.6	61° 39.9' N	271° 50.5	54.1	46° 22.4	12.7	02.8	5.9	S 62°	-	-	02:09	22:50	23:12	23:30		
	07	183° 56.2	274° 29.4	08.0	237° 10.3	30.4	38° 42.1	41.9	307° 13.2	57.5	Elainth	278° 10.9	28° 37.0' N	286° 50.2	54.3	60° 54.1	12.7	14° 56.9' N	6.0									
	08	198° 58.5	289° 28.4	08.1	252° 10.8	29.9	53° 44.5	41.9	322° 15.4	57.6	Eltanin	90° 46.2	51° 29.5' S	301° 49.9	54.5	75° 25.8	12.7	50.9	6.0	54.7								
	09	214° 01.0	304° 27.4	08.2	267° 11.2	29.4	68° 47.0	41.9	337° 17.5	57.6	Fomalhaut	33° 46.3	9° 56.8' N	316° 49.7	54.7	89° 57.5	12.9	44.9	6.1									
	10	229° 03.4	319° 26.5	08.3	282° 11.7	29.0	83° 49.5	41.9	352° 19.7	57.7																		
	11	244° 05.9	334° 25.5	08.4	297° 12.1	28.5	98° 52.0	41.9	7° 21.9	57.8																		
	12	259° 08.4	349° 24.5	24° 08.5' S	312° 12.6	20° 28.0' S	113° 54.4	14° 42.0' N	22° 24.0	17° 57.8' S	Gacrux	171° 59.8	57° 11.5' S	1° 48.8	22° 55.4' S	133° 33.1	13.0	14° 26.4' N	6.2	54.7	N 70°	-	14:08	15:52	11:58	12:04	11:57	
	13	274° 10.8	4° 23.5	08.6	327° 13.1	27.5	128° 56.9	42.0	37° 26.2	57.9	Giennah	175° 51.3	17° 37.4' S	16° 48.5	55.6	148° 05.1	13.0	20.2	6.4	68°	-	14:40	16:07	11:28	11:43	11:52		
	14	289° 13.3	19° 22.6	08.7	342° 13.5	27.0	143° 59.4	42.0	52° 28.4	57.9	Hadar	148° 46.8	60° 26.4' S	31° 48.2	55.8	162° 37.1	13.1	13.8	6.3	54.6	66°	13:30	15:04	16:20	11:06	11:26	11:39	
	15	304° 15.8	34° 21.6	08.8	357° 14.0	26.5	1																					

2014 December 12, 13, 14 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +1.0			JUPITER -2.3			SATURN +0.5			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:17	10:40	-	21:19	22:53	24:27			
12	00	80° 37.1	168° 49.4	24° 11.2 S	132° 29.1	20° 10.4 S	295° 23.7	14° 42.5 N	203° 42.2	18° 00.0 S	218° 44.4	00.1	Acamar	315° 17.3	40° 14.9 S	181° 38.5	23° 02.9 S	297° 11.6	14.4	10° 07.0 N	8.1	54.3	N 70°	07:58	09:44	-	21:30	22:58	24:26			
	01	95° 39.5	183° 48.5	11.3	147° 29.6	09.9	310° 26.2	42.5	218° 44.4	00.1	147° 29.6	09.9	Achernar	335° 25.8	57° 09.9 S	196° 38.2	03.1	311° 45.0	14.5	9° 58.9 N	8.1	68°	07:42	09:10	-	21:39	23:02	24:25				
	02	110° 42.0	198° 47.5	11.3	162° 30.1	09.4	325° 28.7	42.6	233° 46.5	00.1	162° 30.1	09.4	Acruz	173° 08.2	63° 10.6 S	211° 37.9	03.3	326° 18.5	14.6	50.8	8.2	66°	07:29	08:46	10:23	21:46	23:05	24:24				
	03	125° 44.5	213° 46.5	11.4	177° 30.5	08.9	340° 31.2	42.6	248° 48.7	00.2	177° 30.5	08.9	Adhara	255° 11.4	28° 59.7 S	226° 37.6	03.4	340° 52.1	14.5	42.6	8.1	64°	07:19	08:26	09:43	21:52	23:07	24:23				
	04	140° 46.9	228° 45.5	11.4	192° 31.0	08.4	355° 33.7	42.6	263° 50.9	00.3	192° 31.0	08.4	Aldebaran	290° 47.9	16° 32.2 N	241° 37.3	03.6	355° 25.6	14.6	34.5	8.3	62°	07:09	08:11	09:16	21:57	23:10	24:23				
	05	155° 49.4	243° 44.6	11.5	207° 31.5	07.9	10° 36.1	42.6	278° 53.1	00.3	207° 31.5	07.9				256° 37.1	03.8	9° 59.2	14.6	26.2	8.2	54.2	60°	07:01	07:58	08:55	22:01	23:11	24:22			
	06	170° 51.9	258° 43.6	11.5	222° 31.9	07.4	25° 38.6	42.6	293° 55.2	00.4	222° 31.9	07.4	Alioth	196° 20.1	55° 52.5 S	271° 36.8	04.0	24° 32.8	14.7	18.0	8.3	N 58°	06:54	07:46	08:38	22:05	23:13	24:22				
	07	185° 54.3	273° 42.6	11.6	237° 32.4	06.9	40° 41.1	42.7	308° 57.4	00.4	237° 32.4	06.9	Alkaid	152° 58.5	49° 14.2 N	286° 36.5	04.2	39° 06.5	14.6	09.7	8.3	56°	06:47	07:36	08:23	22:09	23:15	24:21				
	08	200° 56.8	288° 41.6	11.6	252° 32.8	06.4	55° 43.6	42.7	323° 59.6	00.5	252° 32.8	06.4	Alnair	27° 42.7	46° 53.4 S	301° 36.2	04.4	53° 40.1	14.7	01.4	8.4	54°	06:41	07:27	08:11	22:12	23:16	24:21				
	09	215° 59.3	303° 40.7	11.6	267° 33.3	05.9	70° 46.1	42.7	339° 01.7	00.6	267° 33.3	05.9	Anilim	275° 45.0	1° 11.7 S	316° 35.9	04.6	68° 13.8	14.8	8° 53.0 N	8.4	52°	06:35	07:19	08:00	22:15	23:17	24:21				
	10	231° 01.7	318° 39.7	11.7	282° 33.8	05.4	85° 48.6	42.7	354° 03.9	00.6	282° 33.8	05.4	Alphard	217° 54.9	8° 43.5 S	331° 35.6	04.8	82° 47.6	14.7	44.6	8.4	50°	06:30	07:12	07:50	22:17	23:19	24:20				
	11	246° 04.2	333° 38.7	11.7	297° 34.2	04.9	100° 51.1	42.7	9° 06.1	00.7	297° 34.2	04.9				346° 35.3	9° 04.9	97° 21.3	14.8	36.2	8.5	45°	06:19	06:56	07:30	22:23	23:21	24:20				
	12	261° 06.6	348° 37.7	24° 11.7 S	312° 34.7	20° 04.4 S	115° 53.6	14° 42.8 N	24° 08.3	18° 00.7 S	312° 34.7	20° 04.4 S	Alphecca	126° 10.5	26° 40.0 N	1° 35.0	23° 05.1 S	111° 55.1	14.8	8° 27.7 N	8.5	54.2	N 40°	06:09	06:43	07:13	22:27	23:23	24:19			
	13	276° 09.1	3° 36.8	11.8	327° 35.2	03.9	130° 56.1	42.8	39° 10.4	00.8	327° 35.2	03.9	Alpheratz	357° 42.3	29° 10.6 N	16° 34.7	05.3	126° 28.9	14.9	19.2	8.5	35°	05:59	06:31	06:59	22:31	23:25	24:19				
	14	291° 11.6	18° 35.8	11.8	342° 35.6	03.4	145° 58.6	42.8	54° 12.6	00.9	342° 35.6	03.4	Altair	62° 07.5	8° 54.7 N	31° 34.4	05.5	141° 02.8	14.8	10.7	8.6	30°	05:51	06:21	06:47	22:35	23:27	24:18				
	15	306° 14.0	33° 34.8	11.9	357° 36.1	02.9	161° 01.0	42.8	69° 14.8	00.9	357° 36.1	02.9	Ankaa	353° 14.7	42° 13.7 S	46° 34.2	05.7	155° 36.6	14.9	02.1	8.6	20°	05:34	06:02	06:26	22:41	23:29	24:18				
	16	321° 16.5	48° 33.8	11.9	12° 36.6	02.4	176° 03.5	42.8	84° 19.0	01.0	12° 36.6	02.4	Antares	112° 25.4	26° 27.6 S	61° 33.9	05.9	170° 10.5	14.9	7° 53.5 N	8.6	N 10°	05:19	05:45	06:08	22:47	23:32	24:17				
	17	336° 19.0	63° 32.9	11.9	27° 37.0	01.9	191° 06.0	42.8	99° 17.1	01.1	27° 37.0	01.9				76° 33.6	06.0	184° 44.4	15.0	44.9	8.7	0°	05:02	05:28	05:50	22:52	23:34	24:16				
	18	351° 21.4	78° 31.9	11.9	42° 37.5	01.4	206° 08.5	42.9	114° 21.3	01.1	42° 37.5	01.4	Arcturus	145° 55.1	19° 06.3 N	91° 33.3	06.2	199° 18.4	14.9	36.2	8.7	S 10°	04:43	05:10	05:33	22:57	23:36	24:16				
	19	6° 23.9	93° 30.9	12.0	57° 37.9	00.9	221° 11.0	42.9	129° 23.5	01.2	6° 23.9	00.9	Atria	107° 26.8	69° 03.0 S	106° 33.0	06.4	213° 52.3	15.0	27.5	8.7	20°	04:21	04:50	05:14	23:02	23:39	24:15				
	20	21° 26.4	108° 29.9	12.0	72° 38.4	00.4	236° 13.5	42.9	144° 25.6	01.2	21° 26.4	00.4	Avior	234° 17.0	59° 33.4 S	121° 32.7	06.6	228° 26.3	15.0	18.8	8.7	30°	03:52	04:25	04:53	23:08	23:42	24:15				
	21	36° 28.8	123° 28.9	12.0	87° 38.9	19° 59.9 S	251° 16.0	42.9	159° 27.8	01.3	36° 28.8	19° 59.9 S	Bellatrix	278° 30.6	6° 21.6 N	136° 32.4	06.8	243° 00.3	15.0	10.1	8.8	35°	03:34	04:10	04:40	23:12	23:43	24:14				
