| $\theta \leqslant 180^\circ$ | **0°** | **1°** | **2°** | **3°** | **4°** | **5°** | **6°** | **7°** | **8°** | **9°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,00 | 4,7615 | 3,3046 | 3,6852 | 2,1218 | 2,1903 | 2,2739 | 2,3727 | 2,4866 | 2,6156 | **60′** |
| 2′ | 5,0085 | 4,8131 | 3,3148 | 3,7005 | 2,1238 | 2,1928 | 2,2770 | 2,3762 | 2,4907 | 2,6201 | 58′ |
| 4′ | 5,0338 | 4,8664 | 3,3252 | 3,7160 | 2,1259 | 2,1954 | 2,2800 | 2,3798 | 2,4947 | 2,6247 | 56′ |
| 6′ | 5,0762 | 4,9214 | 3,3358 | 3,7317 | 2,1280 | 2,1979 | 2,2831 | 2,3834 | 2,4988 | 2,6293 | 54′ |
| 8′ | 5,1354 | 4,9781 | 3,3465 | 3,7475 | 2,1300 | 2,2005 | 2,2862 | 2,3870 | 2,5029 | 2,6339 | 52′ |
| **10′** | **5,2115** | **3,1037** | **3,3575** | **3,7635** | **2,1322** | **2,2032** | **2,2893** | **2,3906** | **2,5070** | **2,6385** | **50′** |
| 12′ | 5,3046 | 3,1097 | 3,3685 | 3,7796 | 2,1343 | 2,2058 | 2,2925 | 2,3943 | 2,5112 | 2,6432 | 48′ |
| 14′ | 5,4146 | 3,1158 | 3,3798 | 3,7959 | 2,1364 | 2,2084 | 2,2956 | 2,3979 | 2,5153 | 2,6478 | 46′ |
| 16′ | 5,5415 | 3,1222 | 3,3912 | 3,8124 | 2,1386 | 2,2111 | 2,2988 | 2,4016 | 2,5195 | 2,6525 | 44′ |
| 18′ | 5,6854 | 3,1287 | 3,4028 | 3,8291 | 2,1407 | 2,2138 | 2,3020 | 2,4053 | 2,5237 | 2,6572 | 42′ |
| **20′** | **5,8462** | **3,1354** | **3,4146** | **3,8459** | **2,1429** | **2,2165** | **2,3052** | **2,4090** | **2,5279** | **2,6619** | **40′** |
| 22′ | 4,1024 | 3,1422 | 3,4265 | 3,8629 | 2,1451 | 2,2192 | 2,3084 | 2,4127 | 2,5321 | 2,6666 | 38′ |
| 24′ | 4,1218 | 3,1493 | 3,4386 | 3,8801 | 2,1474 | 2,2219 | 2,3116 | 2,4164 | 2,5364 | 2,6714 | 36′ |
| 26′ | 4,1430 | 3,1564 | 3,4509 | 3,8974 | 2,1496 | 2,2246 | 2,3149 | 2,4202 | 2,5406 | 2,6762 | 34′ |
| 28′ | 4,1658 | 3,1638 | 3,4633 | 3,9149 | 2,1519 | 2,2274 | 2,3181 | 2,4240 | 2,5449 | 2,6809 | 32′ |
| **30′** | **4,1904** | **3,1713** | **3,4759** | **3,9326** | **2,1541** | **2,2302** | **2,3214** | **2,4278** | **2,5492** | **2,6857** | **30′** |
| 32′ | 4,2166 | 3,1790 | 3,4887 | 3,9504 | 2,1564 | 2,2330 | 2,3247 | 2,4316 | 2,5535 | 2,6905 | 28′ |
| 34′ | 4,2445 | 3,1869 | 3,5016 | 3,9685 | 2,1587 | 2,2358 | 2,3280 | 2,4354 | 2,5578 | 2,6954 | 26′ |
| 36′ | 4,2742 | 3,1949 | 3,5147 | 3,9866 | 2,1611 | 2,2386 | 2,3314 | 2,4392 | 2,5622 | 2,7002 | 24′ |
| 38′ | 4,3055 | 3,2031 | 3,5280 | 2,1005 | 2,1634 | 2,2415 | 2,3347 | 2,4431 | 2,5665 | 2,7051 | 22′ |
| **40′** | **4,3385** | **3,2115** | **3,5414** | **2,1024** | **2,1658** | **2,2443** | **2,3381** | **2,4470** | **2,5709** | **2,7099** | **20′** |
| 42′ | 4,3732 | 3,2201 | 3,5551 | 2,1042 | 2,1681 | 2,2472 | 2,3415 | 2,4508 | 2,5753 | 2,7148 | 18′ |
| 44′ | 4,4095 | 3,2288 | 3,5688 | 2,1061 | 2,1705 | 2,2501 | 2,3449 | 2,4547 | 2,5797 | 2,7197 | 16′ |
| 46′ | 4,4476 | 3,2377 | 3,5828 | 2,1080 | 2,1729 | 2,2530 | 2,3483 | 2,4587 | 2,5841 | 2,7247 | 14′ |
| 48′ | 4,4874 | 3,2467 | 3,5969 | 2,1099 | 2,1754 | 2,2560 | 2,3517 | 2,4626 | 2,5886 | 2,7296 | 12′ |
| **50′** | **4,5288** | **3,2559** | **3,6112** | **2,1119** | **2,1778** | **2,2589** | **2,3552** | **2,4666** | **2,5930** | **2,7346** | **10′** |
| 52′ | 4,5720 | 3,2653 | 3,6257 | 2,1138 | 2,1803 | 2,2619 | 2,3586 | 2,4705 | 2,5975 | 2,7395 | 8′ |
| 54′ | 4,6168 | 3,2749 | 3,6403 | 2,1158 | 2,1827 | 2,2649 | 2,3621 | 2,4745 | 2,6020 | 2,7445 | 6′ |
| 56′ | 4,6634 | 3,2846 | 3,6551 | 2,1178 | 2,1852 | 2,2679 | 2,3656 | 2,4785 | 2,6065 | 2,7495 | 4′ |
| 58′ | 4,7116 | 3,2945 | 3,6701 | 2,1198 | 2,1877 | 2,2709 | 2,3692 | 2,4826 | 2,6110 | 2,7546 | 2′ |
| **60′** | 4,7615 | 3,3046 | 3,6852 | 2,1218 | 2,1903 | 2,2739 | 2,3727 | 2,4866 | 2,6156 | 2,7596 | **0′** |
| | **359°** | **358°** | **357°** | **356°** | **355°** | **354°** | **353°** | **352°** | **351°** | **350°** | $180^\circ \leqslant \theta$ |

Usage: $hv(358^\circ 42') = hv(1^\circ 18') = 0.0001287$ denoted as 3,1287

| $\theta \leqslant 180^\circ$ | **10°** | **11°** | **12°** | **13°** | **14°** | **15°** | **16°** | **17°** | **18°** | **19°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 2,7596 | 2,9186 | 1,1093 | 1,1281 | 1,1485 | 1,1704 | 1,1937 | 1,2185 | 1,2447 | 1,2724 | **60′** |
| 2′ | 2,7647 | 2,9242 | 1,1099 | 1,1288 | 1,1492 | 1,1711 | 1,1945 | 1,2193 | 1,2456 | 1,2734 | 58′ |
| 4′ | 2,7697 | 2,9298 | 1,1105 | 1,1295 | 1,1499 | 1,1719 | 1,1953 | 1,2202 | 1,2465 | 1,2743 | 56′ |
| 6′ | 2,7748 | 2,9354 | 1,1111 | 1,1301 | 1,1506 | 1,1726 | 1,1961 | 1,2210 | 1,2474 | 1,2753 | 54′ |
| 8′ | 2,7800 | 2,9410 | 1,1117 | 1,1308 | 1,1513 | 1,1734 | 1,1969 | 1,2219 | 1,2483 | 1,2762 | 52′ |
| **10′** | **2,7851** | **2,9466** | **1,1123** | **1,1314** | **1,1521** | **1,1742** | **1,1977** | **1,2227** | **1,2492** | **1,2772** | **50′** |
| 12′ | 2,7902 | 2,9522 | 1,1129 | 1,1321 | 1,1528 | 1,1749 | 1,1985 | 1,2236 | 1,2501 | 1,2781 | 48′ |
| 14′ | 2,7954 | 2,9579 | 1,1135 | 1,1328 | 1,1535 | 1,1757 | 1,1993 | 1,2245 | 1,2510 | 1,2791 | 46′ |
| 16′ | 2,8006 | 2,9636 | 1,1142 | 1,1334 | 1,1542 | 1,1764 | 1,2002 | 1,2253 | 1,2520 | 1,2800 | 44′ |
| 18′ | 2,8057 | 2,9693 | 1,1148 | 1,1341 | 1,1549 | 1,1772 | 1,2010 | 1,2262 | 1,2529 | 1,2810 | 42′ |
| **20′** | **2,8110** | **2,9750** | **1,1154** | **1,1348** | **1,1556** | **1,1780** | **1,2018** | **1,2271** | **1,2538** | **1,2820** | **40′** |
| 22′ | 2,8162 | 2,9807 | 1,1160 | 1,1354 | 1,1564 | 1,1788 | 1,2026 | 1,2279 | 1,2547 | 1,2829 | 38′ |
| 24′ | 2,8214 | 2,9864 | 1,1166 | 1,1361 | 1,1571 | 1,1795 | 1,2034 | 1,2288 | 1,2556 | 1,2839 | 36′ |
| 26′ | 2,8267 | 2,9922 | 1,1173 | 1,1368 | 1,1578 | 1,1803 | 1,2043 | 1,2297 | 1,2565 | 1,2849 | 34′ |
| 28′ | 2,8320 | 2,9980 | 1,1179 | 1,1375 | 1,1585 | 1,1811 | 1,2051 | 1,2305 | 1,2575 | 1,2858 | 32′ |
| **30′** | **2,8373** | **1,1004** | **1,1185** | **1,1382** | **1,1593** | **1,1818** | **1,2059** | **1,2314** | **1,2584** | **1,2868** | **30′** |
| 32′ | 2,8426 | 1,1010 | 1,1192 | 1,1388 | 1,1600 | 1,1826 | 1,2067 | 1,2323 | 1,2593 | 1,2878 | 28′ |
| 34′ | 2,8479 | 1,1015 | 1,1198 | 1,1395 | 1,1607 | 1,1834 | 1,2076 | 1,2332 | 1,2602 | 1,2887 | 26′ |
| 36′ | 2,8532 | 1,1021 | 1,1204 | 1,1402 | 1,1615 | 1,1842 | 1,2084 | 1,2340 | 1,2612 | 1,2897 | 24′ |
| 38′ | 2,8586 | 1,1027 | 1,1211 | 1,1409 | 1,1622 | 1,1850 | 1,2092 | 1,2349 | 1,2621 | 1,2907 | 22′ |
| **40′** | **2,8640** | **1,1033** | **1,1217** | **1,1416** | **1,1629** | **1,1858** | **1,2101** | **1,2358** | **1,2630** | **1,2917** | **20′** |
| 42′ | 2,8694 | 1,1039 | 1,1223 | 1,1423 | 1,1637 | 1,1865 | 1,2109 | 1,2367 | 1,2639 | 1,2926 | 18′ |
| 44′ | 2,8748 | 1,1045 | 1,1230 | 1,1429 | 1,1644 | 1,1873 | 1,2117 | 1,2376 | 1,2649 | 1,2936 | 16′ |
| 46′ | 2,8802 | 1,1051 | 1,1236 | 1,1436 | 1,1651 | 1,1881 | 1,2126 | 1,2385 | 1,2658 | 1,2946 | 14′ |
| 48′ | 2,8856 | 1,1057 | 1,1243 | 1,1443 | 1,1659 | 1,1889 | 1,2134 | 1,2394 | 1,2668 | 1,2956 | 12′ |
| **50′** | **2,8911** | **1,1063** | **1,1249** | **1,1450** | **1,1666** | **1,1897** | **1,2142** | **1,2402** | **1,2677** | **1,2966** | **10′** |
| 52′ | 2,8966 | 1,1069 | 1,1255 | 1,1457 | 1,1674 | 1,1905 | 1,2151 | 1,2411 | 1,2686 | 1,2976 | 8′ |
| 54′ | 2,9021 | 1,1075 | 1,1262 | 1,1464 | 1,1681 | 1,1913 | 1,2159 | 1,2420 | 1,2696 | 1,2986 | 6′ |
| 56′ | 2,9076 | 1,1081 | 1,1268 | 1,1471 | 1,1689 | 1,1921 | 1,2168 | 1,2429 | 1,2705 | 1,2996 | 4′ |
| 58′ | 2,9131 | 1,1087 | 1,1275 | 1,1478 | 1,1696 | 1,1929 | 1,2176 | 1,2438 | 1,2715 | 1,3005 | 2′ |
| **60′** | 2,9186 | 1,1093 | 1,1281 | 1,1485 | 1,1704 | 1,1937 | 1,2185 | 1,2447 | 1,2724 | 1,3015 | **0′** |
| | **349°** | **348°** | **347°** | **346°** | **345°** | **344°** | **343°** | **342°** | **341°** | **340°** | $180^\circ \leqslant \theta$ |

Usage: $hv(343^\circ 12') = hv(16^\circ 48') = 0.02134$ denoted as 1,2134

| $\theta \leqslant 180^\circ$ | **20°** | **21°** | **22°** | **23°** | **24°** | **25°** | **26°** | **27°** | **28°** | **29°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 1,3015 | 1,3321 | 1,3641 | 1,3975 | 1,4323 | 1,4685 | 1,5060 | 1,5450 | 1,5853 | 1,6269 | **60′** |
| 2′ | 1,3025 | 1,3331 | 1,3652 | 1,3986 | 1,4335 | 1,4697 | 1,5073 | 1,5463 | 1,5866 | 1,6283 | 58′ |
| 4′ | 1,3035 | 1,3342 | 1,3663 | 1,3998 | 1,4346 | 1,4709 | 1,5086 | 1,5476 | 1,5880 | 1,6297 | 56′ |
| 6′ | 1,3045 | 1,3352 | 1,3674 | 1,4009 | 1,4358 | 1,4722 | 1,5099 | 1,5489 | 1,5894 | 1,6311 | 54′ |
| 8′ | 1,3055 | 1,3363 | 1,3685 | 1,4020 | 1,4370 | 1,4734 | 1,5111 | 1,5503 | 1,5907 | 1,6326 | 52′ |
| **10′** | **1,3065** | **1,3373** | **1,3695** | **1,4032** | **1,4382** | **1,4746** | **1,5124** | **1,5516** | **1,5921** | **1,6340** | **50′** |
| 12′ | 1,3075 | 1,3384 | 1,3706 | 1,4043 | 1,4394 | 1,4759 | 1,5137 | 1,5529 | 1,5935 | 1,6354 | 48′ |
| 14′ | 1,3085 | 1,3394 | 1,3717 | 1,4055 | 1,4406 | 1,4771 | 1,5150 | 1,5542 | 1,5949 | 1,6368 | 46′ |
| 16′ | 1,3095 | 1,3405 | 1,3728 | 1,4066 | 1,4418 | 1,4783 | 1,5163 | 1,5556 | 1,5962 | 1,6382 | 44′ |
| 18′ | 1,3106 | 1,3415 | 1,3740 | 1,4078 | 1,4430 | 1,4796 | 1,5176 | 1,5569 | 1,5976 | 1,6397 | 42′ |
| **20′** | **1,3116** | **1,3426** | **1,3751** | **1,4089** | **1,4442** | **1,4808** | **1,5189** | **1,5582** | **1,5990** | **1,6411** | **40′** |
| 22′ | 1,3126 | 1,3437 | 1,3762 | 1,4101 | 1,4454 | 1,4821 | 1,5201 | 1,5596 | 1,6004 | 1,6425 | 38′ |
| 24′ | 1,3136 | 1,3447 | 1,3773 | 1,4112 | 1,4466 | 1,4833 | 1,5214 | 1,5609 | 1,6018 | 1,6439 | 36′ |
| 26′ | 1,3146 | 1,3458 | 1,3784 | 1,4124 | 1,4478 | 1,4846 | 1,5227 | 1,5623 | 1,6031 | 1,6454 | 34′ |
| 28′ | 1,3156 | 1,3468 | 1,3795 | 1,4135 | 1,4490 | 1,4858 | 1,5240 | 1,5636 | 1,6045 | 1,6468 | 32′ |
| **30′** | **1,3166** | **1,3479** | **1,3806** | **1,4147** | **1,4502** | **1,4871** | **1,5253** | **1,5649** | **1,6059** | **1,6482** | **30′** |
| 32′ | 1,3177 | 1,3490 | 1,3817 | 1,4159 | 1,4514 | 1,4883 | 1,5266 | 1,5663 | 1,6073 | 1,6497 | 28′ |
| 34′ | 1,3187 | 1,3500 | 1,3828 | 1,4170 | 1,4526 | 1,4896 | 1,5279 | 1,5676 | 1,6087 | 1,6511 | 26′ |
| 36′ | 1,3197 | 1,3511 | 1,3839 | 1,4182 | 1,4538 | 1,4908 | 1,5292 | 1,5690 | 1,6101 | 1,6525 | 24′ |
| 38′ | 1,3207 | 1,3522 | 1,3851 | 1,4194 | 1,4550 | 1,4921 | 1,5305 | 1,5703 | 1,6115 | 1,6540 | 22′ |
| **40′** | **1,3218** | **1,3533** | **1,3862** | **1,4205** | **1,4562** | **1,4934** | **1,5318** | **1,5717** | **1,6129** | **1,6554** | **20′** |
| 42′ | 1,3228 | 1,3543 | 1,3873 | 1,4217 | 1,4575 | 1,4946 | 1,5331 | 1,5730 | 1,6143 | 1,6568 | 18′ |
| 44′ | 1,3238 | 1,3554 | 1,3884 | 1,4229 | 1,4587 | 1,4959 | 1,5345 | 1,5744 | 1,6157 | 1,6583 | 16′ |
| 46′ | 1,3248 | 1,3565 | 1,3896 | 1,4240 | 1,4599 | 1,4971 | 1,5358 | 1,5757 | 1,6171 | 1,6597 | 14′ |
| 48′ | 1,3259 | 1,3576 | 1,3907 | 1,4252 | 1,4611 | 1,4984 | 1,5371 | 1,5771 | 1,6185 | 1,6612 | 12′ |
| **50′** | **1,3269** | **1,3587** | **1,3918** | **1,4264** | **1,4623** | **1,4997** | **1,5384** | **1,5785** | **1,6199** | **1,6626** | **10′** |
| 52′ | 1,3279 | 1,3597 | 1,3929 | 1,4276 | 1,4636 | 1,5009 | 1,5397 | 1,5798 | 1,6213 | 1,6641 | 8′ |
| 54′ | 1,3290 | 1,3608 | 1,3941 | 1,4287 | 1,4648 | 1,5022 | 1,5410 | 1,5812 | 1,6227 | 1,6655 | 6′ |
| 56′ | 1,3300 | 1,3619 | 1,3952 | 1,4299 | 1,4660 | 1,5035 | 1,5423 | 1,5825 | 1,6241 | 1,6670 | 4′ |
| 58′ | 1,3311 | 1,3630 | 1,3963 | 1,4311 | 1,4672 | 1,5048 | 1,5436 | 1,5839 | 1,6255 | 1,6684 | 2′ |
| **60′** | 1,3321 | 1,3641 | 1,3975 | 1,4323 | 1,4685 | 1,5060 | 1,5450 | 1,5853 | 1,6269 | 1,6699 | **0′** |
| | **339°** | **338°** | **337°** | **336°** | **335°** | **334°** | **333°** | **332°** | **331°** | **330°** | $180^\circ \leqslant \theta$ |

Usage: $hv(330^\circ 56') = hv(29^\circ 04') = 0.06283$ denoted as 1,6283

| $\theta \leqslant 180^\circ$ | **30°** | **31°** | **32°** | **33°** | **34°** | **35°** | **36°** | **37°** | **38°** | **39°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 1,6699 | 1,7142 | 1,7598 | 1,8066 | 1,8548 | 1,9042 | 1,9549 | 0,1007 | 0,1060 | 0,1114 | **60′** |
| 2′ | 1,6713 | 1,7157 | 1,7613 | 1,8082 | 1,8564 | 1,9059 | 1,9566 | 0,1009 | 0,1062 | 0,1116 | 58′ |
| 4′ | 1,6728 | 1,7172 | 1,7628 | 1,8098 | 1,8581 | 1,9076 | 1,9583 | 0,1010 | 0,1064 | 0,1118 | 56′ |
| 6′ | 1,6742 | 1,7187 | 1,7644 | 1,8114 | 1,8597 | 1,9093 | 1,9601 | 0,1012 | 0,1065 | 0,1120 | 54′ |
| 8′ | 1,6757 | 1,7202 | 1,7659 | 1,8130 | 1,8613 | 1,9109 | 1,9618 | 0,1014 | 0,1067 | 0,1122 | 52′ |
| **10′** | **1,6772** | **1,7217** | **1,7675** | **1,8146** | **1,8630** | **1,9126** | **1,9635** | **0,1016** | **0,1069** | **0,1123** | **50′** |
| 12′ | 1,6786 | 1,7232 | 1,7690 | 1,8162 | 1,8646 | 1,9143 | 1,9652 | 0,1017 | 0,1071 | 0,1125 | 48′ |
| 14′ | 1,6801 | 1,7247 | 1,7706 | 1,8178 | 1,8662 | 1,9160 | 1,9669 | 0,1019 | 0,1073 | 0,1127 | 46′ |
| 16′ | 1,6816 | 1,7262 | 1,7721 | 1,8194 | 1,8679 | 1,9176 | 1,9686 | 0,1021 | 0,1074 | 0,1129 | 44′ |
| 18′ | 1,6830 | 1,7277 | 1,7737 | 1,8210 | 1,8695 | 1,9193 | 1,9704 | 0,1023 | 0,1076 | 0,1131 | 42′ |
| **20′** | **1,6845** | **1,7292** | **1,7752** | **1,8226** | **1,8711** | **1,9210** | **1,9721** | **0,1024** | **0,1078** | **0,1133** | **40′** |
| 22′ | 1,6860 | 1,7307 | 1,7768 | 1,8242 | 1,8728 | 1,9227 | 1,9738 | 0,1026 | 0,1080 | 0,1134 | 38′ |
| 24′ | 1,6874 | 1,7322 | 1,7784 | 1,8258 | 1,8744 | 1,9244 | 1,9755 | 0,1028 | 0,1082 | 0,1136 | 36′ |
| 26′ | 1,6889 | 1,7338 | 1,7799 | 1,8274 | 1,8761 | 1,9260 | 1,9773 | 0,1030 | 0,1083 | 0,1138 | 34′ |
| 28′ | 1,6904 | 1,7353 | 1,7815 | 1,8290 | 1,8777 | 1,9277 | 1,9790 | 0,1031 | 0,1085 | 0,1140 | 32′ |
| **30′** | **1,6919** | **1,7368** | **1,7830** | **1,8306** | **1,8794** | **1,9294** | **1,9807** | **0,1033** | **0,1087** | **0,1142** | **30′** |
| 32′ | 1,6933 | 1,7383 | 1,7846 | 1,8322 | 1,8810 | 1,9311 | 1,9824 | 0,1035 | 0,1089 | 0,1144 | 28′ |
| 34′ | 1,6948 | 1,7398 | 1,7862 | 1,8338 | 1,8827 | 1,9328 | 1,9842 | 0,1037 | 0,1091 | 0,1146 | 26′ |
| 36′ | 1,6963 | 1,7414 | 1,7877 | 1,8354 | 1,8843 | 1,9345 | 1,9859 | 0,1039 | 0,1092 | 0,1147 | 24′ |
| 38′ | 1,6978 | 1,7429 | 1,7893 | 1,8370 | 1,8860 | 1,9362 | 1,9876 | 0,1040 | 0,1094 | 0,1149 | 22′ |
| **40′** | **1,6993** | **1,7444** | **1,7909** | **1,8386** | **1,8876** | **1,9379** | **1,9894** | **0,1042** | **0,1096** | **0,1151** | **20′** |
| 42′ | 1,7007 | 1,7459 | 1,7924 | 1,8402 | 1,8893 | 1,9396 | 1,9911 | 0,1044 | 0,1098 | 0,1153 | 18′ |
| 44′ | 1,7022 | 1,7475 | 1,7940 | 1,8418 | 1,8909 | 1,9413 | 1,9929 | 0,1046 | 0,1100 | 0,1155 | 16′ |
| 46′ | 1,7037 | 1,7490 | 1,7956 | 1,8435 | 1,8926 | 1,9430 | 1,9946 | 0,1047 | 0,1101 | 0,1157 | 14′ |
| 48′ | 1,7052 | 1,7505 | 1,7972 | 1,8451 | 1,8943 | 1,9447 | 1,9963 | 0,1049 | 0,1103 | 0,1159 | 12′ |
| **50′** | **1,7067** | **1,7521** | **1,7987** | **1,8467** | **1,8959** | **1,9464** | **1,9981** | **0,1051** | **0,1105** | **0,1160** | **10′** |
| 52′ | 1,7082 | 1,7536 | 1,8003 | 1,8483 | 1,8976 | 1,9481 | 1,9998 | 0,1053 | 0,1107 | 0,1162 | 8′ |
| 54′ | 1,7097 | 1,7551 | 1,8019 | 1,8499 | 1,8992 | 1,9498 | 0,1002 | 0,1055 | 0,1109 | 0,1164 | 6′ |
| 56′ | 1,7112 | 1,7567 | 1,8035 | 1,8516 | 1,9009 | 1,9515 | 0,1003 | 0,1056 | 0,1111 | 0,1166 | 4′ |
| 58′ | 1,7127 | 1,7582 | 1,8051 | 1,8532 | 1,9026 | 1,9532 | 0,1005 | 0,1058 | 0,1112 | 0,1168 | 2′ |
| **60′** | 1,7142 | 1,7598 | 1,8066 | 1,8548 | 1,9042 | 1,9549 | 0,1007 | 0,1060 | 0,1114 | 0,1170 | **0′** |
| | **329°** | **328°** | **327°** | **326°** | **325°** | **324°** | **323°** | **322°** | **321°** | **320°** | $180^\circ \leqslant \theta$ |

