

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 12.0 -00.3	S	23 02.3 -00.2	228 21.5 +00.0	S	15 18.7 +00.5	238 51.3 -28.7	S	10 42.3 +10.4				
01	194 11.7 -00.3	S	23 02.1 -00.2	243 21.5 +00.0	S	15 19.2 +00.6	253 22.6 -28.8	S	10 52.7 +10.3				
02	209 11.4 -00.3	S	23 01.9 -00.2	258 21.5 +00.0	S	15 19.8 +00.6	267 53.8 -28.7	S	11 03.0 +10.3				
03	224 11.1 -00.3	S	23 01.7 -00.2	273 21.5 +00.0	S	15 20.4 +00.6	282 25.1 -28.8	S	11 13.3 +10.3				
04	239 10.8 -00.3	S	23 01.5 -00.2	288 21.5 +00.0	S	15 21.0 +00.6	296 56.3 -28.8	S	11 23.6 +10.1				
05	254 10.5 -00.3	S	23 01.3 -00.2	303 21.5 -00.1	S	15 21.6 +00.5	311 27.5 -28.8	S	11 33.7 +10.1				
06	269 10.2 -00.3	S	23 01.1 -00.2	318 21.4 +00.0	S	15 22.1 +00.6	325 58.7 -28.8	S	11 43.8 +10.1				
07	284 09.9 -00.3	S	23 00.9 -00.2	333 21.4 +00.0	S	15 22.7 +00.6	340 29.9 -28.9	S	11 53.9 +09.9				
08	299 09.6 -00.3	S	23 00.7 -00.2	348 21.4 +00.0	S	15 23.3 +00.6	355 01.0 -28.8	S	12 03.8 +09.9				
09	314 09.3 -00.3	S	23 00.5 -00.2	3 21.4 +00.0	S	15 23.9 +00.6	9 32.2 -28.9	S	12 13.7 +09.9				
10	329 09.0 -00.3	S	23 00.3 -00.2	18 21.4 +00.0	S	15 24.5 +00.6	24 03.3 -28.9	S	12 23.6 +09.7				
11	344 08.7 -00.2	S	23 00.1 -00.2	33 21.4 +00.0	S	15 25.1 +00.5	38 34.4 -28.9	S	12 33.3 +09.7				
12	359 08.5 -00.3	S	22 59.9 -00.2	48 21.4 +00.0	S	15 25.6 +00.6	53 05.5 -28.9	S	12 43.0 +09.7				
13	14 08.2 -00.3	S	22 59.7 -00.2	63 21.4 -00.1	S	15 26.2 +00.6	67 36.6 -28.9	S	12 52.7 +09.5				
14	29 07.9 -00.3	S	22 59.5 -00.2	78 21.3 +00.0	S	15 26.8 +00.6	82 07.7 -29.0	S	13 02.2 +09.5				
15	44 07.6 -00.3	S	22 59.3 -00.2	93 21.3 +00.0	S	15 27.4 +00.6	96 38.7 -28.9	S	13 11.7 +09.5				
16	59 07.3 -00.3	S	22 59.1 -00.2	108 21.3 +00.0	S	15 28.0 +00.5	111 09.8 -29.0	S	13 21.2 +09.3				
17	74 07.0 -00.3	S	22 58.9 -00.2	123 21.3 +00.0	S	15 28.5 +00.6	125 40.8 -29.0	S	13 30.5 +09.3				
18	89 06.7 -00.3	S	22 58.7 -00.2	138 21.3 +00.0	S	15 29.1 +00.6	140 11.8 -29.0	S	13 39.8 +09.2				
19	104 06.4 -00.3	S	22 58.5 -00.2	153 21.3 -00.1	S	15 29.7 +00.6	154 42.8 -29.1	S	13 49.0 +09.1				
20	119 06.1 -00.3	S	22 58.3 -00.3	168 21.2 +00.0	S	15 30.3 +00.6	169 13.7 -29.0	S	13 58.1 +09.1				
21	134 05.8 -00.3	S	22 58.0 -00.2	183 21.2 +00.0	S	15 30.9 +00.6	183 44.7 -29.1	S	14 07.2 +09.0				
22	149 05.5 -00.3	S	22 57.8 -00.2	198 21.2 +00.0	S	15 31.5 +00.5	198 15.6 -29.1	S	14 16.2 +08.9				
23	164 05.2 -00.3	S	22 57.6 -00.2	213 21.2 -00.1	S	15 32.0 +00.6	212 46.5 -29.1	S	14 25.1 +08.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 15'4 15'4 15'4 15'3 15'3 15'3					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 56'6 56'5 56'4 56'3 56'2 56'1					
	SHA 079° 079° 078° 078° 078° 078°			SHA 128° 128° 128° 127° 127° 127°				SHA 137° 135° 133° 131° 129° 127°					
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 08:46				Greenwich Culmination Time: 08:20					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	100 17.9 +00.9	S	00 18.0 -00.8	210 00.8 +01.9	S	21 34.3 +00.1	178 01.9 +02.2	S	22 28.0 +00.0				
01	115 18.8 +01.0	S	00 17.2 -00.7	225 02.7 +01.9	S	21 34.4 +00.1	193 04.1 +02.1	S	22 28.0 +00.0				
02	130 19.8 +00.9	S	00 16.5 -00.7	240 04.6 +01.9	S	21 34.5 +00.0	208 06.2 +02.1	S	22 28.0 +00.0				
03	145 20.7 +01.0	S	00 15.8 -00.7	255 06.5 +01.9	S	21 34.5 +00.1	223 08.3 +02.2	S	22 28.0 -00.1				
04	160 21.7 +00.9	S	00 15.1 -00.7	270 08.4 +01.9	S	21 34.6 +00.1	238 10.5 +02.1	S	22 27.9 +00.0				
05	175 22.6 +01.0	S	00 14.4 -00.8	285 10.3 +01.9	S	21 34.7 +00.0	253 12.6 +02.2	S	22 27.9 +00.0				
06	190 23.6 +00.9	S	00 13.6 -00.7	300 12.2 +01.9	S	21 34.7 +00.1	268 14.8 +02.1	S	22 27.9 +00.0				
07	205 24.5 +00.9	S	00 12.9 -00.7	315 14.1 +02.0	S	21 34.8 +00.1	283 16.9 +02.2	S	22 27.9 -00.1				
08	220 25.4 +01.0	S	00 12.2 -00.7	330 16.1 +01.9	S	21 34.9 +00.1	298 19.1 +02.1	S	22 27.8 +00.0				
09	235 26.4 +00.9	S	00 11.5 -00.7	345 18.0 +01.9	S	21 35.0 +00.0	313 21.2 +02.2	S	22 27.8 +00.0				
10	250 27.3 +01.0	S	00 10.8 -00.8	0 19.9 +01.9	S	21 35.0 +00.1	328 23.4 +02.1	S	22 27.8 +00.0				
11	265 28.3 +00.9	S	00 10.0 -00.7	15 21.8 +01.9	S	21 35.1 +00.1	343 25.5 +02.2	S	22 27.8 -00.1				
12	280 29.2 +01.0	S	00 09.3 -00.7	30 23.7 +01.9	S	21 35.2 +00.0	358 27.7 +02.1	S	22 27.7 +00.0				
13	295 30.2 +00.9	S	00 08.6 -00.7	45 25.6 +01.9	S	21 35.2 +00.1	13 29.8 +02.1	S	22 27.7 +00.0				
14	310 31.1 +01.0	S	00 07.9 -00.7	60 27.5 +01.9	S	21 35.3 +00.1	28 31.9 +02.2	S	22 27.7 +00.0				
15	325 32.1 +00.9	S	00 07.2 -00.8	75 29.4 +01.9	S	21 35.4 +00.1	43 34.1 +02.1	S	22 27.7 +00.0				
16	340 33.0 +01.0	S	00 06.4 -00.7	90 31.3 +01.9	S	21 35.5 +00.0	58 36.2 +02.2	S	22 27.7 -00.1				
17	355 34.0 +00.9	S	00 05.7 -00.7	105 33.2 +01.9	S	21 35.5 +00.1	73 38.4 +02.1	S	22 27.6 +00.0				
18	10 34.9 +00.9	S	00 05.0 -00.7	120 35.1 +01.9	S	21 35.6 +00.1	88 40.5 +02.2	S	22 27.6 +00.0				
19	25 35.8 +01.0	S	00 04.3 -00.7	135 37.0 +01.9	S	21 35.7 +00.0	103 42.7 +02.1	S	22 27.6 +00.0				
20	40 36.8 +00.9	S	00 03.6 -00.8	150 38.9 +01.9	S	21 35.7 +00.1	118 44.8 +02.2	S	22 27.6 -00.1				
21	55 37.7 +01.0	S	00 02.8 -00.7	165 40.8 +01.9	S	21 35.8 +00.1	133 47.0 +02.1	S	22 27.5 +00.0				
22	70 38.7 +00.9	S	00 02.1 -00.7	180 42.7 +01.9	S	21 35.9 +00.0	148 49.1 +02.2	S	22 27.5 +00.0				
23	85 39.6 +01.0	S	00 01.4 -00.7	195 44.6 +01.9	S	21 35.9 +00.1	163 51.3 +02.1	S	22 27.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 360° 360° 360° 360° 359° 359°			SHA 110° 110° 110° 110° 109° 109°				SHA 078° 078° 078° 078° 078° 078°					
	Greenwich Culmination Time: 17:17			Greenwich Culmination Time: 09:58				Greenwich Culmination Time: 12:06					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 04.9 -00.3	S	22 57.4 -00.2	228 21.1 +00.0	S	15 32.6 +00.6	227 17.4 -29.1	S	14 33.9 +08.8				
01	194 04.6 -00.3	S	22 57.2 -00.2	243 21.1 +00.0	S	15 33.2 +00.6	241 48.3 -29.2	S	14 42.7 +08.7				
02	209 04.3 -00.3	S	22 57.0 -00.3	258 21.1 +00.0	S	15 33.8 +00.6	256 19.1 -29.2	S	14 51.4 +08.6				
03	224 04.0 -00.3	S	22 56.7 -00.2	273 21.1 -00.1	S	15 34.4 +00.5	270 49.9 -29.2	S	14 60.0 +08.5				