	22	51° 31.3	138° 28.0	12.0	102° 39.3	59.4	266° 18.5	42.9	174° 30.0	01.4	51° 31.3	59.4	Betelgeuse	270° 59.9	7° 24.4 N	151° 31.1	06.9	257° 34.3	15.1	01.3	8.8	40°	03:11	03:52	04:25	23:15	23:45	24:14				
23	66° 33.7	153° 27.0	12.1	117° 39.8	58.9	281° 21.0	43.0	189° 32.0	01.4	66° 33.7	58.9				166° 31.8	07.1	272° 08.4	15.0	6° 52.5 N	8.8	45°	02:41	03:30	04:07	23:20	23:47	24:14					
13	00	81° 36.2	168° 26.0	24° 12.1 S	132° 40.3	19° 58.4 S	296° 23.5	14° 43.0 N	204° 34.3	18° 01.5 S	204° 34.3	18° 01.5 S	Canopus	263° 55.1	52° 42.3 S	181° 31.5	23° 07.3 S	286° 42.4	15.1	6° 43.7 N	8.9	54.2	S 50°	01:56	03:01	03:45	23:25	23:50	24:13			
	01	96° 38.7	183° 25.0	12.1	147° 40.7	57.9	311° 26.0	43.0	219° 36.5	01.6	96° 38.7	57.9	Capella	280° 32.4	46° 00.6 N	196° 31.2	07.5	301° 16.5	15.1	34.8	8.9	52°	01:30	02:46	03:34	23:28	23:51	24:13				
	02	111° 41.1	198° 24.1	12.1	162° 41.2	57.4	326° 28.5	43.0	234° 38.7	01.5	111° 41.1	57.4	Deneb	49° 31.1	45° 20.4 N	211° 30.9	07.6	315° 50.6	15.1	25.9	8.9	54°	00:48	02:28	03:22	23:31	23:52	24:13				
	03	126° 43.6	213° 23.1	12.1	177° 41.7	56.9	341° 31.0	43.1	249° 40.9	01.7	126° 43.6	56.9	Denebola	182° 32.7	14° 29.2 S	226° 30.6	07.8	330° 24.7	15.1	17.0	8.9	56°	-	02:07	03:08	23:34	23:53	24:12				
	04	141° 46.1	228° 22.1	12.2	192° 42.1	56.4	356° 33.5	43.1	264° 43.0	01.7	141° 46.1	56.4	Diphda	348° 54.8	17° 54.4 S	241° 30.3	08.0	344° 58.8	15.2	08.1	8.9	58°	-	01:38	02:52	23:37	23:55	24:12				
	05	156° 48.5	243° 21.1	12.2	207° 42.6	55.9	11° 35.9	43.1	279° 45.2	01.8	156° 48.5	55.9				256° 30.1	08.1	359° 33.0	15.1	5° 59.2 N	9.0	S 60°	-	00:53	02:32	23:41	23:57	24:12				
	06	171° 51.0	258° 20.2	12.2	222° 43.1	55.4	26° 38.4	43.1	294° 47.4	01.8	171° 51.0	55.4	Dubhe	193° 50.5	61° 39.8 N	271° 29.8	08.3	14° 07.1	15.2	50.2	9.0	S 62°	-	-	02:07	23:45	23:58	24:11				
	07	186° 53.5	273° 19.2	12.2	237° 43.5	54.9	41° 40.9	43.1	309° 49.5	01.9	186° 53.5	54.9	Elinath	278° 10.9	28° 37.0 N	286° 29.5	08.5	28° 41.3	15.2	41.2	9.1											
	08	201° 55.9	288° 18.2	12.2	252° 44.0	54.4	56° 43.4	43.2	324° 51.7	02.0	201° 55.9	54.4	Eltanin	90° 46.2	51° 29.5 S	301° 29.2	08.6	43° 15.5	15.2	32.1	9.0											
	09	216° 58.4	303° 17.2	12.2	267° 44.5	53.9	71° 45.9	43.2	339° 53.9	02.0	216° 58.4	53.9	Enif	33° 46.3	9° 56.8 N	316° 28.9	08.8	57° 49.7	15.2	23.1	9.1											
	10	232° 00.9	318° 16.3	12.2	282° 44.9	53.3	86° 48.4	43.2	354° 56.1	02.1	232° 00.9	53.3	Fomalhaut	15° 23.0	29° 32.6 S	331° 28.6	09.0	72° 23.9	15.2	14.0	9.1											
	11	247° 03.3	333° 15.3	12.2	297° 45.4	52.8	101° 50.9	43.2	9° 58.2	02.1	247° 03.3	52.8				346° 28.3	09.1	86° 58.1	15.3	04.9	9.1											

2014 December 15, 16, 17 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.4			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	15	16	17	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°	08:21		10:49	-		00:27	02:03	03:43
Monday	00	83° 34'.5	167° 39'.2	24° 11'.6 S	133° 02'.8	19° 33'.8 S	298° 23'.6	14° 44'.1 N	206° 18'.7	18° 04'.3 S	Acamar	315° 17'.3	40° 14'.9 S	181° 17'.3	23° 14'.7 S	266° 05'.5	15.1	0° 42'.3 S	9.6	54.6	N 72°	08:21	10:49	-	00:27	02:03	03:43				
	01	98° 37'.0	182° 38'.2	11.5	148° 03'.3	33'.3	313° 26'.1	44'.1	221° 20'.9	04.4	Achernar	335° 25'.8	57° 10'.0 S	196° 17'.0	14.9	280° 39'.6	15.1	51'.9	9.5	68°	07:46	09:14	-	00:25	01:50	03:17					
	02	113° 39'.4	197° 37'.2	11.5	163° 03'.8	32'.7	328° 28'.6	44'.2	236° 23'.0	04.5	Acruz	173° 08'.2	63° 10'.6 S	211° 16'.7	15.0	295° 13'.7	15.0	1° 01'.4 S	9.6	66°	07:33	08:49	10:29	00:24	01:45	03:08					
	03	128° 41'.9	212° 36'.2	11.4	178° 04'.3	32'.2	343° 31'.1	44'.2	251° 25'.2	04.5	Adhara	255° 11'.3	28° 59'.7 S	226° 16'.4	15.1	309° 47'.7	15.1	11'.0	9.5	64°	07:22	08:30	09:47	00:23	01:41	03:00					
	04	143° 44'.3	227° 35'.3	11.4	193° 04'.7	31'.7	358° 33'.6	44'.2	266° 27'.4	04.6	Aldebaran	290° 47'.9	16° 32'.2 N	241° 16'.1	15.3	324° 21'.8	15.0	20'.5	9.6	62°	07:12	08:14	09:19	00:23	01:37	02:54					
	05	158° 46'.8	242° 34'.3	11.3	208° 05'.2	31'.2	13° 36'.1	44'.2	281° 29'.6	04.6		190° 20'.1	55° 52'.5 S	256° 15'.8	15.4	338° 55'.8	15.0	30'.1	9.5	60°	07:04	08:00	08:58	00:22	01:34	02:48					
	06	173° 49'.3	257° 33'.3	11.3	223° 05'.7	30'.6	28° 38'.6	44'.3	296° 31'.7	04.7	Alioth	166° 20'.1	55° 52'.5 S	271° 15'.5	15.5	353° 29'.8	14.9	39'.6	9.6	54.7	N 58°	06:56	07:49	08:41	00:22	01:32	02:43				
	07	188° 51'.7	272° 32'.3	11.2	238° 06'.2	30'.1	43° 41'.1	44'.3	311° 33'.9	04.8	Alkaid	152° 58'.5	49° 14'.2 N	286° 15'.2	15.6	8° 03'.7	15.0	49'.2	9.5	56°	06:50	07:39	08:26	00:21	01:29	02:38					
	08	203° 54'.2	287° 31'.4	11.2	253° 06'.6	29'.6	58° 43'.7	44'.3	326° 36'.3	04.8	Alnilam	27° 42'.7	46° 53'.4 S	301° 14'.9	15.8	22° 37'.7	14.9	58'.7	9.6	54°	06:43	07:30	08:13	00:21	01:27	02:34					
	09	218° 56'.7	302° 30'.4	11.1	268° 07'.1	29'.1	73° 46'.2	44'.3	341° 38'.1	04.9	Alnair	275° 45'.0	1° 11'.7 S	316° 14'.6	15.9	37° 11'.6	14.9	2° 08'.3 S	9.5	52°	06:38	07:21	08:02	00:21	01:25	02:31					
	10	233° 59'.1	317° 29'.4	11.1	283° 07'.6	28'.5	88° 48'.7	44'.4	356° 40'.4	04.9	Alphard	217° 54'.9	8° 43'.5 S	331° 14'.3	16.0	51° 45'.5	14.9	17'.8	9.6	50°	06:33	07:14	07:53	00:20	01:23	02:28					
	11	249° 01'.6	332° 28'.4	11.0	298° 08'.1	28'.0	103° 51'.2	44'.4	11° 42'.6	05.0		160° 20'.1	55° 52'.5 S	346° 14'.0	16.2	66° 19'.4	14.8	27'.4	9.5	45°	06:21	06:58	07:32	00:20	01:19	02:20					
	12	264° 04'.1	347° 27'.5	24° 11'.0 S	313° 08'.5	19° 27'.5 S	118° 53'.7	14° 44'.4 N	26° 44'.8	18° 05'.0 S	Alphecca	126° 10'.5	26° 39'.9 N	1° 13'.7	23° 16'.3 S	80° 53'.2	14.8	2° 36'.9 S	9.6	54.8	N 40°	06:11	06:45	07:15	00:19	01:16	02:15				
	13	279° 06'.5	2° 26'.5	10.9	328° 09'.0	27.0	133° 56'.2	44'.5	41° 47'.0	05.1	Alpheratz	357° 42'.3	29° 10'.6 N	16° 13'.4	16.4	95° 27'.0	14.8	46'.5	9.5	35°	06:01	06:33	07:01	00:19	01:13	02:10					
	14	294° 09'.0	17° 25'.5	10.8	343° 09'.5	26'.4	148° 58'.7	44'.5	56° 49'.1	05.2	Altair	62° 07'.5	8° 54'.7 N	31° 13'.1	16.5	110° 00'.8	14.8	56'.0	9.5	30°	05:53	06:22	06:49	00:18	01:11	02:05					
	15	309° 11'.5	32° 24'.5	10.8	358° 10'.0	25.9	164° 01'.3	44'.5	71° 51'.3	05.2	Ankaa	353° 14'.7	42° 13'.7 S	46° 12'.8	16.7	124° 34'.6	14.7	3° 05'.5 S	9.5	20°	05:36	06:04	06:28	00:18	01:07	01:57					