Usage: $hv(326^\circ 32') = hv(33^\circ 28') = 0.0829$ denoted as 1,8290

| $\theta \leqslant 180^\circ$ | **40°** | **41°** | **42°** | **43°** | **44°** | **45°** | **46°** | **47°** | **48°** | **49°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,1170 | 0,1226 | 0,1284 | 0,1343 | 0,1403 | 0,1464 | 0,1527 | 0,1590 | 0,1654 | 0,1720 | **60′** |
| 2′ | 0,1172 | 0,1228 | 0,1286 | 0,1345 | 0,1405 | 0,1467 | 0,1529 | 0,1592 | 0,1657 | 0,1722 | 58′ |
| 4′ | 0,1174 | 0,1230 | 0,1288 | 0,1347 | 0,1407 | 0,1469 | 0,1531 | 0,1594 | 0,1659 | 0,1724 | 56′ |
| 6′ | 0,1175 | 0,1232 | 0,1290 | 0,1349 | 0,1409 | 0,1471 | 0,1533 | 0,1596 | 0,1661 | 0,1726 | 54′ |
| 8′ | 0,1177 | 0,1234 | 0,1292 | 0,1351 | 0,1411 | 0,1473 | 0,1535 | 0,1599 | 0,1663 | 0,1728 | 52′ |
| **10′** | **0,1179** | **0,1236** | **0,1294** | **0,1353** | **0,1413** | **0,1475** | **0,1537** | **0,1601** | **0,1665** | **0,1731** | **50′** |
| 12′ | 0,1181 | 0,1238 | 0,1296 | 0,1355 | 0,1415 | 0,1477 | 0,1539 | 0,1603 | 0,1667 | 0,1733 | 48′ |
| 14′ | 0,1183 | 0,1240 | 0,1298 | 0,1357 | 0,1417 | 0,1479 | 0,1541 | 0,1605 | 0,1670 | 0,1735 | 46′ |
| 16′ | 0,1185 | 0,1242 | 0,1300 | 0,1359 | 0,1420 | 0,1481 | 0,1543 | 0,1607 | 0,1672 | 0,1737 | 44′ |
| 18′ | 0,1187 | 0,1244 | 0,1302 | 0,1361 | 0,1422 | 0,1483 | 0,1546 | 0,1609 | 0,1674 | 0,1740 | 42′ |
| **20′** | **0,1189** | **0,1246** | **0,1304** | **0,1363** | **0,1424** | **0,1485** | **0,1548** | **0,1611** | **0,1676** | **0,1742** | **40′** |
| 22′ | 0,1190 | 0,1248 | 0,1306 | 0,1365 | 0,1426 | 0,1487 | 0,1550 | 0,1613 | 0,1678 | 0,1744 | 38′ |
| 24′ | 0,1192 | 0,1249 | 0,1308 | 0,1367 | 0,1428 | 0,1489 | 0,1552 | 0,1616 | 0,1680 | 0,1746 | 36′ |
| 26′ | 0,1194 | 0,1251 | 0,1310 | 0,1369 | 0,1430 | 0,1491 | 0,1554 | 0,1618 | 0,1683 | 0,1748 | 34′ |
| 28′ | 0,1196 | 0,1253 | 0,1312 | 0,1371 | 0,1432 | 0,1493 | 0,1556 | 0,1620 | 0,1685 | 0,1751 | 32′ |
| **30′** | **0,1198** | **0,1255** | **0,1314** | **0,1373** | **0,1434** | **0,1495** | **0,1558** | **0,1622** | **0,1687** | **0,1753** | **30′** |
| 32′ | 0,1200 | 0,1257 | 0,1316 | 0,1375 | 0,1436 | 0,1498 | 0,1560 | 0,1624 | 0,1689 | 0,1755 | 28′ |
| 34′ | 0,1202 | 0,1259 | 0,1318 | 0,1377 | 0,1438 | 0,1500 | 0,1562 | 0,1626 | 0,1691 | 0,1757 | 26′ |
| 36′ | 0,1204 | 0,1261 | 0,1320 | 0,1379 | 0,1440 | 0,1502 | 0,1565 | 0,1628 | 0,1693 | 0,1759 | 24′ |
| 38′ | 0,1206 | 0,1263 | 0,1321 | 0,1381 | 0,1442 | 0,1504 | 0,1567 | 0,1631 | 0,1696 | 0,1762 | 22′ |
| **40′** | **0,1207** | **0,1265** | **0,1323** | **0,1383** | **0,1444** | **0,1506** | **0,1569** | **0,1633** | **0,1698** | **0,1764** | **20′** |
| 42′ | 0,1209 | 0,1267 | 0,1325 | 0,1385 | 0,1446 | 0,1508 | 0,1571 | 0,1635 | 0,1700 | 0,1766 | 18′ |
| 44′ | 0,1211 | 0,1269 | 0,1327 | 0,1387 | 0,1448 | 0,1510 | 0,1573 | 0,1637 | 0,1702 | 0,1768 | 16′ |
| 46′ | 0,1213 | 0,1271 | 0,1329 | 0,1389 | 0,1450 | 0,1512 | 0,1575 | 0,1639 | 0,1704 | 0,1770 | 14′ |
| 48′ | 0,1215 | 0,1273 | 0,1331 | 0,1391 | 0,1452 | 0,1514 | 0,1577 | 0,1641 | 0,1707 | 0,1773 | 12′ |
| **50′** | **0,1217** | **0,1275** | **0,1333** | **0,1393** | **0,1454** | **0,1516** | **0,1579** | **0,1644** | **0,1709** | **0,1775** | **10′** |
| 52′ | 0,1219 | 0,1277 | 0,1335 | 0,1395 | 0,1456 | 0,1518 | 0,1582 | 0,1646 | 0,1711 | 0,1777 | 8′ |
| 54′ | 0,1221 | 0,1278 | 0,1337 | 0,1397 | 0,1458 | 0,1520 | 0,1584 | 0,1648 | 0,1713 | 0,1779 | 6′ |
| 56′ | 0,1223 | 0,1280 | 0,1339 | 0,1399 | 0,1460 | 0,1523 | 0,1586 | 0,1650 | 0,1715 | 0,1782 | 4′ |
| 58′ | 0,1225 | 0,1282 | 0,1341 | 0,1401 | 0,1462 | 0,1525 | 0,1588 | 0,1652 | 0,1718 | 0,1784 | 2′ |
| **60′** | 0,1226 | 0,1284 | 0,1343 | 0,1403 | 0,1464 | 0,1527 | 0,1590 | 0,1654 | 0,1720 | 0,1786 | **0′** |
| | **319°** | **318°** | **317°** | **316°** | **315°** | **314°** | **313°** | **312°** | **311°** | **310°** | $180^\circ \leqslant \theta$ |

Usage: $hv(315^\circ 02') = hv(44^\circ 58') = 0.1462$ denoted as 0,1462

| $\theta \leqslant 180^\circ$ | **50°** | **51°** | **52°** | **53°** | **54°** | **55°** | **56°** | **57°** | **58°** | **59°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,1786 | 0,1853 | 0,1922 | 0,1991 | 0,2061 | 0,2132 | 0,2204 | 0,2277 | 0,2350 | 0,2425 | **60′** |
| 2′ | 0,1788 | 0,1856 | 0,1924 | 0,1993 | 0,2063 | 0,2135 | 0,2206 | 0,2279 | 0,2353 | 0,2427 | 58′ |
| 4′ | 0,1791 | 0,1858 | 0,1926 | 0,1996 | 0,2066 | 0,2137 | 0,2209 | 0,2282 | 0,2355 | 0,2430 | 56′ |
| 6′ | 0,1793 | 0,1860 | 0,1929 | 0,1998 | 0,2068 | 0,2139 | 0,2211 | 0,2284 | 0,2358 | 0,2432 | 54′ |
| 8′ | 0,1795 | 0,1862 | 0,1931 | 0,2000 | 0,2070 | 0,2142 | 0,2214 | 0,2287 | 0,2360 | 0,2435 | 52′ |
| **10′** | **0,1797** | **0,1865** | **0,1933** | **0,2003** | **0,2073** | **0,2144** | **0,2216** | **0,2289** | **0,2363** | **0,2437** | **50′** |
| 12′ | 0,1799 | 0,1867 | 0,1935 | 0,2005 | 0,2075 | 0,2146 | 0,2219 | 0,2291 | 0,2365 | 0,2440 | 48′ |
| 14′ | 0,1802 | 0,1869 | 0,1938 | 0,2007 | 0,2078 | 0,2149 | 0,2221 | 0,2294 | 0,2368 | 0,2442 | 46′ |
| 16′ | 0,1804 | 0,1872 | 0,1940 | 0,2010 | 0,2080 | 0,2151 | 0,2223 | 0,2296 | 0,2370 | 0,2445 | 44′ |
| 18′ | 0,1806 | 0,1874 | 0,1942 | 0,2012 | 0,2082 | 0,2154 | 0,2226 | 0,2299 | 0,2373 | 0,2447 | 42′ |
| **20′** | **0,1808** | **0,1876** | **0,1945** | **0,2014** | **0,2085** | **0,2156** | **0,2228** | **0,2301** | **0,2375** | **0,2450** | **40′** |
| 22′ | 0,1811 | 0,1878 | 0,1947 | 0,2017 | 0,2087 | 0,2158 | 0,2231 | 0,2304 | 0,2378 | 0,2452 | 38′ |
| 24′ | 0,1813 | 0,1881 | 0,1949 | 0,2019 | 0,2089 | 0,2161 | 0,2233 | 0,2306 | 0,2380 | 0,2455 | 36′ |
| 26′ | 0,1815 | 0,1883 | 0,1952 | 0,2021 | 0,2092 | 0,2163 | 0,2235 | 0,2309 | 0,2383 | 0,2457 | 34′ |
| 28′ | 0,1817 | 0,1885 | 0,1954 | 0,2024 | 0,2094 | 0,2166 | 0,2238 | 0,2311 | 0,2385 | 0,2460 | 32′ |
| **30′** | **0,1820** | **0,1887** | **0,1956** | **0,2026** | **0,2096** | **0,2168** | **0,2240** | **0,2314** | **0,2388** | **0,2462** | **30′** |
| 32′ | 0,1822 | 0,1890 | 0,1959 | 0,2028 | 0,2099 | 0,2170 | 0,2243 | 0,2316 | 0,2390 | 0,2465 | 28′ |
| 34′ | 0,1824 | 0,1892 | 0,1961 | 0,2031 | 0,2101 | 0,2173 | 0,2245 | 0,2318 | 0,2392 | 0,2467 | 26′ |
| 36′ | 0,1826 | 0,1894 | 0,1963 | 0,2033 | 0,2104 | 0,2175 | 0,2248 | 0,2321 | 0,2395 | 0,2470 | 24′ |
| 38′ | 0,1829 | 0,1897 | 0,1965 | 0,2035 | 0,2106 | 0,2178 | 0,2250 | 0,2323 | 0,2397 | 0,2472 | 22′ |
| **40′** | **0,1831** | **0,1899** | **0,1968** | **0,2038** | **0,2108** | **0,2180** | **0,2252** | **0,2326** | **0,2400** | **0,2475** | **20′** |
| 42′ | 0,1833 | 0,1901 | 0,1970 | 0,2040 | 0,2111 | 0,2182 | 0,2255 | 0,2328 | 0,2402 | 0,2477 | 18′ |
| 44′ | 0,1835 | 0,1903 | 0,1972 | 0,2042 | 0,2113 | 0,2185 | 0,2257 | 0,2331 | 0,2405 | 0,2480 | 16′ |
| 46′ | 0,1838 | 0,1906 | 0,1975 | 0,2045 | 0,2115 | 0,2187 | 0,2260 | 0,2333 | 0,2407 | 0,2482 | 14′ |
| 48′ | 0,1840 | 0,1908 | 0,1977 | 0,2047 | 0,2118 | 0,2190 | 0,2262 | 0,2336 | 0,2410 | 0,2485 | 12′ |
| **50′** | **0,1842** | **0,1910** | **0,1979** | **0,2049** | **0,2120** | **0,2192** | **0,2265** | **0,2338** | **0,2412** | **0,2487** | **10′** |
| 52′ | 0,1844 | 0,1913 | 0,1982 | 0,2052 | 0,2123 | 0,2194 | 0,2267 | 0,2341 | 0,2415 | 0,2490 | 8′ |
| 54′ | 0,1847 | 0,1915 | 0,1984 | 0,2054 | 0,2125 | 0,2197 | 0,2269 | 0,2343 | 0,2417 | 0,2492 | 6′ |
| 56′ | 0,1849 | 0,1917 | 0,1986 | 0,2056 | 0,2127 | 0,2199 | 0,2272 | 0,2345 | 0,2420 | 0,2495 | 4′ |
| 58′ | 0,1851 | 0,1919 | 0,1989 | 0,2059 | 0,2130 | 0,2202 | 0,2274 | 0,2348 | 0,2422 | 0,2497 | 2′ |
| **60′** | 0,1853 | 0,1922 | 0,1991 | 0,2061 | 0,2132 | 0,2204 | 0,2277 | 0,2350 | 0,2425 | 0,2500 | **0′** |
| | **309°** | **308°** | **307°** | **306°** | **305°** | **304°** | **303°** | **302°** | **301°** | **300°** | $180^\circ \leqslant \theta$ |

Usage: $hv(309^\circ 26') = hv(50^\circ 34') = 0.1824$ denoted as 0,1824

| $\theta \leqslant 180^\circ$ | **60°** | **61°** | **62°** | **63°** | **64°** | **65°** | **66°** | **67°** | **68°** | **69°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,2500 | 0,2576 | 0,2653 | 0,2730 | 0,2808 | 0,2887 | 0,2966 | 0,3046 | 0,3127 | 0,3208 | **60′** |
| 2′ | 0,2503 | 0,2578 | 0,2655 | 0,2733 | 0,2811 | 0,2890 | 0,2969 | 0,3049 | 0,3130 | 0,3211 | 58′ |
| 4′ | 0,2505 | 0,2581 | 0,2658 | 0,2735 | 0,2813 | 0,2892 | 0,2972 | 0,3052 | 0,3132 | 0,3214 | 56′ |
| 6′ | 0,2508 | 0,2584 | 0,2660 | 0,2738 | 0,2816 | 0,2895 | 0,2974 | 0,3054 | 0,3135 | 0,3216 | 54′ |
| 8′ | 0,2510 | 0,2586 | 0,2663 | 0,2740 | 0,2819 | 0,2897 | 0,2977 | 0,3057 | 0,3138 | 0,3219 | 52′ |
| **10′** | **0,2513** | **0,2589** | **0,2665** | **0,2743** | **0,2821** | **0,2900** | **0,2980** | **0,3060** | **0,3140** | **0,3222** | **50′** |
| 12′ | 0,2515 | 0,2591 | 0,2668 | 0,2746 | 0,2824 | 0,2903 | 0,2982 | 0,3062 | 0,3143 | 0,3224 | 48′ |
| 14′ | 0,2518 | 0,2594 | 0,2671 | 0,2748 | 0,2826 | 0,2905 | 0,2985 | 0,3065 | 0,3146 | 0,3227 | 46′ |
| 16′ | 0,2520 | 0,2596 | 0,2673 | 0,2751 | 0,2829 | 0,2908 | 0,2988 | 0,3068 | 0,3149 | 0,3230 | 44′ |
| 18′ | 0,2523 | 0,2599 | 0,2676 | 0,2753 | 0,2832 | 0,2911 | 0,2990 | 0,3070 | 0,3151 | 0,3233 | 42′ |
| **20′** | **0,2525** | **0,2601** | **0,2678** | **0,2756** | **0,2834** | **0,2913** | **0,2993** | **0,3073** | **0,3154** | **0,3235** | **40′** |
| 22′ | 0,2528 | 0,2604 | 0,2681 | 0,2759 | 0,2837 | 0,2916 | 0,2996 | 0,3076 | 0,3157 | 0,3238 | 38′ |
| 24′ | 0,2530 | 0,2607 | 0,2684 | 0,2761 | 0,2840 | 0,2919 | 0,2998 | 0,3079 | 0,3159 | 0,3241 | 36′ |
| 26′ | 0,2533 | 0,2609 | 0,2686 | 0,2764 | 0,2842 | 0,2921 | 0,3001 | 0,3081 | 0,3162 | 0,3244 | 34′ |
| 28′ | 0,2535 | 0,2612 | 0,2689 | 0,2766 | 0,2845 | 0,2924 | 0,3004 | 0,3084 | 0,3165 | 0,3246 | 32′ |
| **30′** | **0,2538** | **0,2614** | **0,2691** | **0,2769** | **0,2847** | **0,2927** | **0,3006** | **0,3087** | **0,3167** | **0,3249** | **30′** |
| 32′ | 0,2540 | 0,2617 | 0,2694 | 0,2772 | 0,2850 | 0,2929 | 0,3009 | 0,3089 | 0,3170 | 0,3252 | 28′ |
| 34′ | 0,2543 | 0,2619 | 0,2696 | 0,2774 | 0,2853 | 0,2932 | 0,3012 | 0,3092 | 0,3173 | 0,3254 | 26′ |
| 36′ | 0,2545 | 0,2622 | 0,2699 | 0,2777 | 0,2855 | 0,2934 | 0,3014 | 0,3095 | 0,3176 | 0,3257 | 24′ |
| 38′ | 0,2548 | 0,2624 | 0,2702 | 0,2779 | 0,2858 | 0,2937 | 0,3017 | 0,3097 | 0,3178 | 0,3260 | 22′ |
| **40′** | **0,2551** | **0,2627** | **0,2704** | **0,2782** | **0,2861** | **0,2940** | **0,3020** | **0,3100** | **0,3181** | **0,3263** | **20′** |
| 42′ | 0,2553 | 0,2630 | 0,2707 | 0,2785 | 0,2863 | 0,2942 | 0,3022 | 0,3103 | 0,3184 | 0,3265 | 18′ |
| 44′ | 0,2556 | 0,2632 | 0,2709 | 0,2787 | 0,2866 | 0,2945 | 0,3025 | 0,3105 | 0,3186 | 0,3268 | 16′ |
| 46′ | 0,2558 | 0,2635 | 0,2712 | 0,2790 | 0,2868 | 0,2948 | 0,3028 | 0,3108 | 0,3189 | 0,3271 | 14′ |
| 48′ | 0,2561 | 0,2637 | 0,2715 | 0,2792 | 0,2871 | 0,2950 | 0,3030 | 0,3111 | 0,3192 | 0,3274 | 12′ |
| **50′** | **0,2563** | **0,2640** | **0,2717** | **0,2795** | **0,2874** | **0,2953** | **0,3033** | **0,3113** | **0,3195** | **0,3276** | **10′** |
| 52′ | 0,2566 | 0,2642 | 0,2720 | 0,2798 | 0,2876 | 0,2956 | 0,3036 | 0,3116 | 0,3197 | 0,3279 | 8′ |
| 54′ | 0,2568 | 0,2645 | 0,2722 | 0,2800 | 0,2879 | 0,2958 | 0,3038 | 0,3119 | 0,3200 | 0,3282 | 6′ |
| 56′ | 0,2571 | 0,2648 | 0,2725 | 0,2803 | 0,2882 | 0,2961 | 0,3041 | 0,3122 | 0,3203 | 0,3284 | 4′ |
| 58′ | 0,2573 | 0,2650 | 0,2727 | 0,2806 | 0,2884 | 0,2964 | 0,3044 | 0,3124 | 0,3205 | 0,3287 | 2′ |
| **60′** | 0,2576 | 0,2653 | 0,2730 | 0,2808 | 0,2887 | 0,2966 | 0,3046 | 0,3127 | 0,3208 | 0,3290 | **0′** |
| | **299°** | **298°** | **297°** | **296°** | **295°** | **294°** | **293°** | **292°** | **291°** | **290°** | $180^\circ \leqslant \theta$ |

Usage: $hv(290^\circ 50') = hv(69^\circ 10') = 0.3222$ denoted as 0,3222

| $\theta \leqslant 180^\circ$ | **70°** | **71°** | **72°** | **73°** | **74°** | **75°** | **76°** | **77°** | **78°** | **79°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,3290 | 0,3372 | 0,3455 | 0,3538 | 0,3622 | 0,3706 | 0,3790 | 0,3875 | 0,3960 | 0,4046 | **60′** |
| 2′ | 0,3293 | 0,3375 | 0,3458 | 0,3541 | 0,3625 | 0,3709 | 0,3793 | 0,3878 | 0,3963 | 0,4049 | 58′ |
| 4′ | 0,3295 | 0,3378 | 0,3460 | 0,3544 | 0,3627 | 0,3712 | 0,3796 | 0,3881 | 0,3966 | 0,4052 | 56′ |
| 6′ | 0,3298 | 0,3380 | 0,3463 | 0,3546 | 0,3630 | 0,3714 | 0,3799 | 0,3884 | 0,3969 | 0,4055 | 54′ |
| 8′ | 0,3301 | 0,3383 | 0,3466 | 0,3549 | 0,3633 | 0,3717 | 0,3802 | 0,3887 | 0,3972 | 0,4057 | 52′ |
| **10′** | **0,3304** | **0,3386** | **0,3469** | **0,3552** | **0,3636** | **0,3720** | **0,3805** | **0,3889** | **0,3975** | **0,4060** | **50′** |
| 12′ | 0,3306 | 0,3389 | 0,3472 | 0,3555 | 0,3639 | 0,3723 | 0,3807 | 0,3892 | 0,3978 | 0,4063 | 48′ |
| 14′ | 0,3309 | 0,3391 | 0,3474 | 0,3558 | 0,3641 | 0,3726 | 0,3810 | 0,3895 | 0,3980 | 0,4066 | 46′ |
| 16′ | 0,3312 | 0,3394 | 0,3477 | 0,3560 | 0,3644 | 0,3728 | 0,3813 | 0,3898 | 0,3983 | 0,4069 | 44′ |
| 18′ | 0,3315 | 0,3397 | 0,3480 | 0,3563 | 0,3647 | 0,3731 | 0,3816 | 0,3901 | 0,3986 | 0,4072 | 42′ |
| **20′** | **0,3317** | **0,3400** | **0,3483** | **0,3566** | **0,3650** | **0,3734** | **0,3819** | **0,3904** | **0,3989** | **0,4075** | **40′** |
| 22′ | 0,3320 | 0,3402 | 0,3485 | 0,3569 | 0,3653 | 0,3737 | 0,3821 | 0,3906 | 0,3992 | 0,4077 | 38′ |
| 24′ | 0,3323 | 0,3405 | 0,3488 | 0,3572 | 0,3655 | 0,3740 | 0,3824 | 0,3909 | 0,3995 | 0,4080 | 36′ |
| 26′ | 0,3325 | 0,3408 | 0,3491 | 0,3574 | 0,3658 | 0,3742 | 0,3827 | 0,3912 | 0,3997 | 0,4083 | 34′ |
| 28′ | 0,3328 | 0,3411 | 0,3494 | 0,3577 | 0,3661 | 0,3745 | 0,3830 | 0,3915 | 0,4000 | 0,4086 | 32′ |
| **30′** | **0,3331** | **0,3413** | **0,3496** | **0,3580** | **0,3664** | **0,3748** | **0,3833** | **0,3918** | **0,4003** | **0,4089** | **30′** |
| 32′ | 0,3334 | 0,3416 | 0,3499 | 0,3583 | 0,3667 | 0,3751 | 0,3836 | 0,3921 | 0,4006 | 0,4092 | 28′ |
| 34′ | 0,3336 | 0,3419 | 0,3502 | 0,3586 | 0,3669 | 0,3754 | 0,3838 | 0,3923 | 0,4009 | 0,4095 | 26′ |
| 36′ | 0,3339 | 0,3422 | 0,3505 | 0,3588 | 0,3672 | 0,3757 | 0,3841 | 0,3926 | 0,4012 | 0,4097 | 24′ |
| 38′ | 0,3342 | 0,3425 | 0,3508 | 0,3591 | 0,3675 | 0,3759 | 0,3844 | 0,3929 | 0,4015 | 0,4100 | 22′ |
| **40′** | **0,3345** | **0,3427** | **0,3510** | **0,3594** | **0,3678** | **0,3762** | **0,3847** | **0,3932** | **0,4017** | **0,4103** | **20′** |
| 42′ | 0,3347 | 0,3430 | 0,3513 | 0,3597 | 0,3681 | 0,3765 | 0,3850 | 0,3935 | 0,4020 | 0,4106 | 18′ |
| 44′ | 0,3350 | 0,3433 | 0,3516 | 0,3599 | 0,3683 | 0,3768 | 0,3853 | 0,3938 | 0,4023 | 0,4109 | 16′ |
| 46′ | 0,3353 | 0,3436 | 0,3519 | 0,3602 | 0,3686 | 0,3771 | 0,3855 | 0,3941 | 0,4026 | 0,4112 | 14′ |
| 48′ | 0,3356 | 0,3438 | 0,3521 | 0,3605 | 0,3689 | 0,3773 | 0,3858 | 0,3943 | 0,4029 | 0,4115 | 12′ |
| **50′** | **0,3358** | **0,3441** | **0,3524** | **0,3608** | **0,3692** | **0,3776** | **0,3861** | **0,3946** | **0,4032** | **0,4117** | **10′** |
| 52′ | 0,3361 | 0,3444 | 0,3527 | 0,3611 | 0,3695 | 0,3779 | 0,3864 | 0,3949 | 0,4035 | 0,4120 | 8′ |
| 54′ | 0,3364 | 0,3447 | 0,3530 | 0,3613 | 0,3697 | 0,3782 | 0,3867 | 0,3952 | 0,4037 | 0,4123 | 6′ |
| 56′ | 0,3367 | 0,3449 | 0,3533 | 0,3616 | 0,3700 | 0,3785 | 0,3870 | 0,3955 | 0,4040 | 0,4126 | 4′ |
| 58′ | 0,3369 | 0,3452 | 0,3535 | 0,3619 | 0,3703 | 0,3788 | 0,3872 | 0,3958 | 0,4043 | 0,4129 | 2′ |
| **60′** | 0,3372 | 0,3455 | 0,3538 | 0,3622 | 0,3706 | 0,3790 | 0,3875 | 0,3960 | 0,4046 | 0,4132 | **0′** |
| | **289°** | **288°** | **287°** | **286°** | **285°** | **284°** | **283°** | **282°** | **281°** | **280°** | $180^\circ \leqslant \theta$ |

Usage: $hv(289^\circ 10') = hv(70^\circ 50') = 0.3358$ denoted as 0,3358

| $\theta \leqslant 180^\circ$ | **80°** | **81°** | **82°** | **83°** | **84°** | **85°** | **86°** | **87°** | **88°** | **89°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,4132 | 0,4218 | 0,4304 | 0,4391 | 0,4477 | 0,4564 | 0,4651 | 0,4738 | 0,4826 | 0,4913 | **60′** |
| 2′ | 0,4135 | 0,4221 | 0,4307 | 0,4394 | 0,4480 | 0,4567 | 0,4654 | 0,4741 | 0,4828 | 0,4916 | 58′ |
| 4′ | 0,4137 | 0,4224 | 0,4310 | 0,4396 | 0,4483 | 0,4570 | 0,4657 | 0,4744 | 0,4831 | 0,4919 | 56′ |
| 6′ | 0,4140 | 0,4226 | 0,4313 | 0,4399 | 0,4486 | 0,4573 | 0,4660 | 0,4747 | 0,4834 | 0,4921 | 54′ |
| 8′ | 0,4143 | 0,4229 | 0,4316 | 0,4402 | 0,4489 | 0,4576 | 0,4663 | 0,4750 | 0,4837 | 0,4924 | 52′ |
| **10′** | **0,4146** | **0,4232** | **0,4319** | **0,4405** | **0,4492** | **0,4579** | **0,4666** | **0,4753** | **0,4840** | **0,4927** | **50′** |
| 12′ | 0,4149 | 0,4235 | 0,4321 | 0,4408 | 0,4495 | 0,4582 | 0,4669 | 0,4756 | 0,4843 | 0,4930 | 48′ |
| 14′ | 0,4152 | 0,4238 | 0,4324 | 0,4411 | 0,4498 | 0,4585 | 0,4672 | 0,4759 | 0,4846 | 0,4933 | 46′ |
| 16′ | 0,4155 | 0,4241 | 0,4327 | 0,4414 | 0,4501 | 0,4587 | 0,4674 | 0,4762 | 0,4849 | 0,4936 | 44′ |
| 18′ | 0,4158 | 0,4244 | 0,4330 | 0,4417 | 0,4503 | 0,4590 | 0,4677 | 0,4764 | 0,4852 | 0,4939 | 42′ |
| **20′** | **0,4160** | **0,4247** | **0,4333** | **0,4420** | **0,4506** | **0,4593** | **0,4680** | **0,4767** | **0,4855** | **0,4942** | **40′** |
| 22′ | 0,4163 | 0,4249 | 0,4336 | 0,4422 | 0,4509 | 0,4596 | 0,4683 | 0,4770 | 0,4857 | 0,4945 | 38′ |
| 24′ | 0,4166 | 0,4252 | 0,4339 | 0,4425 | 0,4512 | 0,4599 | 0,4686 | 0,4773 | 0,4860 | 0,4948 | 36′ |
| 26′ | 0,4169 | 0,4255 | 0,4342 | 0,4428 | 0,4515 | 0,4602 | 0,4689 | 0,4776 | 0,4863 | 0,4951 | 34′ |
| 28′ | 0,4172 | 0,4258 | 0,4344 | 0,4431 | 0,4518 | 0,4605 | 0,4692 | 0,4779 | 0,4866 | 0,4953 | 32′ |
| **30′** | **0,4175** | **0,4261** | **0,4347** | **0,4434** | **0,4521** | **0,4608** | **0,4695** | **0,4782** | **0,4869** | **0,4956** | **30′** |
| 32′ | 0,4178 | 0,4264 | 0,4350 | 0,4437 | 0,4524 | 0,4611 | 0,4698 | 0,4785 | 0,4872 | 0,4959 | 28′ |
| 34′ | 0,4181 | 0,4267 | 0,4353 | 0,4440 | 0,4527 | 0,4614 | 0,4701 | 0,4788 | 0,4875 | 0,4962 | 26′ |
| 36′ | 0,4183 | 0,4270 | 0,4356 | 0,4443 | 0,4529 | 0,4616 | 0,4703 | 0,4791 | 0,4878 | 0,4965 | 24′ |
| 38′ | 0,4186 | 0,4272 | 0,4359 | 0,4446 | 0,4532 | 0,4619 | 0,4706 | 0,4794 | 0,4881 | 0,4968 | 22′ |
| **40′** | **0,4189** | **0,4275** | **0,4362** | **0,4448** | **0,4535** | **0,4622** | **0,4709** | **0,4796** | **0,4884** | **0,4971** | **20′** |
| 42′ | 0,4192 | 0,4278 | 0,4365 | 0,4451 | 0,4538 | 0,4625 | 0,4712 | 0,4799 | 0,4887 | 0,4974 | 18′ |
| 44′ | 0,4195 | 0,4281 | 0,4368 | 0,4454 | 0,4541 | 0,4628 | 0,4715 | 0,4802 | 0,4889 | 0,4977 | 16′ |
| 46′ | 0,4198 | 0,4284 | 0,4370 | 0,4457 | 0,4544 | 0,4631 | 0,4718 | 0,4805 | 0,4892 | 0,4980 | 14′ |
| 48′ | 0,4201 | 0,4287 | 0,4373 | 0,4460 | 0,4547 | 0,4634 | 0,4721 | 0,4808 | 0,4895 | 0,4983 | 12′ |
| **50′** | **0,4203** | **0,4290** | **0,4376** | **0,4463** | **0,4550** | **0,4637** | **0,4724** | **0,4811** | **0,4898** | **0,4985** | **10′** |
| 52′ | 0,4206 | 0,4293 | 0,4379 | 0,4466 | 0,4553 | 0,4640 | 0,4727 | 0,4814 | 0,4901 | 0,4988 | 8′ |
| 54′ | 0,4209 | 0,4295 | 0,4382 | 0,4469 | 0,4556 | 0,4643 | 0,4730 | 0,4817 | 0,4904 | 0,4991 | 6′ |
| 56′ | 0,4212 | 0,4298 | 0,4385 | 0,4472 | 0,4558 | 0,4645 | 0,4733 | 0,4820 | 0,4907 | 0,4994 | 4′ |
| 58′ | 0,4215 | 0,4301 | 0,4388 | 0,4474 | 0,4561 | 0,4648 | 0,4735 | 0,4823 | 0,4910 | 0,4997 | 2′ |
| **60′** | 0,4218 | 0,4304 | 0,4391 | 0,4477 | 0,4564 | 0,4651 | 0,4738 | 0,4826 | 0,4913 | 0,5000 | **0′** |
| | **279°** | **278°** | **277°** | **276°** | **275°** | **274°** | **273°** | **272°** | **271°** | **270°** | $180^\circ \leqslant \theta$ |