04	239 03.7 -00.3	S	22 56.5 -00.2	288 21.0 +00.0	S	15 34.9 +00.6	285 20.7 -29.2	S	15 08.5 +08.5				
05	254 03.4 -00.2	S	22 56.3 -00.2	303 21.0 +00.0	S	15 35.5 +00.6	299 51.5 -29.2	S	15 17.0 +08.3				
06	269 03.2 -00.3	S	22 56.1 -00.2	318 21.0 -00.1	S	15 36.1 +00.6	314 22.3 -29.3	S	15 25.3 +08.3				
07	284 02.9 -00.3	S	22 55.9 -00.2	333 20.9 +00.0	S	15 36.7 +00.6	328 53.0 -29.3	S	15 33.6 +08.2				
08	299 02.6 -00.3	S	22 55.7 -00.3	348 20.9 +00.0	S	15 37.3 +00.5	343 23.7 -29.3	S	15 41.8 +08.1				
09	314 02.3 -00.3	S	22 55.4 -00.2	3 20.9 -00.1	S	15 37.8 +00.6	357 54.4 -29.3	S	15 49.9 +08.1				
10	329 02.0 -00.3	S	22 55.2 -00.2	18 20.8 +00.0	S	15 38.4 +00.6	12 25.1 -29.4	S	15 58.0 +07.9				
11	344 01.7 -00.3	S	22 55.0 -00.2	33 20.8 -00.1	S	15 39.0 +00.6	26 55.7 -29.3	S	16 05.9 +07.9				
12	359 01.4 -00.3	S	22 54.8 -00.3	48 20.7 +00.0	S	15 39.6 +00.6	41 26.4 -29.4	S	16 13.8 +07.8				
13	14 01.1 -00.3	S	22 54.5 -00.2	63 20.7 +00.0	S	15 40.2 +00.5	55 57.0 -29.4	S	16 21.6 +07.7				
14	29 00.8 -00.3	S	22 54.3 -00.2	78 20.7 -00.1	S	15 40.7 +00.6	70 27.6 -29.5	S	16 29.3 +07.6				
15	44 00.5 -00.3	S	22 54.1 -00.2	93 20.6 +00.0	S	15 41.3 +00.6	84 58.1 -29.4	S	16 36.9 +07.6				
16	59 00.2 -00.3	S	22 53.9 -00.3	108 20.6 -00.1	S	15 41.9 +00.6	99 28.7 -29.5	S	16 44.5 +07.4				
17	73 59.9 -00.3	S	22 53.6 -00.2	123 20.5 +00.0	S	15 42.5 +00.6	113 59.2 -29.5	S	16 51.9 +07.4				
18	88 59.6 -00.2	S	22 53.4 -00.2	138 20.5 +00.0	S	15 43.1 +00.5	128 29.7 -29.5	S	16 59.3 +07.2				
19	103 59.4 -00.3	S	22 53.2 -00.3	153 20.5 -00.1	S	15 43.6 +00.6	143 00.2 -29.5	S	17 06.5 +07.2				
20	118 59.1 -00.3	S	22 52.9 -00.2	168 20.4 +00.0	S	15 44.2 +00.6	157 30.7 -29.6	S	17 13.7 +07.1				
21	133 58.8 -00.3	S	22 52.7 -00.2	183 20.4 -00.1	S	15 44.8 +00.6	172 01.1 -29.6	S	17 20.8 +07.0				
22	148 58.5 -00.3	S	22 52.5 -00.3	198 20.3 +00.0	S	15 45.4 +00.5	186 31.5 -29.6	S	17 27.8 +06.9				
23	163 58.2 -00.3	S	22 52.2 -00.2	213 20.3 -00.1	S	15 45.9 +00.6	201 01.9 -29.6	S	17 34.7 +06.9				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'3 15'2 15'2 15'2 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 56'0 55'9 55'9 55'8 55'7 55'6						
	SHA 078° 077° 077° 077° 077° 077°			SHA 127° 127° 127° 126° 126° 126°			SHA 125° 123° 121° 119° 116° 114°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 09:08						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	100 40.6 +00.9	S	00 00.7 -00.7	210 46.5 +02.0	S	21 36.0 +00.1	178 53.4 +02.1	S	22 27.5 +00.0				
01	115 41.5 +01.0	N	00 00.0 +00.8	225 48.5 +01.9	S	21 36.1 +00.1	193 55.5 +02.2	S	22 27.5 -00.1				
02	130 42.5 +00.9	N	00 00.8 +00.7	240 50.4 +01.9	S	21 36.2 +00.0	208 57.7 +02.1	S	22 27.4 +00.0				
03	145 43.4 +00.9	N	00 01.5 +00.7	255 52.3 +01.9	S	21 36.2 +00.1	223 59.8 +02.2	S	22 27.4 +00.0				
04	160 44.3 +01.0	N	00 02.2 +00.7	270 54.2 +01.9	S	21 36.3 +00.1	239 02.0 +02.1	S	22 27.4 +00.0				
05	175 45.3 +00.9	N	00 02.9 +00.7	285 56.1 +01.9	S	21 36.4 +00.0	254 04.1 +02.2	S	22 27.4 -00.1				
06	190 46.2 +01.0	N	00 03.6 +00.8	300 58.0 +01.9	S	21 36.4 +00.1	269 06.3 +02.1	S	22 27.3 +00.0				
07	205 47.2 +00.9	N	00 04.4 +00.7	315 59.9 +01.9	S	21 36.5 +00.1	284 08.4 +02.2	S	22 27.3 +00.0				
08	220 48.1 +01.0	N	00 05.1 +00.7	331 01.8 +01.9	S	21 36.6 +00.1	299 10.6 +02.1	S	22 27.3 +00.0				
09	235 49.1 +00.9	N	00 05.8 +00.7	346 03.7 +01.9	S	21 36.7 +00.0	314 12.7 +02.2	S	22 27.3 -00.1				
10	250 50.0 +00.9	N	00 06.5 +00.7	1 05.6 +01.9	S	21 36.7 +00.1	329 14.9 +02.1	S	22 27.2 +00.0				
11	265 50.9 +01.0	N	00 07.2 +00.8	16 07.5 +01.9	S	21 36.8 +00.1	344 17.0 +02.2	S	22 27.2 +00.0				
12	280 51.9 +00.9	N	00 08.0 +00.7	31 09.4 +01.9	S	21 36.9 +00.0	359 19.2 +02.1	S	22 27.2 +00.0				
13	295 52.8 +01.0	N	00 08.7 +00.7	46 11.3 +01.9	S	21 36.9 +00.1	14 21.3 +02.1	S	22 27.2 +00.0				
14	310 53.8 +00.9	N	00 09.4 +00.7	61 13.2 +02.0	S	21 37.0 +00.1	29 23.4 +02.2	S	22 27.2 -00.1				
15	325 54.7 +01.0	N	00 10.1 +00.7	76 15.2 +01.9	S	21 37.1 +00.0	44 25.6 +02.1	S	22 27.1 +00.0				
16	340 55.7 +00.9	N	00 10.8 +00.8	91 17.1 +01.9	S	21 37.1 +00.1	59 27.7 +02.2	S	22 27.1 +00.0				
17	355 56.6 +01.0	N	00 11.6 +00.7	106 19.0 +01.9	S	21 37.2 +00.1	74 29.9 +02.1	S	22 27.1 +00.0				
18	10 57.6 +00.9	N	00 12.3 +00.7	121 20.9 +01.9	S	21 37.3 +00.0	89 32.0 +02.2	S	22 27.1 +00.0				
19	25 58.5 +00.9	N	00 13.0 +00.7	136 22.8 +01.9	S	21 37.3 +00.1	104 34.2 +02.1	S	22 27.1 -00.1				
20	40 59.4 +01.0	N	00 13.7 +00.7	151 24.7 +01.9	S	21 37.4 +00.1	119 36.3 +02.2	S	22 27.0 +00.0				
21	56 00.4 +00.9	N	00 14.4 +00.8	166 26.6 +01.9	S	21 37.5 +00.1	134 38.5 +02.1	S	22 27.0 +00.0				
22	71 01.3 +01.0	N	00 15.2 +00.7	181 28.5 +01.9	S	21 37.6 +00.0	149 40.6 +02.2	S	22 27.0 +00.0				
23	86 02.3 +00.9	N	00 15.9 +00.7	196 30.4 +01.9	S	21 37.6 +00.1	164 42.8 +02.1	S	22 27.0 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 359° 359° 359° 359° 359° 359°			SHA 109° 109° 109° 109° 109° 109°			SHA 078° 078° 077° 077° 077° 077°						
	Greenwich Culmination Time: 17:16			Greenwich Culmination Time: 09:55			Greenwich Culmination Time: 12:02						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 57.9 -00.3	S 22 52.0 -00.2	228 20.2 +00.0	S 15 46.5 +00.6	215 32.3 -29.7	S 17 41.6 +06.7	00						00
01	193 57.6 -00.3	S 22 51.8 -00.3	243 20.2 -00.1	S 15 47.1 +00.6	230 02.6 -29.6	S 17 48.3 +06.7	01						01
02	208 57.3 -00.3	S 22 51.5 -00.2	258 20.1 +00.0	S 15 47.7 +00.6	244 33.0 -29.7	S 17 55.0 +06.5	02						02
03	223 57.0 -00.3	S 22 51.3 -00.2	273 20.1 -00.1	S 15 48.3 +00.5	259 03.3 -29.7	S 18 01.5 +06.5	03						03
04	238 56.7 -00.3	S 22 51.1 -00.3	288 20.0 +00.0	S 15 48.8 +00.6	273 33.6 -29.8	S 18 08.0 +06.3	04						04
05	253 56.4 -00.2	S 22 50.8 -00.2	303 20.0 -00.1	S 15 49.4 +00.6	288 03.8 -29.7	S 18 14.3 +06.3	05						05
06	268 56.2 -00.3	S 22 50.6 -00.3	318 19.9 -00.1	S 15 50.0 +00.6	302 34.1 -29.8	S 18 20.6 +06.2	06						06
07	283 55.9 -00.3	S 22 50.3 -00.2	333 19.8 +00.0	S 15 50.6 +00.5	317 04.3 -29.8	S 18 26.8 +06.1	07						07