	16	324° 13'.9	47° 23'.6	10.7	13° 10'.4	25.4	179° 03'.8	44'.5	86° 53'.5	05.3	Antares	112° 25'.4	26° 27'.6 S	61° 12'.5	16.8	139° 08'.3	14.7	15'.0	9.5	N 10°	05:20	05:46	06:09	00:17	01:03	01:51					
	17	339° 16'.4	62° 22'.6	10.6	28° 10'.9	24.9	194° 06'.3	44'.6	101° 55'.7	05.3		101° 55'.7	05.3	76° 12'.2	16.9	153° 42'.0	14.7	24'.5	9.6	54.9	0°	05:03	05:29	05:52	00:16	01:00	01:45				
	18	354° 18'.8	77° 21'.6	10.6	43° 11'.4	24'.3	209° 08'.8	44'.6	116° 57'.8	05.4	Arcturus	145° 55'.1	19° 06'.3 N	91° 11'.9	17.0	168° 15'.7	14.6	34'.1	9.5	S 10°	04:44	05:11	05:34	00:16	00:56	01:38					
	19	9° 21'.3	92° 20'.6	10.5	58° 11'.9	23.8	224° 11'.3	44'.6	132° 00'.0	05.5	Arcturus	107° 26'.8	69° 03'.0 S	106° 11'.6	17.2	182° 49'.3	14.6	43'.6	9.5	20°	04:22	04:51	05:15	00:15	00:53	01:32					
	20	24° 23'.8	107° 19'.7	10.5	73° 12'.4	23'.3	239° 13'.8	44'.6	147° 02'.2	05.5	Avia	234° 17'.0	59° 33'.4 S	121° 11'.3	17.3	197° 22'.9	14.6	53'.1	9.4	30°	03:53	04:26	04:53	00:15	00:49	01:24					
	21	39° 26'.2	122° 18'.7	10.4	88° 12'.8	22'.7	254° 16'.4	44'.7	162° 04'.4	05.6	Bellatrix	278° 30'.6	6° 21'.6 N	136° 10'.0	17.4	211° 56'.5	14.5	4° 02'.5 S	9.5	35°	03:34	04:11	04:41	00:14	00:46	01:20					
	22	54° 28'.7	137° 17'.7	10.3	103° 13'.3	22'.2	269° 18'.9	44.7	177° 06'.5	05.6	Betelgeuse	270° 59'.8	7° 24'.4 N	151° 10'.7	17.5	226° 30'.0	14.5	12'.0	9.5	55.0	40°	03:11	03:53	04:26	00:14	00:44	01:15				
23	69° 31'.2	152° 16'.7	10.2	118° 13'.8	21.7	284° 21'.4	44.7	192° 08'.7	05.7		166° 10'.4	17.6	166° 10'.4	17.6	241° 03'.5	14.5	21'.5	9.4	45°	02:41	03:30	04:08	00:14	00:41	01:10						
Tuesday	00	84° 33'.6	167° 15'.8	24° 10'.2 S	133° 14'.3	19° 21'.1 S	299° 23'.9	14° 44'.8 N	207° 10'.9	18° 05'.7 S	Canopus	263° 55'.1	52° 42'.4 S	181° 10'.1	23° 17'.7 S	255° 37'.0	14.4	4° 30'.9 S	9.5	55.0	S 50°	01:56	03:01	03:45	00:13	00:37	01:03				
	01	99° 36'.1	182° 14'.8	10.1	148° 14'.7	20'.6	314° 26'.4	44'.8	222° 13'.1	05.8	Capella	280° 32'.4	46° 00'.6 N	196° 08'.8	17.9	270° 10'.4	14.4	40'.4	9.4	52°	01:28	02:46	03:34	00:13	00:36	01:00					
	02	114° 38'.6	197° 13'.8	10.0	163° 15'.2	20'.1	329° 28'.9	44.8	237° 15'.2	05.9	Deneb	49° 31'.1	45° 20'.4 N	211° 09'.5	18.0	284° 43'.8	14.3	49'.8	9.4	54°	00:44	02:28	03:22	00:13	00:34	00:57					
	03	129° 41'.0	212° 12'.9	09.9	178° 15'.7	19.6	344° 31'.5	44.8	252° 17'.4	05.9	Denebola	182° 32'.7	14° 29'.2 N	226° 09'.2	18.1	299° 17'.1	14.4	59'.2	9.4	55.1	56°	-	02:06	03:08	00:12	00:32	00:53				
	04	144° 43'.5	227° 11'.9	09.9	193° 16'.2	19.0	359° 34'.0	44.9	267° 19'.6	06.0	Diphda	348° 54'.8	17° 54'.4 S	241° 08'.9	18.2	313° 50'.5	14.2	5° 08'.6 S	9.4	58°	-	01:37	02:51	00:12	00:30	00:49					
	05	159° 45'.9	242° 10'.9	09.8	208° 16'.7	18'.5	14° 36'.5	44.9	282° 21'.8	06.0		256° 08'.6	18.3	328° 23'.7	14.3	18'.0	9.4			S 60°	-	00:48	02:31	00:12	00:27	00:44					
	06	174° 48'.4	257° 09'.9	09.7	223° 17'.1	18.0	29° 39'.0	44.9	297° 24'.0	06.1	Dubhe	193° 50'.5	61° 39'.8 N	271° 08'.2	18.4	342° 57'.0	14.2	27'.4	9.4		S 62°	-	02:05	00:11	00:24	00:39					
	07	189° 50'.9	272° 09'.0	09.6	238° 17'.6	17.4	44° 41'.5	45.0	312° 26'.1	06.2	Elinor	278° 10'.9	28° 37'.0 S	286° 07'.9	18.5	357° 30'.4	14.1	36'.8	9.3	55.2											
	08	204° 53'.3	287° 08'.0	09.5	253° 18'.1	16.9	59° 44'.1	45.0	327° 28'.3	06.2	Eltanin	90° 46'.2	51° 29'.4 N	301° 07'.6	18.6	12° 03'.3	14.1	46'.1	9.3		Lat	Sunset	Twilight		Moonset						
	09	219° 55'.8	302° 07'.0	09.5	268° 18'.6	16.4	74° 46'.6	45.0	342° 30'.5	06.3	Enif	35° 46'.3	9° 56'.8 N	316° 07'.3	18.8	26° 36'.4	14.1	55'.4	9.3				15	16	17						
	10	234° 58'.3	317° 06'.0	09.4	283° 19'.0	15.8	89° 49'.1	45.1	357° 32'.7	06.3	Fomalhaut	13° 23'.0	29° 32'.6 S	331° 07'.0	18.9	41° 09'.5	14.0	6° 04'.7 S	9.3												
	11	250° 00'.7	332° 05'.1	09.3	298° 19'.5	15.3	104° 51'.6	45.1	12° 34'.8	06.4		171° 59'.8	57° 11'.5 S	346° 06'.7	19.0	55° 42'.5	14.0	14'.0	9.3	55.3	N 72°	-	13:02	15:30	12:03	11:57	11:50				
	12	265° 03'.2	347° 04'.1	24° 09'.2 S	313° 20'.0	19° 14'.8 S	119° 54'.1	14° 45'.1 N	27° 37'.0	18° 06'.4 S	Gacrux	171° 59'.8	57° 11'.5 S	1° 06'.4	23° 19'.1 S	70° 15'.5	13.9	6° 23'.3 S	9.3	55.3	N 70°	-	14:02	15:50	12:06	12:06	12:06				
	13	280° 05'.7	2° 03'.1	09.1	328° 20'.5	14.2	134° 56'.7	45.1	42° 39'.2	06.5	Giennah	175° 51'.3	17° 37'.4 S	16° 06'.1	19.2	84° 48'.4	13.9	32'.6	9.2	68°	-	14:37	16:05	12:09	12:13	12:19					
	14	295° 08'.1	17° 02'.1	09.0	343° 21'.0	13.7	149																								

2014 December 18, 19, 20 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.4			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise					
	GHA	GHA	Dec	GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec		GHA	v	Dec	d	HP	Nautical		Civil	18		19	20				
18 Th u r s d a y	00	86° 31'.9	166° 29'.1	24° 05'.1	S	133° 37'.4	18° 55'.3	S	301° 25'.2	14° 46'.3	N	208° 55'.4	18° 08'.5	S	Acamar	315° 17'.3	40° 15'.0	S	180° 55'.4	23° 22'.4	S	233° 26'.2	11'.9	11° 39'.0	S	8'.0	56.3	N 72°	08:24	10:55	-	05:29	07:25	09:48
	01	101° 34'.4	181° 28'.2	05'.0		148° 37'.9	54'.7		316° 27'.7	46'.3		223° 57'.6	08'.6		Achernar	335° 25'.8	57° 10'.0	S	195° 55'.1	22'.5		247° 57'.1	11'.7	47'.0	8'.1			68°	07:48	09:17	-	04:48	06:20	07:50
	02	116° 36'.8	196° 27'.2	04'.9		163° 38'.4	54'.2		331° 30'.2	46'.3		238° 59'.8	08'.6		Acruz	173° 08'.1	63° 10'.6	S	210° 54'.8	22'.5		262° 27'.8	11'.7	55'.1	7'.9	56'.4	66°	07:35	08:52	10:33	04:33	06:00	07:23	
	03	131° 39'.3	211° 26'.2	04'.7		178° 38'.9	53'.6		346° 32'.8	46'.4		254° 02'.0	08'.7		Adhara	255° 11'.3	28° 59'.7	S	225° 54'.5	22'.6		276° 58'.5	11'.6	12° 03'.0	S	8'.0	64°	07:24	08:33	09:50	04:22	05:44	07:03	
	04	146° 41'.8	226° 25'.2	04'.6		193° 39'.3	53'.1		1° 35'.3	46'.4		269° 04'.1	08'.8		Aldebaran	290° 47'.6	18° 32'.2	N	240° 54'.2	22'.7		291° 29'.1	11'.5	11'.0	7'.8		62°	07:14	08:16	09:22	04:12	05:30	06:46	
	05	161° 44'.2	241° 24'.3	04'.4		208° 39'.8	52'.5		16° 37'.8	46'.4		284° 06'.3	08'.8						255° 53'.9	22'.8		305° 59'.6	11'.5	18'.8	7'.9	56'.5	60°	07:06	08:03	09:01	04:03	05:19	06:32	
	06	176° 46'.7	256° 23'.3	04'.3		223° 40'.3	52'.0		31° 40'.4	46'.5		299° 08'.5	08'.9		Alioth	196° 20'.1	55° 52'.5	N	270° 53'.6	22'.8		320° 30'.1	11'.4	26'.7	7'.7		N 58°	06:58	07:51	08:43	03:56	05:09	06:21	