Usage: $hv(273^\circ 44') = hv(86^\circ 16') = 0.4674$ denoted as 0,4674

| $\theta \leqslant 180^\circ$ | **90°** | **91°** | **92°** | **93°** | **94°** | **95°** | **96°** | **97°** | **98°** | **99°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,5000 | 0,5087 | 0,5174 | 0,5262 | 0,5349 | 0,5436 | 0,5523 | 0,5609 | 0,5696 | 0,5782 | **60′** |
| 2′ | 0,5003 | 0,5090 | 0,5177 | 0,5265 | 0,5352 | 0,5439 | 0,5526 | 0,5612 | 0,5699 | 0,5785 | 58′ |
| 4′ | 0,5006 | 0,5093 | 0,5180 | 0,5267 | 0,5355 | 0,5442 | 0,5528 | 0,5615 | 0,5702 | 0,5788 | 56′ |
| 6′ | 0,5009 | 0,5096 | 0,5183 | 0,5270 | 0,5357 | 0,5444 | 0,5531 | 0,5618 | 0,5705 | 0,5791 | 54′ |
| 8′ | 0,5012 | 0,5099 | 0,5186 | 0,5273 | 0,5360 | 0,5447 | 0,5534 | 0,5621 | 0,5707 | 0,5794 | 52′ |
| **10′** | **0,5015** | **0,5102** | **0,5189** | **0,5276** | **0,5363** | **0,5450** | **0,5537** | **0,5624** | **0,5710** | **0,5797** | **50′** |
| 12′ | 0,5017 | 0,5105 | 0,5192 | 0,5279 | 0,5366 | 0,5453 | 0,5540 | 0,5627 | 0,5713 | 0,5799 | 48′ |
| 14′ | 0,5020 | 0,5108 | 0,5195 | 0,5282 | 0,5369 | 0,5456 | 0,5543 | 0,5630 | 0,5716 | 0,5802 | 46′ |
| 16′ | 0,5023 | 0,5111 | 0,5198 | 0,5285 | 0,5372 | 0,5459 | 0,5546 | 0,5632 | 0,5719 | 0,5805 | 44′ |
| 18′ | 0,5026 | 0,5113 | 0,5201 | 0,5288 | 0,5375 | 0,5462 | 0,5549 | 0,5635 | 0,5722 | 0,5808 | 42′ |
| **20′** | **0,5029** | **0,5116** | **0,5204** | **0,5291** | **0,5378** | **0,5465** | **0,5552** | **0,5638** | **0,5725** | **0,5811** | **40′** |
| 22′ | 0,5032 | 0,5119 | 0,5206 | 0,5294 | 0,5381 | 0,5468 | 0,5554 | 0,5641 | 0,5728 | 0,5814 | 38′ |
| 24′ | 0,5035 | 0,5122 | 0,5209 | 0,5297 | 0,5384 | 0,5471 | 0,5557 | 0,5644 | 0,5730 | 0,5817 | 36′ |
| 26′ | 0,5038 | 0,5125 | 0,5212 | 0,5299 | 0,5386 | 0,5473 | 0,5560 | 0,5647 | 0,5733 | 0,5819 | 34′ |
| 28′ | 0,5041 | 0,5128 | 0,5215 | 0,5302 | 0,5389 | 0,5476 | 0,5563 | 0,5650 | 0,5736 | 0,5822 | 32′ |
| **30′** | **0,5044** | **0,5131** | **0,5218** | **0,5305** | **0,5392** | **0,5479** | **0,5566** | **0,5653** | **0,5739** | **0,5825** | **30′** |
| 32′ | 0,5047 | 0,5134 | 0,5221 | 0,5308 | 0,5395 | 0,5482 | 0,5569 | 0,5656 | 0,5742 | 0,5828 | 28′ |
| 34′ | 0,5049 | 0,5137 | 0,5224 | 0,5311 | 0,5398 | 0,5485 | 0,5572 | 0,5658 | 0,5745 | 0,5831 | 26′ |
| 36′ | 0,5052 | 0,5140 | 0,5227 | 0,5314 | 0,5401 | 0,5488 | 0,5575 | 0,5661 | 0,5748 | 0,5834 | 24′ |
| 38′ | 0,5055 | 0,5143 | 0,5230 | 0,5317 | 0,5404 | 0,5491 | 0,5578 | 0,5664 | 0,5751 | 0,5837 | 22′ |
| **40′** | **0,5058** | **0,5145** | **0,5233** | **0,5320** | **0,5407** | **0,5494** | **0,5580** | **0,5667** | **0,5753** | **0,5840** | **20′** |
| 42′ | 0,5061 | 0,5148 | 0,5236 | 0,5323 | 0,5410 | 0,5497 | 0,5583 | 0,5670 | 0,5756 | 0,5842 | 18′ |
| 44′ | 0,5064 | 0,5151 | 0,5238 | 0,5326 | 0,5413 | 0,5499 | 0,5586 | 0,5673 | 0,5759 | 0,5845 | 16′ |
| 46′ | 0,5067 | 0,5154 | 0,5241 | 0,5328 | 0,5415 | 0,5502 | 0,5589 | 0,5676 | 0,5762 | 0,5848 | 14′ |
| 48′ | 0,5070 | 0,5157 | 0,5244 | 0,5331 | 0,5418 | 0,5505 | 0,5592 | 0,5679 | 0,5765 | 0,5851 | 12′ |
| **50′** | **0,5073** | **0,5160** | **0,5247** | **0,5334** | **0,5421** | **0,5508** | **0,5595** | **0,5681** | **0,5768** | **0,5854** | **10′** |
| 52′ | 0,5076 | 0,5163 | 0,5250 | 0,5337 | 0,5424 | 0,5511 | 0,5598 | 0,5684 | 0,5771 | 0,5857 | 8′ |
| 54′ | 0,5079 | 0,5166 | 0,5253 | 0,5340 | 0,5427 | 0,5514 | 0,5601 | 0,5687 | 0,5774 | 0,5860 | 6′ |
| 56′ | 0,5081 | 0,5169 | 0,5256 | 0,5343 | 0,5430 | 0,5517 | 0,5604 | 0,5690 | 0,5776 | 0,5863 | 4′ |
| 58′ | 0,5084 | 0,5172 | 0,5259 | 0,5346 | 0,5433 | 0,5520 | 0,5606 | 0,5693 | 0,5779 | 0,5865 | 2′ |
| **60′** | 0,5087 | 0,5174 | 0,5262 | 0,5349 | 0,5436 | 0,5523 | 0,5609 | 0,5696 | 0,5782 | 0,5868 | **0′** |
| | **269°** | **268°** | **267°** | **266°** | **265°** | **264°** | **263°** | **262°** | **261°** | **260°** | $180^\circ \leqslant \theta$ |

Usage: $hv(263^\circ 02') = hv(96^\circ 58') = 0.5606$ denoted as 0,5606

| $\theta \leqslant 180^\circ$ | **100°** | **101°** | **102°** | **103°** | **104°** | **105°** | **106°** | **107°** | **108°** | **109°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,5868 | 0,5954 | 0,6040 | 0,6125 | 0,6210 | 0,6294 | 0,6378 | 0,6462 | 0,6545 | 0,6628 | **60′** |
| 2′ | 0,5871 | 0,5957 | 0,6042 | 0,6128 | 0,6212 | 0,6297 | 0,6381 | 0,6465 | 0,6548 | 0,6631 | 58′ |
| 4′ | 0,5874 | 0,5960 | 0,6045 | 0,6130 | 0,6215 | 0,6300 | 0,6384 | 0,6467 | 0,6551 | 0,6633 | 56′ |
| 6′ | 0,5877 | 0,5963 | 0,6048 | 0,6133 | 0,6218 | 0,6303 | 0,6387 | 0,6470 | 0,6553 | 0,6636 | 54′ |
| 8′ | 0,5880 | 0,5965 | 0,6051 | 0,6136 | 0,6221 | 0,6305 | 0,6389 | 0,6473 | 0,6556 | 0,6639 | 52′ |
| **10′** | **0,5883** | **0,5968** | **0,6054** | **0,6139** | **0,6224** | **0,6308** | **0,6392** | **0,6476** | **0,6559** | **0,6642** | **50′** |
| 12′ | 0,5885 | 0,5971 | 0,6057 | 0,6142 | 0,6227 | 0,6311 | 0,6395 | 0,6479 | 0,6562 | 0,6644 | 48′ |
| 14′ | 0,5888 | 0,5974 | 0,6059 | 0,6145 | 0,6229 | 0,6314 | 0,6398 | 0,6481 | 0,6564 | 0,6647 | 46′ |
| 16′ | 0,5891 | 0,5977 | 0,6062 | 0,6147 | 0,6232 | 0,6317 | 0,6401 | 0,6484 | 0,6567 | 0,6650 | 44′ |
| 18′ | 0,5894 | 0,5980 | 0,6065 | 0,6150 | 0,6235 | 0,6319 | 0,6403 | 0,6487 | 0,6570 | 0,6653 | 42′ |
| **20′** | **0,5897** | **0,5983** | **0,6068** | **0,6153** | **0,6238** | **0,6322** | **0,6406** | **0,6490** | **0,6573** | **0,6655** | **40′** |
| 22′ | 0,5900 | 0,5985 | 0,6071 | 0,6156 | 0,6241 | 0,6325 | 0,6409 | 0,6492 | 0,6575 | 0,6658 | 38′ |
| 24′ | 0,5903 | 0,5988 | 0,6074 | 0,6159 | 0,6243 | 0,6328 | 0,6412 | 0,6495 | 0,6578 | 0,6661 | 36′ |
| 26′ | 0,5905 | 0,5991 | 0,6077 | 0,6162 | 0,6246 | 0,6331 | 0,6414 | 0,6498 | 0,6581 | 0,6664 | 34′ |
| 28′ | 0,5908 | 0,5994 | 0,6079 | 0,6164 | 0,6249 | 0,6333 | 0,6417 | 0,6501 | 0,6584 | 0,6666 | 32′ |
| **30′** | **0,5911** | **0,5997** | **0,6082** | **0,6167** | **0,6252** | **0,6336** | **0,6420** | **0,6504** | **0,6587** | **0,6669** | **30′** |
| 32′ | 0,5914 | 0,6000 | 0,6085 | 0,6170 | 0,6255 | 0,6339 | 0,6423 | 0,6506 | 0,6589 | 0,6672 | 28′ |
| 34′ | 0,5917 | 0,6003 | 0,6088 | 0,6173 | 0,6258 | 0,6342 | 0,6426 | 0,6509 | 0,6592 | 0,6675 | 26′ |
| 36′ | 0,5920 | 0,6005 | 0,6091 | 0,6176 | 0,6260 | 0,6345 | 0,6428 | 0,6512 | 0,6595 | 0,6677 | 24′ |
| 38′ | 0,5923 | 0,6008 | 0,6094 | 0,6179 | 0,6263 | 0,6347 | 0,6431 | 0,6515 | 0,6598 | 0,6680 | 22′ |
| **40′** | **0,5925** | **0,6011** | **0,6096** | **0,6181** | **0,6266** | **0,6350** | **0,6434** | **0,6517** | **0,6600** | **0,6683** | **20′** |
| 42′ | 0,5928 | 0,6014 | 0,6099 | 0,6184 | 0,6269 | 0,6353 | 0,6437 | 0,6520 | 0,6603 | 0,6685 | 18′ |
| 44′ | 0,5931 | 0,6017 | 0,6102 | 0,6187 | 0,6272 | 0,6356 | 0,6440 | 0,6523 | 0,6606 | 0,6688 | 16′ |
| 46′ | 0,5934 | 0,6020 | 0,6105 | 0,6190 | 0,6274 | 0,6359 | 0,6442 | 0,6526 | 0,6609 | 0,6691 | 14′ |
| 48′ | 0,5937 | 0,6022 | 0,6108 | 0,6193 | 0,6277 | 0,6361 | 0,6445 | 0,6528 | 0,6611 | 0,6694 | 12′ |
| **50′** | **0,5940** | **0,6025** | **0,6111** | **0,6195** | **0,6280** | **0,6364** | **0,6448** | **0,6531** | **0,6614** | **0,6696** | **10′** |
| 52′ | 0,5943 | 0,6028 | 0,6113 | 0,6198 | 0,6283 | 0,6367 | 0,6451 | 0,6534 | 0,6617 | 0,6699 | 8′ |
| 54′ | 0,5945 | 0,6031 | 0,6116 | 0,6201 | 0,6286 | 0,6370 | 0,6454 | 0,6537 | 0,6620 | 0,6702 | 6′ |
| 56′ | 0,5948 | 0,6034 | 0,6119 | 0,6204 | 0,6288 | 0,6373 | 0,6456 | 0,6540 | 0,6622 | 0,6705 | 4′ |
| 58′ | 0,5951 | 0,6037 | 0,6122 | 0,6207 | 0,6291 | 0,6375 | 0,6459 | 0,6542 | 0,6625 | 0,6707 | 2′ |
| **60′** | 0,5954 | 0,6040 | 0,6125 | 0,6210 | 0,6294 | 0,6378 | 0,6462 | 0,6545 | 0,6628 | 0,6710 | **0′** |
| | **259°** | **258°** | **257°** | **256°** | **255°** | **254°** | **253°** | **252°** | **251°** | **250°** | $180^\circ \leqslant \theta$ |

Usage: $hv(255^\circ 40') = hv(104^\circ 20') = 0.6238$ denoted as 0,6238

| $\theta \leqslant 180^\circ$ | **110°** | **111°** | **112°** | **113°** | **114°** | **115°** | **116°** | **117°** | **118°** | **119°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,6710 | 0,6792 | 0,6873 | 0,6954 | 0,7034 | 0,7113 | 0,7192 | 0,7270 | 0,7347 | 0,7424 | **60′** |
| 2′ | 0,6713 | 0,6795 | 0,6876 | 0,6956 | 0,7036 | 0,7116 | 0,7194 | 0,7273 | 0,7350 | 0,7427 | 58′ |
| 4′ | 0,6716 | 0,6797 | 0,6878 | 0,6959 | 0,7039 | 0,7118 | 0,7197 | 0,7275 | 0,7352 | 0,7429 | 56′ |
| 6′ | 0,6718 | 0,6800 | 0,6881 | 0,6962 | 0,7042 | 0,7121 | 0,7200 | 0,7278 | 0,7355 | 0,7432 | 54′ |
| 8′ | 0,6721 | 0,6803 | 0,6884 | 0,6964 | 0,7044 | 0,7124 | 0,7202 | 0,7280 | 0,7358 | 0,7434 | 52′ |
| **10′** | **0,6724** | **0,6805** | **0,6887** | **0,6967** | **0,7047** | **0,7126** | **0,7205** | **0,7283** | **0,7360** | **0,7437** | **50′** |
| 12′ | 0,6726 | 0,6808 | 0,6889 | 0,6970 | 0,7050 | 0,7129 | 0,7208 | 0,7285 | 0,7363 | 0,7439 | 48′ |
| 14′ | 0,6729 | 0,6811 | 0,6892 | 0,6972 | 0,7052 | 0,7132 | 0,7210 | 0,7288 | 0,7365 | 0,7442 | 46′ |
| 16′ | 0,6732 | 0,6814 | 0,6895 | 0,6975 | 0,7055 | 0,7134 | 0,7213 | 0,7291 | 0,7368 | 0,7444 | 44′ |
| 18′ | 0,6735 | 0,6816 | 0,6897 | 0,6978 | 0,7058 | 0,7137 | 0,7215 | 0,7293 | 0,7370 | 0,7447 | 42′ |
| **20′** | **0,6737** | **0,6819** | **0,6900** | **0,6980** | **0,7060** | **0,7139** | **0,7218** | **0,7296** | **0,7373** | **0,7449** | **40′** |
| 22′ | 0,6740 | 0,6822 | 0,6903 | 0,6983 | 0,7063 | 0,7142 | 0,7221 | 0,7298 | 0,7376 | 0,7452 | 38′ |
| 24′ | 0,6743 | 0,6824 | 0,6905 | 0,6986 | 0,7066 | 0,7145 | 0,7223 | 0,7301 | 0,7378 | 0,7455 | 36′ |
| 26′ | 0,6746 | 0,6827 | 0,6908 | 0,6988 | 0,7068 | 0,7147 | 0,7226 | 0,7304 | 0,7381 | 0,7457 | 34′ |
| 28′ | 0,6748 | 0,6830 | 0,6911 | 0,6991 | 0,7071 | 0,7150 | 0,7228 | 0,7306 | 0,7383 | 0,7460 | 32′ |
| **30′** | **0,6751** | **0,6833** | **0,6913** | **0,6994** | **0,7073** | **0,7153** | **0,7231** | **0,7309** | **0,7386** | **0,7462** | **30′** |
| 32′ | 0,6754 | 0,6835 | 0,6916 | 0,6996 | 0,7076 | 0,7155 | 0,7234 | 0,7311 | 0,7388 | 0,7465 | 28′ |
| 34′ | 0,6756 | 0,6838 | 0,6919 | 0,6999 | 0,7079 | 0,7158 | 0,7236 | 0,7314 | 0,7391 | 0,7467 | 26′ |
| 36′ | 0,6759 | 0,6841 | 0,6921 | 0,7002 | 0,7081 | 0,7160 | 0,7239 | 0,7316 | 0,7393 | 0,7470 | 24′ |
| 38′ | 0,6762 | 0,6843 | 0,6924 | 0,7004 | 0,7084 | 0,7163 | 0,7241 | 0,7319 | 0,7396 | 0,7472 | 22′ |
| **40′** | **0,6765** | **0,6846** | **0,6927** | **0,7007** | **0,7087** | **0,7166** | **0,7244** | **0,7322** | **0,7399** | **0,7475** | **20′** |
| 42′ | 0,6767 | 0,6849 | 0,6930 | 0,7010 | 0,7089 | 0,7168 | 0,7247 | 0,7324 | 0,7401 | 0,7477 | 18′ |
| 44′ | 0,6770 | 0,6851 | 0,6932 | 0,7012 | 0,7092 | 0,7171 | 0,7249 | 0,7327 | 0,7404 | 0,7480 | 16′ |
| 46′ | 0,6773 | 0,6854 | 0,6935 | 0,7015 | 0,7095 | 0,7174 | 0,7252 | 0,7329 | 0,7406 | 0,7482 | 14′ |
| 48′ | 0,6776 | 0,6857 | 0,6938 | 0,7018 | 0,7097 | 0,7176 | 0,7254 | 0,7332 | 0,7409 | 0,7485 | 12′ |
| **50′** | **0,6778** | **0,6860** | **0,6940** | **0,7020** | **0,7100** | **0,7179** | **0,7257** | **0,7335** | **0,7411** | **0,7487** | **10′** |
| 52′ | 0,6781 | 0,6862 | 0,6943 | 0,7023 | 0,7103 | 0,7181 | 0,7260 | 0,7337 | 0,7414 | 0,7490 | 8′ |
| 54′ | 0,6784 | 0,6865 | 0,6946 | 0,7026 | 0,7105 | 0,7184 | 0,7262 | 0,7340 | 0,7416 | 0,7492 | 6′ |
| 56′ | 0,6786 | 0,6868 | 0,6948 | 0,7028 | 0,7108 | 0,7187 | 0,7265 | 0,7342 | 0,7419 | 0,7495 | 4′ |
| 58′ | 0,6789 | 0,6870 | 0,6951 | 0,7031 | 0,7110 | 0,7189 | 0,7267 | 0,7345 | 0,7422 | 0,7497 | 2′ |
| **60′** | 0,6792 | 0,6873 | 0,6954 | 0,7034 | 0,7113 | 0,7192 | 0,7270 | 0,7347 | 0,7424 | 0,7500 | **0′** |
| | **249°** | **248°** | **247°** | **246°** | **245°** | **244°** | **243°** | **242°** | **241°** | **240°** | $180^\circ \leqslant \theta$ |

Usage: $hv(244^\circ 20') = hv(115^\circ 40') = 0.7166$ denoted as 0,7166

| $\theta \leqslant 180^\circ$ | **120°** | **121°** | **122°** | **123°** | **124°** | **125°** | **126°** | **127°** | **128°** | **129°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,7500 | 0,7575 | 0,7650 | 0,7723 | 0,7796 | 0,7868 | 0,7939 | 0,8009 | 0,8078 | 0,8147 | **60′** |
| 2′ | 0,7503 | 0,7578 | 0,7652 | 0,7726 | 0,7798 | 0,7870 | 0,7941 | 0,8011 | 0,8081 | 0,8149 | 58′ |
| 4′ | 0,7505 | 0,7580 | 0,7655 | 0,7728 | 0,7801 | 0,7873 | 0,7944 | 0,8014 | 0,8083 | 0,8151 | 56′ |
| 6′ | 0,7508 | 0,7583 | 0,7657 | 0,7731 | 0,7803 | 0,7875 | 0,7946 | 0,8016 | 0,8085 | 0,8153 | 54′ |
| 8′ | 0,7510 | 0,7585 | 0,7659 | 0,7733 | 0,7806 | 0,7877 | 0,7948 | 0,8018 | 0,8087 | 0,8156 | 52′ |
| **10′** | **0,7513** | **0,7588** | **0,7662** | **0,7735** | **0,7808** | **0,7880** | **0,7951** | **0,8021** | **0,8090** | **0,8158** | **50′** |
| 12′ | 0,7515 | 0,7590 | 0,7664 | 0,7738 | 0,7810 | 0,7882 | 0,7953 | 0,8023 | 0,8092 | 0,8160 | 48′ |
| 14′ | 0,7518 | 0,7593 | 0,7667 | 0,7740 | 0,7813 | 0,7885 | 0,7955 | 0,8025 | 0,8094 | 0,8162 | 46′ |
| 16′ | 0,7520 | 0,7595 | 0,7669 | 0,7743 | 0,7815 | 0,7887 | 0,7958 | 0,8028 | 0,8097 | 0,8165 | 44′ |
| 18′ | 0,7523 | 0,7598 | 0,7672 | 0,7745 | 0,7818 | 0,7889 | 0,7960 | 0,8030 | 0,8099 | 0,8167 | 42′ |
| **20′** | **0,7525** | **0,7600** | **0,7674** | **0,7748** | **0,7820** | **0,7892** | **0,7962** | **0,8032** | **0,8101** | **0,8169** | **40′** |
| 22′ | 0,7528 | 0,7603 | 0,7677 | 0,7750 | 0,7822 | 0,7894 | 0,7965 | 0,8035 | 0,8103 | 0,8171 | 38′ |
| 24′ | 0,7530 | 0,7605 | 0,7679 | 0,7752 | 0,7825 | 0,7896 | 0,7967 | 0,8037 | 0,8106 | 0,8174 | 36′ |
| 26′ | 0,7533 | 0,7608 | 0,7682 | 0,7755 | 0,7827 | 0,7899 | 0,7969 | 0,8039 | 0,8108 | 0,8176 | 34′ |
| 28′ | 0,7535 | 0,7610 | 0,7684 | 0,7757 | 0,7830 | 0,7901 | 0,7972 | 0,8041 | 0,8110 | 0,8178 | 32′ |
| **30′** | **0,7538** | **0,7612** | **0,7686** | **0,7760** | **0,7832** | **0,7904** | **0,7974** | **0,8044** | **0,8113** | **0,8180** | **30′** |
| 32′ | 0,7540 | 0,7615 | 0,7689 | 0,7762 | 0,7834 | 0,7906 | 0,7976 | 0,8046 | 0,8115 | 0,8183 | 28′ |
| 34′ | 0,7543 | 0,7617 | 0,7691 | 0,7765 | 0,7837 | 0,7908 | 0,7979 | 0,8048 | 0,8117 | 0,8185 | 26′ |
| 36′ | 0,7545 | 0,7620 | 0,7694 | 0,7767 | 0,7839 | 0,7911 | 0,7981 | 0,8051 | 0,8119 | 0,8187 | 24′ |
| 38′ | 0,7548 | 0,7622 | 0,7696 | 0,7769 | 0,7842 | 0,7913 | 0,7983 | 0,8053 | 0,8122 | 0,8189 | 22′ |
| **40′** | **0,7550** | **0,7625** | **0,7699** | **0,7772** | **0,7844** | **0,7915** | **0,7986** | **0,8055** | **0,8124** | **0,8192** | **20′** |
| 42′ | 0,7553 | 0,7627 | 0,7701 | 0,7774 | 0,7846 | 0,7918 | 0,7988 | 0,8058 | 0,8126 | 0,8194 | 18′ |
| 44′ | 0,7555 | 0,7630 | 0,7704 | 0,7777 | 0,7849 | 0,7920 | 0,7990 | 0,8060 | 0,8128 | 0,8196 | 16′ |
| 46′ | 0,7558 | 0,7632 | 0,7706 | 0,7779 | 0,7851 | 0,7922 | 0,7993 | 0,8062 | 0,8131 | 0,8198 | 14′ |
| 48′ | 0,7560 | 0,7635 | 0,7709 | 0,7781 | 0,7854 | 0,7925 | 0,7995 | 0,8065 | 0,8133 | 0,8201 | 12′ |
| **50′** | **0,7563** | **0,7637** | **0,7711** | **0,7784** | **0,7856** | **0,7927** | **0,7997** | **0,8067** | **0,8135** | **0,8203** | **10′** |
| 52′ | 0,7565 | 0,7640 | 0,7713 | 0,7786 | 0,7858 | 0,7930 | 0,8000 | 0,8069 | 0,8138 | 0,8205 | 8′ |
| 54′ | 0,7568 | 0,7642 | 0,7716 | 0,7789 | 0,7861 | 0,7932 | 0,8002 | 0,8071 | 0,8140 | 0,8207 | 6′ |
| 56′ | 0,7570 | 0,7645 | 0,7718 | 0,7791 | 0,7863 | 0,7934 | 0,8004 | 0,8074 | 0,8142 | 0,8209 | 4′ |
| 58′ | 0,7573 | 0,7647 | 0,7721 | 0,7794 | 0,7865 | 0,7937 | 0,8007 | 0,8076 | 0,8144 | 0,8212 | 2′ |
| **60′** | 0,7575 | 0,7650 | 0,7723 | 0,7796 | 0,7868 | 0,7939 | 0,8009 | 0,8078 | 0,8147 | 0,8214 | **0′** |
| | **239°** | **238°** | **237°** | **236°** | **235°** | **234°** | **233°** | **232°** | **231°** | **230°** | $180^\circ \leqslant \theta$ |