08	298 55.6 -00.3	S 22 50.1 -00.2	348 19.8 -00.1	S 15 51.1 +00.6	331 34.5 -29.8	S 18 32.9 +06.0	08						08
09	313 55.3 -00.3	S 22 49.9 -00.3	3 19.7 +00.0	S 15 51.7 +00.6	346 04.7 -29.8	S 18 38.9 +05.9	09						09
10	328 55.0 -00.3	S 22 49.6 -00.2	18 19.7 -00.1	S 15 52.3 +00.6	0 34.9 -29.8	S 18 44.8 +05.8	10						10
11	343 54.7 -00.3	S 22 49.4 -00.3	33 19.6 +00.0	S 15 52.9 +00.6	15 05.1 -29.9	S 18 50.6 +05.7	11						11
12	358 54.4 -00.3	S 22 49.1 -00.2	48 19.6 -00.1	S 15 53.5 +00.5	29 35.2 -29.9	S 18 56.3 +05.6	12						12
13	13 54.1 -00.3	S 22 48.9 -00.3	63 19.5 -00.1	S 15 54.0 +00.6	44 05.3 -29.9	S 19 01.9 +05.5	13						13
14	28 53.8 -00.2	S 22 48.6 -00.2	78 19.4 +00.0	S 15 54.6 +00.6	58 35.4 -29.9	S 19 07.4 +05.4	14						14
15	43 53.6 -00.3	S 22 48.4 -00.2	93 19.4 -00.1	S 15 55.2 +00.6	73 05.5 -29.9	S 19 12.8 +05.3	15						15
16	58 53.3 -00.3	S 22 48.2 -00.3	108 19.3 -00.1	S 15 55.8 +00.5	87 35.6 -29.9	S 19 18.1 +05.2	16						16
17	73 53.0 -00.3	S 22 47.9 -00.2	123 19.2 +00.0	S 15 56.3 +00.6	102 05.7 -30.0	S 19 23.3 +05.2	17						17
18	88 52.7 -00.3	S 22 47.7 -00.3	138 19.2 -00.1	S 15 56.9 +00.6	116 35.7 -30.0	S 19 28.5 +05.0	18						18
19	103 52.4 -00.3	S 22 47.4 -00.2	153 19.1 -00.1	S 15 57.5 +00.6	131 05.7 -30.0	S 19 33.5 +04.9	19						19
20	118 52.1 -00.3	S 22 47.2 -00.3	168 19.0 +00.0	S 15 58.1 +00.5	145 35.7 -30.0	S 19 38.4 +04.8	20						20
21	133 51.8 -00.3	S 22 46.9 -00.2	183 19.0 -00.1	S 15 58.6 +00.6	160 05.7 -30.0	S 19 43.2 +04.7	21						21
22	148 51.5 -00.2	S 22 46.7 -00.3	198 18.9 -00.1	S 15 59.2 +00.6	174 35.7 -30.1	S 19 47.9 +04.7	22						22
23	163 51.3 -00.3	S 22 46.4 -00.2	213 18.8 -00.1	S 15 59.8 +00.6	189 05.6 -30.0	S 19 52.6 +04.5	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'1 15'1 15'1 15'1 15'1 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'5 55'5 55'4 55'3 55'2 55'2								
	SHA 077° 076° 076° 076° 076° 076°		SHA 126° 126° 126° 125° 125° 125°		SHA 112° 110° 108° 106° 104° 101°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 08:46		Greenwich Culmination Time: 09:57								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 03.2 +01.0	N 00 16.6 +00.7	211 32.3 +01.9	S 21 37.7 +00.1	179 44.9 +02.1	S 22 26.9 +00.0	00						00
01	116 04.2 +00.9	N 00 17.3 +00.7	226 34.2 +01.9	S 21 37.8 +00.0	194 47.0 +02.2	S 22 26.9 +00.0	01						01
02	131 05.1 +00.9	N 00 18.0 +00.8	241 36.1 +02.0	S 21 37.8 +00.1	209 49.2 +02.1	S 22 26.9 +00.0	02						02
03	146 06.0 +01.0	N 00 18.8 +00.7	256 38.1 +01.9	S 21 37.9 +00.1	224 51.3 +02.2	S 22 26.9 -00.1	03						03
04	161 07.0 +00.9	N 00 19.5 +00.7	271 40.0 +01.9	S 21 38.0 +00.0	239 53.5 +02.1	S 22 26.8 +00.0	04						04
05	176 07.9 +01.0	N 00 20.2 +00.7	286 41.9 +01.9	S 21 38.0 +00.1	254 55.6 +02.2	S 22 26.8 +00.0	05						05
06	191 08.9 +00.9	N 00 20.9 +00.7	301 43.8 +01.9	S 21 38.1 +00.1	269 57.8 +02.1	S 22 26.8 +00.0	06						06
07	206 09.8 +01.0	N 00 21.6 +00.8	316 45.7 +01.9	S 21 38.2 +00.1	284 59.9 +02.2	S 22 26.8 +00.0	07						07
08	221 10.8 +00.9	N 00 22.4 +00.7	331 47.6 +01.9	S 21 38.3 +00.0	300 02.1 +02.1	S 22 26.8 -00.1	08						08
09	236 11.7 +00.9	N 00 23.1 +00.7	346 49.5 +01.9	S 21 38.3 +00.1	315 04.2 +02.1	S 22 26.7 +00.0	09						09
10	251 12.6 +01.0	N 00 23.8 +00.7	1 51.4 +01.9	S 21 38.4 +00.1	330 06.3 +02.2	S 22 26.7 +00.0	10						10
11	266 13.6 +00.9	N 00 24.5 +00.7	16 53.3 +01.9	S 21 38.5 +00.0	345 08.5 +02.1	S 22 26.7 +00.0	11						11
12	281 14.5 +01.0	N 00 25.2 +00.8	31 55.2 +01.9	S 21 38.5 +00.1	0 10.6 +02.2	S 22 26.7 -00.1	12						12
13	296 15.5 +00.9	N 00 26.0 +00.7	46 57.1 +02.0	S 21 38.6 +00.1	15 12.8 +02.1	S 22 26.6 +00.0	13						13
14	311 16.4 +01.0	N 00 26.7 +00.7	61 59.1 +01.9	S 21 38.7 +00.0	30 14.9 +02.2	S 22 26.6 +00.0	14						14
15	326 17.4 +00.9	N 00 27.4 +00.7	77 01.0 +01.9	S 21 38.7 +00.1	45 17.1 +02.1	S 22 26.6 +00.0	15						15
16	341 18.3 +00.9	N 00 28.1 +00.7	92 02.9 +01.9	S 21 38.8 +00.1	60 19.2 +02.2	S 22 26.6 +00.0	16						16
17	356 19.2 +01.0	N 00 28.8 +00.8	107 04.8 +01.9	S 21 38.9 +00.0	75 21.4 +02.1	S 22 26.6 -00.1	17						17
18	11 20.2 +00.9	N 00 29.6 +00.7	122 06.7 +01.9	S 21 38.9 +00.1	90 23.5 +02.2	S 22 26.5 +00.0	18						18
19	26 21.1 +01.0	N 00 30.3 +00.7	137 08.6 +01.9	S 21 39.0 +00.1	105 25.7 +02.1	S 22 26.5 +00.0	19						19
20	41 22.1 +00.9	N 00 31.0 +00.7	152 10.5 +01.9	S 21 39.1 +00.0	120 27.8 +02.1	S 22 26.5 +00.0	20						20
21	56 23.0 +00.9	N 00 31.7 +00.7	167 12.4 +01.9	S 21 39.1 +00.1	135 29.9 +02.2	S 22 26.5 -00.1	21						21
22	71 23.9 +01.0	N 00 32.4 +00.8	182 14.3 +01.9	S 21 39.2 +00.1	150 32.1 +02.1	S 22 26.4 +00.0	22						22
23	86 24.9 +00.9	N 00 33.2 +00.7	197 16.2 +02.0	S 21 39.3 +00.0	165 34.2 +02.2	S 22 26.4 +00.0	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 359° 359° 358° 358° 358° 358°		SHA 109° 109° 109° 109° 109° 109°		SHA 077° 077° 077° 077° 077° 077°								
	Greenwich Culmination Time: 17:14		Greenwich Culmination Time: 09:52		Greenwich Culmination Time: 11:59								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 51.0 -00.3	S	22 46.2 -00.3	228 18.7 +00.0	S	16 00.4 +00.5	203 35.6 -30.1	S	19 57.1 +04.4	00			
01	193 50.7 -00.3	S	22 45.9 -00.3	243 18.7 -00.1	S	16 00.9 +00.6	218 05.5 -30.0	S	20 01.5 +04.3	01			
02	208 50.4 -00.3	S	22 45.6 -00.2	258 18.6 -00.1	S	16 01.5 +00.6	232 35.5 -30.1	S	20 05.8 +04.2	02			
03	223 50.1 -00.3	S	22 45.4 -00.3	273 18.5 -00.1	S	16 02.1 +00.6	247 05.4 -30.1	S	20 10.0 +04.2	03			
04	238 49.8 -00.3	S	22 45.1 -00.2	288 18.4 +00.0	S	16 02.7 +00.5	261 35.3 -30.1	S	20 14.2 +04.0	04			
05	253 49.5 -00.3	S	22 44.9 -00.3	303 18.4 -00.1	S	16 03.2 +00.6	276 05.2 -30.2	S	20 18.2 +03.9	05			
06	268 49.2 -00.2	S	22 44.6 -00.2	318 18.3 -00.1	S	16 03.8 +00.6	290 35.0 -30.1	S	20 22.1 +03.8	06			
07	283 49.0 -00.3	S	22 44.4 -00.3	333 18.2 -00.1	S	16 04.4 +00.6	305 04.9 -30.1	S	20 25.9 +03.7	07			
08	298 48.7 -00.3	S	22 44.1 -00.3	348 18.1 -00.1	S	16 05.0 +00.5	319 34.8 -30.2	S	20 29.6 +03.6	08			