	07	191° 49'.2	271° 22'.3	04'.2		238° 40'.8	51'.4		46° 42'.9	46'.5		314° 10'.7	08'.9		Alkaid	152° 58'.4	49° 14'.2	N	285° 53'.3	22'.9		335° 00'.5	11'.3	34'.4	7'.7		56°	06:52	07:41	08:28	03:49	05:00	06:11	
	08	206° 51'.6	286° 21'.4	04'.0		253° 41'.3	50'.9		61° 45'.4	46'.5		329° 12'.9	09'.0		Alnair	27° 42'.7	46° 53'.4	S	300° 53'.0	23'.0		349° 30'.8	11'.2	42'.1	7'.7	56'.6	54°	06:46	07:32	08:16	03:43	04:53	06:02	
	09	221° 54'.1	301° 20'.4	03'.9		268° 41'.8	50'.3		76° 48'.0	46'.6		344° 15'.0	09'.0		Alnilam	275° 45'.0	1° 11'.8	S	315° 52'.7	23'.0		4° 01'.0	11'.2	49'.8	7'.6		52°	06:40	07:24	08:05	03:38	04:46	05:54	
	10	236° 56'.5	316° 19'.4	03'.7		283° 42'.3	49'.8		91° 50'.5	46'.6		359° 17'.2	09'.1		Alphard	217° 54'.9	8° 43'.5	S	330° 52'.4	23'.1		18° 31'.2	11'.1	57'.4	7'.6		50°	06:35	07:16	07:55	03:33	04:40	05:46	
	11	251° 59'.0	331° 18'.5	03'.6		298° 42'.8	49'.2		106° 53'.1	46'.6		14° 19'.4	09'.2						345° 52'.0	23'.2		33° 01'.3	11'.0	13° 05'.0	S	7'.5	56'.7	45°	06:23	07:00	07:34	03:23	04:27	05:31
	12	267° 01'.5	346° 17'.5	24° 03'.4	S	313° 43'.2	18° 48'.7	S	121° 55'.6	14° 46'.7	N	29° 21'.6	18° 09'.2	S	Alphecca	126° 10'.5	26° 39'.9	N	0° 51'.7	23° 23'.3	S	47° 31'.3	11'.0	13° 12'.5	S	7'.4	56'.7	N 40°	06:12	06:46	07:17	03:15	04:16	05:18
	13	282° 03'.9	1° 16'.5	03'.3		328° 43'.7	48'.1		136° 58'.1	46'.7		44° 23'.7	09'.3		Alpheratz	357° 42'.3	29° 10'.6	N	15° 51'.4	23'.3		62° 01'.3	10'.8	19'.9	7'.4		35°	06:03	06:35	07:03	03:07	04:07	05:08	
	14	297° 06'.4	16° 15'.6	03'.1		343° 44'.2	47'.6		152° 00'.7	46'.7		59° 25'.9	09'.3		Altair	62° 07'.5	8° 54'.7	S	30° 51'.1	23'.4		76° 31'.1	10'.8	27'.3	7'.3	56'.8	30°	05:54	06:24	06:50	03:01	03:59	04:58	
	15	312° 08'.9	31° 14'.6	03'.0		358° 44'.7	47'.0		167° 03'.2	46'.8		74° 28'.1	09'.4		Ankaa	353° 14'.7	42° 13'.7	S	45° 50'.8	23'.5		91° 00'.9	10'.8	34'.6	7'.2		20°	05:38	06:05	06:29	02:50	03:45	04:42	
	16	327° 11'.3	46° 13'.6	02'.8		13° 45'.2	46'.5		182° 05'.7	46'.8		89° 30'.3	09'.4		Antares	112° 25'.3	26° 27'.6	S	60° 50'.5	23'.5		105° 30'.7	10'.6	41'.8	7'.2		N 10°	05:22	05:48	06:11	02:41	03:33	04:28	
	17	342° 13'.8	61° 12'.7	02'.6		28° 45'.7	45'.9		197° 08'.3	46'.9		104° 32'.5	09'.5						75° 50'.2	23'.6		120° 00'.3	10'.6	49'.0	7'.1	56'.9	0°	05:05	05:31	05:53	02:32	03:22	04:15	
	18	357° 16'.3	76° 11'.7	02'.5		43° 46'.2	45'.4		212° 10'.8	46'.9		119° 34'.6	09'.6		Arcturus	145° 55'.0	19° 06'.3	N	90° 49'.9	23'.7		134° 29'.9	10'.5	56'.1	7'.1		S 10°	04:46	05:13	05:36	02:23	03:11	04:02	
	19	21° 18'.7	91° 10'.7	02'.3		58° 46'.7	44'.8		227° 13'.4	46'.9		134° 36'.8	09'.6		Atria	107° 26'.7	69° 03'.0	S	105° 49'.6	23'.7		148° 59'.4	10'.4	14° 03'.2	S	7'.0	20°	04:23	04:52	05:17	02:13	02:59	03:48	
	20	27° 21'.2	106° 09'.8	02'.2		73° 47'.2	44'.3		242° 15'.9	47'.0		149° 39'.0	09'.7		Avia	234° 17'.0	59° 33'.4	S	120° 49'.3	23'.8		163° 28'.8	10'.4	10'.2	6'.9	57'.0	30°	03:54	04:27	04:55	02:03	02:45	03:32	
	21	42° 23'.7	121° 08'.8	02'.0		88° 47'.7	43'.7		257° 18'.4	47'.0		164° 41'.2	09'.7		Bellatrix	278° 30'.6	6° 21'.6	N	135° 49'.0	23'.8		177° 58'.2	10'.2	17'.1	6'.9		35°	03:35	04:12	04:42	01:57	02:37	03:23	
	22	57° 26'.1	136° 07'.8	01'.8		103° 48'.1	43'.1		272° 21'.0	47'.0		179° 43'.4	09'.8		Betelgeuse	270° 59'.8	7° 24'.4	N	150° 48'.7	23'.9		192° 27'.4	10'.2	24'.0	6'.8		40°	03:12	03:54	04:27	01:50	02:29	03:13	
23	72° 28'.6	151° 06'.9	01'.7		118° 48'.6	42'.6		287° 23'.5	47'.1		194° 45'.5	09'.8						165° 48'.3	24'.0		206° 56'.6	10'.2	30'.8	6'.7	57'.1	45°	02:41	03:31	04:09	01:42	02:18	03:01		
19 F r i d a y	00	87° 31'.0	166° 05'.9	24° 01'.5	S	133° 49'.1	18° 42'.0	S	302° 26'.1	14° 47'.1	N	209° 47'.7	18° 09'.9	S	Canopus	263° 55'.1	52° 42'.4	S	180° 48'.0	23° 24'.0	S	221° 25'.8	10'.0	14° 37'.5	S	6'.7	57'.1	S 50°	01:56	03:01	03:46	01:32	02:06	02:46
	01	102° 33'.5	181° 04'.9	01'.3		148° 49'.6	41'.5		317° 28'.6	47'.1		224° 49'.9	10'.0		Capella	280° 32'.4	46° 00'.6	N	195° 47'.7	24'.1		235° 54'.8	10'.0	44'.2	6'.5		52°	01:28	02:46	03:35	01:28	02:00	02:39	
	02	117° 36'.0	196° 04'.0	01'.2		163° 50'.1	40'.9		332° 31'.2	47'.2		239° 52'.1	10'.0		Deneb	49° 31'.1	45° 20'.4	N	210° 47'.4	24'.1		250° 23'.8	9'.9	50'.7	6'.6	57'.2	54°	00:41	02:28	03:23	01:23	01:54	02:31	
	03	132° 38'.4	211° 03'.0	01'.0		178° 50'.6	40'.4		347° 33'.7	47'.2		254° 54'.3	10'.1		Denebola	182° 32'.6	14° 29'.2	N	225° 47'.1	24'.2		264° 52'.7	9'.8	57'.3	6'.4		56°	-	02:06	03:09	01:17	01:47	02:23	
	04	147° 40'.9	226° 02'.0	00'.8		193° 51'.1	39'.8		2° 36'.2	47'.3		269° 56'.4	10'.1		Diphda	348° 54'.8	17° 54'.4	S	240° 46'.8	24'.2		279° 21'.5	9'.7	15° 03'.7	S	6'.4	58°	-	01:36	02:02	02:11	01:19	01:39	02:13
	05	162° 43'.4	241° 01'.1	00'.7		208° 51'.6	39'.2		17° 38'.8	47'.3		284° 58'.6	10'.2						255° 46'.5	24'.3		293° 50'.2	9'.7	10'.1	6'.2	57'.3	S 60°	-	00:46	02:31	01:05	01:30	02:02	
	06	177° 45'.8	256° 00'.1	00'.5		223° 52'.1	38'.7		32° 41'.3	47'.3		300° 00'.8	10'.2		Dubhe	193° 50'.5	61° 39'.8	N	270° 46'.2	24'.4		308° 18'.9	9'.6	16'.3	6'.3		S 62°	-	-	02:05	00:57	01:19	01:50	
	07	192° 48'.3	270° 59'.1	00'.3		238° 52'.6	38'.1		47° 43'.9	47'.4		315° 03'.0	10'.3		Elinath	278° 10'.9	28° 37'.0	N	285° 45'.9	24'.4		322° 47'.5	9'.5	22'.6	6'.1				-	-	-	-	-	-
	08	207° 50'.8	285° 58'.2	00'.1		253° 53'.0	37'.6		62° 46'.4	47'.4		330° 05'.2	10'.4		Eltanin	90° 46'.2	51° 29'.4	N	300° 45'.6	24'.5		337° 16'.0	9'.4	28'.7	6'.0	57'.4								
	09	222° 53'.2	300° 57'.2	00'.0		268° 53'.5	37'.0		77° 49'.0	47'.4		345° 07'.4	10'.4		Enif	13° 26'.3	9° 56'.8	N	315° 45'.3	24'.5		351° 44'.4	9'.4	34'.7	6'.0			Lat	Sunset	Twilight		Moonset		
	10	237° 55'.7	315° 56'.3	23° 59'.8	S	283° 54'.0	36'.5		92° 51'.5	47'.5		0° 09'.5	10'.5		Fomalhaut	35° 43'.0	29° 32'.6	S	330° 44'.9	24'.6		6° 12'.8	9'.3	40'.7	5'.9									
	11	252° 58'.2	330° 55'.3	59'.6		298° 54'.5	35'.9		107° 54'.1	47'.5		15° 11'.7	10'.5						345° 44'.6	24'.6		20° 41'.1	9'.2	46'.6	5'.8	57'.5	N 72°	-	12:59	15:30	11:43	11:32	11:02	
	12	268° 00'.6	345° 54'.3	23° 59'.4	S	313° 55'.0	18° 35'.3	S	122° 56'.6	14° 47'.6	N	30° 13'.9	18° 10'.6	S	Gacrux	171° 59'.7	57° 11'.5	S	0° 44'.3	23° 24'.7	S	35° 09'.3	9'.1	15° 52'.4	S	5'.8	57'.5	N 70°	-	14:01	15:50	12:07	12:11	12:01