Usage: $hv(237^\circ 52') = hv(122^\circ 08') = 0.7659$ denoted as 0,7659

| $\theta \leqslant 180^\circ$ | **130°** | **131°** | **132°** | **133°** | **134°** | **135°** | **136°** | **137°** | **138°** | **139°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,8214 | 0,8280 | 0,8346 | 0,8410 | 0,8473 | 0,8536 | 0,8597 | 0,8657 | 0,8716 | 0,8774 | **60′** |
| 2′ | 0,8216 | 0,8282 | 0,8348 | 0,8412 | 0,8475 | 0,8538 | 0,8599 | 0,8659 | 0,8718 | 0,8775 | 58′ |
| 4′ | 0,8218 | 0,8285 | 0,8350 | 0,8414 | 0,8477 | 0,8540 | 0,8601 | 0,8661 | 0,8720 | 0,8777 | 56′ |
| 6′ | 0,8221 | 0,8287 | 0,8352 | 0,8416 | 0,8480 | 0,8542 | 0,8603 | 0,8663 | 0,8722 | 0,8779 | 54′ |
| 8′ | 0,8223 | 0,8289 | 0,8354 | 0,8418 | 0,8482 | 0,8544 | 0,8605 | 0,8665 | 0,8723 | 0,8781 | 52′ |
| **10′** | **0,8225** | **0,8291** | **0,8356** | **0,8421** | **0,8484** | **0,8546** | **0,8607** | **0,8667** | **0,8725** | **0,8783** | **50′** |
| 12′ | 0,8227 | 0,8293 | 0,8359 | 0,8423 | 0,8486 | 0,8548 | 0,8609 | 0,8669 | 0,8727 | 0,8785 | 48′ |
| 14′ | 0,8230 | 0,8296 | 0,8361 | 0,8425 | 0,8488 | 0,8550 | 0,8611 | 0,8671 | 0,8729 | 0,8787 | 46′ |
| 16′ | 0,8232 | 0,8298 | 0,8363 | 0,8427 | 0,8490 | 0,8552 | 0,8613 | 0,8673 | 0,8731 | 0,8789 | 44′ |
| 18′ | 0,8234 | 0,8300 | 0,8365 | 0,8429 | 0,8492 | 0,8554 | 0,8615 | 0,8675 | 0,8733 | 0,8791 | 42′ |
| **20′** | **0,8236** | **0,8302** | **0,8367** | **0,8431** | **0,8494** | **0,8556** | **0,8617** | **0,8677** | **0,8735** | **0,8793** | **40′** |
| 22′ | 0,8238 | 0,8304 | 0,8369 | 0,8433 | 0,8496 | 0,8558 | 0,8619 | 0,8679 | 0,8737 | 0,8794 | 38′ |
| 24′ | 0,8241 | 0,8307 | 0,8372 | 0,8435 | 0,8498 | 0,8560 | 0,8621 | 0,8680 | 0,8739 | 0,8796 | 36′ |
| 26′ | 0,8243 | 0,8309 | 0,8374 | 0,8438 | 0,8500 | 0,8562 | 0,8623 | 0,8682 | 0,8741 | 0,8798 | 34′ |
| 28′ | 0,8245 | 0,8311 | 0,8376 | 0,8440 | 0,8502 | 0,8564 | 0,8625 | 0,8684 | 0,8743 | 0,8800 | 32′ |
| **30′** | **0,8247** | **0,8313** | **0,8378** | **0,8442** | **0,8505** | **0,8566** | **0,8627** | **0,8686** | **0,8745** | **0,8802** | **30′** |
| 32′ | 0,8249 | 0,8315 | 0,8380 | 0,8444 | 0,8507 | 0,8568 | 0,8629 | 0,8688 | 0,8747 | 0,8804 | 28′ |
| 34′ | 0,8252 | 0,8317 | 0,8382 | 0,8446 | 0,8509 | 0,8570 | 0,8631 | 0,8690 | 0,8749 | 0,8806 | 26′ |
| 36′ | 0,8254 | 0,8320 | 0,8384 | 0,8448 | 0,8511 | 0,8572 | 0,8633 | 0,8692 | 0,8751 | 0,8808 | 24′ |
| 38′ | 0,8256 | 0,8322 | 0,8387 | 0,8450 | 0,8513 | 0,8574 | 0,8635 | 0,8694 | 0,8752 | 0,8810 | 22′ |
| **40′** | **0,8258** | **0,8324** | **0,8389** | **0,8452** | **0,8515** | **0,8576** | **0,8637** | **0,8696** | **0,8754** | **0,8811** | **20′** |
| 42′ | 0,8260 | 0,8326 | 0,8391 | 0,8454 | 0,8517 | 0,8578 | 0,8639 | 0,8698 | 0,8756 | 0,8813 | 18′ |
| 44′ | 0,8263 | 0,8328 | 0,8393 | 0,8457 | 0,8519 | 0,8580 | 0,8641 | 0,8700 | 0,8758 | 0,8815 | 16′ |
| 46′ | 0,8265 | 0,8330 | 0,8395 | 0,8459 | 0,8521 | 0,8583 | 0,8643 | 0,8702 | 0,8760 | 0,8817 | 14′ |
| 48′ | 0,8267 | 0,8333 | 0,8397 | 0,8461 | 0,8523 | 0,8585 | 0,8645 | 0,8704 | 0,8762 | 0,8819 | 12′ |
| **50′** | **0,8269** | **0,8335** | **0,8399** | **0,8463** | **0,8525** | **0,8587** | **0,8647** | **0,8706** | **0,8764** | **0,8821** | **10′** |
| 52′ | 0,8272 | 0,8337 | 0,8401 | 0,8465 | 0,8527 | 0,8589 | 0,8649 | 0,8708 | 0,8766 | 0,8823 | 8′ |
| 54′ | 0,8274 | 0,8339 | 0,8404 | 0,8467 | 0,8529 | 0,8591 | 0,8651 | 0,8710 | 0,8768 | 0,8825 | 6′ |
| 56′ | 0,8276 | 0,8341 | 0,8406 | 0,8469 | 0,8531 | 0,8593 | 0,8653 | 0,8712 | 0,8770 | 0,8826 | 4′ |
| 58′ | 0,8278 | 0,8343 | 0,8408 | 0,8471 | 0,8533 | 0,8595 | 0,8655 | 0,8714 | 0,8772 | 0,8828 | 2′ |
| **60′** | 0,8280 | 0,8346 | 0,8410 | 0,8473 | 0,8536 | 0,8597 | 0,8657 | 0,8716 | 0,8774 | 0,8830 | **0′** |
| | **229°** | **228°** | **227°** | **226°** | **225°** | **224°** | **223°** | **222°** | **221°** | **220°** | $180^\circ \leqslant \theta$ |

Usage: $hv(223^\circ 18') = hv(136^\circ 42') = 0.8639$ denoted as 0,8639

| $\theta \leqslant 180^\circ$ | **140°** | **141°** | **142°** | **143°** | **144°** | **145°** | **146°** | **147°** | **148°** | **149°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0,8830 | 0,8886 | 0,8940 | 0,8993 | $\overline{1}$,0451 | $\overline{1}$,0958 | $\overline{1}$,1452 | $\overline{1}$,1934 | $\overline{1}$,2402 | $\overline{1}$,2858 | **60′** |
| 2′ | 0,8832 | 0,8888 | 0,8942 | 0,8995 | $\overline{1}$,0468 | $\overline{1}$,0974 | $\overline{1}$,1468 | $\overline{1}$,1949 | $\overline{1}$,2418 | $\overline{1}$,2873 | 58′ |
| 4′ | 0,8834 | 0,8889 | 0,8944 | 0,8997 | $\overline{1}$,0485 | $\overline{1}$,0991 | $\overline{1}$,1484 | $\overline{1}$,1965 | $\overline{1}$,2433 | $\overline{1}$,2888 | 56′ |
| 6′ | 0,8836 | 0,8891 | 0,8945 | 0,8998 | $\overline{1}$,0502 | $\overline{1}$,1008 | $\overline{1}$,1501 | $\overline{1}$,1981 | $\overline{1}$,2449 | $\overline{1}$,2903 | 54′ |
| 8′ | 0,8838 | 0,8893 | 0,8947 | $\overline{1}$,0002 | $\overline{1}$,0519 | $\overline{1}$,1024 | $\overline{1}$,1517 | $\overline{1}$,1997 | $\overline{1}$,2464 | $\overline{1}$,2918 | 52′ |
| **10′** | **0,8840** | **0,8895** | **0,8949** | **$\overline{1}$,0019** | **$\overline{1}$,0536** | **$\overline{1}$,1041** | **$\overline{1}$,1533** | **$\overline{1}$,2013** | **$\overline{1}$,2479** | **$\overline{1}$,2933** | **50′** |
| 12′ | 0,8841 | 0,8897 | 0,8951 | $\overline{1}$,0037 | $\overline{1}$,0553 | $\overline{1}$,1057 | $\overline{1}$,1549 | $\overline{1}$,2028 | $\overline{1}$,2495 | $\overline{1}$,2948 | 48′ |
| 14′ | 0,8843 | 0,8899 | 0,8953 | $\overline{1}$,0054 | $\overline{1}$,0570 | $\overline{1}$,1074 | $\overline{1}$,1565 | $\overline{1}$,2044 | $\overline{1}$,2510 | $\overline{1}$,2963 | 46′ |
| 16′ | 0,8845 | 0,8900 | 0,8954 | $\overline{1}$,0071 | $\overline{1}$,0587 | $\overline{1}$,1091 | $\overline{1}$,1582 | $\overline{1}$,2060 | $\overline{1}$,2525 | $\overline{1}$,2978 | 44′ |
| 18′ | 0,8847 | 0,8902 | 0,8956 | $\overline{1}$,0089 | $\overline{1}$,0604 | $\overline{1}$,1107 | $\overline{1}$,1598 | $\overline{1}$,2076 | $\overline{1}$,2541 | $\overline{1}$,2993 | 42′ |
| **20′** | **0,8849** | **0,8904** | **0,8958** | **$\overline{1}$,0106** | **$\overline{1}$,0621** | **$\overline{1}$,1124** | **$\overline{1}$,1614** | **$\overline{1}$,2091** | **$\overline{1}$,2556** | **$\overline{1}$,3007** | **40′** |
| 22′ | 0,8851 | 0,8906 | 0,8960 | $\overline{1}$,0124 | $\overline{1}$,0638 | $\overline{1}$,1140 | $\overline{1}$,1630 | $\overline{1}$,2107 | $\overline{1}$,2571 | $\overline{1}$,3022 | 38′ |
| 24′ | 0,8853 | 0,8908 | 0,8961 | $\overline{1}$,0141 | $\overline{1}$,0655 | $\overline{1}$,1157 | $\overline{1}$,1646 | $\overline{1}$,2123 | $\overline{1}$,2586 | $\overline{1}$,3037 | 36′ |
| 26′ | 0,8854 | 0,8909 | 0,8963 | $\overline{1}$,0158 | $\overline{1}$,0672 | $\overline{1}$,1173 | $\overline{1}$,1662 | $\overline{1}$,2138 | $\overline{1}$,2602 | $\overline{1}$,3052 | 34′ |
| 28′ | 0,8856 | 0,8911 | 0,8965 | $\overline{1}$,0176 | $\overline{1}$,0689 | $\overline{1}$,1190 | $\overline{1}$,1678 | $\overline{1}$,2154 | $\overline{1}$,2617 | $\overline{1}$,3067 | 32′ |
| **30′** | **0,8858** | **0,8913** | **0,8967** | **$\overline{1}$,0193** | **$\overline{1}$,0706** | **$\overline{1}$,1206** | **$\overline{1}$,1694** | **$\overline{1}$,2170** | **$\overline{1}$,2632** | **$\overline{1}$,3081** | **30′** |
| 32′ | 0,8860 | 0,8915 | 0,8969 | $\overline{1}$,0210 | $\overline{1}$,0723 | $\overline{1}$,1223 | $\overline{1}$,1710 | $\overline{1}$,2185 | $\overline{1}$,2647 | $\overline{1}$,3096 | 28′ |
| 34′ | 0,8862 | 0,8917 | 0,8970 | $\overline{1}$,0227 | $\overline{1}$,0740 | $\overline{1}$,1239 | $\overline{1}$,1726 | $\overline{1}$,2201 | $\overline{1}$,2662 | $\overline{1}$,3111 | 26′ |
| 36′ | 0,8864 | 0,8918 | 0,8972 | $\overline{1}$,0245 | $\overline{1}$,0756 | $\overline{1}$,1256 | $\overline{1}$,1742 | $\overline{1}$,2216 | $\overline{1}$,2678 | $\overline{1}$,3126 | 24′ |
| 38′ | 0,8866 | 0,8920 | 0,8974 | $\overline{1}$,0262 | $\overline{1}$,0773 | $\overline{1}$,1272 | $\overline{1}$,1758 | $\overline{1}$,2232 | $\overline{1}$,2693 | $\overline{1}$,3140 | 22′ |
| **40′** | **0,8867** | **0,8922** | **0,8976** | **$\overline{1}$,0279** | **$\overline{1}$,0790** | **$\overline{1}$,1289** | **$\overline{1}$,1774** | **$\overline{1}$,2248** | **$\overline{1}$,2708** | **$\overline{1}$,3155** | **20′** |
| 42′ | 0,8869 | 0,8924 | 0,8977 | $\overline{1}$,0296 | $\overline{1}$,0807 | $\overline{1}$,1305 | $\overline{1}$,1790 | $\overline{1}$,2263 | $\overline{1}$,2723 | $\overline{1}$,3170 | 18′ |
| 44′ | 0,8871 | 0,8926 | 0,8979 | $\overline{1}$,0314 | $\overline{1}$,0824 | $\overline{1}$,1321 | $\overline{1}$,1806 | $\overline{1}$,2279 | $\overline{1}$,2738 | $\overline{1}$,3184 | 16′ |
| 46′ | 0,8873 | 0,8927 | 0,8981 | $\overline{1}$,0331 | $\overline{1}$,0840 | $\overline{1}$,1338 | $\overline{1}$,1822 | $\overline{1}$,2294 | $\overline{1}$,2753 | $\overline{1}$,3199 | 14′ |
| 48′ | 0,8875 | 0,8929 | 0,8983 | $\overline{1}$,0348 | $\overline{1}$,0857 | $\overline{1}$,1354 | $\overline{1}$,1838 | $\overline{1}$,2310 | $\overline{1}$,2768 | $\overline{1}$,3214 | 12′ |
| **50′** | **0,8877** | **0,8931** | **0,8984** | **$\overline{1}$,0365** | **$\overline{1}$,0874** | **$\overline{1}$,1370** | **$\overline{1}$,1854** | **$\overline{1}$,2325** | **$\overline{1}$,2783** | **$\overline{1}$,3228** | **10′** |
| 52′ | 0,8878 | 0,8933 | 0,8986 | $\overline{1}$,0382 | $\overline{1}$,0891 | $\overline{1}$,1387 | $\overline{1}$,1870 | $\overline{1}$,2341 | $\overline{1}$,2798 | $\overline{1}$,3243 | 8′ |
| 54′ | 0,8880 | 0,8935 | 0,8988 | $\overline{1}$,0399 | $\overline{1}$,0907 | $\overline{1}$,1403 | $\overline{1}$,1886 | $\overline{1}$,2356 | $\overline{1}$,2813 | $\overline{1}$,3258 | 6′ |
| 56′ | 0,8882 | 0,8936 | 0,8990 | $\overline{1}$,0417 | $\overline{1}$,0924 | $\overline{1}$,1419 | $\overline{1}$,1902 | $\overline{1}$,2372 | $\overline{1}$,2828 | $\overline{1}$,3272 | 4′ |
| 58′ | 0,8884 | 0,8938 | 0,8991 | $\overline{1}$,0434 | $\overline{1}$,0941 | $\overline{1}$,1436 | $\overline{1}$,1918 | $\overline{1}$,2387 | $\overline{1}$,2843 | $\overline{1}$,3287 | 2′ |
| **60′** | 0,8886 | 0,8940 | 0,8993 | $\overline{1}$,0451 | $\overline{1}$,0958 | $\overline{1}$,1452 | $\overline{1}$,1934 | $\overline{1}$,2402 | $\overline{1}$,2858 | $\overline{1}$,3301 | **0′** |
| | **219°** | **218°** | **217°** | **216°** | **215°** | **214°** | **213°** | **212°** | **211°** | **210°** | $180^\circ \leqslant \theta$ |

Usage: $hv(216^\circ 52') = hv(143^\circ 08') = 0.90002$ denoted as $\overline{1}$,0002

| $\theta \leqslant 180^\circ$ | **150°** | **151°** | **152°** | **153°** | **154°** | **155°** | **156°** | **157°** | **158°** | **159°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | $\overline{1}$,3301 | $\overline{1}$,3731 | $\overline{1}$,4147 | $\overline{1}$,4550 | $\overline{1}$,4940 | $\overline{1}$,5315 | $\overline{1}$,5677 | $\overline{1}$,6025 | $\overline{1}$,6359 | $\overline{1}$,6679 | **60′** |
| 2′ | $\overline{1}$,3316 | $\overline{1}$,3745 | $\overline{1}$,4161 | $\overline{1}$,4564 | $\overline{1}$,4952 | $\overline{1}$,5328 | $\overline{1}$,5689 | $\overline{1}$,6037 | $\overline{1}$,6370 | $\overline{1}$,6689 | 58′ |
| 4′ | $\overline{1}$,3330 | $\overline{1}$,3759 | $\overline{1}$,4175 | $\overline{1}$,4577 | $\overline{1}$,4965 | $\overline{1}$,5340 | $\overline{1}$,5701 | $\overline{1}$,6048 | $\overline{1}$,6381 | $\overline{1}$,6700 | 56′ |
| 6′ | $\overline{1}$,3345 | $\overline{1}$,3773 | $\overline{1}$,4188 | $\overline{1}$,4590 | $\overline{1}$,4978 | $\overline{1}$,5352 | $\overline{1}$,5713 | $\overline{1}$,6059 | $\overline{1}$,6392 | $\overline{1}$,6710 | 54′ |
| 8′ | $\overline{1}$,3359 | $\overline{1}$,3787 | $\overline{1}$,4202 | $\overline{1}$,4603 | $\overline{1}$,4991 | $\overline{1}$,5364 | $\overline{1}$,5724 | $\overline{1}$,6071 | $\overline{1}$,6403 | $\overline{1}$,6721 | 52′ |
| **10′** | **$\overline{1}$,3374** | **$\overline{1}$,3801** | **$\overline{1}$,4215** | **$\overline{1}$,4616** | **$\overline{1}$,5003** | **$\overline{1}$,5377** | **$\overline{1}$,5736** | **$\overline{1}$,6082** | **$\overline{1}$,6413** | **$\overline{1}$,6731** | **50′** |
| 12′ | $\overline{1}$,3388 | $\overline{1}$,3815 | $\overline{1}$,4229 | $\overline{1}$,4629 | $\overline{1}$,5016 | $\overline{1}$,5389 | $\overline{1}$,5748 | $\overline{1}$,6093 | $\overline{1}$,6424 | $\overline{1}$,6741 | 48′ |
| 14′ | $\overline{1}$,3403 | $\overline{1}$,3829 | $\overline{1}$,4243 | $\overline{1}$,4642 | $\overline{1}$,5029 | $\overline{1}$,5401 | $\overline{1}$,5760 | $\overline{1}$,6104 | $\overline{1}$,6435 | $\overline{1}$,6752 | 46′ |
| 16′ | $\overline{1}$,3417 | $\overline{1}$,3843 | $\overline{1}$,4256 | $\overline{1}$,4655 | $\overline{1}$,5041 | $\overline{1}$,5413 | $\overline{1}$,5771 | $\overline{1}$,6116 | $\overline{1}$,6446 | $\overline{1}$,6762 | 44′ |
| 18′ | $\overline{1}$,3432 | $\overline{1}$,3857 | $\overline{1}$,4270 | $\overline{1}$,4669 | $\overline{1}$,5054 | $\overline{1}$,5425 | $\overline{1}$,5783 | $\overline{1}$,6127 | $\overline{1}$,6457 | $\overline{1}$,6772 | 42′ |
| **20′** | **$\overline{1}$,3446** | **$\overline{1}$,3871** | **$\overline{1}$,4283** | **$\overline{1}$,4682** | **$\overline{1}$,5066** | **$\overline{1}$,5438** | **$\overline{1}$,5795** | **$\overline{1}$,6138** | **$\overline{1}$,6467** | **$\overline{1}$,6782** | **40′** |
| 22′ | $\overline{1}$,3460 | $\overline{1}$,3885 | $\overline{1}$,4297 | $\overline{1}$,4695 | $\overline{1}$,5079 | $\overline{1}$,5450 | $\overline{1}$,5806 | $\overline{1}$,6149 | $\overline{1}$,6478 | $\overline{1}$,6793 | 38′ |
| 24′ | $\overline{1}$,3475 | $\overline{1}$,3899 | $\overline{1}$,4310 | $\overline{1}$,4708 | $\overline{1}$,5092 | $\overline{1}$,5462 | $\overline{1}$,5818 | $\overline{1}$,6161 | $\overline{1}$,6489 | $\overline{1}$,6803 | 36′ |
| 26′ | $\overline{1}$,3489 | $\overline{1}$,3913 | $\overline{1}$,4324 | $\overline{1}$,4721 | $\overline{1}$,5104 | $\overline{1}$,5474 | $\overline{1}$,5830 | $\overline{1}$,6172 | $\overline{1}$,6500 | $\overline{1}$,6813 | 34′ |
| 28′ | $\overline{1}$,3503 | $\overline{1}$,3927 | $\overline{1}$,4337 | $\overline{1}$,4734 | $\overline{1}$,5117 | $\overline{1}$,5486 | $\overline{1}$,5841 | $\overline{1}$,6183 | $\overline{1}$,6510 | $\overline{1}$,6823 | 32′ |
| **30′** | **$\overline{1}$,3518** | **$\overline{1}$,3941** | **$\overline{1}$,4351** | **$\overline{1}$,4747** | **$\overline{1}$,5129** | **$\overline{1}$,5498** | **$\overline{1}$,5853** | **$\overline{1}$,6194** | **$\overline{1}$,6521** | **$\overline{1}$,6834** | **30′** |
| 32′ | $\overline{1}$,3532 | $\overline{1}$,3955 | $\overline{1}$,4364 | $\overline{1}$,4760 | $\overline{1}$,5142 | $\overline{1}$,5510 | $\overline{1}$,5865 | $\overline{1}$,6205 | $\overline{1}$,6532 | $\overline{1}$,6844 | 28′ |
| 34′ | $\overline{1}$,3546 | $\overline{1}$,3969 | $\overline{1}$,4377 | $\overline{1}$,4773 | $\overline{1}$,5154 | $\overline{1}$,5522 | $\overline{1}$,5876 | $\overline{1}$,6216 | $\overline{1}$,6542 | $\overline{1}$,6854 | 26′ |
| 36′ | $\overline{1}$,3561 | $\overline{1}$,3982 | $\overline{1}$,4391 | $\overline{1}$,4786 | $\overline{1}$,5167 | $\overline{1}$,5534 | $\overline{1}$,5888 | $\overline{1}$,6227 | $\overline{1}$,6553 | $\overline{1}$,6864 | 24′ |
| 38′ | $\overline{1}$,3575 | $\overline{1}$,3996 | $\overline{1}$,4404 | $\overline{1}$,4799 | $\overline{1}$,5179 | $\overline{1}$,5546 | $\overline{1}$,5899 | $\overline{1}$,6238 | $\overline{1}$,6563 | $\overline{1}$,6874 | 22′ |
| **40′** | **$\overline{1}$,3589** | **$\overline{1}$,4010** | **$\overline{1}$,4418** | **$\overline{1}$,4811** | **$\overline{1}$,5192** | **$\overline{1}$,5558** | **$\overline{1}$,5911** | **$\overline{1}$,6249** | **$\overline{1}$,6574** | **$\overline{1}$,6884** | **20′** |
| 42′ | $\overline{1}$,3603 | $\overline{1}$,4024 | $\overline{1}$,4431 | $\overline{1}$,4824 | $\overline{1}$,5204 | $\overline{1}$,5570 | $\overline{1}$,5922 | $\overline{1}$,6260 | $\overline{1}$,6585 | $\overline{1}$,6894 | 18′ |
| 44′ | $\overline{1}$,3618 | $\overline{1}$,4038 | $\overline{1}$,4444 | $\overline{1}$,4837 | $\overline{1}$,5217 | $\overline{1}$,5582 | $\overline{1}$,5934 | $\overline{1}$,6272 | $\overline{1}$,6595 | $\overline{1}$,6905 | 16′ |
| 46′ | $\overline{1}$,3632 | $\overline{1}$,4051 | $\overline{1}$,4458 | $\overline{1}$,4850 | $\overline{1}$,5229 | $\overline{1}$,5594 | $\overline{1}$,5945 | $\overline{1}$,6283 | $\overline{1}$,6606 | $\overline{1}$,6915 | 14′ |
| 48′ | $\overline{1}$,3646 | $\overline{1}$,4065 | $\overline{1}$,4471 | $\overline{1}$,4863 | $\overline{1}$,5241 | $\overline{1}$,5606 | $\overline{1}$,5957 | $\overline{1}$,6294 | $\overline{1}$,6616 | $\overline{1}$,6925 | 12′ |
| **50′** | **$\overline{1}$,3660** | **$\overline{1}$,4079** | **$\overline{1}$,4484** | **$\overline{1}$,4876** | **$\overline{1}$,5254** | **$\overline{1}$,5618** | **$\overline{1}$,5968** | **$\overline{1}$,6305** | **$\overline{1}$,6627** | **$\overline{1}$,6935** | **10′** |
| 52′ | $\overline{1}$,3674 | $\overline{1}$,4093 | $\overline{1}$,4497 | $\overline{1}$,4889 | $\overline{1}$,5266 | $\overline{1}$,5630 | $\overline{1}$,5980 | $\overline{1}$,6315 | $\overline{1}$,6637 | $\overline{1}$,6945 | 8′ |
| 54′ | $\overline{1}$,3689 | $\overline{1}$,4106 | $\overline{1}$,4511 | $\overline{1}$,4901 | $\overline{1}$,5278 | $\overline{1}$,5642 | $\overline{1}$,5991 | $\overline{1}$,6326 | $\overline{1}$,6648 | $\overline{1}$,6955 | 6′ |
| 56′ | $\overline{1}$,3703 | $\overline{1}$,4120 | $\overline{1}$,4524 | $\overline{1}$,4914 | $\overline{1}$,5291 | $\overline{1}$,5654 | $\overline{1}$,6002 | $\overline{1}$,6337 | $\overline{1}$,6658 | $\overline{1}$,6965 | 4′ |
| 58′ | $\overline{1}$,3717 | $\overline{1}$,4134 | $\overline{1}$,4537 | $\overline{1}$,4927 | $\overline{1}$,5303 | $\overline{1}$,5665 | $\overline{1}$,6014 | $\overline{1}$,6348 | $\overline{1}$,6669 | $\overline{1}$,6975 | 2′ |
| **60′** | $\overline{1}$,3731 | $\overline{1}$,4147 | $\overline{1}$,4550 | $\overline{1}$,4940 | $\overline{1}$,5315 | $\overline{1}$,5677 | $\overline{1}$,6025 | $\overline{1}$,6359 | $\overline{1}$,6679 | $\overline{1}$,6985 | **0′** |
| | **209°** | **208°** | **207°** | **206°** | **205°** | **204°** | **203°** | **202°** | **201°** | **200°** | $180^\circ \leqslant \theta$ |