09	313 48.4 -00.3	S	22 43.8 -00.2	3 18.0 +00.0	S	16 05.5 +00.6	334 04.6 -30.1	S	20 33.2 +03.5	09			
10	328 48.1 -00.3	S	22 43.6 -00.3	18 18.0 -00.1	S	16 06.1 +00.6	348 34.5 -30.2	S	20 36.7 +03.4	10			
11	343 47.8 -00.3	S	22 43.3 -00.2	33 17.9 -00.1	S	16 06.7 +00.6	3 04.3 -30.2	S	20 40.1 +03.3	11			
12	358 47.5 -00.2	S	22 43.1 -00.3	48 17.8 -00.1	S	16 07.3 +00.5	17 34.1 -30.2	S	20 43.4 +03.2	12			
13	13 47.3 -00.3	S	22 42.8 -00.3	63 17.7 -00.1	S	16 07.8 +00.6	32 03.9 -30.1	S	20 46.6 +03.0	13			
14	28 47.0 -00.3	S	22 42.5 -00.2	78 17.6 -00.1	S	16 08.4 +00.6	46 33.8 -30.2	S	20 49.6 +03.0	14			
15	43 46.7 -00.3	S	22 42.3 -00.3	93 17.5 +00.0	S	16 09.0 +00.5	61 03.6 -30.2	S	20 52.6 +02.9	15			
16	58 46.4 -00.3	S	22 42.0 -00.3	108 17.5 -00.1	S	16 09.5 +00.6	75 33.4 -30.2	S	20 55.5 +02.8	16			
17	73 46.1 -00.3	S	22 41.7 -00.2	123 17.4 -00.1	S	16 10.1 +00.6	90 03.2 -30.2	S	20 58.3 +02.6	17			
18	88 45.8 -00.3	S	22 41.5 -00.3	138 17.3 -00.1	S	16 10.7 +00.6	104 33.0 -30.2	S	21 00.9 +02.6	18			
19	103 45.5 -00.2	S	22 41.2 -00.3	153 17.2 -00.1	S	16 11.3 +00.5	119 02.8 -30.2	S	21 03.5 +02.4	19			
20	118 45.3 -00.3	S	22 40.9 -00.2	168 17.1 -00.1	S	16 11.8 +00.6	133 32.6 -30.2	S	21 05.9 +02.4	20			
21	133 45.0 -00.3	S	22 40.7 -00.3	183 17.0 -00.1	S	16 12.4 +00.6	148 02.4 -30.3	S	21 08.3 +02.2	21			
22	148 44.7 -00.3	S	22 40.4 -00.3	198 16.9 -00.1	S	16 13.0 +00.5	162 32.1 -30.2	S	21 10.5 +02.2	22			
23	163 44.4 -00.3	S	22 40.1 -00.2	213 16.8 -00.1	S	16 13.5 +00.6	177 01.9 -30.2	S	21 12.7 +02.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'0 15'0 15'0 15'0 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 55'1 55'0 55'0 54'9 54'9 54'8						
	SHA 075° 075° 075° 075° 075° 075°			SHA 125° 125° 125° 124° 124° 124°			SHA 099° 097° 095° 093° 090° 088°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 10:47						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 25.8 +01.0	N	00 33.9 +00.7	212 18.2 +01.9	S	21 39.3 +00.1	180 36.4 +02.1	S	22 26.4 +00.0	00			
01	116 26.8 +00.9	N	00 34.6 +00.7	227 20.1 +01.9	S	21 39.4 +00.1	195 38.5 +02.2	S	22 26.4 -00.1	01			
02	131 27.7 +00.9	N	00 35.3 +00.7	242 22.0 +01.9	S	21 39.5 +00.1	210 40.7 +02.1	S	22 26.3 +00.0	02			
03	146 28.6 +01.0	N	00 36.0 +00.8	257 23.9 +01.9	S	21 39.6 +00.0	225 42.8 +02.2	S	22 26.3 +00.0	03			
04	161 29.6 +00.9	N	00 36.8 +00.7	272 25.8 +01.9	S	21 39.6 +00.1	240 45.0 +02.1	S	22 26.3 +00.0	04			
05	176 30.5 +01.0	N	00 37.5 +00.7	287 27.7 +01.9	S	21 39.7 +00.1	255 47.1 +02.2	S	22 26.3 +00.0	05			
06	191 31.5 +00.9	N	00 38.2 +00.7	302 29.6 +01.9	S	21 39.8 +00.0	270 49.3 +02.1	S	22 26.3 -00.1	06			
07	206 32.4 +01.0	N	00 38.9 +00.7	317 31.5 +01.9	S	21 39.8 +00.1	285 51.4 +02.1	S	22 26.2 +00.0	07			
08	221 33.4 +00.9	N	00 39.6 +00.8	332 33.4 +02.0	S	21 39.9 +00.1	300 53.5 +02.2	S	22 26.2 +00.0	08			
09	236 34.3 +00.9	N	00 40.4 +00.7	347 35.4 +01.9	S	21 40.0 +00.0	315 55.7 +02.1	S	22 26.2 +00.0	09			
10	251 35.2 +01.0	N	00 41.1 +00.7	2 37.3 +01.9	S	21 40.0 +00.1	330 57.8 +02.2	S	22 26.2 -00.1	10			
11	266 36.2 +00.9	N	00 41.8 +00.7	17 39.2 +01.9	S	21 40.1 +00.1	345 60.0 +02.1	S	22 26.1 +00.0	11			
12	281 37.1 +01.0	N	00 42.5 +00.7	32 41.1 +01.9	S	21 40.2 +00.0	1 02.1 +02.2	S	22 26.1 +00.0	12			
13	296 38.1 +00.9	N	00 43.2 +00.8	47 43.0 +01.9	S	21 40.2 +00.1	16 04.3 +02.1	S	22 26.1 +00.0	13			
14	311 39.0 +00.9	N	00 44.0 +00.7	62 44.9 +01.9	S	21 40.3 +00.1	31 06.4 +02.2	S	22 26.1 -00.1	14			
15	326 39.9 +01.0	N	00 44.7 +00.7	77 46.8 +01.9	S	21 40.4 +00.0	46 08.6 +02.1	S	22 26.0 +00.0	15			
16	341 40.9 +00.9	N	00 45.4 +00.7	92 48.7 +02.0	S	21 40.4 +00.1	61 10.7 +02.2	S	22 26.0 +00.0	16			
17	356 41.8 +01.0	N	00 46.1 +00.7	107 50.7 +01.9	S	21 40.5 +00.1	76 12.9 +02.1	S	22 26.0 +00.0	17			
18	11 42.8 +00.9	N	00 46.8 +00.7	122 52.6 +01.9	S	21 40.6 +00.0	91 15.0 +02.1	S	22 26.0 +00.0	18			
19	26 43.7 +00.9	N	00 47.5 +00.8	137 54.5 +01.9	S	21 40.6 +00.1	106 17.1 +02.2	S	22 26.0 -00.1	19			
20	41 44.6 +01.0	N	00 48.3 +00.7	152 56.4 +01.9	S	21 40.7 +00.1	121 19.3 +02.1	S	22 25.9 +00.0	20			
21	56 45.6 +00.9	N	00 49.0 +00.7	167 58.3 +01.9	S	21 40.8 +00.0	136 21.4 +02.2	S	22 25.9 +00.0	21			
22	71 46.5 +01.0	N	00 49.7 +00.7	183 00.2 +01.9	S	21 40.8 +00.1	151 23.6 +02.1	S	22 25.9 +00.0	22			
23	86 47.5 +00.9	N	00 50.4 +00.7	198 02.1 +01.9	S	21 40.9 +00.1	166 25.7 +02.2	S	22 25.9 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 358° 358° 358° 358° 358° 358°			SHA 109° 109° 109° 109° 109° 109°			SHA 077° 077° 077° 077° 077° 077°						
	Greenwich Culmination Time: 17:13			Greenwich Culmination Time: 09:49			Greenwich Culmination Time: 11:55						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 44.1 -00.3	S	22 39.9 -00.3	228 16.7 -00.1	S	16 14.1 +00.6	191 31.7 -30.2	S	21 14.7 +01.9	00			
01	193 43.8 -00.2	S	22 39.6 -00.3	243 16.6 -00.1	S	16 14.7 +00.6	206 01.5 -30.2	S	21 16.6 +01.8	01			
02	208 43.6 -00.3	S	22 39.3 -00.3	258 16.5 -00.1	S	16 15.3 +00.5	220 31.3 -30.2	S	21 18.4 +01.7	02			
03	223 43.3 -00.3	S	22 39.0 -00.2	273 16.4 -00.1	S	16 15.8 +00.6	235 01.1 -30.2	S	21 20.1 +01.6	03			
04	238 43.0 -00.3	S	22 38.8 -00.3	288 16.3 -00.1	S	16 16.4 +00.6	249 30.9 -30.2	S	21 21.7 +01.5	04			
05	253 42.7 -00.3	S	22 38.5 -00.3	303 16.2 -00.1	S	16 17.0 +00.5	264 00.7 -30.2	S	21 23.2 +01.4	05			
06	268 42.4 -00.2	S	22 38.2 -00.3	318 16.1 -00.1	S	16 17.5 +00.6	278 30.5 -30.2	S	21 24.6 +01.3	06			
07	283 42.2 -00.3	S	22 37.9 -00.2	333 16.0 -00.1	S	16 18.1 +00.6	293 00.3 -30.1	S	21 25.9 +01.2	07			
08	298 41.9 -00.3	S	22 37.7 -00.3	348 15.9 -00.1	S	16 18.7 +00.5	307 30.2 -30.2	S	21 27.1 +01.1	08			
09	313 41.6 -00.3	S	22 37.4 -00.3	3 15.8 -00.1	S	16 19.2 +00.6	321 60.0 -30.2	S	21 28.2 +01.0	09			
10	328 41.3 -00.3	S	22 37.1 -00.3	18 15.7 -00.1	S	16 19.8 +00.6	336 29.8 -30.1	S	21 29.2 +00.8	10			
11	343 41.0 -00.2	S	22 36.8 -00.3	33 15.6 -00.1	S	16 20.4 +00.6	350 59.7 -30.2	S	21 30.0 +00.8	11			
12	358 40.8 -00.3	S	22 36.5 -00.2	48 15.5 -00.1	S	16 21.0 +00.5	5 29.5 -30.1	S	21 30.8 +00.6	12			