	13	283° 03'.1	0° 53'.4	59'.2		328° 55'.5	34'.8		137° 59'.2	47'.6		45° 16'.1	10'.6		Giennah	175° 51'.3	17° 37'.4	S	15° 44'.0	24'.7		49° 37'.4	9'.1	58'.2	5'.6		68°	-	14:37	16:06	12:26	12:26	13:00	
	14	298° 05'.5	15° 5																															

2014 December 21, 22, 23 (Sun, Mon, Tue)

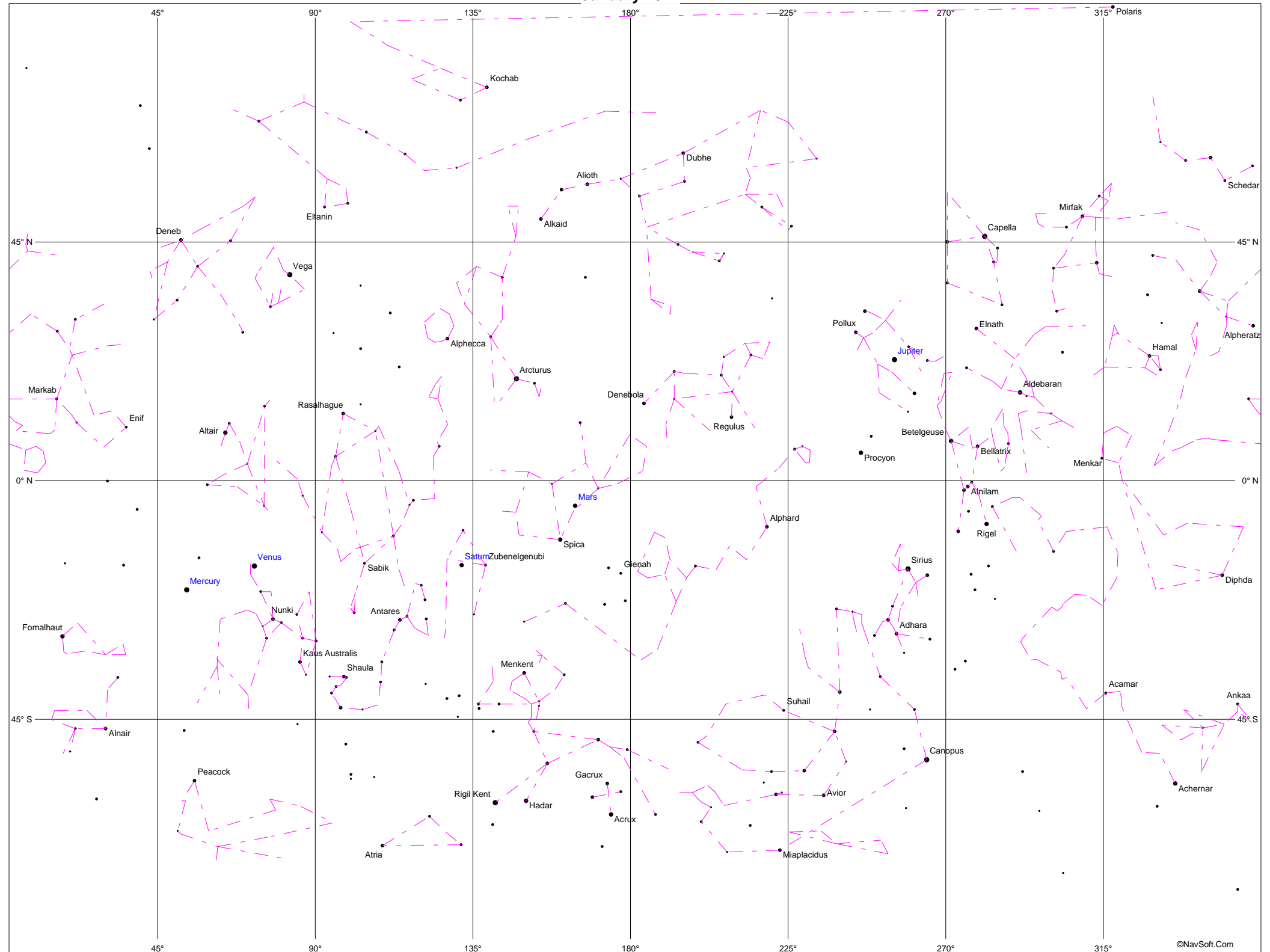
GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.4			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	21	22	23	Eqn. of Time	Mer. Pass.	Mer. Pass.	Upper	Lower	Age/Vis																					
Sunday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:26	10:58	-	-	-	12:01						
	89° 29' 3"	165° 19' 7"	23° 52' 0" S	134° 12' 9"	18° 15' 0" S	304° 28' 5"	14° 49' 0" N	211° 32' 4"	18° 12' 6" S	Acamar	315° 17' 3"	40° 15' 0" S	180° 33' 1"	23° 25' 9" S	195° 17' 2"	6.7	18° 19' 4" S	2.2	58.7	N 70°	08:06	09:55	-	09:57	10:49	11:08						
	01	104° 31' 8"	180° 18' 8"	51.8	149° 13' 4"	14.4	319° 31' 0"	49.0	226° 34' 6"	12.7	Achernar	335° 25' 9"	57° 10' 0" S	195° 32' 8"	25.9	209° 42' 9"	6.7	21° 6" S	2.0	68°	07:50	09:19	-	09:08	10:03	10:35						
	02	119° 34' 3"	195° 17' 8"	51.6	164° 13' 9"	13.8	334° 33' 6"	49.1	241° 36' 8"	12.7	Acruz	173° 08' 1"	63° 10' 6" S	210° 32' 5"	25.9	224° 08' 6"	6.6	23' 6" S	1.9	66°	07:37	08:54	10:35	08:37	09:33	10:11						
	03	134° 36' 7"	210° 16' 9"	51.3	179° 14' 4"	13.2	349° 36' 2"	49.1	256° 39' 0"	12.8	Adhara	255° 11' 3"	28° 59' 7" S	225° 32' 2"	25.9	238° 34' 2"	6.5	25' 5" S	1.8	58.8	64°	07:26	08:34	09:52	08:14	09:11	09:52					
	04	149° 39' 2"	225° 15' 9"	51.1	194° 14' 9"	12.7	4° 38' 7"	49.2	271° 41' 2"	12.8	Aldebaran	290° 47' 8"	16° 32' 2" N	240° 31' 9"	25.9	252° 59' 7"	6.5	27° 3" S	1.7	62°	07:16	08:18	09:24	07:55	08:53	09:37						
	05	164° 41' 6"	240° 15' 0"	50.9	209° 15' 4"	12.1	19° 41' 3"	49.2	286° 43' 4"	12.9		196° 20' 0"	55° 52' 5" S	255° 31' 6"	25.9	267° 25' 2"	6.5	29' 0" S	1.5	60°	07:08	08:05	09:02	07:40	08:38	09:24						
	06	179° 44' 1"	255° 14' 0"	50.6	224° 15' 9"	11.5	34° 43' 8"	49.2	301° 45' 5"	12.9	Alioth	260° 20' 0"	55° 52' 5" S	270° 31' 3"	26.0	281° 50' 7"	6.4	30' 5" S	1.5	58.9	N 58°	07:00	07:53	08:45	07:27	08:25	09:12					
	07	194° 46' 6"	270° 13' 0"	50.4	239° 16' 4"	11.0	49° 46' 4"	49.3	316° 47' 7"	13.0	Alkaid	152° 58' 4"	49° 14' 1" N	285° 31' 0"	26.0	296° 16' 1"	6.4	32' 0" S	1.3	56°	06:53	07:43	08:30	07:16	08:14	09:02						
	08	209° 49' 0"	285° 12' 1"	50.2	254° 16' 9"	10.4	64° 49' 0"	49.3	331° 49' 9"	13.0	Alnair	27° 42' 8"	46° 53' 4" S	300° 30' 7"	26.0	310° 41' 5"	6.3	33' 3" S	1.2	54°	06:47	07:33	08:17	07:06	08:04	08:54						
	09	224° 51' 5"	300° 11' 1"	49.9	269° 17' 4"	9.8	79° 51' 5"	49.4	346° 52' 1"	13.1	Alnilam	275° 45' 0"	1° 11' 8" S	315° 30' 3"	26.0	325° 06' 8"	6.2	34' 5" S	1.1	52°	06:41	07:25	08:06	06:58	07:56	08:46						
	10	239° 54' 0"	315° 10' 2"	49.7	284° 17' 9"	9.2	94° 54' 1"	49.4	1° 54' 3"	13.2	Alphard	217° 54' 8"	8° 43' 5" S	330° 30' 0"	26.0	339° 32' 0"	6.3	35' 6" S	0.9	59.0	50°	06:36	07:18	07:56	06:50	07:48	08:39					
	11	254° 56' 4"	330° 09' 2"	49.4	299° 18' 4"	8.7	109° 56' 6"	49.4	16° 56' 5"	13.2		196° 20' 0"	55° 52' 5" S	345° 29' 7"	26.0	353° 57' 3"	6.2	36' 5" S	0.9	45°	06:24	07:02	07:36	06:33	07:31	08:24						
	12	269° 58' 9"	345° 08' 3"	49.2 S	314° 18' 9"	18° 08' 1" S	124° 59' 2"	14° 49' 5" N	31° 58' 7"	18° 13' 3" S	Alphecca	126° 10' 5"	26° 39' 9" N	0° 29' 4"	23° 26' 0" S	8° 22' 5"	6.1	18° 37' 4" S	0.7	59.0	N 40°	06:14	06:48	07:19	06:20	07:18	08:12					
	13	285° 01' 4"	0° 07' 3"	48.9	329° 19' 4"	07.5	140° 01' 8"	49.5	47° 00' 8"	13.3	Alpheratz	357° 42' 4"	29° 10' 6" N	15° 29' 1"	26.0	22° 47' 6"	6.1	38' 1" S	0.6	35°	06:05	06:36	07:04	06:08	07:06	08:01						
	14	300° 03' 8"	15° 06' 4"	48.7	344° 19' 9"	06.9	155° 04' 3"	49.6	62° 03' 0"	13.4	Altair	62° 07' 5"	8° 54' 7" S	30° 28' 8"	26.0	37° 17' 6"	6.1	38' 7" S	0.5	59.1	30°	05:56	06:26	06:52	05:58	06:56	07:52					
	15	315° 06' 3"	30° 05' 4"	48.5	359° 20' 4"	06.4	170° 06' 9"	49.6	77° 05' 2"	13.4	Ankaa	353° 14' 7"	42° 13' 7" S	45° 28' 5"	26.0	51° 37' 8"	6.0	39' 2" S	0.3	20°	05:39	06:07	06:31	05:41	06:39	07:36						
	16	330° 08' 8"	45° 04' 5"	48.2	14° 20' 9"	05.8	185° 09' 4"	49.7	92° 07' 4"	13.5	Antares	112° 25' 3"	26° 27' 6" S	60° 28' 2"	26.1	66° 02' 8"	6.0	39' 5" S	0.3	N 10°	05:23	05:49	06:12	05:25	06:24	07:22						
	17	345° 11' 2"	60° 03' 5"	48.0	29° 21' 4"	05.2	200° 12' 0"	49.7	107° 09' 6"	13.5		196° 20' 0"	55° 52' 5" S	75° 27' 9"	26.1	80° 27' 8"	6.0	39' 8" S	0.1	59.2	0°	05:06	05:32	05:55	05:11	06:10	07:09					
	18	0° 13' 7"	75° 02' 6"	47.7	44° 21' 9"	04.6	215° 14' 6"	49.8	122° 11' 8"	13.6	Arcturus	145° 55' 0"	19° 06' 3" N	90° 27' 5"	26.1	94° 52' 8"	5.9	39' 9" S	0.0	S 10°	04:47	05:14	05:37	04:57	05:56	06:56						
	19	15° 16' 1"	90° 01' 6"	47.5	59° 22' 4"	04.0	230° 17' 1"	49.8	137° 13' 9"	13.6	Atria	107° 26' 7"	69° 02' 9" S	105° 27' 2"	26.1	109° 17' 7"	5.9	39' 9" S	0.2	20°	04:24	04:54	05:18	04:42	05:41	06:42						
	20	30° 18' 6"	105° 00' 6"	47.2	74° 22' 9"	03.5	245° 19' 7"	49.8	152° 16' 1"	13.7	Avior	234° 17' 0"	59° 33' 5" S	120° 26' 9"	26.1	123° 42' 6"	5.8	39' 7" S	0.2	30°	03:55	04:29	04:56	04:25	05:23	06:26						
	21	45° 21' 1"	119° 59' 7"	46.9	89° 23' 4"	02.9	260° 22' 3"	49.9	167° 18' 3"	13.8	Bellatrix	278° 30' 6"	6° 21' 6" N	135° 26' 6"	26.1	138° 07' 4"	5.9	39' 5" S	0.4	59.3	35°	03:37	04:13	04:43	04:15	05:13	06:16					
22	60° 23' 5"	134° 58' 7"	46.7	104° 23' 9"	02.3	275° 24' 8"	49.9	182° 20' 5"	13.8	Betelgeuse	270° 59' 8"	7° 24' 4" N	150° 26' 3"	26.1	152° 32' 3"	5.8	39' 1" S	0.5	40°	03:13	03:55	04:28	04:04	05:02	06:06							
23	75° 26' 0"	149° 57' 8"	46.4	119° 24' 4"	01.7	290° 27' 4"	50.0	197° 22' 7"	13.9		196° 20' 0"	55° 52' 5" S	165° 26' 0"	26.1	166° 57' 1"	5.8	38' 6" S	0.7	45°	02:43	03:32	04:10	03:51	04:48	05:53							
Monday	90° 28' 5"	164° 56' 8"	23° 46' 2" S	134° 24' 9"	18° 01' 1" S	305° 30' 0"	14° 50' 0" N	212° 24' 9"	18° 13' 9" S	Canopus	263° 55' 1"	52° 42' 4" S	180° 25' 7"	23° 26' 1" S	181° 21' 9"	5.7	18° 37' 9" S	0.7	59.3	S 50°	01:57	03:03	03:47	03:34	04:32	05:38						
	01	105° 30' 9"	179° 55' 9"	45.9	149° 25' 4"	00.6	320° 32' 5"	50.1	227° 27' 0"	14.0	Capella	280° 32' 4"	46° 00' 6" N	195° 25' 4"	26.1	195° 46' 6"	5.8	37' 2" S	0.9	59.4	52°	01:29	02:47	03:36	03:27	04:24	05:31					