Usage: $hv(200^\circ 02') = hv(159^\circ 58') = 0.96975$ denoted as $\overline{1}$,6975

| $\theta \leqslant 180°$ | **160°** | **161°** | **162°** | **163°** | **164°** | **165°** | **166°** | **167°** | **168°** | **169°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | $\overline{1}$,6985 | $\overline{1}$,7276 | $\overline{1}$,7553 | $\overline{1}$,7815 | $\overline{1}$,8063 | $\overline{1}$,8296 | $\overline{1}$,8515 | $\overline{1}$,8719 | $\overline{1}$,8907 | $\overline{2}$,0814 | **60′** |
| 2′ | $\overline{1}$,6995 | $\overline{1}$,7285 | $\overline{1}$,7562 | $\overline{1}$,7824 | $\overline{1}$,8071 | $\overline{1}$,8304 | $\overline{1}$,8522 | $\overline{1}$,8725 | $\overline{1}$,8913 | $\overline{2}$,0869 | 58′ |
| 4′ | $\overline{1}$,7004 | $\overline{1}$,7295 | $\overline{1}$,7571 | $\overline{1}$,7832 | $\overline{1}$,8079 | $\overline{1}$,8311 | $\overline{1}$,8529 | $\overline{1}$,8732 | $\overline{1}$,8919 | $\overline{2}$,0924 | 56′ |
| 6′ | $\overline{1}$,7014 | $\overline{1}$,7304 | $\overline{1}$,7580 | $\overline{1}$,7841 | $\overline{1}$,8087 | $\overline{1}$,8319 | $\overline{1}$,8536 | $\overline{1}$,8738 | $\overline{1}$,8925 | $\overline{2}$,0979 | 54′ |
| 8′ | $\overline{1}$,7024 | $\overline{1}$,7314 | $\overline{1}$,7589 | $\overline{1}$,7849 | $\overline{1}$,8095 | $\overline{1}$,8326 | $\overline{1}$,8543 | $\overline{1}$,8745 | $\overline{1}$,8931 | $\overline{2}$,1034 | 52′ |
| **10′** | **$\overline{1}$,7034** | **$\overline{1}$,7323** | **$\overline{1}$,7598** | **$\overline{1}$,7858** | **$\overline{1}$,8103** | **$\overline{1}$,8334** | **$\overline{1}$,8550** | **$\overline{1}$,8751** | **$\overline{1}$,8937** | **$\overline{2}$,1089** | **50′** |
| 12′ | $\overline{1}$,7044 | $\overline{1}$,7332 | $\overline{1}$,7606 | $\overline{1}$,7866 | $\overline{1}$,8111 | $\overline{1}$,8341 | $\overline{1}$,8557 | $\overline{1}$,8757 | $\overline{1}$,8943 | $\overline{2}$,1144 | 48′ |
| 14′ | $\overline{1}$,7054 | $\overline{1}$,7342 | $\overline{1}$,7615 | $\overline{1}$,7874 | $\overline{1}$,8119 | $\overline{1}$,8349 | $\overline{1}$,8564 | $\overline{1}$,8764 | $\overline{1}$,8949 | $\overline{2}$,1198 | 46′ |
| 16′ | $\overline{1}$,7064 | $\overline{1}$,7351 | $\overline{1}$,7624 | $\overline{1}$,7883 | $\overline{1}$,8127 | $\overline{1}$,8356 | $\overline{1}$,8571 | $\overline{1}$,8770 | $\overline{1}$,8955 | $\overline{2}$,1252 | 44′ |
| 18′ | $\overline{1}$,7074 | $\overline{1}$,7361 | $\overline{1}$,7633 | $\overline{1}$,7891 | $\overline{1}$,8135 | $\overline{1}$,8363 | $\overline{1}$,8577 | $\overline{1}$,8777 | $\overline{1}$,8961 | $\overline{2}$,1306 | 42′ |
| **20′** | **$\overline{1}$,7083** | **$\overline{1}$,7370** | **$\overline{1}$,7642** | **$\overline{1}$,7899** | **$\overline{1}$,8142** | **$\overline{1}$,8371** | **$\overline{1}$,8584** | **$\overline{1}$,8783** | **$\overline{1}$,8967** | **$\overline{2}$,1360** | **40′** |
| 22′ | $\overline{1}$,7093 | $\overline{1}$,7379 | $\overline{1}$,7651 | $\overline{1}$,7908 | $\overline{1}$,8150 | $\overline{1}$,8378 | $\overline{1}$,8591 | $\overline{1}$,8789 | $\overline{1}$,8973 | $\overline{2}$,1414 | 38′ |
| 24′ | $\overline{1}$,7103 | $\overline{1}$,7388 | $\overline{1}$,7660 | $\overline{1}$,7916 | $\overline{1}$,8158 | $\overline{1}$,8385 | $\overline{1}$,8598 | $\overline{1}$,8796 | $\overline{1}$,8979 | $\overline{2}$,1468 | 36′ |
| 26′ | $\overline{1}$,7113 | $\overline{1}$,7398 | $\overline{1}$,7668 | $\overline{1}$,7924 | $\overline{1}$,8166 | $\overline{1}$,8393 | $\overline{1}$,8605 | $\overline{1}$,8802 | $\overline{1}$,8985 | $\overline{2}$,1521 | 34′ |
| 28′ | $\overline{1}$,7122 | $\overline{1}$,7407 | $\overline{1}$,7677 | $\overline{1}$,7933 | $\overline{1}$,8174 | $\overline{1}$,8400 | $\overline{1}$,8612 | $\overline{1}$,8808 | $\overline{1}$,8990 | $\overline{2}$,1574 | 32′ |
| **30′** | **$\overline{1}$,7132** | **$\overline{1}$,7416** | **$\overline{1}$,7686** | **$\overline{1}$,7941** | **$\overline{1}$,8182** | **$\overline{1}$,8407** | **$\overline{1}$,8618** | **$\overline{1}$,8815** | **$\overline{1}$,8996** | **$\overline{2}$,1627** | **30′** |
| 32′ | $\overline{1}$,7142 | $\overline{1}$,7425 | $\overline{1}$,7695 | $\overline{1}$,7949 | $\overline{1}$,8189 | $\overline{1}$,8415 | $\overline{1}$,8625 | $\overline{1}$,8821 | $\overline{2}$,0020 | $\overline{2}$,1680 | 28′ |
| 34′ | $\overline{1}$,7151 | $\overline{1}$,7435 | $\overline{1}$,7703 | $\overline{1}$,7957 | $\overline{1}$,8197 | $\overline{1}$,8422 | $\overline{1}$,8632 | $\overline{1}$,8827 | $\overline{2}$,0078 | $\overline{2}$,1733 | 26′ |
| 36′ | $\overline{1}$,7161 | $\overline{1}$,7444 | $\overline{1}$,7712 | $\overline{1}$,7966 | $\overline{1}$,8205 | $\overline{1}$,8429 | $\overline{1}$,8639 | $\overline{1}$,8834 | $\overline{2}$,0136 | $\overline{2}$,1786 | 24′ |
| 38′ | $\overline{1}$,7171 | $\overline{1}$,7453 | $\overline{1}$,7721 | $\overline{1}$,7974 | $\overline{1}$,8212 | $\overline{1}$,8436 | $\overline{1}$,8646 | $\overline{1}$,8840 | $\overline{2}$,0193 | $\overline{2}$,1838 | 22′ |
| **40′** | **$\overline{1}$,7180** | **$\overline{1}$,7462** | **$\overline{1}$,7729** | **$\overline{1}$,7982** | **$\overline{1}$,8220** | **$\overline{1}$,8444** | **$\overline{1}$,8652** | **$\overline{1}$,8846** | **$\overline{2}$,0250** | **$\overline{2}$,1890** | **20′** |
| 42′ | $\overline{1}$,7190 | $\overline{1}$,7471 | $\overline{1}$,7738 | $\overline{1}$,7990 | $\overline{1}$,8228 | $\overline{1}$,8451 | $\overline{1}$,8659 | $\overline{1}$,8852 | $\overline{2}$,0307 | $\overline{2}$,1943 | 18′ |
| 44′ | $\overline{1}$,7200 | $\overline{1}$,7480 | $\overline{1}$,7747 | $\overline{1}$,7998 | $\overline{1}$,8236 | $\overline{1}$,8458 | $\overline{1}$,8666 | $\overline{1}$,8858 | $\overline{2}$,0364 | $\overline{2}$,1994 | 16′ |
| 46′ | $\overline{1}$,7209 | $\overline{1}$,7490 | $\overline{1}$,7755 | $\overline{1}$,8007 | $\overline{1}$,8243 | $\overline{1}$,8465 | $\overline{1}$,8672 | $\overline{1}$,8865 | $\overline{2}$,0421 | $\overline{2}$,2046 | 14′ |
| 48′ | $\overline{1}$,7219 | $\overline{1}$,7499 | $\overline{1}$,7764 | $\overline{1}$,8015 | $\overline{1}$,8251 | $\overline{1}$,8472 | $\overline{1}$,8679 | $\overline{1}$,8871 | $\overline{2}$,0478 | $\overline{2}$,2098 | 12′ |
| **50′** | **$\overline{1}$,7228** | **$\overline{1}$,7508** | **$\overline{1}$,7773** | **$\overline{1}$,8023** | **$\overline{1}$,8258** | **$\overline{1}$,8479** | **$\overline{1}$,8686** | **$\overline{1}$,8877** | **$\overline{2}$,0534** | **$\overline{2}$,2149** | **10′** |
| 52′ | $\overline{1}$,7238 | $\overline{1}$,7517 | $\overline{1}$,7781 | $\overline{1}$,8031 | $\overline{1}$,8266 | $\overline{1}$,8487 | $\overline{1}$,8692 | $\overline{1}$,8883 | $\overline{2}$,0590 | $\overline{2}$,2200 | 8′ |
| 54′ | $\overline{1}$,7247 | $\overline{1}$,7526 | $\overline{1}$,7790 | $\overline{1}$,8039 | $\overline{1}$,8274 | $\overline{1}$,8494 | $\overline{1}$,8699 | $\overline{1}$,8889 | $\overline{2}$,0646 | $\overline{2}$,2252 | 6′ |
| 56′ | $\overline{1}$,7257 | $\overline{1}$,7535 | $\overline{1}$,7798 | $\overline{1}$,8047 | $\overline{1}$,8281 | $\overline{1}$,8501 | $\overline{1}$,8705 | $\overline{1}$,8895 | $\overline{2}$,0702 | $\overline{2}$,2303 | 4′ |
| 58′ | $\overline{1}$,7266 | $\overline{1}$,7544 | $\overline{1}$,7807 | $\overline{1}$,8055 | $\overline{1}$,8289 | $\overline{1}$,8508 | $\overline{1}$,8712 | $\overline{1}$,8901 | $\overline{2}$,0758 | $\overline{2}$,2353 | 2′ |
| **60′** | $\overline{1}$,7276 | $\overline{1}$,7553 | $\overline{1}$,7815 | $\overline{1}$,8063 | $\overline{1}$,8296 | $\overline{1}$,8515 | $\overline{1}$,8719 | $\overline{1}$,8907 | $\overline{2}$,0814 | $\overline{2}$,2404 | **0′** |
| | **199°** | **198°** | **197°** | **196°** | **195°** | **194°** | **193°** | **192°** | **191°** | **190°** | $180° \leqslant \theta$ |

Usage: $hv(191°26') = hv(168°34') = 0.990078$ denoted as $\overline{2}$,0078

| $\theta \leqslant 180^\circ$ | **170°** | **171°** | **172°** | **173°** | **174°** | **175°** | **176°** | **177°** | **178°** | **179°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | $\overline{2}$,2404 | $\overline{2}$,3844 | $\overline{2}$,5134 | $\overline{2}$,6273 | $\overline{2}$,7261 | $\overline{2}$,8097 | $\overline{2}$,8782 | $\overline{3}$,3148 | $\overline{3}$,6954 | $\overline{4}$,2385 | **60′** |
| 2′ | $\overline{2}$,2454 | $\overline{2}$,3890 | $\overline{2}$,5174 | $\overline{2}$,6308 | $\overline{2}$,7291 | $\overline{2}$,8123 | $\overline{2}$,8802 | $\overline{3}$,3299 | $\overline{3}$,7055 | $\overline{4}$,2884 | 58′ |
| 4′ | $\overline{2}$,2505 | $\overline{2}$,3935 | $\overline{2}$,5215 | $\overline{2}$,6344 | $\overline{2}$,7321 | $\overline{2}$,8148 | $\overline{2}$,8822 | $\overline{3}$,3449 | $\overline{3}$,7154 | $\overline{4}$,3366 | 56′ |
| 6′ | $\overline{2}$,2555 | $\overline{2}$,3980 | $\overline{2}$,5255 | $\overline{2}$,6379 | $\overline{2}$,7351 | $\overline{2}$,8173 | $\overline{2}$,8842 | $\overline{3}$,3597 | $\overline{3}$,7251 | $\overline{4}$,3832 | 54′ |
| 8′ | $\overline{2}$,2605 | $\overline{2}$,4025 | $\overline{2}$,5295 | $\overline{2}$,6414 | $\overline{2}$,7381 | $\overline{2}$,8197 | $\overline{2}$,8862 | $\overline{3}$,3743 | $\overline{3}$,7347 | $\overline{4}$,4280 | 52′ |
| **10′** | **$\overline{2}$,2654** | **$\overline{2}$,4070** | **$\overline{2}$,5334** | **$\overline{2}$,6448** | **$\overline{2}$,7411** | **$\overline{2}$,8222** | **$\overline{2}$,8881** | **$\overline{3}$,3888** | **$\overline{3}$,7441** | **$\overline{4}$,4712** | **50′** |
| 12′ | $\overline{2}$,2704 | $\overline{2}$,4114 | $\overline{2}$,5374 | $\overline{2}$,6483 | $\overline{2}$,7440 | $\overline{2}$,8246 | $\overline{2}$,8901 | $\overline{3}$,4031 | $\overline{3}$,7533 | $\overline{4}$,5126 | 48′ |
| 14′ | $\overline{2}$,2753 | $\overline{2}$,4159 | $\overline{2}$,5413 | $\overline{2}$,6517 | $\overline{2}$,7470 | $\overline{2}$,8271 | $\overline{2}$,8920 | $\overline{3}$,4172 | $\overline{3}$,7623 | $\overline{4}$,5524 | 46′ |
| 16′ | $\overline{2}$,2803 | $\overline{2}$,4203 | $\overline{2}$,5453 | $\overline{2}$,6551 | $\overline{2}$,7499 | $\overline{2}$,8295 | $\overline{2}$,8939 | $\overline{3}$,4312 | $\overline{3}$,7712 | $\overline{4}$,5905 | 44′ |
| 18′ | $\overline{2}$,2852 | $\overline{2}$,4247 | $\overline{2}$,5492 | $\overline{2}$,6585 | $\overline{2}$,7528 | $\overline{2}$,8319 | $\overline{2}$,8958 | $\overline{3}$,4449 | $\overline{3}$,7799 | $\overline{4}$,6268 | 42′ |
| **20′** | **$\overline{2}$,2901** | **$\overline{2}$,4291** | **$\overline{2}$,5530** | **$\overline{2}$,6619** | **$\overline{2}$,7557** | **$\overline{2}$,8342** | **$\overline{2}$,8976** | **$\overline{3}$,4586** | **$\overline{3}$,7885** | **$\overline{4}$,6615** | **40′** |
| 22′ | $\overline{2}$,2949 | $\overline{2}$,4335 | $\overline{2}$,5569 | $\overline{2}$,6653 | $\overline{2}$,7585 | $\overline{2}$,8366 | $\overline{2}$,8995 | $\overline{3}$,4720 | $\overline{3}$,7969 | $\overline{4}$,6945 | 38′ |
| 24′ | $\overline{2}$,2998 | $\overline{2}$,4378 | $\overline{2}$,5608 | $\overline{2}$,6686 | $\overline{2}$,7614 | $\overline{2}$,8389 | $\overline{3}$,0134 | $\overline{3}$,4853 | $\overline{3}$,8051 | $\overline{4}$,7258 | 36′ |
| 26′ | $\overline{2}$,3046 | $\overline{2}$,4422 | $\overline{2}$,5646 | $\overline{2}$,6720 | $\overline{2}$,7642 | $\overline{2}$,8413 | $\overline{3}$,0315 | $\overline{3}$,4984 | $\overline{3}$,8131 | $\overline{4}$,7555 | 34′ |
| 28′ | $\overline{2}$,3095 | $\overline{2}$,4465 | $\overline{2}$,5684 | $\overline{2}$,6753 | $\overline{2}$,7670 | $\overline{2}$,8436 | $\overline{3}$,0496 | $\overline{3}$,5113 | $\overline{3}$,8210 | $\overline{4}$,7834 | 32′ |
| **30′** | **$\overline{2}$,3143** | **$\overline{2}$,4508** | **$\overline{2}$,5722** | **$\overline{2}$,6786** | **$\overline{2}$,7698** | **$\overline{2}$,8459** | **$\overline{3}$,0674** | **$\overline{3}$,5241** | **$\overline{3}$,8287** | **$\overline{4}$,8096** | **30′** |
| 32′ | $\overline{2}$,3191 | $\overline{2}$,4551 | $\overline{2}$,5760 | $\overline{2}$,6819 | $\overline{2}$,7726 | $\overline{2}$,8481 | $\overline{3}$,0851 | $\overline{3}$,5367 | $\overline{3}$,8362 | $\overline{4}$,8342 | 28′ |
| 34′ | $\overline{2}$,3238 | $\overline{2}$,4594 | $\overline{2}$,5798 | $\overline{2}$,6851 | $\overline{2}$,7754 | $\overline{2}$,8504 | $\overline{3}$,1026 | $\overline{3}$,5491 | $\overline{3}$,8436 | $\overline{4}$,8570 | 26′ |
| 36′ | $\overline{2}$,3286 | $\overline{2}$,4636 | $\overline{2}$,5836 | $\overline{2}$,6884 | $\overline{2}$,7781 | $\overline{2}$,8526 | $\overline{3}$,1199 | $\overline{3}$,5614 | $\overline{3}$,8507 | $\overline{4}$,8782 | 24′ |
| 38′ | $\overline{2}$,3334 | $\overline{2}$,4679 | $\overline{2}$,5873 | $\overline{2}$,6916 | $\overline{2}$,7808 | $\overline{2}$,8549 | $\overline{3}$,1371 | $\overline{3}$,5735 | $\overline{3}$,8578 | $\overline{4}$,8976 | 22′ |
| **40′** | **$\overline{2}$,3381** | **$\overline{2}$,4721** | **$\overline{2}$,5910** | **$\overline{2}$,6948** | **$\overline{2}$,7835** | **$\overline{2}$,8571** | **$\overline{3}$,1541** | **$\overline{3}$,5854** | **$\overline{3}$,8646** | **$\overline{5}$,1538** | **20′** |
| 42′ | $\overline{2}$,3428 | $\overline{2}$,4763 | $\overline{2}$,5947 | $\overline{2}$,6980 | $\overline{2}$,7862 | $\overline{2}$,8593 | $\overline{3}$,1709 | $\overline{3}$,5972 | $\overline{3}$,8713 | $\overline{5}$,3146 | 18′ |
| 44′ | $\overline{2}$,3475 | $\overline{2}$,4805 | $\overline{2}$,5984 | $\overline{2}$,7012 | $\overline{2}$,7889 | $\overline{2}$,8614 | $\overline{3}$,1876 | $\overline{3}$,6088 | $\overline{3}$,8778 | $\overline{5}$,4585 | 16′ |
| 46′ | $\overline{2}$,3522 | $\overline{2}$,4847 | $\overline{2}$,6021 | $\overline{2}$,7044 | $\overline{2}$,7916 | $\overline{2}$,8636 | $\overline{3}$,2041 | $\overline{3}$,6202 | $\overline{3}$,8842 | $\overline{5}$,5854 | 14′ |
| 48′ | $\overline{2}$,3568 | $\overline{2}$,4888 | $\overline{2}$,6057 | $\overline{2}$,7075 | $\overline{2}$,7942 | $\overline{2}$,8657 | $\overline{3}$,2204 | $\overline{3}$,6315 | $\overline{3}$,8903 | $\overline{5}$,6954 | 12′ |
| **50′** | **$\overline{2}$,3615** | **$\overline{2}$,4930** | **$\overline{2}$,6094** | **$\overline{2}$,7107** | **$\overline{2}$,7968** | **$\overline{2}$,8678** | **$\overline{3}$,2365** | **$\overline{3}$,6425** | **$\overline{3}$,8963** | **$\overline{5}$,7885** | **10′** |
| 52′ | $\overline{2}$,3661 | $\overline{2}$,4971 | $\overline{2}$,6130 | $\overline{2}$,7138 | $\overline{2}$,7995 | $\overline{2}$,8700 | $\overline{3}$,2525 | $\overline{3}$,6535 | $\overline{4}$,0219 | $\overline{5}$,8646 | 8′ |
| 54′ | $\overline{2}$,3707 | $\overline{2}$,5012 | $\overline{2}$,6166 | $\overline{2}$,7169 | $\overline{2}$,8021 | $\overline{2}$,8720 | $\overline{3}$,2683 | $\overline{3}$,6642 | $\overline{4}$,0786 | $\overline{5}$,9238 | 6′ |
| 56′ | $\overline{2}$,3753 | $\overline{2}$,5053 | $\overline{2}$,6202 | $\overline{2}$,7200 | $\overline{2}$,8046 | $\overline{2}$,8741 | $\overline{3}$,2840 | $\overline{3}$,6748 | $\overline{4}$,1336 | $\overline{5}$,9662 | 4′ |
| 58′ | $\overline{2}$,3799 | $\overline{2}$,5093 | $\overline{2}$,6238 | $\overline{2}$,7230 | $\overline{2}$,8072 | $\overline{2}$,8762 | $\overline{3}$,2995 | $\overline{3}$,6852 | $\overline{4}$,1869 | $\overline{5}$,9915 | 2′ |
| **60′** | $\overline{2}$,3844 | $\overline{2}$,5134 | $\overline{2}$,6273 | $\overline{2}$,7261 | $\overline{2}$,8097 | $\overline{2}$,8782 | $\overline{3}$,3148 | $\overline{3}$,6954 | $\overline{4}$,2385 | 1,00 | **0′** |
| | **189°** | **188°** | **187°** | **186°** | **185°** | **184°** | **183°** | **182°** | **181°** | **180°** | $180^\circ \leqslant \theta$ |

Usage: $hv(180^\circ 02') = hv(179^\circ 58') = 0.999999915$ denoted as $\overline{5}$,9915

| $\theta \leqslant 180^\circ$ | **0°** | **1°** | **2°** | **3°** | **4°** | **5°** | **6°** | **7°** | **8°** | **9°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | 0.000 | .0001 | .0003 | .0007 | .0012 | .0019 | .0027 | .0037 | .0049 | .0062 | **60′** |
| **2′** | .0000 | .0001 | .0003 | .0007 | .0012 | .0019 | .0028 | .0038 | .0049 | .0062 | **58′** |
| **4′** | .0000 | .0001 | .0003 | .0007 | .0013 | .0020 | .0028 | .0038 | .0049 | .0062 | **56′** |
| **6′** | .0000 | .0001 | .0003 | .0007 | .0013 | .0020 | .0028 | .0038 | .0050 | .0063 | **54′** |
| **8′** | .0000 | .0001 | .0003 | .0007 | .0013 | .0020 | .0029 | .0039 | .0050 | .0063 | **52′** |
| **10′** | **.0000** | **.0001** | **.0004** | **.0008** | **.0013** | **.0020** | **.0029** | **.0039** | **.0051** | **.0064** | **50′** |
| **12′** | .0000 | .0001 | .0004 | .0008 | .0013 | .0021 | .0029 | .0039 | .0051 | .0064 | **48′** |
| **14′** | .0000 | .0001 | .0004 | .0008 | .0014 | .0021 | .0030 | .0040 | .0052 | .0065 | **46′** |
| **16′** | .0000 | .0001 | .0004 | .0008 | .0014 | .0021 | .0030 | .0040 | .0052 | .0065 | **44′** |
| **18′** | .0000 | .0001 | .0004 | .0008 | .0014 | .0021 | .0030 | .0041 | .0052 | .0066 | **42′** |
| **20′** | **.0000** | **.0001** | **.0004** | **.0008** | **.0014** | **.0022** | **.0031** | **.0041** | **.0053** | **.0066** | **40′** |
| **22′** | .0000 | .0001 | .0004 | .0009 | .0015 | .0022 | .0031 | .0041 | .0053 | .0067 | **38′** |
| **24′** | .0000 | .0001 | .0004 | .0009 | .0015 | .0022 | .0031 | .0042 | .0054 | .0067 | **36′** |
| **26′** | .0000 | .0002 | .0005 | .0009 | .0015 | .0022 | .0031 | .0042 | .0054 | .0068 | **34′** |
| **28′** | .0000 | .0002 | .0005 | .0009 | .0015 | .0023 | .0032 | .0042 | .0054 | .0068 | **32′** |
| **30′** | **.0000** | **.0002** | **.0005** | **.0009** | **.0015** | **.0023** | **.0032** | **.0043** | **.0055** | **.0069** | **30′** |
| **32′** | .0000 | .0002 | .0005 | .0010 | .0016 | .0023 | .0032 | .0043 | .0055 | .0069 | **28′** |
| **34′** | .0000 | .0002 | .0005 | .0010 | .0016 | .0024 | .0033 | .0044 | .0056 | .0070 | **26′** |
| **36′** | .0000 | .0002 | .0005 | .0010 | .0016 | .0024 | .0033 | .0044 | .0056 | .0070 | **24′** |
| **38′** | .0000 | .0002 | .0005 | .0010 | .0016 | .0024 | .0033 | .0044 | .0057 | .0071 | **22′** |
| **40′** | **.0000** | **.0002** | **.0005** | **.0010** | **.0017** | **.0024** | **.0034** | **.0045** | **.0057** | **.0071** | **20′** |
| **42′** | .0000 | .0002 | .0006 | .0010 | .0017 | .0025 | .0034 | .0045 | .0058 | .0071 | **18′** |
| **44′** | .0000 | .0002 | .0006 | .0011 | .0017 | .0025 | .0034 | .0045 | .0058 | .0072 | **16′** |
| **46′** | .0000 | .0002 | .0006 | .0011 | .0017 | .0025 | .0035 | .0046 | .0058 | .0072 | **14′** |
| **48′** | .0000 | .0002 | .0006 | .0011 | .0018 | .0026 | .0035 | .0046 | .0059 | .0073 | **12′** |
| **50′** | **.0001** | **.0003** | **.0006** | **.0011** | **.0018** | **.0026** | **.0036** | **.0047** | **.0059** | **.0073** | **10′** |
| **52′** | .0001 | .0003 | .0006 | .0011 | .0018 | .0026 | .0036 | .0047 | .0060 | .0074 | **8′** |
| **54′** | .0001 | .0003 | .0006 | .0012 | .0018 | .0026 | .0036 | .0047 | .0060 | .0074 | **6′** |
| **56′** | .0001 | .0003 | .0007 | .0012 | .0019 | .0027 | .0037 | .0048 | .0061 | .0075 | **4′** |
| **58′** | .0001 | .0003 | .0007 | .0012 | .0019 | .0027 | .0037 | .0048 | .0061 | .0075 | **2′** |
| **60′** | .0001 | .0003 | .0007 | .0012 | .0019 | .0027 | .0037 | .0049 | .0062 | .0076 | **0′** |
| | **359°** | **358°** | **357°** | **356°** | **355°** | **354°** | **353°** | **352°** | **351°** | **350°** | $180^\circ \leqslant \theta$ |
| | *89°* | *88°* | *87°* | *86°* | *85°* | *84°* | *83°* | *82°* | *81°* | *80°* | *Hc* |

Usage: $hv(355^\circ 40') = hv(4^\circ 20') = 0.0014$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **10°** | **11°** | **12°** | **13°** | **14°** | **15°** | **16°** | **17°** | **18°** | **19°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .0076 | .0092 | .0109 | .0128 | .0149 | .0170 | .0194 | .0218 | .0245 | .0272 | **60′** |
| **2′** | .0076 | .0092 | .0110 | .0129 | .0149 | .0171 | .0194 | .0219 | .0246 | .0273 | **58′** |
| **4′** | .0077 | .0093 | .0110 | .0129 | .0150 | .0172 | .0195 | .0220 | .0247 | .0274 | **56′** |
| **6′** | .0077 | .0094 | .0111 | .0130 | .0151 | .0173 | .0196 | .0221 | .0247 | .0275 | **54′** |
| **8′** | .0078 | .0094 | .0112 | .0131 | .0151 | .0173 | .0197 | .0222 | .0248 | .0276 | **52′** |
| **10′** | **.0079** | **.0095** | **.0112** | **.0131** | **.0152** | **.0174** | **.0198** | **.0223** | **.0249** | **.0277** | **50′** |
| **12′** | .0079 | .0095 | .0113 | .0132 | .0153 | .0175 | .0199 | .0224 | .0250 | .0278 | **48′** |
| **14′** | .0080 | .0096 | .0114 | .0133 | .0153 | .0176 | .0199 | .0224 | .0251 | .0279 | **46′** |
| **16′** | .0080 | .0096 | .0114 | .0133 | .0154 | .0176 | .0200 | .0225 | .0252 | .0280 | **44′** |
| **18′** | .0081 | .0097 | .0115 | .0134 | .0155 | .0177 | .0201 | .0226 | .0253 | .0281 | **42′** |
| **20′** | **.0081** | **.0097** | **.0115** | **.0135** | **.0156** | **.0178** | **.0202** | **.0227** | **.0254** | **.0282** | **40′** |
| **22′** | .0082 | .0098 | .0116 | .0135 | .0156 | .0179 | .0203 | .0228 | .0255 | .0283 | **38′** |
| **24′** | .0082 | .0099 | .0117 | .0136 | .0157 | .0180 | .0203 | .0229 | .0256 | .0284 | **36′** |
| **26′** | .0083 | .0099 | .0117 | .0137 | .0158 | .0180 | .0204 | .0230 | .0257 | .0285 | **34′** |
| **28′** | .0083 | .0100 | .0118 | .0137 | .0159 | .0181 | .0205 | .0231 | .0257 | .0286 | **32′** |
| **30′** | **.0084** | **.0100** | **.0119** | **.0138** | **.0159** | **.0182** | **.0206** | **.0231** | **.0258** | **.0287** | **30′** |
| **32′** | .0084 | .0101 | .0119 | .0139 | .0160 | .0183 | .0207 | .0232 | .0259 | .0288 | **28′** |
| **34′** | .0085 | .0102 | .0120 | .0140 | .0161 | .0183 | .0208 | .0233 | .0260 | .0289 | **26′** |
| **36′** | .0085 | .0102 | .0120 | .0140 | .0161 | .0184 | .0208 | .0234 | .0261 | .0290 | **24′** |
| **38′** | .0086 | .0103 | .0121 | .0141 | .0162 | .0185 | .0209 | .0235 | .0262 | .0291 | **22′** |
| **40′** | **.0086** | **.0103** | **.0122** | **.0142** | **.0163** | **.0186** | **.0210** | **.0236** | **.0263** | **.0292** | **20′** |
| **42′** | .0087 | .0104 | .0122 | .0142 | .0164 | .0187 | .0211 | .0237 | .0264 | .0293 | **18′** |
| **44′** | .0087 | .0104 | .0123 | .0143 | .0164 | .0187 | .0212 | .0238 | .0265 | .0294 | **16′** |
| **46′** | .0088 | .0105 | .0124 | .0144 | .0165 | .0188 | .0213 | .0238 | .0266 | .0295 | **14′** |
| **48′** | .0089 | .0106 | .0124 | .0144 | .0166 | .0189 | .0213 | .0239 | .0267 | .0296 | **12′** |
| **50′** | **.0089** | **.0106** | **.0125** | **.0145** | **.0167** | **.0190** | **.0214** | **.0240** | **.0268** | **.0297** | **10′** |
| **52′** | .0090 | .0107 | .0126 | .0146 | .0167 | .0190 | .0215 | .0241 | .0269 | .0298 | **8′** |
| **54′** | .0090 | .0107 | .0126 | .0146 | .0168 | .0191 | .0216 | .0242 | .0270 | .0299 | **6′** |
| **56′** | .0091 | .0108 | .0127 | .0147 | .0169 | .0192 | .0217 | .0243 | .0271 | .0300 | **4′** |
| **58′** | .0091 | .0109 | .0127 | .0148 | .0170 | .0193 | .0218 | .0244 | .0271 | .0301 | **2′** |
| **60′** | .0092 | .0109 | .0128 | .0149 | .0170 | .0194 | .0218 | .0245 | .0272 | .0302 | **0′** |
| | **349°** | **348°** | **347°** | **346°** | **345°** | **344°** | **343°** | **342°** | **341°** | **340°** | $180^\circ \geqslant \theta$ |
| | *79°* | *78°* | *77°* | *76°* | *75°* | *74°* | *73°* | *72°* | *71°* | *70°* | *Hc* |