13	13 40.5 -00.3	S	22 36.3 -00.3	63 15.4 -00.1	S	16 21.5 +00.6	19 59.4 -30.1	S	21 31.4 +00.6	13			
14	28 40.2 -00.3	S	22 36.0 -00.3	78 15.3 -00.1	S	16 22.1 +00.6	34 29.3 -30.2	S	21 32.0 +00.4	14			
15	43 39.9 -00.3	S	22 35.7 -00.3	93 15.2 -00.1	S	16 22.7 +00.5	48 59.1 -30.1	S	21 32.4 +00.4	15			
16	58 39.6 -00.2	S	22 35.4 -00.3	108 15.1 -00.1	S	16 23.2 +00.6	63 29.0 -30.1	S	21 32.8 +00.2	16			
17	73 39.4 -00.3	S	22 35.1 -00.3	123 15.0 -00.2	S	16 23.8 +00.6	77 58.9 -30.0	S	21 33.0 +00.1	17			
18	88 39.1 -00.3	S	22 34.8 -00.3	138 14.8 -00.1	S	16 24.4 +00.5	92 28.9 -30.1	S	21 33.1 +00.1	18			
19	103 38.8 -00.3	S	22 34.5 -00.2	153 14.7 -00.1	S	16 24.9 +00.6	106 58.8 -30.1	S	21 33.2 -00.1	19			
20	118 38.5 -00.3	S	22 34.3 -00.3	168 14.6 -00.1	S	16 25.5 +00.6	121 28.7 -30.0	S	21 33.1 -00.2	20			
21	133 38.2 -00.2	S	22 34.0 -00.3	183 14.5 -00.1	S	16 26.1 +00.5	135 58.7 -30.0	S	21 32.9 -00.3	21			
22	148 38.0 -00.3	S	22 33.7 -00.3	198 14.4 -00.1	S	16 26.6 +00.6	150 28.7 -30.0	S	21 32.6 -00.4	22			
23	163 37.7 -00.3	S	22 33.4 -00.3	213 14.3 -00.2	S	16 27.2 +00.6	164 58.7 -30.0	S	21 32.2 -00.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'9 14'9 14'9 14'9 14'9 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'7 54'7 54'6 54'6 54'5 54'5						
	SHA 074° 074° 074° 074° 074° 073°			SHA 124° 124° 124° 123° 123° 123°			SHA 086° 084° 082° 080° 077° 075°						
	Greenwich Culmination Time: 12:05			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 11:37						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 48.4 +00.9	N	00 51.1 +00.8	213 04.0 +02.0	S	21 41.0 +00.0	181 27.9 +02.1	S	22 25.8 +00.0	00			
01	116 49.3 +01.0	N	00 51.9 +00.7	228 06.0 +01.9	S	21 41.0 +00.1	196 30.0 +02.2	S	22 25.8 +00.0	01			
02	131 50.3 +00.9	N	00 52.6 +00.7	243 07.9 +01.9	S	21 41.1 +00.1	211 32.2 +02.1	S	22 25.8 +00.0	02			
03	146 51.2 +01.0	N	00 53.3 +00.7	258 09.8 +01.9	S	21 41.2 +00.0	226 34.3 +02.2	S	22 25.8 -00.1	03			
04	161 52.2 +00.9	N	00 54.0 +00.7	273 11.7 +01.9	S	21 41.2 +00.1	241 36.5 +02.1	S	22 25.7 +00.0	04			
05	176 53.1 +00.9	N	00 54.7 +00.8	288 13.6 +01.9	S	21 41.3 +00.1	256 38.6 +02.1	S	22 25.7 +00.0	05			
06	191 54.0 +01.0	N	00 55.5 +00.7	303 15.5 +01.9	S	21 41.4 +00.0	271 40.7 +02.2	S	22 25.7 +00.0	06			
07	206 55.0 +00.9	N	00 56.2 +00.7	318 17.4 +01.9	S	21 41.4 +00.1	286 42.9 +02.1	S	22 25.7 +00.0	07			
08	221 55.9 +01.0	N	00 56.9 +00.7	333 19.3 +02.0	S	21 41.5 +00.1	301 45.0 +02.2	S	22 25.7 -00.1	08			
09	236 56.9 +00.9	N	00 57.6 +00.7	348 21.3 +01.9	S	21 41.6 +00.0	316 47.2 +02.1	S	22 25.6 +00.0	09			
10	251 57.8 +00.9	N	00 58.3 +00.8	3 23.2 +01.9	S	21 41.6 +00.1	331 49.3 +02.2	S	22 25.6 +00.0	10			
11	266 58.7 +01.0	N	00 59.1 +00.7	18 25.1 +01.9	S	21 41.7 +00.1	346 51.5 +02.1	S	22 25.6 +00.0	11			
12	281 59.7 +00.9	N	00 59.8 +00.7	33 27.0 +01.9	S	21 41.8 +00.0	1 53.6 +02.2	S	22 25.6 -00.1	12			
13	297 00.6 +01.0	N	01 00.5 +00.7	48 28.9 +01.9	S	21 41.8 +00.1	16 55.8 +02.1	S	22 25.5 +00.0	13			
14	312 01.6 +00.9	N	01 01.2 +00.7	63 30.8 +01.9	S	21 41.9 +00.1	31 57.9 +02.2	S	22 25.5 +00.0	14			
15	327 02.5 +00.9	N	01 01.9 +00.7	78 32.7 +02.0	S	21 42.0 +00.0	47 00.1 +02.1	S	22 25.5 +00.0	15			
16	342 03.4 +01.0	N	01 02.6 +00.8	93 34.7 +01.9	S	21 42.0 +00.1	62 02.2 +02.1	S	22 25.5 -00.1	16			
17	357 04.4 +00.9	N	01 03.4 +00.7	108 36.6 +01.9	S	21 42.1 +00.1	77 04.3 +02.2	S	22 25.4 +00.0	17			
18	12 05.3 +00.9	N	01 04.1 +00.7	123 38.5 +01.9	S	21 42.2 +00.0	92 06.5 +02.1	S	22 25.4 +00.0	18			
19	27 06.2 +01.0	N	01 04.8 +00.7	138 40.4 +01.9	S	21 42.2 +00.1	107 08.6 +02.2	S	22 25.4 +00.0	19			
20	42 07.2 +00.9	N	01 05.5 +00.7	153 42.3 +01.9	S	21 42.3 +00.1	122 10.8 +02.1	S	22 25.4 -00.1	20			
21	57 08.1 +01.0	N	01 06.2 +00.8	168 44.2 +01.9	S	21 42.4 +00.0	137 12.9 +02.2	S	22 25.3 +00.0	21			
22	72 09.1 +00.9	N	01 07.0 +00.7	183 46.1 +02.0	S	21 42.4 +00.1	152 15.1 +02.1	S	22 25.3 +00.0	22			
23	87 10.0 +00.9	N	01 07.7 +00.7	198 48.1 +01.9	S	21 42.5 +00.1	167 17.2 +02.2	S	22 25.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 357° 357° 357° 357° 357° 357°			SHA 109° 109° 109° 109° 109° 109°			SHA 077° 077° 077° 077° 077° 077°						
	Greenwich Culmination Time: 17:11			Greenwich Culmination Time: 09:46			Greenwich Culmination Time: 11:52						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 37.4 -00.3	S	22 33.1 -00.3	228 14.1 -00.1	S	16 27.8 +00.5	179 28.7 -30.0	S	21 31.7 -00.6	00										
01	193 37.1 -00.3	S	22 32.8 -00.3	243 14.0 -00.1	S	16 28.3 +00.6	193 58.7 -29.9	S	21 31.1 -00.7	01										
02	208 36.8 -00.2	S	22 32.5 -00.3	258 13.9 -00.1	S	16 28.9 +00.6	208 28.8 -29.9	S	21 30.4 -00.8	02										
03	223 36.6 -00.3	S	22 32.2 -00.3	273 13.8 -00.1	S	16 29.5 +00.5	222 58.9 -30.0	S	21 29.6 -01.0	03										
04	238 36.3 -00.3	S	22 31.9 -00.3	288 13.7 -00.2	S	16 30.0 +00.6	237 28.9 -29.8	S	21 28.6 -01.0	04										
05	253 36.0 -00.3	S	22 31.6 -00.3	303 13.5 -00.1	S	16 30.6 +00.6	251 59.1 -29.9	S	21 27.6 -01.1	05										
06	268 35.7 -00.2	S	22 31.3 -00.3	318 13.4 -00.1	S	16 31.2 +00.5	266 29.2 -29.9	S	21 26.5 -01.2	06										
07	283 35.5 -00.3	S	22 31.0 -00.2	333 13.3 -00.1	S	16 31.7 +00.6	280 59.3 -29.8	S	21 25.3 -01.4	07										
08	298 35.2 -00.3	S	22 30.8 -00.3	348 13.2 -00.2	S	16 32.3 +00.5	295 29.5 -29.8	S	21 23.9 -01.4	08										
09	313 34.9 -00.3	S	22 30.5 -00.3	3 13.0 -00.1	S	16 32.8 +00.6	309 59.7 -29.8	S	21 22.5 -01.5	09										
10	328 34.6 -00.2	S	22 30.2 -00.3	18 12.9 -00.1	S	16 33.4 +00.6	324 29.9 -29.7	S	21 21.0 -01.7	10										
11	343 34.4 -00.3	S	22 29.9 -00.3	33 12.8 -00.1	S	16 34.0 +00.5	339 00.2 -29.7	S	21 19.3 -01.7	11										
12	358 34.1 -00.3	S	22 29.6 -00.3	48 12.7 -00.2	S	16 34.5 +00.6	353 30.5 -29.8	S	21 17.6 -01.8	12										
13	13 33.8 -00.3	S	22 29.3 -00.3	63 12.5 -00.1	S	16 35.1 +00.6	8 00.7 -29.6	S	21 15.8 -02.0	13										
14	28 33.5 -00.2	S	22 29.0 -00.3	78 12.4 -00.1	S	16 35.7 +00.5	22 31.1 -29.7	S	21 13.8 -02.0	14										