	02	120° 33' 4"	194° 54' 9"	45.7	164° 25' 9"	00.0	335° 35' 1"	50.1	242° 29' 0"	14.0	Deneb	49° 31' 4"	45° 20' 4" N	210° 25' 0"	26.1	210° 11' 4"	5.7	36' 3" S	1.0	54°	00:42	02:29	03:24	03:18	04:16	05:23						
	03	135° 35' 3"	209° 54' 0"	45.4	179° 26' 4"	17° 59' 4" S	350° 37' 7"	50.1	257° 31' 4"	14.1	Denebola	182° 32' 6"	14° 29' 2" S	225° 24' 7"	26.1	224° 36' 1"	5.7	35' 3" S	1.2	56°	-	02:07	03:10	03:09	04:06	05:14						
	04	150° 38' 3"	224° 53' 0"	45.1	194° 26' 9"	58.8	5° 40' 2"	50.2	272° 33' 6"	14.1	Diphda	348° 54' 8"	17° 54' 4" S	240° 24' 4"	26.1	239° 00' 8"	5.6	34' 1" S	1.3	58°	-	01:37	02:53	02:58	03:55	05:04						
	05	165° 40' 8"	239° 52' 1"	44.9	209° 27' 4"	58.2	20° 42' 8"	50.2	287° 35' 8"	14.2		196° 20' 0"	55° 52' 5" S	255° 24' 1"	26.1	253° 25' 4"	5.7	32' 8" S	1.3	S 60°	-	00:46	02:32	02:46	03:42	04:53						
	06	180° 43' 3"	254° 51' 1"	44.6	224° 27' 9"	57.7	35° 45' 4"	50.3	302° 38' 0"	14.3	Dubhe	193° 50' 4"	61° 39' 8" N	270° 23' 8"	26.1	267° 50' 1"	5.6	31' 5" S	1.6	59.5	S 62°	-	02:06	02:31	03:28	04:39						
	07	195° 45' 7"	269° 50' 2"	44.3	239° 28' 4"	57.1	50° 47' 9"	50.3	317° 40' 2"	14.3	Einath	278° 10' 9"	28° 37' 0" S	285° 23' 5"	26.0	282° 14' 7"	5.7	29' 9" S	1.6													
	08	210° 48' 2"	284° 49' 2"	44.1	254° 28' 9"	56.5	65° 50' 5"	50.4	332° 42' 3"	14.4	Eltanin	90° 46' 2"	51° 29' 4" N	300° 23' 2"	26.0	296° 39' 4"	5.6	28' 3" S	1.8													
	09	225° 50' 6"	299° 48' 3"	43.8	269° 29' 4"	55.9	80° 53' 1"	50.4	347° 44' 5"	14.4	Enif	35° 46' 2"	9° 56' 8" N	315° 22' 9"	26.0	311° 04' 0"	5.6	26' 5" S	1.9													
	10	240° 53' 1"	314° 47' 3"	43.5	284° 29' 9"	55.3	95° 55' 6"	50.5	2° 46' 7"	14.5	Fomalhaut	13° 23' 0"	29° 32' 6" S	330° 22' 6"	26.0	325° 28' 6"	5.5	24' 6" S	2.0													
	11	255° 55' 6"	329° 46' 4"	43.2	299° 30' 4"	54.8	110° 58' 2"	50.5	17° 48' 9"	14.5		196° 20' 0"	55° 52' 5" S	345° 22' 2"	26.0	339° 53' 1"	5.6	22' 6" S	2.1	59.6	N 72°	-	12:59	15:31	-	-	14:54					
	12	270° 58' 0"	344° 45' 4"	23° 43' 0" S	314° 30' 9"	17° 54' 2" S	126° 00' 8"	14° 50' 6" N	32° 51' 1"	18° 14' 6" S	Gacrux	171° 59' 7"	57° 11' 5" S	0°																		

2014 December 24, 25, 26 (Wed, Thur, Fri)

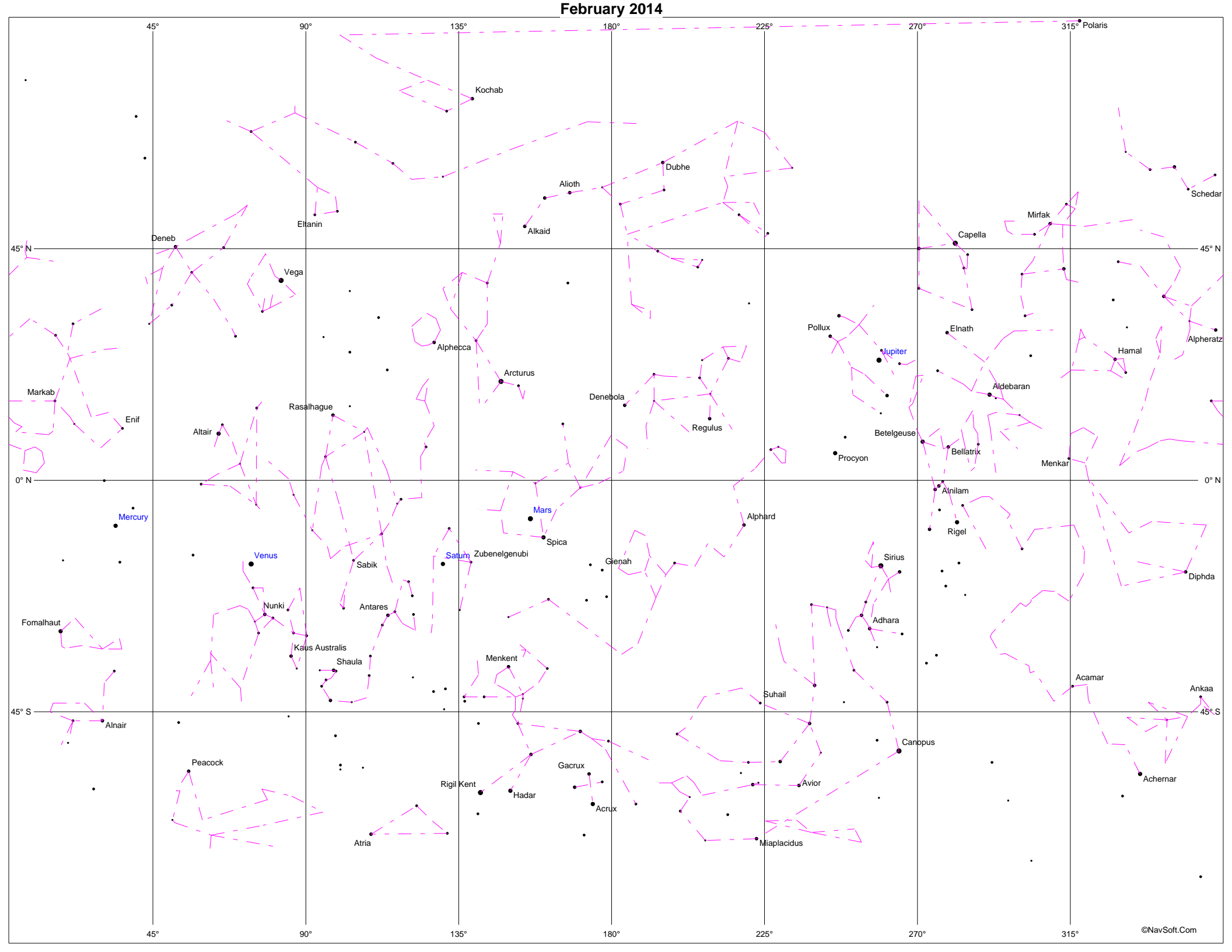
GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.4			SATURN +0.6			STARS			SUN			MOON				Lat	Twilight		Sunrise	Moonrise		
	GHA			GHA			GHA			GHA			GHA			Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP		Nautical	Civil		24	25	26
W e d n e s d a y	00	92° 26.7'	164° 11.5'	23° 32.3' S	134° 49.2'	17° 33.0' S	307° 33.5'	14° 52.3' S	214° 09.8'	18° 16.5' S	214° 09.8'	18° 16.5' S	Acamar	315° 17.3'	40° 15.0' S	180° 10.7'	23° 25.1' S	153° 07.0'	6.1	15° 42.0' S	6.5	60.1	N 72°	08:27	10:57	-	11:45	11:36	11:29			
	01	107° 29.2'	179° 10.5'	32.0	149° 49.7'	32.4	322° 36.1'	52.3	229° 12.0'	16.6	195° 10.4'	25.1	167° 32.1'	6.2	35.5	6.6	68°	07:51	09:20	-	10:53	11:04	11:11	N 70°	08:07	09:55	-	11:15	11:18	11:19		
	02	122° 31.7'	194° 09.6'	31.6	164° 50.3'	31.8	337° 38.7'	52.4	244° 14.2'	16.6	200° 10.1'	25.0	181° 57.3'	6.2	28.9	6.8	66°	07:38	08:55	10:35	10:36	10:52	11:04	64°	07:27	08:35	09:53	10:21	10:42	10:59		
	03	137° 34.1'	209° 08.7'	31.3	179° 50.8'	31.2	352° 41.2'	52.4	259° 16.4'	16.7	225° 09.8'	25.0	196° 22.5'	6.2	22.1	6.8	64°	07:27	08:35	09:53	10:21	10:42	10:59	62°	07:17	08:19	09:25	10:09	10:34	10:54		
	04	152° 36.6'	224° 07.7'	31.0	194° 51.3'	30.6	7° 43.8'	52.5	274° 18.6'	16.7	240° 09.5'	24.9	210° 47.7'	6.2	15.3	7.0	60°	07:09	08:06	09:03	09:59	10:27	10:49	60°	07:09	08:06	09:03	09:59	10:27	10:49		
	05	167° 39.1'	239° 06.8'	30.7	209° 51.8'	30.0	22° 46.4'	52.5	289° 20.7'	16.8	255° 09.1'	24.9	225° 12.9'	6.3	08.3	7.0	N 58°	07:01	07:54	08:46	09:50	10:20	10:45	56°	06:55	07:44	08:31	09:42	10:14	10:42		
	06	182° 41.5'	254° 05.8'	30.3	224° 52.3'	29.4	37° 49.0'	52.6	304° 22.9'	16.9	270° 08.8'	24.8	239° 38.2'	6.4	01.3	7.1	54°	06:48	07:35	08:18	09:35	10:09	10:39	54°	06:48	07:35	08:18	09:35	10:09	10:39		
	07	197° 44.0'	269° 04.9'	30.0	239° 52.8'	28.8	52° 51.6'	52.6	319° 25.1'	16.9	285° 08.5'	24.8	254° 03.6'	6.3	14° 54.2' S	7.3	52°	06:43	07:26	08:07	09:29	10:05	10:36	50°	06:37	07:19	07:58	09:23	10:00	10:33		
	08	212° 46.5'	284° 04.0'	29.7	254° 53.3'	28.2	67° 54.2'	52.7	334° 27.3'	17.0	300° 08.2'	24.7	268° 28.9'	6.4	46.9	7.3	45°	06:26	07:03	07:37	08:19	09:01	09:28	45°	06:26	07:03	07:37	08:19	09:01	09:28		
	09	227° 48.9'	299° 03.0'	29.4	269° 53.8'	27.6	82° 56.7'	52.7	349° 29.5'	17.0	315° 07.9'	24.7	282° 54.3'	6.5	39.6	7.5	40°	06:15	06:49	07:20	08:00	08:43	09:31	40°	06:15	06:49	07:20	08:00	08:43	09:31		
	10	242° 51.4'	314° 02.1'	29.0	284° 54.4'	27.0	97° 59.3'	52.8	4° 31.7'	17.1	330° 07.6'	24.7	297° 19.8'	6.5	32.1	7.5	35°	06:06	06:38	07:06	07:58	08:51	09:37	35°	06:06	06:38	07:06	07:58	08:51	09:37		
	11	257° 53.9'	329° 01.2'	28.7	299° 54.9'	26.4	113° 01.9'	52.8	19° 33.9'	17.1	345° 07.3'	24.6	311° 45.3'	6.5	24.6	7.6	30°	05:57	06:27	06:53	07:30	08:15	09:01	30°	05:57	06:27	06:53	07:30	08:15	09:01		
	12	272° 56.3'	344° 00.2'	23° 28.4' S	314° 55.4'	17° 25.8' S	128° 04.5'	14° 52.9' N	34° 36.1'	18° 17.2' S	0° 07.0'	23° 24.6' S	326° 10.8'	6.6	14° 17.0' S	7.8	60.1	N 40°	06:15	06:49	07:20	09:00	09:43	10:23	N 40°	06:15	06:49	07:20	09:00	09:43	10:23	
	13	287° 58.8'	358° 59.3'	28.0	329° 55.9'	25.2	143° 07.1'	52.9	49° 38.3'	17.2	15° 06.7'	24.5	340° 36.4'	6.6	09.2	7.8	35°	06:06	06:38	07:06	08:51	09:37	10:19	35°	06:06	06:38	07:06	08:51	09:37	10:19		
	14	303° 01.2'	31° 58.4'	27.7	344° 56.4'	24.6	158° 09.7'	53.0	64° 40.4'	17.3	30° 06.3'	24.5	355° 02.0'	6.7	01.4	7.9	30°	05:57	06:27	06:53	07:30	08:15	09:01	30°	05:57	06:27	06:53	07:30	08:15	09:01		
	15	318° 03.7'	28° 57.4'	27.4	359° 56.9'	24.0	173° 12.3'	53.0	79° 42.6'	17.3	45° 06.0'	24.4	9° 27.7'	6.7	13° 53.5' S	8.0	20°	05:41	06:08	06:32	07:03	07:39	08:15	20°	05:41	06:08	06:32	07:03	07:39	08:15		
	16	333° 06.2'	43° 56.5'	27.0	14° 57.4'	23.4	188° 14.8'	53.1	94° 44.8'	17.4	60° 05.7'	24.4	23° 53.4'	6.7	45.5	8.1	N 10°	05:25	05:51	06:14	06:18	06:19	06:20	N 10°	05:25	05:51	06:14	06:18	06:19	06:20		