Usage: $hv(340^\circ 18') = hv(19^\circ 42') = 0.0293$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **20°** | **21°** | **22°** | **23°** | **24°** | **25°** | **26°** | **27°** | **28°** | **29°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .0302 | .0332 | .0364 | .0397 | .0432 | .0468 | .0506 | .0545 | .0585 | .0627 | **60′** |
| **2′** | .0303 | .0333 | .0365 | .0399 | .0433 | .0470 | .0507 | .0546 | .0587 | .0628 | **58′** |
| **4′** | .0304 | .0334 | .0366 | .0400 | .0435 | .0471 | .0509 | .0548 | .0588 | .0630 | **56′** |
| **6′** | .0305 | .0335 | .0367 | .0401 | .0436 | .0472 | .0510 | .0549 | .0589 | .0631 | **54′** |
| **8′** | .0306 | .0336 | .0368 | .0402 | .0437 | .0473 | .0511 | .0550 | .0591 | .0633 | **52′** |
| **10′** | **.0307** | **.0337** | **.0370** | **.0403** | **.0438** | **.0475** | **.0512** | **.0552** | **.0592** | **.0634** | **50′** |
| **12′** | .0308 | .0338 | .0371 | .0404 | .0439 | .0476 | .0514 | .0553 | .0593 | .0635 | **48′** |
| **14′** | .0309 | .0339 | .0372 | .0405 | .0441 | .0477 | .0515 | .0554 | .0595 | .0637 | **46′** |
| **16′** | .0310 | .0340 | .0373 | .0407 | .0442 | .0478 | .0516 | .0556 | .0596 | .0638 | **44′** |
| **18′** | .0311 | .0342 | .0374 | .0408 | .0443 | .0480 | .0518 | .0557 | .0598 | .0640 | **42′** |
| **20′** | **.0312** | **.0343** | **.0375** | **.0409** | **.0444** | **.0481** | **.0519** | **.0558** | **.0599** | **.0641** | **40′** |
| **22′** | .0313 | .0344 | .0376 | .0410 | .0445 | .0482 | .0520 | .0560 | .0600 | .0643 | **38′** |
| **24′** | .0314 | .0345 | .0377 | .0411 | .0447 | .0483 | .0521 | .0561 | .0602 | .0644 | **36′** |
| **26′** | .0315 | .0346 | .0378 | .0412 | .0448 | .0485 | .0523 | .0562 | .0603 | .0645 | **34′** |
| **28′** | .0316 | .0347 | .0379 | .0414 | .0449 | .0486 | .0524 | .0564 | .0605 | .0647 | **32′** |
| **30′** | **.0317** | **.0348** | **.0381** | **.0415** | **.0450** | **.0487** | **.0525** | **.0565** | **.0606** | **.0648** | **30′** |
| **32′** | .0318 | .0349 | .0382 | .0416 | .0451 | .0488 | .0527 | .0566 | .0607 | .0650 | **28′** |
| **34′** | .0319 | .0350 | .0383 | .0417 | .0453 | .0490 | .0528 | .0568 | .0609 | .0651 | **26′** |
| **36′** | .0320 | .0351 | .0384 | .0418 | .0454 | .0491 | .0529 | .0569 | .0610 | .0653 | **24′** |
| **38′** | .0321 | .0352 | .0385 | .0419 | .0455 | .0492 | .0531 | .0570 | .0611 | .0654 | **22′** |
| **40′** | **.0322** | **.0353** | **.0386** | **.0421** | **.0456** | **.0493** | **.0532** | **.0572** | **.0613** | **.0655** | **20′** |
| **42′** | .0323 | .0354 | .0387 | .0422 | .0457 | .0495 | .0533 | .0573 | .0614 | .0657 | **18′** |
| **44′** | .0324 | .0355 | .0388 | .0423 | .0459 | .0496 | .0534 | .0574 | .0616 | .0658 | **16′** |
| **46′** | .0325 | .0356 | .0390 | .0424 | .0460 | .0497 | .0536 | .0576 | .0617 | .0660 | **14′** |
| **48′** | .0326 | .0358 | .0391 | .0425 | .0461 | .0498 | .0537 | .0577 | .0618 | .0661 | **12′** |
| **50′** | **.0327** | **.0359** | **.0392** | **.0426** | **.0462** | **.0500** | **.0538** | **.0578** | **.0620** | **.0663** | **10′** |
| **52′** | .0328 | .0360 | .0393 | .0428 | .0464 | .0501 | .0540 | .0580 | .0621 | .0664 | **8′** |
| **54′** | .0329 | .0361 | .0394 | .0429 | .0465 | .0502 | .0541 | .0581 | .0623 | .0666 | **6′** |
| **56′** | .0330 | .0362 | .0395 | .0430 | .0466 | .0503 | .0542 | .0583 | .0624 | .0667 | **4′** |
| **58′** | .0331 | .0363 | .0396 | .0431 | .0467 | .0505 | .0544 | .0584 | .0625 | .0668 | **2′** |
| **60′** | .0332 | .0364 | .0397 | .0432 | .0468 | .0506 | .0545 | .0585 | .0627 | .0670 | **0′** |
| | **339°** | **338°** | **337°** | **336°** | **335°** | **334°** | **333°** | **332°** | **331°** | **330°** | $180^\circ \leqslant \theta$ |
| | *69°* | *68°* | *67°* | *66°* | *65°* | *64°* | *63°* | *62°* | *61°* | *60°* | *Hc* |

Usage: $hv(333^\circ 56') = hv(26^\circ 04') = 0.0509$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **30°** | **31°** | **32°** | **33°** | **34°** | **35°** | **36°** | **37°** | **38°** | **39°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .0670 | .0714 | .0760 | .0807 | .0855 | .0904 | .0955 | .1007 | .1060 | .1114 | **60′** |
| **2′** | .0671 | .0716 | .0761 | .0808 | .0856 | .0906 | .0957 | .1009 | .1062 | .1116 | **58′** |
| **4′** | .0673 | .0717 | .0763 | .0810 | .0858 | .0908 | .0958 | .1010 | .1064 | .1118 | **56′** |
| **6′** | .0674 | .0719 | .0764 | .0811 | .0860 | .0909 | .0960 | .1012 | .1065 | .1120 | **54′** |
| **8′** | .0676 | .0720 | .0766 | .0813 | .0861 | .0911 | .0962 | .1014 | .1067 | .1122 | **52′** |
| **10′** | **.0677** | **.0722** | **.0767** | **.0815** | **.0863** | **.0913** | **.0963** | **.1016** | **.1069** | **.1123** | **50′** |
| **12′** | .0679 | .0723 | .0769 | .0816 | .0865 | .0914 | .0965 | .1017 | .1071 | .1125 | **48′** |
| **14′** | .0680 | .0725 | .0771 | .0818 | .0866 | .0916 | .0967 | .1019 | .1073 | .1127 | **46′** |
| **16′** | .0682 | .0726 | .0772 | .0819 | .0868 | .0918 | .0969 | .1021 | .1074 | .1129 | **44′** |
| **18′** | .0683 | .0728 | .0774 | .0821 | .0870 | .0919 | .0970 | .1023 | .1076 | .1131 | **42′** |
| **20′** | **.0684** | **.0729** | **.0775** | **.0823** | **.0871** | **.0921** | **.0972** | **.1024** | **.1078** | **.1133** | **40′** |
| **22′** | .0686 | .0731 | .0777 | .0824 | .0873 | .0923 | .0974 | .1026 | .1080 | .1134 | **38′** |
| **24′** | .0687 | .0732 | .0778 | .0826 | .0874 | .0924 | .0976 | .1028 | .1082 | .1136 | **36′** |
| **26′** | .0689 | .0734 | .0780 | .0827 | .0876 | .0926 | .0977 | .1030 | .1083 | .1138 | **34′** |
| **28′** | .0690 | .0735 | .0781 | .0829 | .0878 | .0928 | .0979 | .1031 | .1085 | .1140 | **32′** |
| **30′** | **.0692** | **.0737** | **.0783** | **.0831** | **.0879** | **.0929** | **.0981** | **.1033** | **.1087** | **.1142** | **30′** |
| **32′** | .0693 | .0738 | .0785 | .0832 | .0881 | .0931 | .0982 | .1035 | .1089 | .1144 | **28′** |
| **34′** | .0695 | .0740 | .0786 | .0834 | .0883 | .0933 | .0984 | .1037 | .1091 | .1146 | **26′** |
| **36′** | .0696 | .0741 | .0788 | .0835 | .0884 | .0934 | .0986 | .1039 | .1092 | .1147 | **24′** |
| **38′** | .0698 | .0743 | .0789 | .0837 | .0886 | .0936 | .0988 | .1040 | .1094 | .1149 | **22′** |
| **40′** | **.0699** | **.0744** | **.0791** | **.0839** | **.0888** | **.0938** | **.0989** | **.1042** | **.1096** | **.1151** | **20′** |
| **42′** | .0701 | .0746 | .0792 | .0840 | .0889 | .0940 | .0991 | .1044 | .1098 | .1153 | **18′** |
| **44′** | .0702 | .0747 | .0794 | .0842 | .0891 | .0941 | .0993 | .1046 | .1100 | .1155 | **16′** |
| **46′** | .0704 | .0749 | .0796 | .0843 | .0893 | .0943 | .0995 | .1047 | .1101 | .1157 | **14′** |
| **48′** | .0705 | .0751 | .0797 | .0845 | .0894 | .0945 | .0996 | .1049 | .1103 | .1159 | **12′** |
| **50′** | **.0707** | **.0752** | **.0799** | **.0847** | **.0896** | **.0946** | **.0998** | **.1051** | **.1105** | **.1160** | **10′** |
| **52′** | .0708 | .0754 | .0800 | .0848 | .0898 | .0948 | .1000 | .1053 | .1107 | .1162 | **8′** |
| **54′** | .0710 | .0755 | .0802 | .0850 | .0899 | .0950 | .1002 | .1055 | .1109 | .1164 | **6′** |
| **56′** | .0711 | .0757 | .0803 | .0852 | .0901 | .0951 | .1003 | .1056 | .1111 | .1166 | **4′** |
| **58′** | .0713 | .0758 | .0805 | .0853 | .0903 | .0953 | .1005 | .1058 | .1112 | .1168 | **2′** |
| **60′** | .0714 | .0760 | .0807 | .0855 | .0904 | .0955 | .1007 | .1060 | .1114 | .1170 | **0′** |
| | **329°** | **328°** | **327°** | **326°** | **325°** | **324°** | **323°** | **322°** | **321°** | **320°** | $180^\circ \leqslant \theta$ |
| | *59°* | *58°* | *57°* | *56°* | *55°* | *54°* | *53°* | *52°* | *51°* | *50°* | *Hc* |

Usage: $hv(329^\circ 38') = hv(30^\circ 22') = 0.0686$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **40°** | **41°** | **42°** | **43°** | **44°** | **45°** | **46°** | **47°** | **48°** | **49°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .1170 | .1226 | .1284 | .1343 | .1403 | .1464 | .1527 | .1590 | .1654 | .1720 | **60′** |
| **2′** | .1172 | .1228 | .1286 | .1345 | .1405 | .1467 | .1529 | .1592 | .1657 | .1722 | **58′** |
| **4′** | .1174 | .1230 | .1288 | .1347 | .1407 | .1469 | .1531 | .1594 | .1659 | .1724 | **56′** |
| **6′** | .1175 | .1232 | .1290 | .1349 | .1409 | .1471 | .1533 | .1596 | .1661 | .1726 | **54′** |
| **8′** | .1177 | .1234 | .1292 | .1351 | .1411 | .1473 | .1535 | .1599 | .1663 | .1728 | **52′** |
| **10′** | **.1179** | **.1236** | **.1294** | **.1353** | **.1413** | **.1475** | **.1537** | **.1601** | **.1665** | **.1731** | **50′** |
| **12′** | .1181 | .1238 | .1296 | .1355 | .1415 | .1477 | .1539 | .1603 | .1667 | .1733 | **48′** |
| **14′** | .1183 | .1240 | .1298 | .1357 | .1417 | .1479 | .1541 | .1605 | .1670 | .1735 | **46′** |
| **16′** | .1185 | .1242 | .1300 | .1359 | .1420 | .1481 | .1543 | .1607 | .1672 | .1737 | **44′** |
| **18′** | .1187 | .1244 | .1302 | .1361 | .1422 | .1483 | .1546 | .1609 | .1674 | .1740 | **42′** |
| **20′** | **.1189** | **.1246** | **.1304** | **.1363** | **.1424** | **.1485** | **.1548** | **.1611** | **.1676** | **.1742** | **40′** |
| **22′** | .1190 | .1248 | .1306 | .1365 | .1426 | .1487 | .1550 | .1613 | .1678 | .1744 | **38′** |
| **24′** | .1192 | .1249 | .1308 | .1367 | .1428 | .1489 | .1552 | .1616 | .1680 | .1746 | **36′** |
| **26′** | .1194 | .1251 | .1310 | .1369 | .1430 | .1491 | .1554 | .1618 | .1683 | .1748 | **34′** |
| **28′** | .1196 | .1253 | .1312 | .1371 | .1432 | .1493 | .1556 | .1620 | .1685 | .1751 | **32′** |
| **30′** | **.1198** | **.1255** | **.1314** | **.1373** | **.1434** | **.1495** | **.1558** | **.1622** | **.1687** | **.1753** | **30′** |
| **32′** | .1200 | .1257 | .1316 | .1375 | .1436 | .1498 | .1560 | .1624 | .1689 | .1755 | **28′** |
| **34′** | .1202 | .1259 | .1318 | .1377 | .1438 | .1500 | .1562 | .1626 | .1691 | .1757 | **26′** |
| **36′** | .1204 | .1261 | .1320 | .1379 | .1440 | .1502 | .1565 | .1628 | .1693 | .1759 | **24′** |
| **38′** | .1206 | .1263 | .1321 | .1381 | .1442 | .1504 | .1567 | .1631 | .1696 | .1762 | **22′** |
| **40′** | **.1207** | **.1265** | **.1323** | **.1383** | **.1444** | **.1506** | **.1569** | **.1633** | **.1698** | **.1764** | **20′** |
| **42′** | .1209 | .1267 | .1325 | .1385 | .1446 | .1508 | .1571 | .1635 | .1700 | .1766 | **18′** |
| **44′** | .1211 | .1269 | .1327 | .1387 | .1448 | .1510 | .1573 | .1637 | .1702 | .1768 | **16′** |
| **46′** | .1213 | .1271 | .1329 | .1389 | .1450 | .1512 | .1575 | .1639 | .1704 | .1770 | **14′** |
| **48′** | .1215 | .1273 | .1331 | .1391 | .1452 | .1514 | .1577 | .1641 | .1707 | .1773 | **12′** |
| **50′** | **.1217** | **.1275** | **.1333** | **.1393** | **.1454** | **.1516** | **.1579** | **.1644** | **.1709** | **.1775** | **10′** |
| **52′** | .1219 | .1277 | .1335 | .1395 | .1456 | .1518 | .1582 | .1646 | .1711 | .1777 | **8′** |
| **54′** | .1221 | .1278 | .1337 | .1397 | .1458 | .1520 | .1584 | .1648 | .1713 | .1779 | **6′** |
| **56′** | .1223 | .1280 | .1339 | .1399 | .1460 | .1523 | .1586 | .1650 | .1715 | .1782 | **4′** |
| **58′** | .1225 | .1282 | .1341 | .1401 | .1462 | .1525 | .1588 | .1652 | .1718 | .1784 | **2′** |
| **60′** | .1226 | .1284 | .1343 | .1403 | .1464 | .1527 | .1590 | .1654 | .1720 | .1786 | **0′** |
| | **319°** | **318°** | **317°** | **316°** | **315°** | **314°** | **313°** | **312°** | **311°** | **310°** | $180^\circ \leqslant \theta$ |
| | *49°* | *48°* | *47°* | *46°* | *45°* | *44°* | *43°* | *42°* | *41°* | *40°* | *Hc* |

Usage: $hv(316^\circ 44') = hv(43^\circ 16') = 0.1359$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **50°** | **51°** | **52°** | **53°** | **54°** | **55°** | **56°** | **57°** | **58°** | **59°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .1786 | .1853 | .1922 | .1991 | .2061 | .2132 | .2204 | .2277 | .2350 | .2425 | **60′** |
| **2′** | .1788 | .1856 | .1924 | .1993 | .2063 | .2135 | .2206 | .2279 | .2353 | .2427 | **58′** |
| **4′** | .1791 | .1858 | .1926 | .1996 | .2066 | .2137 | .2209 | .2282 | .2355 | .2430 | **56′** |
| **6′** | .1793 | .1860 | .1929 | .1998 | .2068 | .2139 | .2211 | .2284 | .2358 | .2432 | **54′** |
| **8′** | .1795 | .1862 | .1931 | .2000 | .2070 | .2142 | .2214 | .2287 | .2360 | .2435 | **52′** |
| **10′** | **.1797** | **.1865** | **.1933** | **.2003** | **.2073** | **.2144** | **.2216** | **.2289** | **.2363** | **.2437** | **50′** |
| **12′** | .1799 | .1867 | .1935 | .2005 | .2075 | .2146 | .2219 | .2291 | .2365 | .2440 | **48′** |
| **14′** | .1802 | .1869 | .1938 | .2007 | .2078 | .2149 | .2221 | .2294 | .2368 | .2442 | **46′** |
| **16′** | .1804 | .1872 | .1940 | .2010 | .2080 | .2151 | .2223 | .2296 | .2370 | .2445 | **44′** |
| **18′** | .1806 | .1874 | .1942 | .2012 | .2082 | .2154 | .2226 | .2299 | .2373 | .2447 | **42′** |
| **20′** | **.1808** | **.1876** | **.1945** | **.2014** | **.2085** | **.2156** | **.2228** | **.2301** | **.2375** | **.2450** | **40′** |
| **22′** | .1811 | .1878 | .1947 | .2017 | .2087 | .2158 | .2231 | .2304 | .2378 | .2452 | **38′** |
| **24′** | .1813 | .1881 | .1949 | .2019 | .2089 | .2161 | .2233 | .2306 | .2380 | .2455 | **36′** |
| **26′** | .1815 | .1883 | .1952 | .2021 | .2092 | .2163 | .2235 | .2309 | .2383 | .2457 | **34′** |
| **28′** | .1817 | .1885 | .1954 | .2024 | .2094 | .2166 | .2238 | .2311 | .2385 | .2460 | **32′** |
| **30′** | **.1820** | **.1887** | **.1956** | **.2026** | **.2096** | **.2168** | **.2240** | **.2314** | **.2388** | **.2462** | **30′** |
| **32′** | .1822 | .1890 | .1959 | .2028 | .2099 | .2170 | .2243 | .2316 | .2390 | .2465 | **28′** |
| **34′** | .1824 | .1892 | .1961 | .2031 | .2101 | .2173 | .2245 | .2318 | .2392 | .2467 | **26′** |
| **36′** | .1826 | .1894 | .1963 | .2033 | .2104 | .2175 | .2248 | .2321 | .2395 | .2470 | **24′** |
| **38′** | .1829 | .1897 | .1965 | .2035 | .2106 | .2178 | .2250 | .2323 | .2397 | .2472 | **22′** |
| **40′** | **.1831** | **.1899** | **.1968** | **.2038** | **.2108** | **.2180** | **.2252** | **.2326** | **.2400** | **.2475** | **20′** |
| **42′** | .1833 | .1901 | .1970 | .2040 | .2111 | .2182 | .2255 | .2328 | .2402 | .2477 | **18′** |
| **44′** | .1835 | .1903 | .1972 | .2042 | .2113 | .2185 | .2257 | .2331 | .2405 | .2480 | **16′** |
| **46′** | .1838 | .1906 | .1975 | .2045 | .2115 | .2187 | .2260 | .2333 | .2407 | .2482 | **14′** |
| **48′** | .1840 | .1908 | .1977 | .2047 | .2118 | .2190 | .2262 | .2336 | .2410 | .2485 | **12′** |
| **50′** | **.1842** | **.1910** | **.1979** | **.2049** | **.2120** | **.2192** | **.2265** | **.2338** | **.2412** | **.2487** | **10′** |
| **52′** | .1844 | .1913 | .1982 | .2052 | .2123 | .2194 | .2267 | .2341 | .2415 | .2490 | **8′** |
| **54′** | .1847 | .1915 | .1984 | .2054 | .2125 | .2197 | .2269 | .2343 | .2417 | .2492 | **6′** |
| **56′** | .1849 | .1917 | .1986 | .2056 | .2127 | .2199 | .2272 | .2345 | .2420 | .2495 | **4′** |
| **58′** | .1851 | .1919 | .1989 | .2059 | .2130 | .2202 | .2274 | .2348 | .2422 | .2497 | **2′** |
| **60′** | .1853 | .1922 | .1991 | .2061 | .2132 | .2204 | .2277 | .2350 | .2425 | .2500 | **0′** |
| | **309°** | **308°** | **307°** | **306°** | **305°** | **304°** | **303°** | **302°** | **301°** | **300°** | $180^\circ \leqslant \theta$ |
| | *39°* | *38°* | *37°* | *36°* | *35°* | *34°* | *33°* | *32°* | *31°* | *30°* | *Hc* |

Usage: $hv(302^\circ 36') = hv(57^\circ 24') = 0.2306$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **60°** | **61°** | **62°** | **63°** | **64°** | **65°** | **66°** | **67°** | **68°** | **69°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .2500 | .2576 | .2653 | .2730 | .2808 | .2887 | .2966 | .3046 | .3127 | .3208 | **60′** |
| **2′** | .2503 | .2578 | .2655 | .2733 | .2811 | .2890 | .2969 | .3049 | .3130 | .3211 | **58′** |
| **4′** | .2505 | .2581 | .2658 | .2735 | .2813 | .2892 | .2972 | .3052 | .3132 | .3214 | **56′** |
| **6′** | .2508 | .2584 | .2660 | .2738 | .2816 | .2895 | .2974 | .3054 | .3135 | .3216 | **54′** |
| **8′** | .2510 | .2586 | .2663 | .2740 | .2819 | .2897 | .2977 | .3057 | .3138 | .3219 | **52′** |
| **10′** | **.2513** | **.2589** | **.2665** | **.2743** | **.2821** | **.2900** | **.2980** | **.3060** | **.3140** | **.3222** | **50′** |
| **12′** | .2515 | .2591 | .2668 | .2746 | .2824 | .2903 | .2982 | .3062 | .3143 | .3224 | **48′** |
| **14′** | .2518 | .2594 | .2671 | .2748 | .2826 | .2905 | .2985 | .3065 | .3146 | .3227 | **46′** |
| **16′** | .2520 | .2596 | .2673 | .2751 | .2829 | .2908 | .2988 | .3068 | .3149 | .3230 | **44′** |
| **18′** | .2523 | .2599 | .2676 | .2753 | .2832 | .2911 | .2990 | .3070 | .3151 | .3233 | **42′** |
| **20′** | **.2525** | **.2601** | **.2678** | **.2756** | **.2834** | **.2913** | **.2993** | **.3073** | **.3154** | **.3235** | **40′** |
| **22′** | .2528 | .2604 | .2681 | .2759 | .2837 | .2916 | .2996 | .3076 | .3157 | .3238 | **38′** |
| **24′** | .2530 | .2607 | .2684 | .2761 | .2840 | .2919 | .2998 | .3079 | .3159 | .3241 | **36′** |
| **26′** | .2533 | .2609 | .2686 | .2764 | .2842 | .2921 | .3001 | .3081 | .3162 | .3244 | **34′** |
| **28′** | .2535 | .2612 | .2689 | .2766 | .2845 | .2924 | .3004 | .3084 | .3165 | .3246 | **32′** |
| **30′** | **.2538** | **.2614** | **.2691** | **.2769** | **.2847** | **.2927** | **.3006** | **.3087** | **.3167** | **.3249** | **30′** |
| **32′** | .2540 | .2617 | .2694 | .2772 | .2850 | .2929 | .3009 | .3089 | .3170 | .3252 | **28′** |
| **34′** | .2543 | .2619 | .2696 | .2774 | .2853 | .2932 | .3012 | .3092 | .3173 | .3254 | **26′** |
| **36′** | .2545 | .2622 | .2699 | .2777 | .2855 | .2934 | .3014 | .3095 | .3176 | .3257 | **24′** |
| **38′** | .2548 | .2624 | .2702 | .2779 | .2858 | .2937 | .3017 | .3097 | .3178 | .3260 | **22′** |
| **40′** | **.2551** | **.2627** | **.2704** | **.2782** | **.2861** | **.2940** | **.3020** | **.3100** | **.3181** | **.3263** | **20′** |
| **42′** | .2553 | .2630 | .2707 | .2785 | .2863 | .2942 | .3022 | .3103 | .3184 | .3265 | **18′** |
| **44′** | .2556 | .2632 | .2709 | .2787 | .2866 | .2945 | .3025 | .3105 | .3186 | .3268 | **16′** |
| **46′** | .2558 | .2635 | .2712 | .2790 | .2868 | .2948 | .3028 | .3108 | .3189 | .3271 | **14′** |
| **48′** | .2561 | .2637 | .2715 | .2792 | .2871 | .2950 | .3030 | .3111 | .3192 | .3274 | **12′** |
| **50′** | **.2563** | **.2640** | **.2717** | **.2795** | **.2874** | **.2953** | **.3033** | **.3113** | **.3195** | **.3276** | **10′** |
| **52′** | .2566 | .2642 | .2720 | .2798 | .2876 | .2956 | .3036 | .3116 | .3197 | .3279 | **8′** |
| **54′** | .2568 | .2645 | .2722 | .2800 | .2879 | .2958 | .3038 | .3119 | .3200 | .3282 | **6′** |
| **56′** | .2571 | .2648 | .2725 | .2803 | .2882 | .2961 | .3041 | .3122 | .3203 | .3284 | **4′** |
| **58′** | .2573 | .2650 | .2727 | .2806 | .2884 | .2964 | .3044 | .3124 | .3205 | .3287 | **2′** |
| **60′** | .2576 | .2653 | .2730 | .2808 | .2887 | .2966 | .3046 | .3127 | .3208 | .3290 | **0′** |
| | **299°** | **298°** | **297°** | **296°** | **295°** | **294°** | **293°** | **292°** | **291°** | **290°** | $180^\circ \leqslant \theta$ |
| | *29°* | *28°* | *27°* | *26°* | *25°* | *24°* | *23°* | *22°* | *21°* | *20°* | *Hc* |