15	43 33.3 -00.3	S	22 28.7 -00.3	93 12.3 -00.2	S	16 36.2 +00.6	37 01.4 -29.6	S	21 11.8 -02.1	15										
16	58 33.0 -00.3	S	22 28.4 -00.3	108 12.1 -00.1	S	16 36.8 +00.6	51 31.8 -29.6	S	21 09.7 -02.3	16										
17	73 32.7 -00.3	S	22 28.1 -00.4	123 12.0 -00.1	S	16 37.4 +00.5	66 02.2 -29.6	S	21 07.4 -02.3	17										
18	88 32.4 -00.2	S	22 27.7 -00.3	138 11.9 -00.2	S	16 37.9 +00.6	80 32.6 -29.5	S	21 05.1 -02.5	18										
19	103 32.2 -00.3	S	22 27.4 -00.3	153 11.7 -00.1	S	16 38.5 +00.5	95 03.1 -29.5	S	21 02.6 -02.5	19										
20	118 31.9 -00.3	S	22 27.1 -00.3	168 11.6 -00.1	S	16 39.0 +00.6	109 33.6 -29.5	S	21 00.1 -02.6	20										
21	133 31.6 -00.3	S	22 26.8 -00.3	183 11.5 -00.2	S	16 39.6 +00.6	124 04.1 -29.4	S	20 57.5 -02.8	21										
22	148 31.3 -00.2	S	22 26.5 -00.3	198 11.3 -00.1	S	16 40.2 +00.5	138 34.7 -29.4	S	20 54.7 -02.8	22										
23	163 31.1 -00.3	S	22 26.2 -00.3	213 11.2 -00.2	S	16 40.7 +00.6	153 05.3 -29.4	S	20 51.9 -02.9	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	14'8	14'8	14'8	14'8	14'8	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	54'4	54'4	54'3	54'3	54'3	54'2
SHA	073°	073°	073°	073°	073°	072°	SHA	123°	123°	123°	122°	122°	122°	SHA	073°	071°	069°	067°	065°	062°
Greenwich Culmination Time: 12:05							Greenwich Culmination Time: 08:47							Greenwich Culmination Time: 12:26						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	102 10.9 +01.0	N	01 08.4 +00.7	213 50.0 +01.9	S	21 42.6 +00.0	182 19.4 +02.1	S	22 25.3 +00.0	00										
01	117 11.9 +00.9	N	01 09.1 +00.7	228 51.9 +01.9	S	21 42.6 +00.1	197 21.5 +02.2	S	22 25.3 -00.1	01										
02	132 12.8 +01.0	N	01 09.8 +00.8	243 53.8 +01.9	S	21 42.7 +00.1	212 23.7 +02.1	S	22 25.2 +00.0	02										
03	147 13.8 +00.9	N	01 10.6 +00.7	258 55.7 +01.9	S	21 42.8 +00.0	227 25.8 +02.1	S	22 25.2 +00.0	03										
04	162 14.7 +00.9	N	01 11.3 +00.7	273 57.6 +02.0	S	21 42.8 +00.1	242 27.9 +02.2	S	22 25.2 +00.0	04										
05	177 15.6 +01.0	N	01 12.0 +00.7	288 59.6 +01.9	S	21 42.9 +00.1	257 30.1 +02.1	S	22 25.2 -00.1	05										
06	192 16.6 +00.9	N	01 12.7 +00.7	304 01.5 +01.9	S	21 43.0 +00.0	272 32.2 +02.2	S	22 25.1 +00.0	06										
07	207 17.5 +00.9	N	01 13.4 +00.7	319 03.4 +01.9	S	21 43.0 +00.1	287 34.4 +02.1	S	22 25.1 +00.0	07										
08	222 18.4 +01.0	N	01 14.1 +00.8	334 05.3 +01.9	S	21 43.1 +00.1	302 36.5 +02.2	S	22 25.1 +00.0	08										
09	237 19.4 +00.9	N	01 14.9 +00.7	349 07.2 +01.9	S	21 43.2 +00.0	317 38.7 +02.1	S	22 25.1 -00.1	09										
10	252 20.3 +01.0	N	01 15.6 +00.7	4 09.1 +01.9	S	21 43.2 +00.1	332 40.8 +02.2	S	22 25.0 +00.0	10										
11	267 21.3 +00.9	N	01 16.3 +00.7	19 11.0 +02.0	S	21 43.3 +00.1	347 43.0 +02.1	S	22 25.0 +00.0	11										
12	282 22.2 +00.9	N	01 17.0 +00.7	34 13.0 +01.9	S	21 43.4 +00.0	2 45.1 +02.2	S	22 25.0 +00.0	12										
13	297 23.1 +01.0	N	01 17.7 +00.8	49 14.9 +01.9	S	21 43.4 +00.1	17 47.3 +02.1	S	22 25.0 -00.1	13										
14	312 24.1 +00.9	N	01 18.5 +00.7	64 16.8 +01.9	S	21 43.5 +00.1	32 49.4 +02.1	S	22 24.9 +00.0	14										
15	327 25.0 +00.9	N	01 19.2 +00.7	79 18.7 +01.9	S	21 43.6 +00.0	47 51.5 +02.2	S	22 24.9 +00.0	15										
16	342 25.9 +01.0	N	01 19.9 +00.7	94 20.6 +01.9	S	21 43.6 +00.1	62 53.7 +02.1	S	22 24.9 +00.0	16										
17	357 26.9 +00.9	N	01 20.6 +00.7	109 22.5 +02.0	S	21 43.7 +00.1	77 55.8 +02.2	S	22 24.9 +00.0	17										
18	12 27.8 +01.0	N	01 21.3 +00.8	124 24.5 +01.9	S	21 43.8 +00.0	92 58.0 +02.1	S	22 24.9 -00.1	18										
19	27 28.8 +00.9	N	01 22.1 +00.7	139 26.4 +01.9	S	21 43.8 +00.1	108 00.1 +02.2	S	22 24.8 +00.0	19										
20	42 29.7 +00.9	N	01 22.8 +00.7	154 28.3 +01.9	S	21 43.9 +00.1	123 02.3 +02.1	S	22 24.8 +00.0	20										
21	57 30.6 +01.0	N	01 23.5 +00.7	169 30.2 +01.9	S	21 44.0 +00.0	138 04.4 +02.2	S	22 24.8 +00.0	21										
22	72 31.6 +00.9	N	01 24.2 +00.7	184 32.1 +01.9	S	21 44.0 +00.1	153 06.6 +02.1	S	22 24.8 -00.1	22										
23	87 32.5 +00.9	N	01 24.9 +00.7	199 34.0 +02.0	S	21 44.1 +00.1	168 08.7 +02.2	S	22 24.7 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	357°	357°	357°	357°	356°	356°	SHA	109°	108°	108°	108°	108°	108°	SHA	077°	077°	077°	077°	077°	077°
Greenwich Culmination Time: 17:10							Greenwich Culmination Time: 09:43							Greenwich Culmination Time: 11:49						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 30.8 -00.3	S	22 25.9 -00.3	228 11.0 -00.1	S	16 41.3 +00.5	167 35.9 -29.4	S	20 49.0 -03.0	00			
01	193 30.5 -00.3	S	22 25.6 -00.3	243 10.9 -00.1	S	16 41.8 +00.6	182 06.5 -29.3	S	20 46.0 -03.2	01			
02	208 30.2 -00.2	S	22 25.3 -00.3	258 10.8 -00.2	S	16 42.4 +00.6	196 37.2 -29.3	S	20 42.8 -03.2	02			
03	223 30.0 -00.3	S	22 25.0 -00.3	273 10.6 -00.1	S	16 43.0 +00.5	211 07.9 -29.2	S	20 39.6 -03.3	03			
04	238 29.7 -00.3	S	22 24.7 -00.3	288 10.5 -00.2	S	16 43.5 +00.6	225 38.7 -29.2	S	20 36.3 -03.4	04			
05	253 29.4 -00.3	S	22 24.4 -00.4	303 10.3 -00.1	S	16 44.1 +00.5	240 09.5 -29.2	S	20 32.9 -03.5	05			
06	268 29.1 -00.2	S	22 24.0 -00.3	318 10.2 -00.2	S	16 44.6 +00.6	254 40.3 -29.2	S	20 29.4 -03.6	06			
07	283 28.9 -00.3	S	22 23.7 -00.3	333 10.0 -00.1	S	16 45.2 +00.6	269 11.1 -29.1	S	20 25.8 -03.7	07			
08	298 28.6 -00.3	S	22 23.4 -00.3	348 09.9 -00.2	S	16 45.8 +00.5	283 42.0 -29.1	S	20 22.1 -03.8	08			
09	313 28.3 -00.2	S	22 23.1 -00.3	3 09.7 -00.1	S	16 46.3 +00.6	298 12.9 -29.0	S	20 18.3 -03.8	09			
10	328 28.1 -00.3	S	22 22.8 -00.3	18 09.6 -00.1	S	16 46.9 +00.5	312 43.9 -29.0	S	20 14.5 -04.0	10			
11	343 27.8 -00.3	S	22 22.5 -00.4	33 09.5 -00.2	S	16 47.4 +00.6	327 14.9 -29.0	S	20 10.5 -04.1	11			
12	358 27.5 -00.3	S	22 22.1 -00.3	48 09.3 -00.1	S	16 48.0 +00.5	341 45.9 -28.9	S	20 06.4 -04.1	12			
13	13 27.2 -00.2	S	22 21.8 -00.3	63 09.2 -00.2	S	16 48.5 +00.6	356 17.0 -28.9	S	20 02.3 -04.3	13			
14	28 27.0 -00.3	S	22 21.5 -00.3	78 09.0 -00.2	S	16 49.1 +00.6	10 48.1 -28.9	S	19 58.0 -04.3	14			
15	43 26.7 -00.3	S	22 21.2 -00.3	93 08.8 -00.1	S	16 49.7 +00.5	25 19.2 -28.8	S	19 53.7 -04.4	15			
16	58 26.4 -00.2	S	22 20.9 -00.4	108 08.7 -00.2	S	16 50.2 +00.6	39 50.4 -28.8	S	19 49.3 -04.5	16			