	17	348° 08.6'	58° 55.6'	26.7	29° 58.0'	22.8	203° 17.4'	53.1	109° 47.0'	17.4	75° 05.4'	24.3	38° 19.1'	6.8	37.4	8.2	0°	05:08	05:34	05:56	06:07	06:04	06:05	0°	05:08	05:34	05:56	06:07	06:04	06:05		
	18	3° 11.1'	73° 54.6'	26.3	44° 58.5'	22.2	218° 20.0'	53.2	124° 49.2'	17.5	90° 05.1'	24.2	52° 44.9'	6.9	29.2	8.3	S 10°	04:49	05:16	05:39	07:56	08:55	09:53	S 10°	04:49	05:16	05:39	07:56	08:55	09:53		
	19	18° 13.6'	88° 53.7'	26.0	59° 59.0'	21.6	233° 22.6'	53.2	139° 51.4'	17.5	105° 04.8'	24.2	67° 10.8'	6.8	20.9	8.3	20°	04:26	04:55	05:20	07:44	08:46	09:47	20°	04:26	04:55	05:20	07:44	08:46	09:47		
	20	33° 16.0'	103° 52.8'	25.6	74° 59.5'	21.0	248° 25.2'	53.3	154° 53.6'	17.6	120° 04.5'	24.1	81° 36.6'	7.0	12.6	8.6	30°	03:57	04:30	04:58	07:31	08:36	09:41	30°	03:57	04:30	04:58	07:31	08:36	09:41		
	21	48° 18.5'	118° 51.8'	25.3	90° 00.0'	20.4	263° 27.8'	53.3	169° 55.8'	17.7	135° 04.2'	24.1	96° 02.6'	7.0	04.1	8.5	35°	03:38	04:15	04:45	07:23	08:30	09:38	35°	03:38	04:15	04:45	07:23	08:30	09:38		
	22	63° 21.0'	133° 50.9'	25.0	105° 00.5'	19.8	278° 30.4'	53.4	184° 58.0'	17.7	150° 03.9'	24.0	110° 28.6'	7.0	12° 55.6' S	8.6	40°	03:15	03:57	04:30	07:14	08:23	09:33	40°	03:15	03:57	04:30	07:14	08:23	09:33		
	23	78° 23.4'	148° 50.0'	24.6	120° 01.1'	19.2	293° 33.0'	53.4	200° 50.1'	17.8	165° 03.5'	24.0	124° 54.6'	7.0	47.0	8.7	45°	02:44	03:34	04:12	07:03	08:16	09:29	45°	02:44	03:34	04:12	07:03	08:16	09:29		
T h u r s d a y	00	93° 25.9'	163° 49.0'	23° 24.3' S	135° 01.6'	17° 18.6' S	308° 35.5'	14° 53.5' N	215° 02.3'	18° 17.8' S	Canopus	263° 55.1'	52° 42.4' S	180° 03.2'	23° 23.9' S	139° 20.6'	7.2	12° 38.3' S	8.8	60.1	S 50°	01:59	03:04	03:49	06:50	08:06	09:23					
	01	108° 28.4'	178° 48.1'	23.9	150° 02.1'	18.0	323° 38.1'	53.5	230° 04.5'	17.9	195° 02.9'	23.8	153° 46.8'	7.1	29.5	8.8	52°	01:31	02:49	03:38	06:44	08:02	09:20	52°	01:31	02:49	03:38	06:44	08:02	09:20		
	02	123° 30.8'	193° 47.2'	23.6	165° 02.6'	17.4	338° 40.7'	53.6	245° 06.7'	17.9	210° 02.6'	23.8	168° 12.9'	7.2	20.7	8.9	54°	00:45	02:31	03:26	06:38	07:57	09:17	54°	00:45	02:31	03:26	06:38	07:57	09:17		
	03	138° 33.3'	208° 46.2'	23.2	180° 03.1'	16.8	353° 43.3'	53.6	260° 08.9'	18.0	225° 02.3'	23.7	182° 39.1'	7.3	11.8	9.0	56°	-	02:09	03:12	06:31	07:52	09:14	56°	-	02:09	03:12	06:31	07:52	09:14		
	04	153° 35.7'	223° 45.3'	22.8	195° 03.6'	16.2	8° 45.9'	53.7	275° 11.1'	18.0	240° 02.0'	23.7	197° 05.4'	7.3	02.8	9.1	58°	-	01:39	02:55	06:22	07:46	09:10	58°	-	01:39	02:55	06:22	07:46	09:10		
	05	168° 38.2'	238° 44.4'	22.5	210° 04.2'	15.6	23° 48.5'	53.7	290° 13.3'	18.1	255° 01.7'	23.6	211° 31.7'	7.4	11° 53.7' S	9.2	S 60°	-	00:49	02:34	06:13	07:39	09:06	S 60°	-	00:49	02:34	06:13	07:39	09:06		
	06	183° 40.7'	253° 43.4'	22.1	225° 04.7'	15.0	38° 51.1'	53.8	305° 15.5'	18.1	270° 01.4'	23.5	225° 58.1'	7.4	44.5	9.2	S 62°	-	-	02:08	06:02	07:31	09:02	S 62°	-	-	02:08	06:02	07:31	09:02		
	07	198° 43.1'	268° 42.5'	21.8	240° 05.2'	14.4	53° 53.7'	53.8	320° 17.7'	18.2	285° 01.1'	23.5	240° 24.5'	7.4	35.3	9.3																
	08	213° 45.6'	283° 41.6'	21.4	255° 05.7'	13.8	68° 56.3'	53.9	335° 19.9'	18.2	300° 00.7'	23.4	254° 50.9'	7.5	26.0	9.4																
	09	228° 48.1'	298° 40.7'	21.1	270° 06.2'	13.2	83° 58.9'	54.0	350° 22.0'	18.3	315° 00.4'	23.3	269° 17.4'	7.6	16.6	9.4																
	10	243° 50.5'	313° 39.7'	20.7	285° 06.7'	12.5	99° 01.5'	54.0	5° 24.2'	18.3	330° 00.1'	23.3	283° 44.0'	7.6	07.2	9.																

GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.4			SATURN +0.6			STARS			SUN			MOON			Lat	Twilight		Sunrise	30		Moonrise	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	30		30	1		1			
30 T u e s d a y	00	98° 21'.6	161° 59.9	22° 33'.5 S	136° 04.9	16° 04'.2 S	313° 48'.5	15° 00'.4 N	219° 25'.7	18° 24'.0 S	Acamar	315° 17'.3	40° 15'.0 S	179° 26'.4	23° 10'.9 S	76° 01'.9	10.4	8° 34'.0 N	9.7	58.2	N 72°	08:25	10:46	-	11:05	10:57	10:48					
	01	113° 24'.0	176° 59'.0	33.0	151° 05'.4	03'.5	328° 51'.1	00'.5	234° 27'.9	24.0	Achernar	335° 25'.9	57° 10'.0 S	194° 26'.1	10.7	90° 31'.3	10.4	43.7	9.0	68°	68°	07:50	09:18	-	11:20	11:23	11:29					
	02	128° 26'.5	191° 58'.1	32.5	166° 06'.0	02.9	343° 53'.8	00'.6	249° 30'.1	24.1	Acruz	173° 07'.9	63° 10'.6 S	209° 25'.8	10.6	105° 00'.7	10.3	53.4	9.6	66°	66°	07:38	08:54	10:30	11:44	11:58	12:18					
	03	143° 29'.0	206° 57'.2	32.0	181° 06'.5	02'.3	358° 56'.4	00'.6	264° 32'.3	24.1	Adhara	255° 11'.3	28° 59'.8 S	224° 25'.5	10.4	119° 30'.0	10.4	9° 03'.0 N	9.5	58.1	64°	07:27	08:35	09:51	11:53	12:11	12:35					
	04	158° 31'.4	221° 56'.3	31.5	196° 07'.0	01'.6	13° 59'.0	00.7	279° 34'.5	24.2	Aldebaran	290° 47'.8	16° 32'.2 N	239° 25'.2	10.3	133° 59'.4	10.3	12.5	9.6	62°	62°	07:18	08:19	09:24	12:00	12:22	12:49					
	05	173° 33'.9	236° 55'.4	31.0	211° 07'.6	01.0	29° 01'.7	00.7	294° 36'.7	24.2				254° 24'.9	10.1	148° 28'.7	10.4	22.1	9.4	60°	60°	07:09	08:06	09:03	12:07	12:31	13:01					
	06	188° 36'.4	251° 54'.6	30.5	226° 08'.1	00'.3	44° 04'.3	00.8	309° 38'.9	24.3	Alioth	166° 19'.9	55° 52'.4 N	269° 24'.6	09.9	162° 58'.1	10.3	31.5	9.4	58°	N 58°	07:02	07:54	08:46	12:13	12:39	13:11					
	07	203° 38'.8	266° 53'.7	30.0	241° 08'.7	15° 59'.7 S	59° 06'.9	00.9	324° 41'.1	24.0	Alkaid	152° 58'.3	49° 14'.1 N	284° 24'.3	09.8	177° 27'.4	10.3	40.9	9.3	56°	56°	06:56	07:44	08:31	12:18	12:47	13:20					
	08	218° 41'.3	281° 52'.8	29.5	256° 09'.2	59.1	74° 09'.5	00.9	339° 43'.2	24.4	Alnair	27° 42'.8	46° 53'.4 S	299° 24'.0	09.6	191° 56'.7	10.4	50.2	9.3	58.0	54°	06:50	07:36	08:19	12:23	12:53	13:28					
	09	233° 43'.8	296° 51'.9	29.0	271° 09'.7	58.4	89° 12'.2	01.0	354° 45'.4	24.4	Alnilam	275° 45'.0	1° 11'.8 S	314° 23'.7	09.4	206° 26'.1	10.3	59.5	9.2	52°	52°	06:44	07:28	08:08	12:27	12:59	13:35					
	10	248° 46'.2	311° 51'.0	28.5	286° 10'.3	57.8	104° 14'.8	01'.1	9° 47'.6	24.5	Alphard	217° 54'.8	8° 43'.6 S	329° 23'.4	09.3	220° 55'.4	10.3	10° 08'.7 N	9.1	50°	50°	06:39	07:20	07:59	12:31	13:04	13:42					
	11	263° 48'.7	326° 50'.1	28.0	301° 10'.8	57'.1	119° 17'.4	01'.1	24° 49'.8	24.5				344° 23'.1	09.1	235° 24'.7	10.3	17.8	9.1	45°	45°	06:27	07:04	07:38	12:40	13:16	13:56					