Usage: $hv(295^\circ 02') = hv(64^\circ 58') = 0.2884$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **70°** | **71°** | **72°** | **73°** | **74°** | **75°** | **76°** | **77°** | **78°** | **79°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .3290 | .3372 | .3455 | .3538 | .3622 | .3706 | .3790 | .3875 | .3960 | .4046 | **60′** |
| **2′** | .3293 | .3375 | .3458 | .3541 | .3625 | .3709 | .3793 | .3878 | .3963 | .4049 | **58′** |
| **4′** | .3295 | .3378 | .3460 | .3544 | .3627 | .3712 | .3796 | .3881 | .3966 | .4052 | **56′** |
| **6′** | .3298 | .3380 | .3463 | .3546 | .3630 | .3714 | .3799 | .3884 | .3969 | .4055 | **54′** |
| **8′** | .3301 | .3383 | .3466 | .3549 | .3633 | .3717 | .3802 | .3887 | .3972 | .4057 | **52′** |
| **10′** | **.3304** | **.3386** | **.3469** | **.3552** | **.3636** | **.3720** | **.3805** | **.3889** | **.3975** | **.4060** | **50′** |
| **12′** | .3306 | .3389 | .3472 | .3555 | .3639 | .3723 | .3807 | .3892 | .3978 | .4063 | **48′** |
| **14′** | .3309 | .3391 | .3474 | .3558 | .3641 | .3726 | .3810 | .3895 | .3980 | .4066 | **46′** |
| **16′** | .3312 | .3394 | .3477 | .3560 | .3644 | .3728 | .3813 | .3898 | .3983 | .4069 | **44′** |
| **18′** | .3315 | .3397 | .3480 | .3563 | .3647 | .3731 | .3816 | .3901 | .3986 | .4072 | **42′** |
| **20′** | **.3317** | **.3400** | **.3483** | **.3566** | **.3650** | **.3734** | **.3819** | **.3904** | **.3989** | **.4075** | **40′** |
| **22′** | .3320 | .3402 | .3485 | .3569 | .3653 | .3737 | .3821 | .3906 | .3992 | .4077 | **38′** |
| **24′** | .3323 | .3405 | .3488 | .3572 | .3655 | .3740 | .3824 | .3909 | .3995 | .4080 | **36′** |
| **26′** | .3325 | .3408 | .3491 | .3574 | .3658 | .3742 | .3827 | .3912 | .3997 | .4083 | **34′** |
| **28′** | .3328 | .3411 | .3494 | .3577 | .3661 | .3745 | .3830 | .3915 | .4000 | .4086 | **32′** |
| **30′** | **.3331** | **.3413** | **.3496** | **.3580** | **.3664** | **.3748** | **.3833** | **.3918** | **.4003** | **.4089** | **30′** |
| **32′** | .3334 | .3416 | .3499 | .3583 | .3667 | .3751 | .3836 | .3921 | .4006 | .4092 | **28′** |
| **34′** | .3336 | .3419 | .3502 | .3586 | .3669 | .3754 | .3838 | .3923 | .4009 | .4095 | **26′** |
| **36′** | .3339 | .3422 | .3505 | .3588 | .3672 | .3757 | .3841 | .3926 | .4012 | .4097 | **24′** |
| **38′** | .3342 | .3425 | .3508 | .3591 | .3675 | .3759 | .3844 | .3929 | .4015 | .4100 | **22′** |
| **40′** | **.3345** | **.3427** | **.3510** | **.3594** | **.3678** | **.3762** | **.3847** | **.3932** | **.4017** | **.4103** | **20′** |
| **42′** | .3347 | .3430 | .3513 | .3597 | .3681 | .3765 | .3850 | .3935 | .4020 | .4106 | **18′** |
| **44′** | .3350 | .3433 | .3516 | .3599 | .3683 | .3768 | .3853 | .3938 | .4023 | .4109 | **16′** |
| **46′** | .3353 | .3436 | .3519 | .3602 | .3686 | .3771 | .3855 | .3941 | .4026 | .4112 | **14′** |
| **48′** | .3356 | .3438 | .3521 | .3605 | .3689 | .3773 | .3858 | .3943 | .4029 | .4115 | **12′** |
| **50′** | **.3358** | **.3441** | **.3524** | **.3608** | **.3692** | **.3776** | **.3861** | **.3946** | **.4032** | **.4117** | **10′** |
| **52′** | .3361 | .3444 | .3527 | .3611 | .3695 | .3779 | .3864 | .3949 | .4035 | .4120 | **8′** |
| **54′** | .3364 | .3447 | .3530 | .3613 | .3697 | .3782 | .3867 | .3952 | .4037 | .4123 | **6′** |
| **56′** | .3367 | .3449 | .3533 | .3616 | .3700 | .3785 | .3870 | .3955 | .4040 | .4126 | **4′** |
| **58′** | .3369 | .3452 | .3535 | .3619 | .3703 | .3788 | .3872 | .3958 | .4043 | .4129 | **2′** |
| **60′** | .3372 | .3455 | .3538 | .3622 | .3706 | .3790 | .3875 | .3960 | .4046 | .4132 | **0′** |
| | **289°** | **288°** | **287°** | **286°** | **285°** | **284°** | **283°** | **282°** | **281°** | **280°** | $180^\circ \leqslant \theta$ |
| | *19°* | *18°* | *17°* | *16°* | *15°* | *14°* | *13°* | *12°* | *11°* | *10°* | *Hc* |

Usage: $hv(281^\circ 40') = hv(78^\circ 20') = 0.3989$. Hc = 90° - ZD.

| $\theta \leqslant 180^\circ$ | **80°** | **81°** | **82°** | **83°** | **84°** | **85°** | **86°** | **87°** | **88°** | **89°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .4132 | .4218 | .4304 | .4391 | .4477 | .4564 | .4651 | .4738 | .4826 | .4913 | **60′** |
| **2′** | .4135 | .4221 | .4307 | .4394 | .4480 | .4567 | .4654 | .4741 | .4828 | .4916 | **58′** |
| **4′** | .4137 | .4224 | .4310 | .4396 | .4483 | .4570 | .4657 | .4744 | .4831 | .4919 | **56′** |
| **6′** | .4140 | .4226 | .4313 | .4399 | .4486 | .4573 | .4660 | .4747 | .4834 | .4921 | **54′** |
| **8′** | .4143 | .4229 | .4316 | .4402 | .4489 | .4576 | .4663 | .4750 | .4837 | .4924 | **52′** |
| **10′** | **.4146** | **.4232** | **.4319** | **.4405** | **.4492** | **.4579** | **.4666** | **.4753** | **.4840** | **.4927** | **50′** |
| **12′** | .4149 | .4235 | .4321 | .4408 | .4495 | .4582 | .4669 | .4756 | .4843 | .4930 | **48′** |
| **14′** | .4152 | .4238 | .4324 | .4411 | .4498 | .4585 | .4672 | .4759 | .4846 | .4933 | **46′** |
| **16′** | .4155 | .4241 | .4327 | .4414 | .4501 | .4587 | .4674 | .4762 | .4849 | .4936 | **44′** |
| **18′** | .4158 | .4244 | .4330 | .4417 | .4503 | .4590 | .4677 | .4764 | .4852 | .4939 | **42′** |
| **20′** | **.4160** | **.4247** | **.4333** | **.4420** | **.4506** | **.4593** | **.4680** | **.4767** | **.4855** | **.4942** | **40′** |
| **22′** | .4163 | .4249 | .4336 | .4422 | .4509 | .4596 | .4683 | .4770 | .4857 | .4945 | **38′** |
| **24′** | .4166 | .4252 | .4339 | .4425 | .4512 | .4599 | .4686 | .4773 | .4860 | .4948 | **36′** |
| **26′** | .4169 | .4255 | .4342 | .4428 | .4515 | .4602 | .4689 | .4776 | .4863 | .4951 | **34′** |
| **28′** | .4172 | .4258 | .4344 | .4431 | .4518 | .4605 | .4692 | .4779 | .4866 | .4953 | **32′** |
| **30′** | **.4175** | **.4261** | **.4347** | **.4434** | **.4521** | **.4608** | **.4695** | **.4782** | **.4869** | **.4956** | **30′** |
| **32′** | .4178 | .4264 | .4350 | .4437 | .4524 | .4611 | .4698 | .4785 | .4872 | .4959 | **28′** |
| **34′** | .4181 | .4267 | .4353 | .4440 | .4527 | .4614 | .4701 | .4788 | .4875 | .4962 | **26′** |
| **36′** | .4183 | .4270 | .4356 | .4443 | .4529 | .4616 | .4703 | .4791 | .4878 | .4965 | **24′** |
| **38′** | .4186 | .4272 | .4359 | .4446 | .4532 | .4619 | .4706 | .4794 | .4881 | .4968 | **22′** |
| **40′** | **.4189** | **.4275** | **.4362** | **.4448** | **.4535** | **.4622** | **.4709** | **.4796** | **.4884** | **.4971** | **20′** |
| **42′** | .4192 | .4278 | .4365 | .4451 | .4538 | .4625 | .4712 | .4799 | .4887 | .4974 | **18′** |
| **44′** | .4195 | .4281 | .4368 | .4454 | .4541 | .4628 | .4715 | .4802 | .4889 | .4977 | **16′** |
| **46′** | .4198 | .4284 | .4370 | .4457 | .4544 | .4631 | .4718 | .4805 | .4892 | .4980 | **14′** |
| **48′** | .4201 | .4287 | .4373 | .4460 | .4547 | .4634 | .4721 | .4808 | .4895 | .4983 | **12′** |
| **50′** | **.4203** | **.4290** | **.4376** | **.4463** | **.4550** | **.4637** | **.4724** | **.4811** | **.4898** | **.4985** | **10′** |
| **52′** | .4206 | .4293 | .4379 | .4466 | .4553 | .4640 | .4727 | .4814 | .4901 | .4988 | **8′** |
| **54′** | .4209 | .4295 | .4382 | .4469 | .4556 | .4643 | .4730 | .4817 | .4904 | .4991 | **6′** |
| **56′** | .4212 | .4298 | .4385 | .4472 | .4558 | .4645 | .4733 | .4820 | .4907 | .4994 | **4′** |
| **58′** | .4215 | .4301 | .4388 | .4474 | .4561 | .4648 | .4735 | .4823 | .4910 | .4997 | **2′** |
| **60′** | .4218 | .4304 | .4391 | .4477 | .4564 | .4651 | .4738 | .4826 | .4913 | .5000 | **0′** |
| | **279°** | **278°** | **277°** | **276°** | **275°** | **274°** | **273°** | **272°** | **271°** | **270°** | $180^\circ \leqslant \theta$ |
| | *9°* | *8°* | *7°* | *6°* | *5°* | *4°* | *3°* | *2°* | *1°* | *0°* | *Hc* |

Usage: $hv(277^\circ 10') = hv(82^\circ 50') = 0.4376$. Hc = 90° - ZD.

| *Hc* | *0°* | *-1°* | *-2°* | *-3°* | *-4°* | *-5°* | *-6°* | *-7°* | *-8°* | *-9°* | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $\theta \leqslant 180°$ | **90°** | **91°** | **92°** | **93°** | **94°** | **95°** | **96°** | **97°** | **98°** | **99°** | |
| **0′** | .5000 | .5087 | .5174 | .5262 | .5349 | .5436 | .5523 | .5609 | .5696 | .5782 | **60′** |
| **2′** | .5003 | .5090 | .5177 | .5265 | .5352 | .5439 | .5526 | .5612 | .5699 | .5785 | **58′** |
| **4′** | .5006 | .5093 | .5180 | .5267 | .5355 | .5442 | .5528 | .5615 | .5702 | .5788 | **56′** |
| **6′** | .5009 | .5096 | .5183 | .5270 | .5357 | .5444 | .5531 | .5618 | .5705 | .5791 | **54′** |
| **8′** | .5012 | .5099 | .5186 | .5273 | .5360 | .5447 | .5534 | .5621 | .5707 | .5794 | **52′** |
| **10′** | **.5015** | **.5102** | **.5189** | **.5276** | **.5363** | **.5450** | **.5537** | **.5624** | **.5710** | **.5797** | **50′** |
| **12′** | .5017 | .5105 | .5192 | .5279 | .5366 | .5453 | .5540 | .5627 | .5713 | .5799 | **48′** |
| **14′** | .5020 | .5108 | .5195 | .5282 | .5369 | .5456 | .5543 | .5630 | .5716 | .5802 | **46′** |
| **16′** | .5023 | .5111 | .5198 | .5285 | .5372 | .5459 | .5546 | .5632 | .5719 | .5805 | **44′** |
| **18′** | .5026 | .5113 | .5201 | .5288 | .5375 | .5462 | .5549 | .5635 | .5722 | .5808 | **42′** |
| **20′** | **.5029** | **.5116** | **.5204** | **.5291** | **.5378** | **.5465** | **.5552** | **.5638** | **.5725** | **.5811** | **40′** |
| **22′** | .5032 | .5119 | .5206 | .5294 | .5381 | .5468 | .5554 | .5641 | .5728 | .5814 | **38′** |
| **24′** | .5035 | .5122 | .5209 | .5297 | .5384 | .5471 | .5557 | .5644 | .5730 | .5817 | **36′** |
| **26′** | .5038 | .5125 | .5212 | .5299 | .5386 | .5473 | .5560 | .5647 | .5733 | .5819 | **34′** |
| **28′** | .5041 | .5128 | .5215 | .5302 | .5389 | .5476 | .5563 | .5650 | .5736 | .5822 | **32′** |
| **30′** | **.5044** | **.5131** | **.5218** | **.5305** | **.5392** | **.5479** | **.5566** | **.5653** | **.5739** | **.5825** | **30′** |
| **32′** | .5047 | .5134 | .5221 | .5308 | .5395 | .5482 | .5569 | .5656 | .5742 | .5828 | **28′** |
| **34′** | .5049 | .5137 | .5224 | .5311 | .5398 | .5485 | .5572 | .5658 | .5745 | .5831 | **26′** |
| **36′** | .5052 | .5140 | .5227 | .5314 | .5401 | .5488 | .5575 | .5661 | .5748 | .5834 | **24′** |
| **38′** | .5055 | .5143 | .5230 | .5317 | .5404 | .5491 | .5578 | .5664 | .5751 | .5837 | **22′** |
| **40′** | **.5058** | **.5145** | **.5233** | **.5320** | **.5407** | **.5494** | **.5580** | **.5667** | **.5753** | **.5840** | **20′** |
| **42′** | .5061 | .5148 | .5236 | .5323 | .5410 | .5497 | .5583 | .5670 | .5756 | .5842 | **18′** |
| **44′** | .5064 | .5151 | .5238 | .5326 | .5413 | .5499 | .5586 | .5673 | .5759 | .5845 | **16′** |
| **46′** | .5067 | .5154 | .5241 | .5328 | .5415 | .5502 | .5589 | .5676 | .5762 | .5848 | **14′** |
| **48′** | .5070 | .5157 | .5244 | .5331 | .5418 | .5505 | .5592 | .5679 | .5765 | .5851 | **12′** |
| **50′** | **.5073** | **.5160** | **.5247** | **.5334** | **.5421** | **.5508** | **.5595** | **.5681** | **.5768** | **.5854** | **10′** |
| **52′** | .5076 | .5163 | .5250 | .5337 | .5424 | .5511 | .5598 | .5684 | .5771 | .5857 | **8′** |
| **54′** | .5079 | .5166 | .5253 | .5340 | .5427 | .5514 | .5601 | .5687 | .5774 | .5860 | **6′** |
| **56′** | .5081 | .5169 | .5256 | .5343 | .5430 | .5517 | .5604 | .5690 | .5776 | .5863 | **4′** |
| **58′** | .5084 | .5172 | .5259 | .5346 | .5433 | .5520 | .5606 | .5693 | .5779 | .5865 | **2′** |
| **60′** | .5087 | .5174 | .5262 | .5349 | .5436 | .5523 | .5609 | .5696 | .5782 | .5868 | **0′** |
| | **269°** | **268°** | **267°** | **266°** | **265°** | **264°** | **263°** | **262°** | **261°** | **260°** | $180° \leqslant \theta$ |

Usage: $hv(263°34') = hv(96°26') = 0.556$. Hc = 90° - ZD.

| $\theta \leqslant 180°$ | **100°** | **101°** | **102°** | **103°** | **104°** | **105°** | **106°** | **107°** | **108°** | **109°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .5868 | .5954 | .6040 | .6125 | .6210 | .6294 | .6378 | .6462 | .6545 | .6628 | **60′** |
| **2′** | .5871 | .5957 | .6042 | .6128 | .6212 | .6297 | .6381 | .6465 | .6548 | .6631 | **58′** |
| **4′** | .5874 | .5960 | .6045 | .6130 | .6215 | .6300 | .6384 | .6467 | .6551 | .6633 | **56′** |
| **6′** | .5877 | .5963 | .6048 | .6133 | .6218 | .6303 | .6387 | .6470 | .6553 | .6636 | **54′** |
| **8′** | .5880 | .5965 | .6051 | .6136 | .6221 | .6305 | .6389 | .6473 | .6556 | .6639 | **52′** |
| **10′** | **.5883** | **.5968** | **.6054** | **.6139** | **.6224** | **.6308** | **.6392** | **.6476** | **.6559** | **.6642** | **50′** |
| **12′** | .5885 | .5971 | .6057 | .6142 | .6227 | .6311 | .6395 | .6479 | .6562 | .6644 | **48′** |
| **14′** | .5888 | .5974 | .6059 | .6145 | .6229 | .6314 | .6398 | .6481 | .6564 | .6647 | **46′** |
| **16′** | .5891 | .5977 | .6062 | .6147 | .6232 | .6317 | .6401 | .6484 | .6567 | .6650 | **44′** |
| **18′** | .5894 | .5980 | .6065 | .6150 | .6235 | .6319 | .6403 | .6487 | .6570 | .6653 | **42′** |
| **20′** | **.5897** | **.5983** | **.6068** | **.6153** | **.6238** | **.6322** | **.6406** | **.6490** | **.6573** | **.6655** | **40′** |
| **22′** | .5900 | .5985 | .6071 | .6156 | .6241 | .6325 | .6409 | .6492 | .6575 | .6658 | **38′** |
| **24′** | .5903 | .5988 | .6074 | .6159 | .6243 | .6328 | .6412 | .6495 | .6578 | .6661 | **36′** |
| **26′** | .5905 | .5991 | .6077 | .6162 | .6246 | .6331 | .6414 | .6498 | .6581 | .6664 | **34′** |
| **28′** | .5908 | .5994 | .6079 | .6164 | .6249 | .6333 | .6417 | .6501 | .6584 | .6666 | **32′** |
| **30′** | **.5911** | **.5997** | **.6082** | **.6167** | **.6252** | **.6336** | **.6420** | **.6504** | **.6587** | **.6669** | **30′** |
| **32′** | .5914 | .6000 | .6085 | .6170 | .6255 | .6339 | .6423 | .6506 | .6589 | .6672 | **28′** |
| **34′** | .5917 | .6003 | .6088 | .6173 | .6258 | .6342 | .6426 | .6509 | .6592 | .6675 | **26′** |
| **36′** | .5920 | .6005 | .6091 | .6176 | .6260 | .6345 | .6428 | .6512 | .6595 | .6677 | **24′** |
| **38′** | .5923 | .6008 | .6094 | .6179 | .6263 | .6347 | .6431 | .6515 | .6598 | .6680 | **22′** |
| **40′** | **.5925** | **.6011** | **.6096** | **.6181** | **.6266** | **.6350** | **.6434** | **.6517** | **.6600** | **.6683** | **20′** |
| **42′** | .5928 | .6014 | .6099 | .6184 | .6269 | .6353 | .6437 | .6520 | .6603 | .6685 | **18′** |
| **44′** | .5931 | .6017 | .6102 | .6187 | .6272 | .6356 | .6440 | .6523 | .6606 | .6688 | **16′** |
| **46′** | .5934 | .6020 | .6105 | .6190 | .6274 | .6359 | .6442 | .6526 | .6609 | .6691 | **14′** |
| **48′** | .5937 | .6022 | .6108 | .6193 | .6277 | .6361 | .6445 | .6528 | .6611 | .6694 | **12′** |
| **50′** | **.5940** | **.6025** | **.6111** | **.6195** | **.6280** | **.6364** | **.6448** | **.6531** | **.6614** | **.6696** | **10′** |
| **52′** | .5943 | .6028 | .6113 | .6198 | .6283 | .6367 | .6451 | .6534 | .6617 | .6699 | **8′** |
| **54′** | .5945 | .6031 | .6116 | .6201 | .6286 | .6370 | .6454 | .6537 | .6620 | .6702 | **6′** |
| **56′** | .5948 | .6034 | .6119 | .6204 | .6288 | .6373 | .6456 | .6540 | .6622 | .6705 | **4′** |
| **58′** | .5951 | .6037 | .6122 | .6207 | .6291 | .6375 | .6459 | .6542 | .6625 | .6707 | **2′** |
| **60′** | .5954 | .6040 | .6125 | .6210 | .6294 | .6378 | .6462 | .6545 | .6628 | .6710 | **0′** |
| | **259°** | **258°** | **257°** | **256°** | **255°** | **254°** | **253°** | **252°** | **251°** | **250°** | $180° \leqslant \theta$ |

Usage: $hv(255°54') = hv(104°06') = 0.6218$.

| $\theta \leqslant 180°$ | **110°** | **111°** | **112°** | **113°** | **114°** | **115°** | **116°** | **117°** | **118°** | **119°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .6710 | .6792 | .6873 | .6954 | .7034 | .7113 | .7192 | .7270 | .7347 | .7424 | **60′** |
| **2′** | .6713 | .6795 | .6876 | .6956 | .7036 | .7116 | .7194 | .7273 | .7350 | .7427 | **58′** |
| **4′** | .6716 | .6797 | .6878 | .6959 | .7039 | .7118 | .7197 | .7275 | .7352 | .7429 | **56′** |
| **6′** | .6718 | .6800 | .6881 | .6962 | .7042 | .7121 | .7200 | .7278 | .7355 | .7432 | **54′** |
| **8′** | .6721 | .6803 | .6884 | .6964 | .7044 | .7124 | .7202 | .7280 | .7358 | .7434 | **52′** |
| **10′** | **.6724** | **.6805** | **.6887** | **.6967** | **.7047** | **.7126** | **.7205** | **.7283** | **.7360** | **.7437** | **50′** |
| **12′** | .6726 | .6808 | .6889 | .6970 | .7050 | .7129 | .7208 | .7285 | .7363 | .7439 | **48′** |
| **14′** | .6729 | .6811 | .6892 | .6972 | .7052 | .7132 | .7210 | .7288 | .7365 | .7442 | **46′** |
| **16′** | .6732 | .6814 | .6895 | .6975 | .7055 | .7134 | .7213 | .7291 | .7368 | .7444 | **44′** |
| **18′** | .6735 | .6816 | .6897 | .6978 | .7058 | .7137 | .7215 | .7293 | .7370 | .7447 | **42′** |
| **20′** | **.6737** | **.6819** | **.6900** | **.6980** | **.7060** | **.7139** | **.7218** | **.7296** | **.7373** | **.7449** | **40′** |
| **22′** | .6740 | .6822 | .6903 | .6983 | .7063 | .7142 | .7221 | .7298 | .7376 | .7452 | **38′** |
| **24′** | .6743 | .6824 | .6905 | .6986 | .7066 | .7145 | .7223 | .7301 | .7378 | .7455 | **36′** |
| **26′** | .6746 | .6827 | .6908 | .6988 | .7068 | .7147 | .7226 | .7304 | .7381 | .7457 | **34′** |
| **28′** | .6748 | .6830 | .6911 | .6991 | .7071 | .7150 | .7228 | .7306 | .7383 | .7460 | **32′** |
| **30′** | **.6751** | **.6833** | **.6913** | **.6994** | **.7073** | **.7153** | **.7231** | **.7309** | **.7386** | **.7462** | **30′** |
| **32′** | .6754 | .6835 | .6916 | .6996 | .7076 | .7155 | .7234 | .7311 | .7388 | .7465 | **28′** |
| **34′** | .6756 | .6838 | .6919 | .6999 | .7079 | .7158 | .7236 | .7314 | .7391 | .7467 | **26′** |
| **36′** | .6759 | .6841 | .6921 | .7002 | .7081 | .7160 | .7239 | .7316 | .7393 | .7470 | **24′** |
| **38′** | .6762 | .6843 | .6924 | .7004 | .7084 | .7163 | .7241 | .7319 | .7396 | .7472 | **22′** |
| **40′** | **.6765** | **.6846** | **.6927** | **.7007** | **.7087** | **.7166** | **.7244** | **.7322** | **.7399** | **.7475** | **20′** |
| **42′** | .6767 | .6849 | .6930 | .7010 | .7089 | .7168 | .7247 | .7324 | .7401 | .7477 | **18′** |
| **44′** | .6770 | .6851 | .6932 | .7012 | .7092 | .7171 | .7249 | .7327 | .7404 | .7480 | **16′** |
| **46′** | .6773 | .6854 | .6935 | .7015 | .7095 | .7174 | .7252 | .7329 | .7406 | .7482 | **14′** |
| **48′** | .6776 | .6857 | .6938 | .7018 | .7097 | .7176 | .7254 | .7332 | .7409 | .7485 | **12′** |
| **50′** | **.6778** | **.6860** | **.6940** | **.7020** | **.7100** | **.7179** | **.7257** | **.7335** | **.7411** | **.7487** | **10′** |
| **52′** | .6781 | .6862 | .6943 | .7023 | .7103 | .7181 | .7260 | .7337 | .7414 | .7490 | **8′** |
| **54′** | .6784 | .6865 | .6946 | .7026 | .7105 | .7184 | .7262 | .7340 | .7416 | .7492 | **6′** |
| **56′** | .6786 | .6868 | .6948 | .7028 | .7108 | .7187 | .7265 | .7342 | .7419 | .7495 | **4′** |
| **58′** | .6789 | .6870 | .6951 | .7031 | .7110 | .7189 | .7267 | .7345 | .7422 | .7497 | **2′** |
| **60′** | .6792 | .6873 | .6954 | .7034 | .7113 | .7192 | .7270 | .7347 | .7424 | .7500 | **0′** |
| | **249°** | **248°** | **247°** | **246°** | **245°** | **244°** | **243°** | **242°** | **241°** | **240°** | $180° \leqslant \theta$ |

Usage: $hv(240°10') = hv(119°50') = 0.7487$.