17	73 26.2 -00.3	S	22 20.5 -00.3	123 08.5 -00.1	S	16 50.8 +00.5	54 21.6 -28.7	S	19 44.8 -04.6	17			
18	88 25.9 -00.3	S	22 20.2 -00.3	138 08.4 -00.2	S	16 51.3 +00.6	68 52.9 -28.7	S	19 40.2 -04.7	18			
19	103 25.6 -00.2	S	22 19.9 -00.3	153 08.2 -00.1	S	16 51.9 +00.5	83 24.2 -28.7	S	19 35.5 -04.8	19			
20	118 25.4 -00.3	S	22 19.6 -00.4	168 08.1 -00.2	S	16 52.4 +00.6	97 55.5 -28.6	S	19 30.7 -04.8	20			
21	133 25.1 -00.3	S	22 19.2 -00.3	183 07.9 -00.2	S	16 53.0 +00.5	112 26.9 -28.6	S	19 25.9 -05.0	21			
22	148 24.8 -00.2	S	22 18.9 -00.3	198 07.7 -00.1	S	16 53.5 +00.6	126 58.3 -28.5	S	19 20.9 -05.0	22			
23	163 24.6 -00.3	S	22 18.6 -00.3	213 07.6 -00.2	S	16 54.1 +00.6	141 29.8 -28.5	S	19 15.9 -05.2	23			
UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 072° 072° 072° 072° 071° 071° Greenwich Culmination Time: 12:06				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 122° 122° 121° 121° 121° 121° Greenwich Culmination Time: 08:47				UT 02 06 10 14 18 22 SD 14'8 14'8 14'7 14'7 14'7 14'7 HP 54'2 54'2 54'1 54'1 54'1 54'1 SHA 060° 058° 056° 054° 052° 050° Greenwich Culmination Time: 13:15					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	102 33.4 +01.0	N	01 25.6 +00.8	214 36.0 +01.9	S	21 44.2 +00.0	183 10.9 +02.1	S	22 24.7 +00.0	00			
01	117 34.4 +00.9	N	01 26.4 +00.7	229 37.9 +01.9	S	21 44.2 +00.1	198 13.0 +02.2	S	22 24.7 +00.0	01			
02	132 35.3 +01.0	N	01 27.1 +00.7	244 39.8 +01.9	S	21 44.3 +00.0	213 15.2 +02.1	S	22 24.7 -00.1	02			
03	147 36.3 +00.9	N	01 27.8 +00.7	259 41.7 +01.9	S	21 44.3 +00.1	228 17.3 +02.1	S	22 24.6 +00.0	03			
04	162 37.2 +00.9	N	01 28.5 +00.7	274 43.6 +02.0	S	21 44.4 +00.1	243 19.4 +02.2	S	22 24.6 +00.0	04			
05	177 38.1 +01.0	N	01 29.2 +00.7	289 45.6 +01.9	S	21 44.5 +00.0	258 21.6 +02.1	S	22 24.6 +00.0	05			
06	192 39.1 +00.9	N	01 29.9 +00.8	304 47.5 +01.9	S	21 44.5 +00.1	273 23.7 +02.2	S	22 24.6 -00.1	06			
07	207 40.0 +00.9	N	01 30.7 +00.7	319 49.4 +01.9	S	21 44.6 +00.1	288 25.9 +02.1	S	22 24.5 +00.0	07			
08	222 40.9 +01.0	N	01 31.4 +00.7	334 51.3 +01.9	S	21 44.7 +00.0	303 28.0 +02.2	S	22 24.5 +00.0	08			
09	237 41.9 +00.9	N	01 32.1 +00.7	349 53.2 +01.9	S	21 44.7 +00.1	318 30.2 +02.1	S	22 24.5 +00.0	09			
10	252 42.8 +00.9	N	01 32.8 +00.7	4 55.1 +02.0	S	21 44.8 +00.1	333 32.3 +02.2	S	22 24.5 -00.1	10			
11	267 43.7 +01.0	N	01 33.5 +00.8	19 57.1 +01.9	S	21 44.9 +00.0	348 34.5 +02.1	S	22 24.4 +00.0	11			
12	282 44.7 +00.9	N	01 34.3 +00.7	34 59.0 +01.9	S	21 44.9 +00.1	3 36.6 +02.2	S	22 24.4 +00.0	12			
13	297 45.6 +01.0	N	01 35.0 +00.7	50 00.9 +01.9	S	21 45.0 +00.1	18 38.8 +02.1	S	22 24.4 +00.0	13			
14	312 46.6 +00.9	N	01 35.7 +00.7	65 02.8 +01.9	S	21 45.1 +00.0	33 40.9 +02.2	S	22 24.4 +00.0	14			
15	327 47.5 +00.9	N	01 36.4 +00.7	80 04.7 +02.0	S	21 45.1 +00.1	48 43.1 +02.1	S	22 24.4 -00.1	15			
16	342 48.4 +01.0	N	01 37.1 +00.7	95 06.7 +01.9	S	21 45.2 +00.1	63 45.2 +02.1	S	22 24.3 +00.0	16			
17	357 49.4 +00.9	N	01 37.8 +00.8	110 08.6 +01.9	S	21 45.3 +00.0	78 47.3 +02.2	S	22 24.3 +00.0	17			
18	12 50.3 +00.9	N	01 38.6 +00.7	125 10.5 +01.9	S	21 45.3 +00.1	93 49.5 +02.1	S	22 24.3 +00.0	18			
19	27 51.2 +01.0	N	01 39.3 +00.7	140 12.4 +01.9	S	21 45.4 +00.0	108 51.6 +02.2	S	22 24.3 -00.1	19			
20	42 52.2 +00.9	N	01 40.0 +00.7	155 14.3 +02.0	S	21 45.4 +00.1	123 53.8 +02.1	S	22 24.2 +00.0	20			
21	57 53.1 +00.9	N	01 40.7 +00.7	170 16.3 +01.9	S	21 45.5 +00.1	138 55.9 +02.2	S	22 24.2 +00.0	21			
22	72 54.0 +01.0	N	01 41.4 +00.7	185 18.2 +01.9	S	21 45.6 +00.0	153 58.1 +02.1	S	22 24.2 +00.0	22			
23	87 55.0 +00.9	N	01 42.1 +00.8	200 20.1 +01.9	S	21 45.6 +00.1	169 00.2 +02.2	S	22 24.2 -00.1	23			
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 356° 356° 356° 356° 356° 356° Greenwich Culmination Time: 17:08				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 108° 108° 108° 108° 108° 108° Greenwich Culmination Time: 09:40				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 077° 077° 077° 077° 077° 077° Greenwich Culmination Time: 11:45					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 24.3 -00.3	S	22 18.3 -00.4	228 07.4 -00.1	S	16 54.7 +00.5	156 01.3 -28.5	S	19 10.7 -05.2	00			
01	193 24.0 -00.3	S	22 17.9 -00.3	243 07.3 -00.2	S	16 55.2 +00.6	170 32.8 -28.4	S	19 05.5 -05.3	01			
02	208 23.7 -00.2	S	22 17.6 -00.3	258 07.1 -00.2	S	16 55.8 +00.5	185 04.4 -28.4	S	19 00.2 -05.3	02			
03	223 23.5 -00.3	S	22 17.3 -00.3	273 06.9 -00.1	S	16 56.3 +00.6	199 36.0 -28.3	S	18 54.9 -05.5	03			
04	238 23.2 -00.3	S	22 17.0 -00.4	288 06.8 -00.2	S	16 56.9 +00.5	214 07.7 -28.3	S	18 49.4 -05.5	04			
05	253 22.9 -00.2	S	22 16.6 -00.3	303 06.6 -00.2	S	16 57.4 +00.6	228 39.4 -28.3	S	18 43.9 -05.6	05			
06	268 22.7 -00.3	S	22 16.3 -00.3	318 06.4 -00.1	S	16 58.0 +00.5	243 11.1 -28.2	S	18 38.3 -05.8	06			
07	283 22.4 -00.3	S	22 16.0 -00.4	333 06.3 -00.2	S	16 58.5 +00.6	257 42.9 -28.2	S	18 32.5 -05.7	07			
08	298 22.1 -00.2	S	22 15.6 -00.3	348 06.1 -00.2	S	16 59.1 +00.5	272 14.7 -28.1	S	18 26.8 -05.9	08			
09	313 21.9 -00.3	S	22 15.3 -00.3	3 05.9 -00.1	S	16 59.6 +00.6	286 46.6 -28.1	S	18 20.9 -06.0	09			
10	328 21.6 -00.3	S	22 15.0 -00.4	18 05.8 -00.2	S	17 00.2 +00.5	301 18.5 -28.1	S	18 14.9 -06.0	10			
11	343 21.3 -00.2	S	22 14.6 -00.3	33 05.6 -00.2	S	17 00.7 +00.6	315 50.4 -28.0	S	18 08.9 -06.1	11			
12	358 21.1 -00.3	S	22 14.3 -00.4	48 05.4 -00.1	S	17 01.3 +00.5	330 22.4 -28.0	S	18 02.8 -06.2	12			
13	13 20.8 -00.2	S	22 13.9 -00.3	63 05.3 -00.2	S	17 01.8 +00.6	344 54.4 -27.9	S	17 56.6 -06.2	13			
14	28 20.6 -00.3	S	22 13.6 -00.3	78 05.1 -00.2	S	17 02.4 +00.5	359 26.5 -27.9	S	17 50.4 -06.4	14			
15	43 20.3 -00.3	S	22 13.3 -00.4	93 04.9 -00.2	S	17 02.9 +00.6	13 58.6 -27.8	S	17 44.0 -06.4	15			
16	58 20.0 -00.2	S	22 12.9 -00.3	108 04.7 -00.1	S	17 03.5 +00.5	28 30.8 -27.9	S	17 37.6 -06.5	16			
17	73 19.8 -00.3	S	22 12.6 -00.4	123 04.6 -00.2	S	17 04.0 +00.6	43 02.9 -27.7	S	17 31.1 -06.5	17			
18	88 19.5 -00.3	S	22 12.2 -00.3	138 04.4 -00.2	S	17 04.6 +00.5	57 35.2 -27.8	S	17 24.6 -06.7	18			