	12	278° 51'.1	341° 49'.3	22° 27'.5 S	316° 11'.4	15° 56'.5 S	134° 20'.1	15° 01'.2 N	39° 52'.0	18° 24'.6 S	Alphecca	126° 10'.4	26° 39'.9 N	359° 22'.8	23° 09'.0 S	249° 54'.0	10.3	10° 26'.9 N	9.0	57.9	N 40°	06:17	06:51	07:22	12:47	13:25	14:07					
	13	293° 53'.6	356° 48'.4	27.0	331° 11'.9	55.9	149° 22'.7	01'.3	54° 54'.2	24.6	Alpheratz	357° 42'.4	29° 10'.6 N	14° 22'.5	08.8	264° 23'.3	10.3	35.9	9.0	35°	35°	06:08	06:40	07:08	12:53	13:34	14:17					
	14	308° 56'.1	11° 47'.5	26.5	346° 12'.5	55.2	164° 25'.3	01'.3	69° 56'.5	24.7	Altair	62° 07'.5	8° 54'.7 N	29° 22'.2	08.6	278° 52'.6	10.2	44.9	8.9	30°	30°	05:59	06:29	06:56	12:58	13:41	14:26					
	15	323° 58'.5	26° 46'.6	25.9	1° 13'.0	54.6	179° 27'.9	01'.4	84° 58'.6	24.7	Ankaa	353° 14'.8	42° 13'.7 S	44° 21'.9	08.5	293° 21'.8	10.3	53.8	8.8	20°	20°	05:43	06:11	06:35	13:08	13:53	14:41					
	16	339° 01'.0	41° 45'.7	25.4	16° 13'.5	53.9	194° 30'.6	01'.5	100° 00'.8	24.8	Antares	112° 25'.3	26° 27'.7 S	59° 21'.6	08.3	307° 51'.1	10.2	11° 02'.6 N	8.6	10°	N 10°	05:27	05:54	06:16	13:16	14:04	14:54					
	17	354° 03'.5	56° 44'.9	24.9	31° 14'.1	53.3	209° 33'.2	01'.5	115° 03'.1	24.8				74° 21'.3	08.1	322° 20'.3	10.3	11.4	8.6	57.8	0°	05:11	05:37	05:59	13:24	14:15	15:07					
	18	9° 05'.9	71° 44'.0	24.4	46° 14'.6	52'.6	224° 35'.8	01'.6	130° 05'.2	24.9	Arcturus	145° 54'.9	19° 06'.2 N	89° 21'.0	07.9	336° 49'.6	10.2	20.0	8.7	10°	S 10°	04:52	05:19	05:42	13:32	14:25	15:19					
	19	24° 08'.4	86° 43'.1	23.9	61° 15'.2	52.0	239° 38'.5	01'.7	145° 07'.5	24.9	Atria	107° 26'.6	69° 02'.9 S	104° 20'.7	07.8	351° 18'.8	10.2	28.7	8.5	20°	20°	04:30	04:59	05:23	13:40	14:37	15:32					
	20	39° 10'.9	101° 42'.2	23.4	76° 15'.7	51.4	254° 41'.1	01'.7	160° 09'.7	25.0	Avia	234° 16'.9	59° 33'.5 S	119° 20'.4	07.6	5° 48'.0	10.2	37.2	8.5	30°	30°	04:01	04:34	05:01	13:50	14:49	15:48					
	21	54° 13'.3	116° 41'.4	22.8	91° 16'.2	50.7	269° 43'.7	01'.8	175° 11'.9	25.0	Bellatrix	278° 30'.5	6° 21'.6 N	134° 20'.1	07.4	20° 17'.2	10.2	45.7	8.4	57.7	35°	03:42	04:19	04:49	13:56	14:57	15:57					
	22	69° 15'.8	131° 40'.5	22.3	106° 16'.8	50.1	284° 46'.4	01'.9	190° 14'.1	25.1	Betelgeuse	270° 59'.8	7° 24'.3 N	149° 19'.8	07.2	34° 46'.4	10.2	54'.1	8.4	40°	40°	03:20	04:01	04:34	14:02	15:06	16:07					
23	84° 18'.3	146° 39'.6	21.8	121° 17'.3	49.4	299° 49'.0	01'.9	205° 16'.3	25.1				164° 19.5	07.1	49° 15.6	10.2	12° 02'.5 N	8.2	45°	45°	02:50	03:39	04:16	14:09	15:16	16:19						
31 W e d n e s d a y	00	99° 20'.7	161° 38'.7	22° 21'.3 S	136° 17.9	15° 48'.8 S	314° 51'.6	15° 02'.0 N	220° 18'.5	18° 25'.2 S	Canopus	263° 55'.1	52° 42'.4 S	179° 19'.2	23° 06'.9 S	63° 44.8	10.1	12° 10'.7 N	8.3	57.7	S 50°	02:05	03:10	03:54	14:19	15:28	16:33					
	01	114° 23'.2	176° 37.9	20.8	151° 18'.4	48.1	329° 54'.3	02'.1	235° 20'.7	25.2	Capella	280° 32'.4	46° 00'.6 N	194° 18'.9	06.7	78° 13'.9	10.2	19.0	8.1	52°	52°	01:39	02:55	03:43	14:23	15:33	16:40					
	02	129° 25'.6	191° 37.0	20.2	166° 19'.0	47.5	344° 56'.9	02'.1	250° 22'.9	25.3	Deneb	49° 31'.1	45° 20'.3 S	209° 18'.6	06.5	92° 43'.1	10.1	27.1	8.0	57.6	54°	00:57	02:37	03:31	14:27	15:40	16:48					
	03	144° 28'.1	206° 36.1	19.7	181° 19'.5	46.9	359° 59'.5	02'.2	265° 25'.1	25.3	Denebola	182° 32'.5	14° 29'.1 N	224° 18'.3	06.4	107° 12'.2	10.1	35.1	8.0	56°	56°	-	02:16	03:17	14:33	15:47	16:56					
	04	159° 30'.6	221° 35.2	19.2	196° 20'.1	46.2	15° 02'.2	02.3	280° 27'.3	25.4	Diphda	348° 54'.8	17° 54'.4 S	239° 18'.0	06.2	121° 41'.3	10.1	43.1	7.9	58°	58°	-	01:47	03:01	14:38	15:55	17:06					
	05	174° 33'.0	236° 34'.4	18.6	211° 20'.6	45.6	30° 04.8	02.3	295° 29'.5	25.4				254° 17.7	06.0	136° 10'.4	10.1	51.0	7.9	60°	S 60°	-	01:02	02:41	14:45	16:03	17:17					
	06	189° 35'.5	251° 33'.5	18.1	226° 21'.1	44.9	45° 07'.4	02.4	310° 31'.7	25.5	Dubhe	193° 50'.3	61° 39'.8 N	269° 17.4	05.8	150° 39'.5	10.1	58.9	7.7	57.5	S 62°	-	-	02:16	14:52	16:14	17:30					
	07	204° 38'.0	266° 32.6	17.6	241° 21'.7	44.3	60° 10'.1	02.5	325° 33'.9	25.5	Elinath	278° 10'.9	28° 37.0 N	284° 17.1	05.6	165° 08'.6	10.1	13° 06'.6 N	7.7	57.5			-	-	-	-	-	-				
	08	219° 40'.4	281° 31.7	17.1	256° 22'.2	43.6	75° 12.7	02.5	340° 36.1	25.6	Eltanin	90° 46.2	51° 29.4 N	299° 16.8	05.5	179° 37.7	10.1	14.3	7.6													
	09	234° 42'.9	296° 30.9	16.5	271° 22.8	43.0	90° 15.4	02.6	355° 38.3	25.6	Enif	13° 46.3	9° 56.8 N	314° 16.5	05.3	194° 06.8	10.0	21.9	7.5													
	10	249° 45.4	311° 30.0	16.0	286° 23.3	42.3	105° 18.0	02.7	10° 40.5	25.7	Fomalhaut	35° 23.0	29° 32.6 S	329° 16.2	05.1	208° 35.8	10.1	29.4	7.5													
	11	264° 47.8	326° 29.1	15.5	301° 23.9	41.7	120° 20.6	02.7	25° 42.7	25.7				344° 15.9	04.9	223° 04.9	10.0	36.9	7.3	57.4	N 72°	-	13:20	15:41	02:57	04:51	06:47					
	12	279° 50.3	341° 28.3	22° 14.9 S	316° 24.4	15° 41.0 S	135° 23.3	15° 02.8 N	40° 44.9	18° 25.8 S	Gacrux	171° 59.6	57° 11.6 S	359° 15.6	23° 04.7 S	237° 33.9	10.0	13° 44.2 N	7.3	57.4	N 70°	-	14:15	16:01	02:43	04:26	06:40					
	13	294° 52.8	356° 27.4	14.4	331° 25.0	40.4	150° 25.9	02.9	55° 47.1	25.8	Giennah	175° 51.2	17° 37.2 S	14° 15.3	04.5	252° 02.9	10.0	51.5	7.2	68°	68°	-	14:48	16:16	02:31	04:08	05:48					
	14	309° 55'.2	11° 26'.5	13.8	346° 25.5	39.7	165° 28'.5	02.9	70° 49'.3	25.9	Hadar	148° 46'.5	60° 26'.4 S	29° 15.0	04.3	266° 31.9	10.0	58.7	7.2	66°	66°	13:36	15:13	16:29	02:22	03:53	05:20					
	15	324° 57.7	26° 25'.7	13.3	1° 26'.1	39.1	180° 31'.2	03.0	85° 51'.5	25.9	Hamal	327° 59.4	23° 32.0 N	44° 14.7	04.2	281° 00.9	10.0	14° 05.9 N	7.0	64°	64°	14:16	15:32	16:39	02:14	03:41	05:04					
	16	340° 00'.1	41° 24.8	12.8	16° 26.6	38.5	195° 33'.8	03'.1	100° 53'.7	26.0	Kaus Aust.	83° 42'.8	34° 22'.4 S	59° 14.4	04.0	295° 29.9	9.9	12.9	7.0	57.3	62°	14:43	15:47	16:49	02:08							

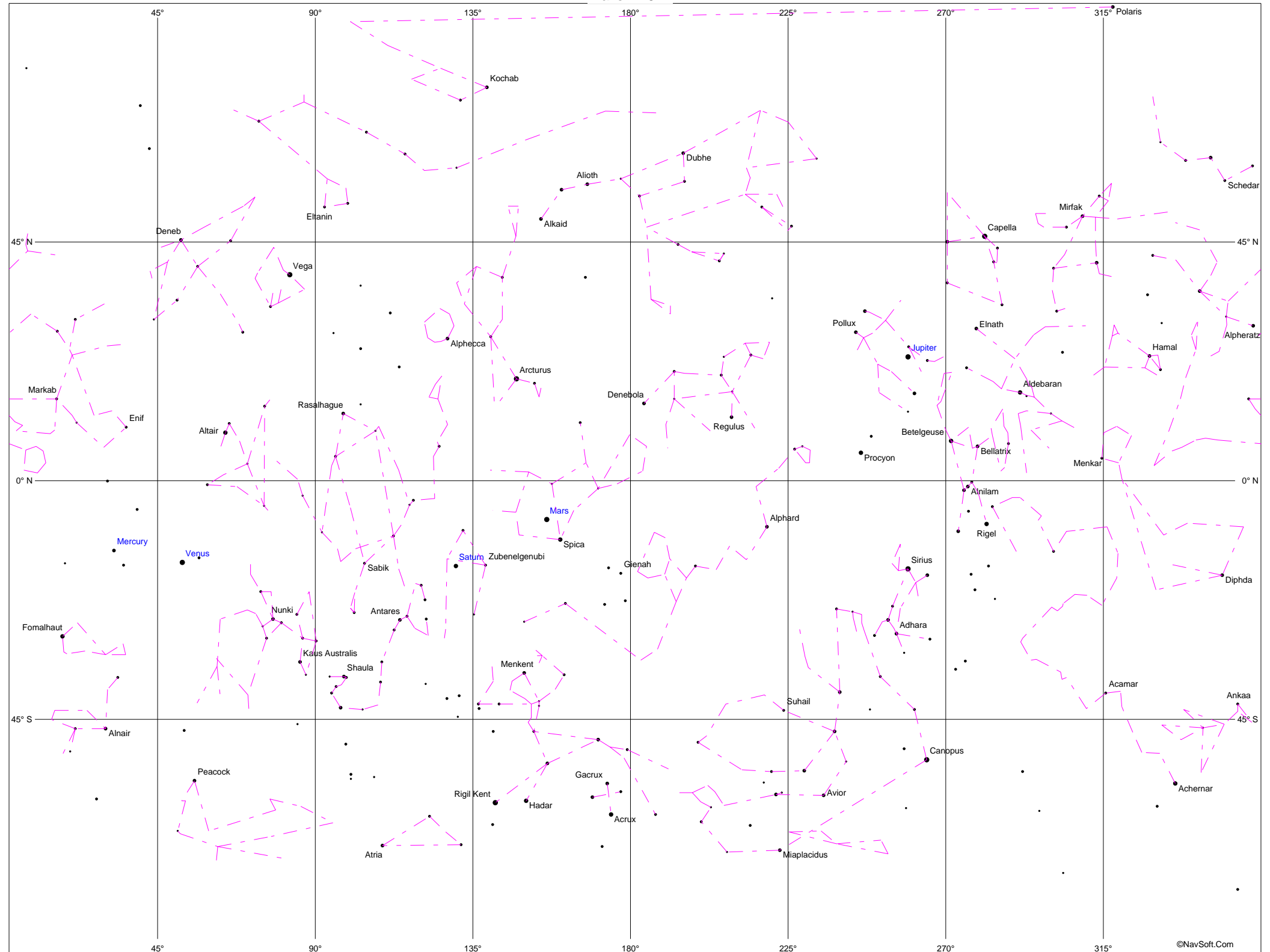
January 2014



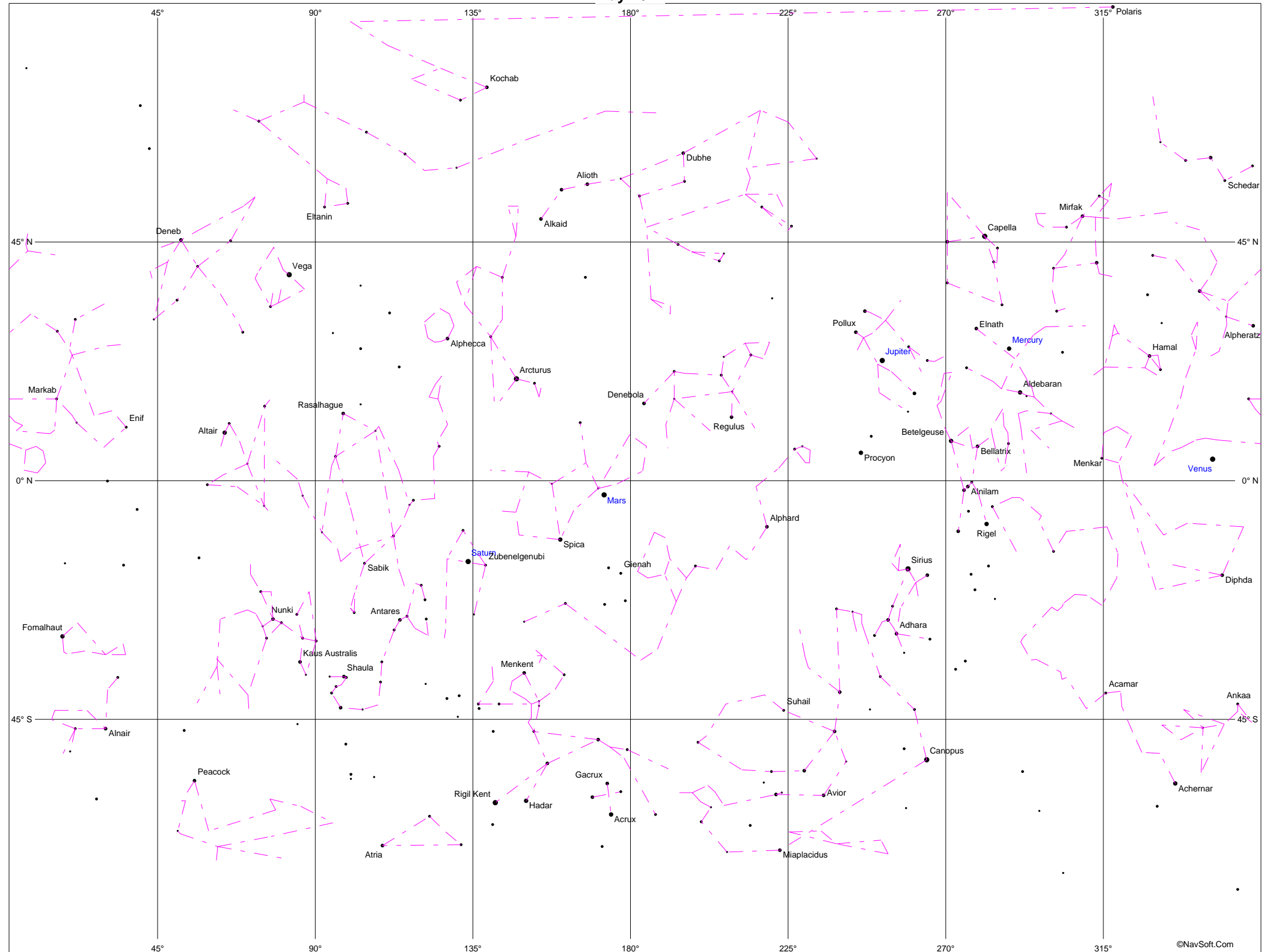
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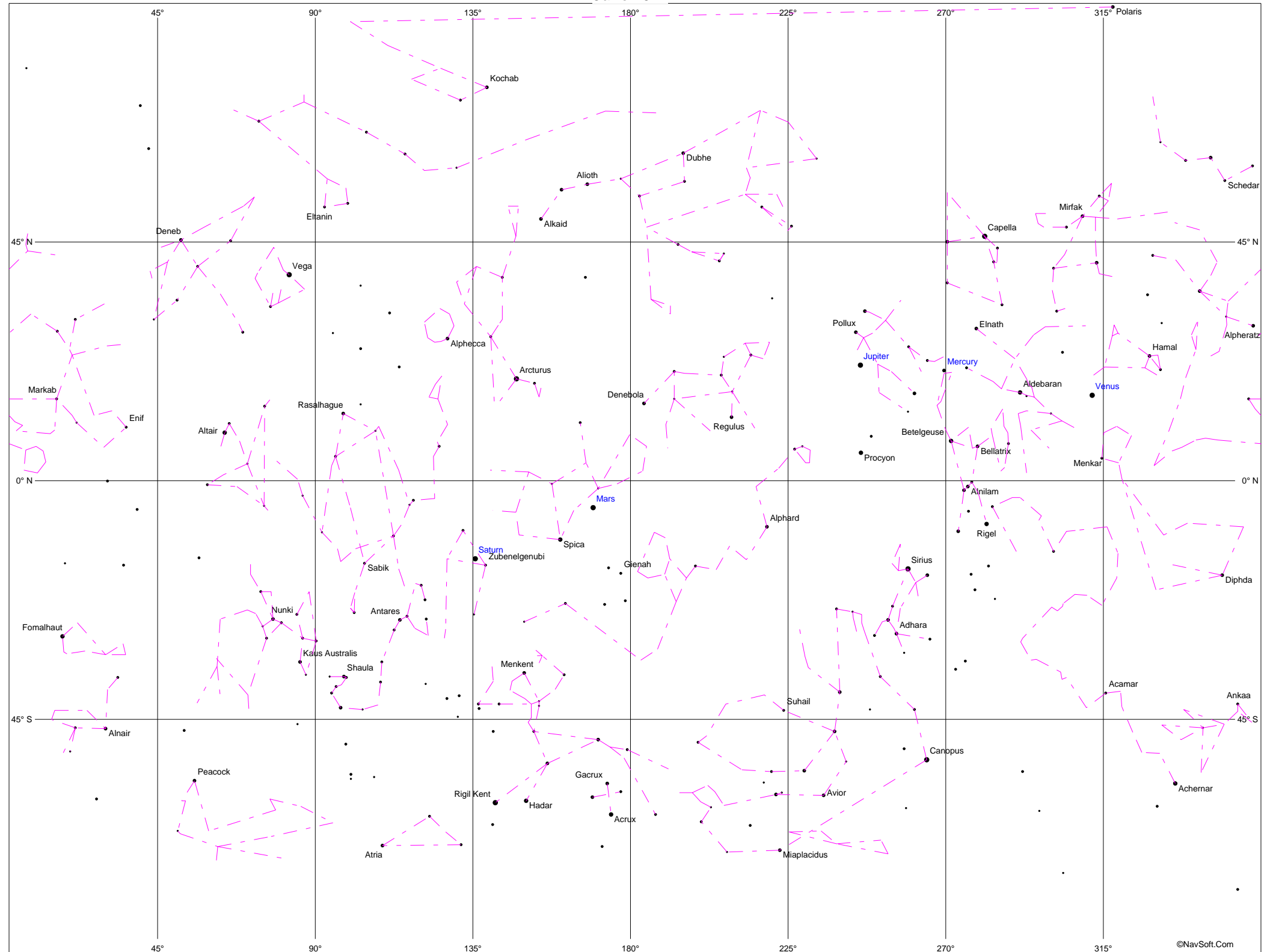
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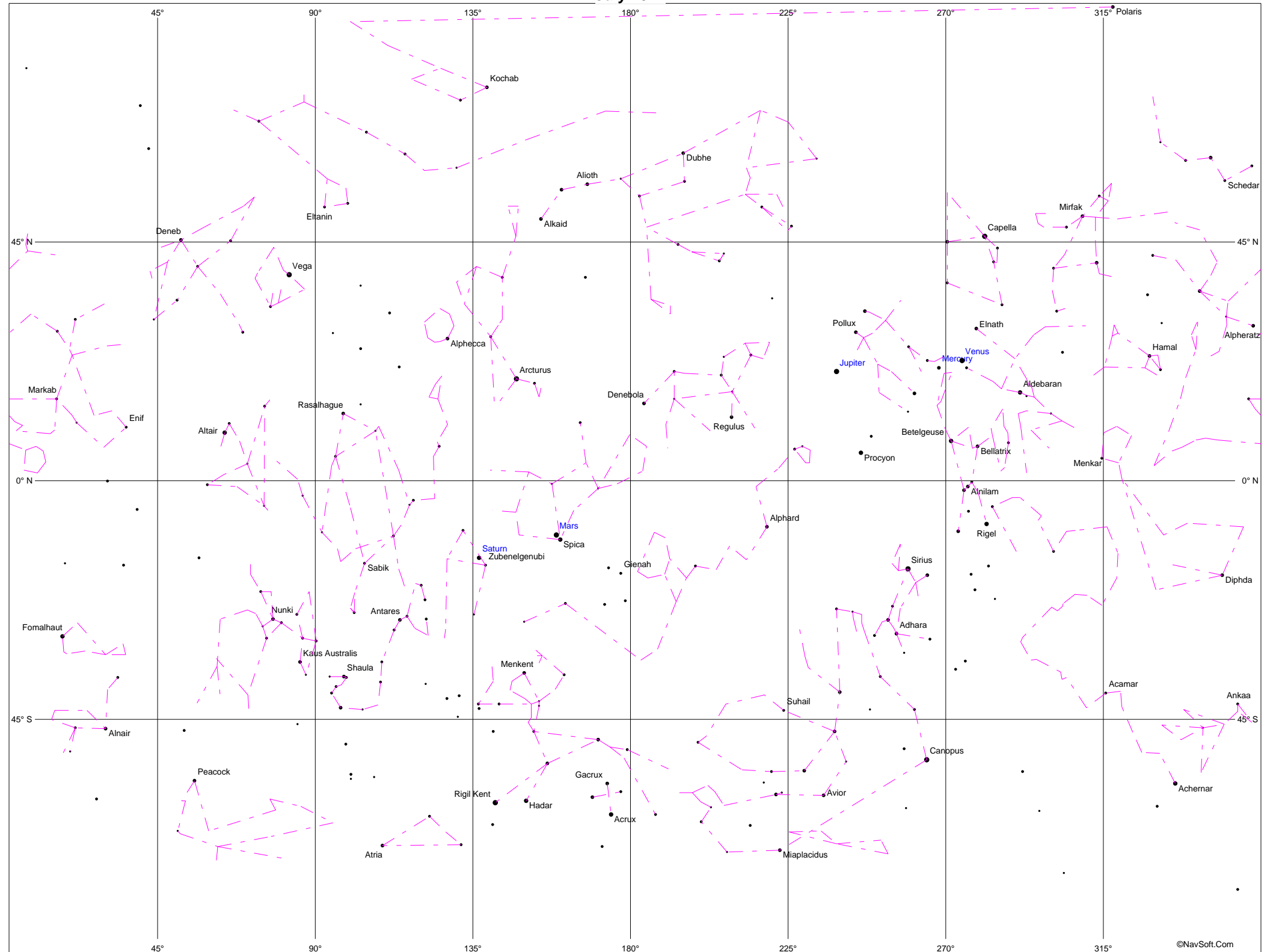
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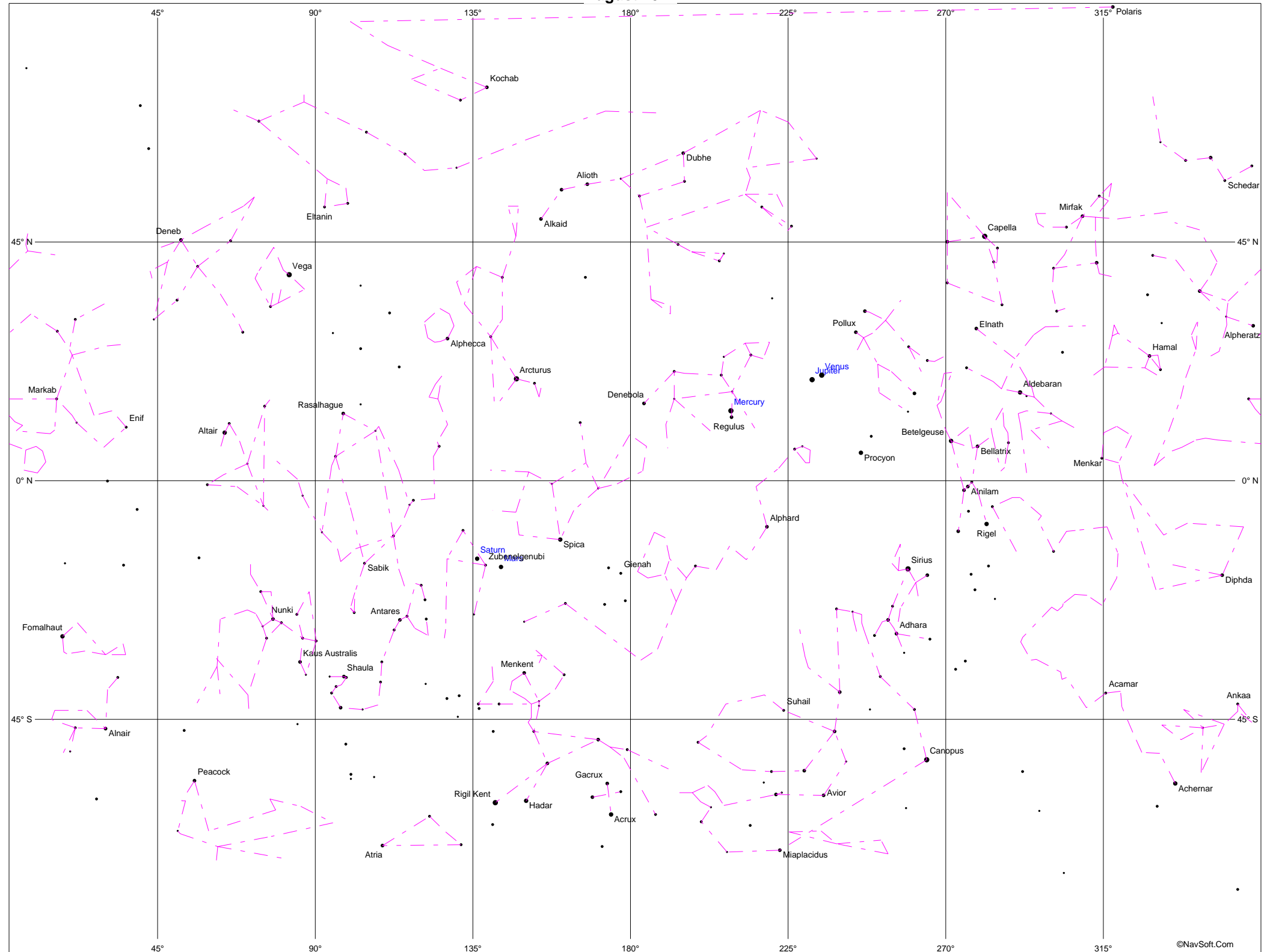
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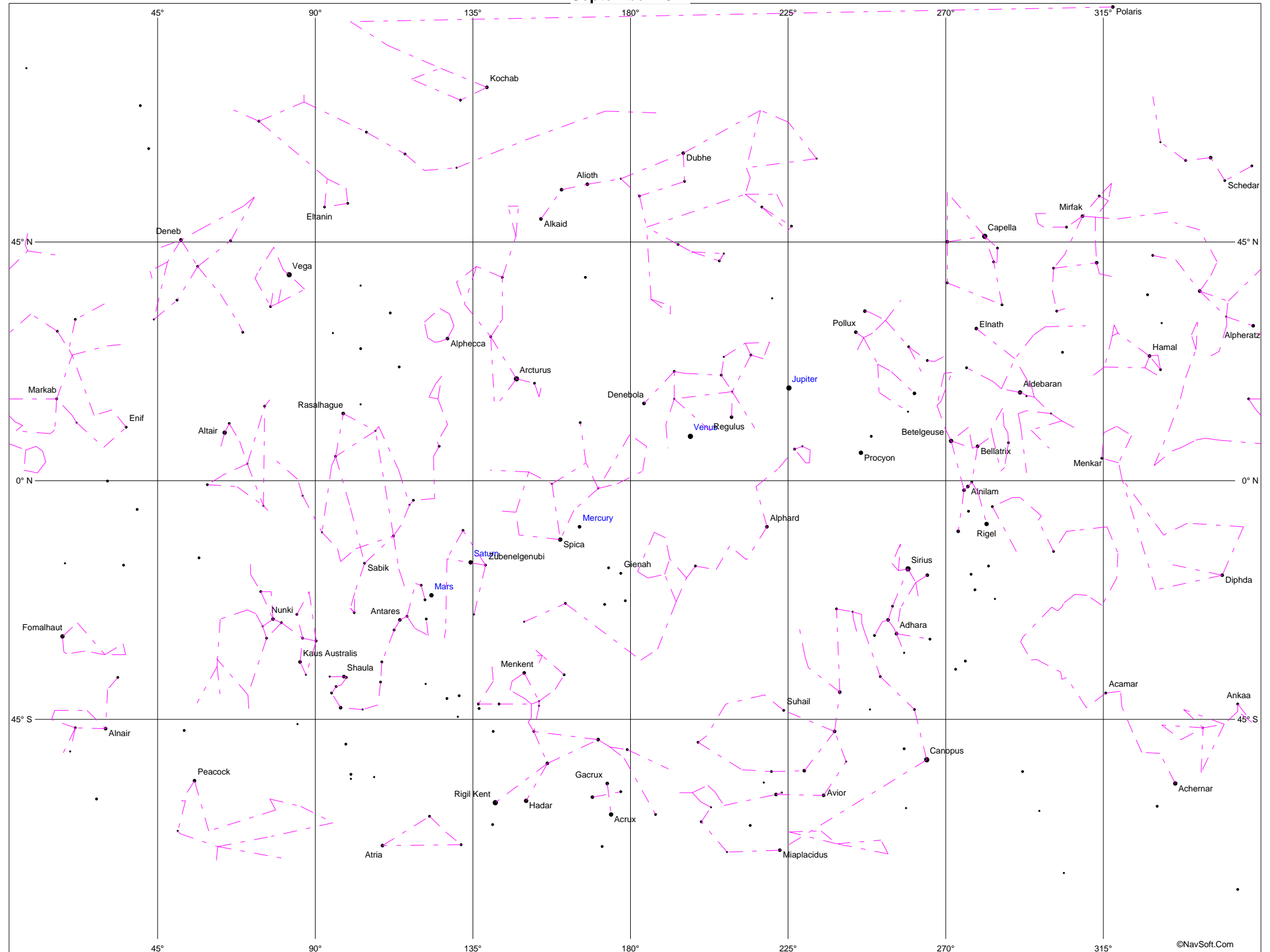
July 2014



August 2014



September 2014



November 2014