| $\theta \leqslant 180°$ | **120°** | **121°** | **122°** | **123°** | **124°** | **125°** | **126°** | **127°** | **128°** | **129°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .7500 | .7575 | .7650 | .7723 | .7796 | .7868 | .7939 | .8009 | .8078 | .8147 | **60′** |
| **2′** | .7503 | .7578 | .7652 | .7726 | .7798 | .7870 | .7941 | .8011 | .8081 | .8149 | **58′** |
| **4′** | .7505 | .7580 | .7655 | .7728 | .7801 | .7873 | .7944 | .8014 | .8083 | .8151 | **56′** |
| **6′** | .7508 | .7583 | .7657 | .7731 | .7803 | .7875 | .7946 | .8016 | .8085 | .8153 | **54′** |
| **8′** | .7510 | .7585 | .7659 | .7733 | .7806 | .7877 | .7948 | .8018 | .8087 | .8156 | **52′** |
| **10′** | **.7513** | **.7588** | **.7662** | **.7735** | **.7808** | **.7880** | **.7951** | **.8021** | **.8090** | **.8158** | **50′** |
| **12′** | .7515 | .7590 | .7664 | .7738 | .7810 | .7882 | .7953 | .8023 | .8092 | .8160 | **48′** |
| **14′** | .7518 | .7593 | .7667 | .7740 | .7813 | .7885 | .7955 | .8025 | .8094 | .8162 | **46′** |
| **16′** | .7520 | .7595 | .7669 | .7743 | .7815 | .7887 | .7958 | .8028 | .8097 | .8165 | **44′** |
| **18′** | .7523 | .7598 | .7672 | .7745 | .7818 | .7889 | .7960 | .8030 | .8099 | .8167 | **42′** |
| **20′** | **.7525** | **.7600** | **.7674** | **.7748** | **.7820** | **.7892** | **.7962** | **.8032** | **.8101** | **.8169** | **40′** |
| **22′** | .7528 | .7603 | .7677 | .7750 | .7822 | .7894 | .7965 | .8035 | .8103 | .8171 | **38′** |
| **24′** | .7530 | .7605 | .7679 | .7752 | .7825 | .7896 | .7967 | .8037 | .8106 | .8174 | **36′** |
| **26′** | .7533 | .7608 | .7682 | .7755 | .7827 | .7899 | .7969 | .8039 | .8108 | .8176 | **34′** |
| **28′** | .7535 | .7610 | .7684 | .7757 | .7830 | .7901 | .7972 | .8041 | .8110 | .8178 | **32′** |
| **30′** | **.7538** | **.7612** | **.7686** | **.7760** | **.7832** | **.7904** | **.7974** | **.8044** | **.8113** | **.8180** | **30′** |
| **32′** | .7540 | .7615 | .7689 | .7762 | .7834 | .7906 | .7976 | .8046 | .8115 | .8183 | **28′** |
| **34′** | .7543 | .7617 | .7691 | .7765 | .7837 | .7908 | .7979 | .8048 | .8117 | .8185 | **26′** |
| **36′** | .7545 | .7620 | .7694 | .7767 | .7839 | .7911 | .7981 | .8051 | .8119 | .8187 | **24′** |
| **38′** | .7548 | .7622 | .7696 | .7769 | .7842 | .7913 | .7983 | .8053 | .8122 | .8189 | **22′** |
| **40′** | **.7550** | **.7625** | **.7699** | **.7772** | **.7844** | **.7915** | **.7986** | **.8055** | **.8124** | **.8192** | **20′** |
| **42′** | .7553 | .7627 | .7701 | .7774 | .7846 | .7918 | .7988 | .8058 | .8126 | .8194 | **18′** |
| **44′** | .7555 | .7630 | .7704 | .7777 | .7849 | .7920 | .7990 | .8060 | .8128 | .8196 | **16′** |
| **46′** | .7558 | .7632 | .7706 | .7779 | .7851 | .7922 | .7993 | .8062 | .8131 | .8198 | **14′** |
| **48′** | .7560 | .7635 | .7709 | .7781 | .7854 | .7925 | .7995 | .8065 | .8133 | .8201 | **12′** |
| **50′** | **.7563** | **.7637** | **.7711** | **.7784** | **.7856** | **.7927** | **.7997** | **.8067** | **.8135** | **.8203** | **10′** |
| **52′** | .7565 | .7640 | .7713 | .7786 | .7858 | .7930 | .8000 | .8069 | .8138 | .8205 | **8′** |
| **54′** | .7568 | .7642 | .7716 | .7789 | .7861 | .7932 | .8002 | .8071 | .8140 | .8207 | **6′** |
| **56′** | .7570 | .7645 | .7718 | .7791 | .7863 | .7934 | .8004 | .8074 | .8142 | .8209 | **4′** |
| **58′** | .7573 | .7647 | .7721 | .7794 | .7865 | .7937 | .8007 | .8076 | .8144 | .8212 | **2′** |
| **60′** | .7575 | .7650 | .7723 | .7796 | .7868 | .7939 | .8009 | .8078 | .8147 | .8214 | **0′** |
| | **239°** | **238°** | **237°** | **236°** | **235°** | **234°** | **233°** | **232°** | **231°** | **230°** | $180° \leqslant \theta$ |

Usage: $hv(236°40') = hv(123°20') = 0.7748$.

| $\theta \leqslant 180°$ | **130°** | **131°** | **132°** | **133°** | **134°** | **135°** | **136°** | **137°** | **138°** | **139°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .8214 | .8280 | .8346 | .8410 | .8473 | .8536 | .8597 | .8657 | .8716 | .8774 | **60′** |
| **2′** | .8216 | .8282 | .8348 | .8412 | .8475 | .8538 | .8599 | .8659 | .8718 | .8775 | **58′** |
| **4′** | .8218 | .8285 | .8350 | .8414 | .8477 | .8540 | .8601 | .8661 | .8720 | .8777 | **56′** |
| **6′** | .8221 | .8287 | .8352 | .8416 | .8480 | .8542 | .8603 | .8663 | .8722 | .8779 | **54′** |
| **8′** | .8223 | .8289 | .8354 | .8418 | .8482 | .8544 | .8605 | .8665 | .8723 | .8781 | **52′** |
| **10′** | **.8225** | **.8291** | **.8356** | **.8421** | **.8484** | **.8546** | **.8607** | **.8667** | **.8725** | **.8783** | **50′** |
| **12′** | .8227 | .8293 | .8359 | .8423 | .8486 | .8548 | .8609 | .8669 | .8727 | .8785 | **48′** |
| **14′** | .8230 | .8296 | .8361 | .8425 | .8488 | .8550 | .8611 | .8671 | .8729 | .8787 | **46′** |
| **16′** | .8232 | .8298 | .8363 | .8427 | .8490 | .8552 | .8613 | .8673 | .8731 | .8789 | **44′** |
| **18′** | .8234 | .8300 | .8365 | .8429 | .8492 | .8554 | .8615 | .8675 | .8733 | .8791 | **42′** |
| **20′** | **.8236** | **.8302** | **.8367** | **.8431** | **.8494** | **.8556** | **.8617** | **.8677** | **.8735** | **.8793** | **40′** |
| **22′** | .8238 | .8304 | .8369 | .8433 | .8496 | .8558 | .8619 | .8679 | .8737 | .8794 | **38′** |
| **24′** | .8241 | .8307 | .8372 | .8435 | .8498 | .8560 | .8621 | .8680 | .8739 | .8796 | **36′** |
| **26′** | .8243 | .8309 | .8374 | .8438 | .8500 | .8562 | .8623 | .8682 | .8741 | .8798 | **34′** |
| **28′** | .8245 | .8311 | .8376 | .8440 | .8502 | .8564 | .8625 | .8684 | .8743 | .8800 | **32′** |
| **30′** | **.8247** | **.8313** | **.8378** | **.8442** | **.8505** | **.8566** | **.8627** | **.8686** | **.8745** | **.8802** | **30′** |
| **32′** | .8249 | .8315 | .8380 | .8444 | .8507 | .8568 | .8629 | .8688 | .8747 | .8804 | **28′** |
| **34′** | .8252 | .8317 | .8382 | .8446 | .8509 | .8570 | .8631 | .8690 | .8749 | .8806 | **26′** |
| **36′** | .8254 | .8320 | .8384 | .8448 | .8511 | .8572 | .8633 | .8692 | .8751 | .8808 | **24′** |
| **38′** | .8256 | .8322 | .8387 | .8450 | .8513 | .8574 | .8635 | .8694 | .8752 | .8810 | **22′** |
| **40′** | **.8258** | **.8324** | **.8389** | **.8452** | **.8515** | **.8576** | **.8637** | **.8696** | **.8754** | **.8811** | **20′** |
| **42′** | .8260 | .8326 | .8391 | .8454 | .8517 | .8578 | .8639 | .8698 | .8756 | .8813 | **18′** |
| **44′** | .8263 | .8328 | .8393 | .8457 | .8519 | .8580 | .8641 | .8700 | .8758 | .8815 | **16′** |
| **46′** | .8265 | .8330 | .8395 | .8459 | .8521 | .8583 | .8643 | .8702 | .8760 | .8817 | **14′** |
| **48′** | .8267 | .8333 | .8397 | .8461 | .8523 | .8585 | .8645 | .8704 | .8762 | .8819 | **12′** |
| **50′** | **.8269** | **.8335** | **.8399** | **.8463** | **.8525** | **.8587** | **.8647** | **.8706** | **.8764** | **.8821** | **10′** |
| **52′** | .8272 | .8337 | .8401 | .8465 | .8527 | .8589 | .8649 | .8708 | .8766 | .8823 | **8′** |
| **54′** | .8274 | .8339 | .8404 | .8467 | .8529 | .8591 | .8651 | .8710 | .8768 | .8825 | **6′** |
| **56′** | .8276 | .8341 | .8406 | .8469 | .8531 | .8593 | .8653 | .8712 | .8770 | .8826 | **4′** |
| **58′** | .8278 | .8343 | .8408 | .8471 | .8533 | .8595 | .8655 | .8714 | .8772 | .8828 | **2′** |
| **60′** | .8280 | .8346 | .8410 | .8473 | .8536 | .8597 | .8657 | .8716 | .8774 | .8830 | **0′** |
| | **229°** | **228°** | **227°** | **226°** | **225°** | **224°** | **223°** | **222°** | **221°** | **220°** | $180° \leqslant \theta$ |

Usage: $hv(224°22′) = hv(135°38′) = 0.8574$.

| $\theta \leqslant 180°$ | **140°** | **141°** | **142°** | **143°** | **144°** | **145°** | **146°** | **147°** | **148°** | **149°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .8830 | .8886 | .8940 | .8993 | .9045 | .9096 | .9145 | .9193 | .9240 | .9286 | **60′** |
| **2′** | .8832 | .8888 | .8942 | .8995 | .9047 | .9097 | .9147 | .9195 | .9242 | .9287 | **58′** |
| **4′** | .8834 | .8889 | .8944 | .8997 | .9049 | .9099 | .9148 | .9197 | .9243 | .9289 | **56′** |
| **6′** | .8836 | .8891 | .8945 | .8998 | .9050 | .9101 | .9150 | .9198 | .9245 | .9290 | **54′** |
| **8′** | .8838 | .8893 | .8947 | .9000 | .9052 | .9102 | .9152 | .9200 | .9246 | .9292 | **52′** |
| **10′** | **.8840** | **.8895** | **.8949** | **.9002** | **.9054** | **.9104** | **.9153** | **.9201** | **.9248** | **.9293** | **50′** |
| **12′** | .8841 | .8897 | .8951 | .9004 | .9055 | .9106 | .9155 | .9203 | .9249 | .9295 | **48′** |
| **14′** | .8843 | .8899 | .8953 | .9005 | .9057 | .9107 | .9157 | .9204 | .9251 | .9296 | **46′** |
| **16′** | .8845 | .8900 | .8954 | .9007 | .9059 | .9109 | .9158 | .9206 | .9253 | .9298 | **44′** |
| **18′** | .8847 | .8902 | .8956 | .9009 | .9060 | .9111 | .9160 | .9208 | .9254 | .9299 | **42′** |
| **20′** | **.8849** | **.8904** | **.8958** | **.9011** | **.9062** | **.9112** | **.9161** | **.9209** | **.9256** | **.9301** | **40′** |
| **22′** | .8851 | .8906 | .8960 | .9012 | .9064 | .9114 | .9163 | .9211 | .9257 | .9302 | **38′** |
| **24′** | .8853 | .8908 | .8961 | .9014 | .9066 | .9116 | .9165 | .9212 | .9259 | .9304 | **36′** |
| **26′** | .8854 | .8909 | .8963 | .9016 | .9067 | .9117 | .9166 | .9214 | .9260 | .9305 | **34′** |
| **28′** | .8856 | .8911 | .8965 | .9018 | .9069 | .9119 | .9168 | .9215 | .9262 | .9307 | **32′** |
| **30′** | **.8858** | **.8913** | **.8967** | **.9019** | **.9071** | **.9121** | **.9169** | **.9217** | **.9263** | **.9308** | **30′** |
| **32′** | .8860 | .8915 | .8969 | .9021 | .9072 | .9122 | .9171 | .9219 | .9265 | .9310 | **28′** |
| **34′** | .8862 | .8917 | .8970 | .9023 | .9074 | .9124 | .9173 | .9220 | .9266 | .9311 | **26′** |
| **36′** | .8864 | .8918 | .8972 | .9024 | .9076 | .9126 | .9174 | .9222 | .9268 | .9313 | **24′** |
| **38′** | .8866 | .8920 | .8974 | .9026 | .9077 | .9127 | .9176 | .9223 | .9269 | .9314 | **22′** |
| **40′** | **.8867** | **.8922** | **.8976** | **.9028** | **.9079** | **.9129** | **.9177** | **.9225** | **.9271** | **.9316** | **20′** |
| **42′** | .8869 | .8924 | .8977 | .9030 | .9081 | .9130 | .9179 | .9226 | .9272 | .9317 | **18′** |
| **44′** | .8871 | .8926 | .8979 | .9031 | .9082 | .9132 | .9181 | .9228 | .9274 | .9318 | **16′** |
| **46′** | .8873 | .8927 | .8981 | .9033 | .9084 | .9134 | .9182 | .9229 | .9275 | .9320 | **14′** |
| **48′** | .8875 | .8929 | .8983 | .9035 | .9086 | .9135 | .9184 | .9231 | .9277 | .9321 | **12′** |
| **50′** | **.8877** | **.8931** | **.8984** | **.9037** | **.9087** | **.9137** | **.9185** | **.9233** | **.9278** | **.9323** | **10′** |
| **52′** | .8878 | .8933 | .8986 | .9038 | .9089 | .9139 | .9187 | .9234 | .9280 | .9324 | **8′** |
| **54′** | .8880 | .8935 | .8988 | .9040 | .9091 | .9140 | .9189 | .9236 | .9281 | .9326 | **6′** |
| **56′** | .8882 | .8936 | .8990 | .9042 | .9092 | .9142 | .9190 | .9237 | .9283 | .9327 | **4′** |
| **58′** | .8884 | .8938 | .8991 | .9043 | .9094 | .9144 | .9192 | .9239 | .9284 | .9329 | **2′** |
| **60′** | .8886 | .8940 | .8993 | .9045 | .9096 | .9145 | .9193 | .9240 | .9286 | .9330 | **0′** |
| | **219°** | **218°** | **217°** | **216°** | **215°** | **214°** | **213°** | **212°** | **211°** | **210°** | $180° \leqslant \theta$ |

Usage: $hv(218°02') = hv(141°58') = 0.8938$.

| $\theta \leqslant 180°$ | **150°** | **151°** | **152°** | **153°** | **154°** | **155°** | **156°** | **157°** | **158°** | **159°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .9330 | .9373 | .9415 | .9455 | .9494 | .9532 | .9568 | .9603 | .9636 | .9668 | **60′** |
| **2′** | .9332 | .9375 | .9416 | .9456 | .9495 | .9533 | .9569 | .9604 | .9637 | .9669 | **58′** |
| **4′** | .9333 | .9376 | .9417 | .9458 | .9497 | .9534 | .9570 | .9605 | .9638 | .9670 | **56′** |
| **6′** | .9334 | .9377 | .9419 | .9459 | .9498 | .9535 | .9571 | .9606 | .9639 | .9671 | **54′** |
| **8′** | .9336 | .9379 | .9420 | .9460 | .9499 | .9536 | .9572 | .9607 | .9640 | .9672 | **52′** |
| **10′** | **.9337** | **.9380** | **.9422** | **.9462** | **.9500** | **.9538** | **.9574** | **.9608** | **.9641** | **.9673** | **50′** |
| **12′** | .9339 | .9382 | .9423 | .9463 | .9502 | .9539 | .9575 | .9609 | .9642 | .9674 | **48′** |
| **14′** | .9340 | .9383 | .9424 | .9464 | .9503 | .9540 | .9576 | .9610 | .9644 | .9675 | **46′** |
| **16′** | .9342 | .9384 | .9426 | .9466 | .9504 | .9541 | .9577 | .9612 | .9645 | .9676 | **44′** |
| **18′** | .9343 | .9386 | .9427 | .9467 | .9505 | .9543 | .9578 | .9613 | .9646 | .9677 | **42′** |
| **20′** | **.9345** | **.9387** | **.9428** | **.9468** | **.9507** | **.9544** | **.9579** | **.9614** | **.9647** | **.9678** | **40′** |
| **22′** | .9346 | .9389 | .9430 | .9469 | .9508 | .9545 | .9581 | .9615 | .9648 | .9679 | **38′** |
| **24′** | .9347 | .9390 | .9431 | .9471 | .9509 | .9546 | .9582 | .9616 | .9649 | .9680 | **36′** |
| **26′** | .9349 | .9391 | .9432 | .9472 | .9510 | .9547 | .9583 | .9617 | .9650 | .9681 | **34′** |
| **28′** | .9350 | .9393 | .9434 | .9473 | .9512 | .9549 | .9584 | .9618 | .9651 | .9682 | **32′** |
| **30′** | **.9352** | **.9394** | **.9435** | **.9475** | **.9513** | **.9550** | **.9585** | **.9619** | **.9652** | **.9683** | **30′** |
| **32′** | .9353 | .9395 | .9436 | .9476 | .9514 | .9551 | .9586 | .9621 | .9653 | .9684 | **28′** |
| **34′** | .9355 | .9397 | .9438 | .9477 | .9515 | .9552 | .9588 | .9622 | .9654 | .9685 | **26′** |
| **36′** | .9356 | .9398 | .9439 | .9479 | .9517 | .9553 | .9589 | .9623 | .9655 | .9686 | **24′** |
| **38′** | .9357 | .9400 | .9440 | .9480 | .9518 | .9555 | .9590 | .9624 | .9656 | .9687 | **22′** |
| **40′** | **.9359** | **.9401** | **.9442** | **.9481** | **.9519** | **.9556** | **.9591** | **.9625** | **.9657** | **.9688** | **20′** |
| **42′** | .9360 | .9402 | .9443 | .9482 | .9520 | .9557 | .9592 | .9626 | .9658 | .9689 | **18′** |
| **44′** | .9362 | .9404 | .9444 | .9484 | .9522 | .9558 | .9593 | .9627 | .9660 | .9690 | **16′** |
| **46′** | .9363 | .9405 | .9446 | .9485 | .9523 | .9559 | .9595 | .9628 | .9661 | .9691 | **14′** |
| **48′** | .9365 | .9407 | .9447 | .9486 | .9524 | .9561 | .9596 | .9629 | .9662 | .9692 | **12′** |
| **50′** | **.9366** | **.9408** | **.9448** | **.9488** | **.9525** | **.9562** | **.9597** | **.9630** | **.9663** | **.9693** | **10′** |
| **52′** | .9367 | .9409 | .9450 | .9489 | .9527 | .9563 | .9598 | .9632 | .9664 | .9694 | **8′** |
| **54′** | .9369 | .9411 | .9451 | .9490 | .9528 | .9564 | .9599 | .9633 | .9665 | .9695 | **6′** |
| **56′** | .9370 | .9412 | .9452 | .9491 | .9529 | .9565 | .9600 | .9634 | .9666 | .9696 | **4′** |
| **58′** | .9372 | .9413 | .9454 | .9493 | .9530 | .9567 | .9601 | .9635 | .9667 | .9697 | **2′** |
| **60′** | .9373 | .9415 | .9455 | .9494 | .9532 | .9568 | .9603 | .9636 | .9668 | .9698 | **0′** |
| | **209°** | **208°** | **207°** | **206°** | **205°** | **204°** | **203°** | **202°** | **201°** | **200°** | $180° \leqslant \theta$ |

Usage: $hv(205°56') = hv(154°04') = 0.9497$.

| $\theta \leqslant 180°$ | **160°** | **161°** | **162°** | **163°** | **164°** | **165°** | **166°** | **167°** | **168°** | **169°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .9698 | .9728 | .9755 | .9782 | .9806 | .9830 | .9851 | .9872 | .9891 | .9908 | **60′** |
| **2′** | .9699 | .9729 | .9756 | .9782 | .9807 | .9830 | .9852 | .9873 | .9891 | .9909 | **58′** |
| **4′** | .9700 | .9729 | .9757 | .9783 | .9808 | .9831 | .9853 | .9873 | .9892 | .9909 | **56′** |
| **6′** | .9701 | .9730 | .9758 | .9784 | .9809 | .9832 | .9854 | .9874 | .9893 | .9910 | **54′** |
| **8′** | .9702 | .9731 | .9759 | .9785 | .9810 | .9833 | .9854 | .9874 | .9893 | .9910 | **52′** |
| **10′** | **.9703** | **.9732** | **.9760** | **.9786** | **.9810** | **.9833** | **.9855** | **.9875** | **.9894** | **.9911** | **50′** |
| **12′** | .9704 | .9733 | .9761 | .9787 | .9811 | .9834 | .9856 | .9876 | .9894 | .9911 | **48′** |
| **14′** | .9705 | .9734 | .9762 | .9787 | .9812 | .9835 | .9856 | .9876 | .9895 | .9912 | **46′** |
| **16′** | .9706 | .9735 | .9762 | .9788 | .9813 | .9836 | .9857 | .9877 | .9896 | .9913 | **44′** |
| **18′** | .9707 | .9736 | .9763 | .9789 | .9813 | .9836 | .9858 | .9878 | .9896 | .9913 | **42′** |
| **20′** | **.9708** | **.9737** | **.9764** | **.9790** | **.9814** | **.9837** | **.9858** | **.9878** | **.9897** | **.9914** | **40′** |
| **22′** | .9709 | .9738 | .9765 | .9791 | .9815 | .9838 | .9859 | .9879 | .9897 | .9914 | **38′** |
| **24′** | .9710 | .9739 | .9766 | .9792 | .9816 | .9839 | .9860 | .9880 | .9898 | .9915 | **36′** |
| **26′** | .9711 | .9740 | .9767 | .9792 | .9817 | .9839 | .9860 | .9880 | .9898 | .9915 | **34′** |
| **28′** | .9712 | .9741 | .9768 | .9793 | .9817 | .9840 | .9861 | .9881 | .9899 | .9916 | **32′** |
| **30′** | **.9713** | **.9742** | **.9769** | **.9794** | **.9818** | **.9841** | **.9862** | **.9881** | **.9900** | **.9916** | **30′** |
| **32′** | .9714 | .9743 | .9769 | .9795 | .9819 | .9841 | .9863 | .9882 | .9900 | .9917 | **28′** |
| **34′** | .9715 | .9743 | .9770 | .9796 | .9820 | .9842 | .9863 | .9883 | .9901 | .9917 | **26′** |
| **36′** | .9716 | .9744 | .9771 | .9797 | .9820 | .9843 | .9864 | .9883 | .9901 | .9918 | **24′** |
| **38′** | .9717 | .9745 | .9772 | .9797 | .9821 | .9844 | .9865 | .9884 | .9902 | .9918 | **22′** |
| **40′** | **.9718** | **.9746** | **.9773** | **.9798** | **.9822** | **.9844** | **.9865** | **.9885** | **.9903** | **.9919** | **20′** |
| **42′** | .9719 | .9747 | .9774 | .9799 | .9823 | .9845 | .9866 | .9885 | .9903 | .9919 | **18′** |
| **44′** | .9720 | .9748 | .9775 | .9800 | .9824 | .9846 | .9867 | .9886 | .9904 | .9920 | **16′** |
| **46′** | .9721 | .9749 | .9776 | .9801 | .9824 | .9847 | .9867 | .9886 | .9904 | .9920 | **14′** |
| **48′** | .9722 | .9750 | .9776 | .9801 | .9825 | .9847 | .9868 | .9887 | .9905 | .9921 | **12′** |
| **50′** | **.9723** | **.9751** | **.9777** | **.9802** | **.9826** | **.9848** | **.9869** | **.9888** | **.9905** | **.9921** | **10′** |
| **52′** | .9724 | .9752 | .9778 | .9803 | .9827 | .9849 | .9869 | .9888 | .9906 | .9922 | **8′** |
| **54′** | .9725 | .9753 | .9779 | .9804 | .9827 | .9849 | .9870 | .9889 | .9906 | .9923 | **6′** |
| **56′** | .9726 | .9753 | .9780 | .9805 | .9828 | .9850 | .9871 | .9890 | .9907 | .9923 | **4′** |
| **58′** | .9727 | .9754 | .9781 | .9806 | .9829 | .9851 | .9871 | .9890 | .9908 | .9924 | **2′** |
| **60′** | .9728 | .9755 | .9782 | .9806 | .9830 | .9851 | .9872 | .9891 | .9908 | .9924 | **0′** |
| | **199°** | **198°** | **197°** | **196°** | **195°** | **194°** | **193°** | **192°** | **191°** | **190°** | $180° \leqslant \theta$ |

Usage: $hv(192°10') = hv(167°50') = 0.9888$.

| $\theta \leqslant 180°$ | **170°** | **171°** | **172°** | **173°** | **174°** | **175°** | **176°** | **177°** | **178°** | **179°** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0′** | .9924 | .9938 | .9951 | .9963 | .9973 | .9981 | .9988 | .9993 | .9997 | .9999 | **60′** |
| **2′** | .9925 | .9939 | .9952 | .9963 | .9973 | .9981 | .9988 | .9993 | .9997 | .9999 | **58′** |
| **4′** | .9925 | .9939 | .9952 | .9963 | .9973 | .9981 | .9988 | .9993 | .9997 | .9999 | **56′** |
| **6′** | .9926 | .9940 | .9953 | .9964 | .9974 | .9982 | .9988 | .9994 | .9997 | .9999 | **54′** |
| **8′** | .9926 | .9940 | .9953 | .9964 | .9974 | .9982 | .9989 | .9994 | .9997 | .9999 | **52′** |
| **10′** | **.9927** | **.9941** | **.9953** | **.9964** | **.9974** | **.9982** | **.9989** | **.9994** | **.9997** | **.9999** | **50′** |
| **12′** | .9927 | .9941 | .9954 | .9965 | .9974 | .9982 | .9989 | .9994 | .9998 | 1.000 | **48′** |
| **14′** | .9928 | .9942 | .9954 | .9965 | .9975 | .9983 | .9989 | .9994 | .9998 | 1.000 | **46′** |
| **16′** | .9928 | .9942 | .9955 | .9966 | .9975 | .9983 | .9989 | .9994 | .9998 | 1.000 | **44′** |
| **18′** | .9929 | .9942 | .9955 | .9966 | .9975 | .9983 | .9990 | .9994 | .9998 | 1.000 | **42′** |
| **20′** | **.9929** | **.9943** | **.9955** | **.9966** | **.9976** | **.9983** | **.9990** | **.9995** | **.9998** | **1.000** | **40′** |
| **22′** | .9929 | .9943 | .9956 | .9967 | .9976 | .9984 | .9990 | .9995 | .9998 | 1.000 | **38′** |
| **24′** | .9930 | .9944 | .9956 | .9967 | .9976 | .9984 | .9990 | .9995 | .9998 | 1.000 | **36′** |
| **26′** | .9930 | .9944 | .9956 | .9967 | .9976 | .9984 | .9990 | .9995 | .9998 | 1.000 | **34′** |
| **28′** | .9931 | .9945 | .9957 | .9968 | .9977 | .9984 | .9990 | .9995 | .9998 | 1.000 | **32′** |
| **30′** | **.9931** | **.9945** | **.9957** | **.9968** | **.9977** | **.9985** | **.9991** | **.9995** | **.9998** | **1.000** | **30′** |
| **32′** | .9932 | .9946 | .9958 | .9968 | .9977 | .9985 | .9991 | .9995 | .9998 | 1.000 | **28′** |
| **34′** | .9932 | .9946 | .9958 | .9969 | .9978 | .9985 | .9991 | .9995 | .9998 | 1.000 | **26′** |
| **36′** | .9933 | .9946 | .9958 | .9969 | .9978 | .9985 | .9991 | .9996 | .9999 | 1.000 | **24′** |
| **38′** | .9933 | .9947 | .9959 | .9969 | .9978 | .9985 | .9991 | .9996 | .9999 | 1.000 | **22′** |
| **40′** | **.9934** | **.9947** | **.9959** | **.9969** | **.9978** | **.9986** | **.9992** | **.9996** | **.9999** | **1.000** | **20′** |
| **42′** | .9934 | .9948 | .9959 | .9970 | .9979 | .9986 | .9992 | .9996 | .9999 | 1.000 | **18′** |
| **44′** | .9935 | .9948 | .9960 | .9970 | .9979 | .9986 | .9992 | .9996 | .9999 | 1.000 | **16′** |
| **46′** | .9935 | .9948 | .9960 | .9970 | .9979 | .9986 | .9992 | .9996 | .9999 | 1.000 | **14′** |
| **48′** | .9936 | .9949 | .9961 | .9971 | .9979 | .9987 | .9992 | .9996 | .9999 | 1.000 | **12′** |
| **50′** | **.9936** | **.9949** | **.9961** | **.9971** | **.9980** | **.9987** | **.9992** | **.9996** | **.9999** | **1.000** | **10′** |
| **52′** | .9937 | .9950 | .9961 | .9971 | .9980 | .9987 | .9993 | .9997 | .9999 | 1.000 | **8′** |
| **54′** | .9937 | .9950 | .9962 | .9972 | .9980 | .9987 | .9993 | .9997 | .9999 | 1.000 | **6′** |
| **56′** | .9938 | .9951 | .9962 | .9972 | .9980 | .9987 | .9993 | .9997 | .9999 | 1.000 | **4′** |
| **58′** | .9938 | .9951 | .9962 | .9972 | .9981 | .9988 | .9993 | .9997 | .9999 | 1.000 | **2′** |
| **60′** | .9938 | .9951 | .9963 | .9973 | .9981 | .9988 | .9993 | .9997 | .9999 | 1.000 | **0′** |
| | **189°** | **188°** | **187°** | **186°** | **185°** | **184°** | **183°** | **182°** | **181°** | **180°** | $180° \leqslant \theta$ |

Usage: $hv(188°50′) = hv(171°10′) = 0.9941$.