19	103 19.2 -00.2	S	22 11.9 -00.3	153 04.2 -00.2	S	17 05.1 +00.6	72 07.4 -27.6	S	17 17.9 -06.7	19			
20	118 19.0 -00.3	S	22 11.6 -00.4	168 04.0 -00.2	S	17 05.7 +00.5	86 39.8 -27.7	S	17 11.2 -06.8	20			
21	133 18.7 -00.3	S	22 11.2 -00.3	183 03.8 -00.1	S	17 06.2 +00.6	101 12.1 -27.6	S	17 04.4 -06.8	21			
22	148 18.4 -00.2	S	22 10.9 -00.4	198 03.7 -00.2	S	17 06.8 +00.5	115 44.5 -27.5	S	16 57.6 -07.0	22			
23	163 18.2 -00.3	S	22 10.5 -00.3	213 03.5 -00.2	S	17 07.3 +00.6	130 17.0 -27.6	S	16 50.6 -07.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'0 54'0 54'0 54'0 54'0 54'0						
	SHA 071° 071° 071° 071° 070° 070°			SHA 121° 121° 120° 120° 120° 120°			SHA 048° 046° 044° 042° 040° 038°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 14:02						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	102 55.9 +00.9	N	01 42.9 +00.7	215 22.0 +01.9	S	21 45.7 +00.1	184 02.4 +02.1	S	22 24.1 +00.0	00			
01	117 56.8 +01.0	N	01 43.6 +00.7	230 23.9 +02.0	S	21 45.8 +00.0	199 04.5 +02.2	S	22 24.1 +00.0	01			
02	132 57.8 +00.9	N	01 44.3 +00.7	245 25.9 +01.9	S	21 45.8 +00.1	214 06.7 +02.1	S	22 24.1 +00.0	02			
03	147 58.7 +00.9	N	01 45.0 +00.7	260 27.8 +01.9	S	21 45.9 +00.1	229 08.8 +02.2	S	22 24.1 -00.1	03			
04	162 59.6 +01.0	N	01 45.7 +00.8	275 29.7 +01.9	S	21 46.0 +00.0	244 11.0 +02.1	S	22 24.0 +00.0	04			
05	178 00.6 +00.9	N	01 46.5 +00.7	290 31.6 +01.9	S	21 46.0 +00.1	259 13.1 +02.1	S	22 24.0 +00.0	05			
06	193 01.5 +01.0	N	01 47.2 +00.7	305 33.5 +02.0	S	21 46.1 +00.0	274 15.2 +02.2	S	22 24.0 +00.0	06			
07	208 02.5 +00.9	N	01 47.9 +00.7	320 35.5 +01.9	S	21 46.1 +00.1	289 17.4 +02.1	S	22 24.0 -00.1	07			
08	223 03.4 +00.9	N	01 48.6 +00.7	335 37.4 +01.9	S	21 46.2 +00.1	304 19.5 +02.2	S	22 23.9 +00.0	08			
09	238 04.3 +01.0	N	01 49.3 +00.7	350 39.3 +01.9	S	21 46.3 +00.0	319 21.7 +02.1	S	22 23.9 +00.0	09			
10	253 05.3 +00.9	N	01 50.0 +00.8	5 41.2 +01.9	S	21 46.3 +00.1	334 23.8 +02.2	S	22 23.9 +00.0	10			
11	268 06.2 +00.9	N	01 50.8 +00.7	20 43.1 +02.0	S	21 46.4 +00.1	349 26.0 +02.1	S	22 23.9 -00.1	11			
12	283 07.1 +01.0	N	01 51.5 +00.7	35 45.1 +01.9	S	21 46.5 +00.0	4 28.1 +02.2	S	22 23.8 +00.0	12			
13	298 08.1 +00.9	N	01 52.2 +00.7	50 47.0 +01.9	S	21 46.5 +00.1	19 30.3 +02.1	S	22 23.8 +00.0	13			
14	313 09.0 +00.9	N	01 52.9 +00.7	65 48.9 +01.9	S	21 46.6 +00.1	34 32.4 +02.2	S	22 23.8 +00.0	14			
15	328 09.9 +01.0	N	01 53.6 +00.7	80 50.8 +01.9	S	21 46.7 +00.0	49 34.6 +02.1	S	22 23.8 +00.0	15			
16	343 10.9 +00.9	N	01 54.3 +00.8	95 52.7 +02.0	S	21 46.7 +00.1	64 36.7 +02.2	S	22 23.8 -00.1	16			
17	358 11.8 +00.9	N	01 55.1 +00.7	110 54.7 +01.9	S	21 46.8 +00.0	79 38.9 +02.1	S	22 23.7 +00.0	17			
18	13 12.7 +01.0	N	01 55.8 +00.7	125 56.6 +01.9	S	21 46.8 +00.1	94 41.0 +02.2	S	22 23.7 +00.0	18			
19	28 13.7 +00.9	N	01 56.5 +00.7	140 58.5 +01.9	S	21 46.9 +00.1	109 43.2 +02.1	S	22 23.7 +00.0	19			
20	43 14.6 +00.9	N	01 57.2 +00.7	156 00.4 +01.9	S	21 47.0 +00.0	124 45.3 +02.1	S	22 23.7 -00.1	20			
21	58 15.5 +01.0	N	01 57.9 +00.7	171 02.3 +02.0	S	21 47.0 +00.1	139 47.4 +02.2	S	22 23.6 +00.0	21			
22	73 16.5 +00.9	N	01 58.6 +00.8	186 04.3 +01.9	S	21 47.1 +00.1	154 49.6 +02.1	S	22 23.6 +00.0	22			
23	88 17.4 +00.9	N	01 59.4 +00.7	201 06.2 +01.9	S	21 47.2 +00.0	169 51.7 +02.2	S	22 23.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 356° 356° 355° 355° 355° 355°			SHA 108° 108° 108° 108° 108° 108°			SHA 077° 077° 077° 077° 077° 077°						
	Greenwich Culmination Time: 17:07			Greenwich Culmination Time: 09:37			Greenwich Culmination Time: 11:42						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 17.9 -00.2	S	22 10.2 -00.4	228 03.3 -00.2	S	17 07.9 +00.5	144 49.4 -27.4	S	16 43.6 -07.1	00			
01	193 17.7 -00.3	S	22 09.8 -00.3	243 03.1 -00.2	S	17 08.4 +00.6	159 22.0 -27.5	S	16 36.5 -07.1	01			
02	208 17.4 -00.3	S	22 09.5 -00.4	258 02.9 -00.2	S	17 09.0 +00.5	173 54.5 -27.4	S	16 29.4 -07.2	02			
03	223 17.1 -00.2	S	22 09.1 -00.3	273 02.7 -00.1	S	17 09.5 +00.5	188 27.1 -27.4	S	16 22.2 -07.3	03			
04	238 16.9 -00.3	S	22 08.8 -00.3	288 02.6 -00.2	S	17 10.0 +00.6	202 59.7 -27.3	S	16 14.9 -07.4	04			
05	253 16.6 -00.3	S	22 08.5 -00.4	303 02.4 -00.2	S	17 10.6 +00.5	217 32.4 -27.3	S	16 07.5 -07.4	05			
06	268 16.3 -00.2	S	22 08.1 -00.3	318 02.2 -00.2	S	17 11.1 +00.6	232 05.1 -27.2	S	16 00.1 -07.5	06			
07	283 16.1 -00.3	S	22 07.8 -00.4	333 02.0 -00.2	S	17 11.7 +00.5	246 37.9 -27.2	S	15 52.6 -07.5	07			
08	298 15.8 -00.2	S	22 07.4 -00.4	348 01.8 -00.2	S	17 12.2 +00.6	261 10.7 -27.2	S	15 45.1 -07.7	08			
09	313 15.6 -00.3	S	22 07.0 -00.3	3 01.6 -00.2	S	17 12.8 +00.5	275 43.5 -27.1	S	15 37.4 -07.6	09			
10	328 15.3 -00.3	S	22 06.7 -00.4	18 01.4 -00.2	S	17 13.3 +00.6	290 16.4 -27.1	S	15 29.8 -07.8	10			
11	343 15.0 -00.2	S	22 06.3 -00.3	33 01.2 -00.2	S	17 13.9 +00.5	304 49.3 -27.0	S	15 22.0 -07.8	11			
12	358 14.8 -00.3	S	22 06.0 -00.4	48 01.0 -00.1	S	17 14.4 +00.5	319 22.3 -27.1	S	15 14.2 -07.9	12			
13	13 14.5 -00.2	S	22 05.6 -00.3	63 00.9 -00.2	S	17 14.9 +00.6	333 55.2 -26.9	S	15 06.3 -07.9	13			
14	28 14.3 -00.3	S	22 05.3 -00.4	78 00.7 -00.2	S	17 15.5 +00.5	348 28.3 -27.0	S	14 58.4 -08.1	14			
15	43 14.0 -00.3	S	22 04.9 -00.3	93 00.5 -00.2	S	17 16.0 +00.6	3 01.3 -26.9	S	14 50.3 -08.0	15			
16	58 13.7 -00.2	S	22 04.6 -00.4	108 00.3 -00.2	S	17 16.6 +00.5	17 34.4 -26.8	S	14 42.3 -08.2	16			
17	73 13.5 -00.3	S	22 04.2 -00.4	123 00.1 -00.2	S	17 17.1 +00.5	32 07.6 -26.9	S	14 34.1 -08.1	17			
18	88 13.2 -00.2	S	22 03.8 -00.3	137 59.9 -00.2	S	17 17.6 +00.6	46 40.7 -26.8	S	14 26.0 -08.3	18			
19	103 13.0 -00.3	S	22 03.5 -00.4	152 59.7 -00.2	S	17 18.2 +00.5	61 13.9 -26.7	S	14 17.7 -08.3	19			
20	118 12.7 -00.3	S	22 03.1 -00.3	167 59.5 -00.2	S	17 18.7 +00.6	75 47.2 -26.7	S	14 09.4 -08.4	20			
21	133 12.4 -00.2	S	22 02.8 -00.4	182 59.3 -00.2	S	17 19.3 +00.5	90 20.5 -26.7	S	14 01.0 -08.4	21			
22	148 12.2 -00.3	S	22 02.4 -00.4	197 59.1 -00.2	S	17 19.8 +00.5	104 53.8 -26.7	S	13 52.6 -08.5	22			
23	163 11.9 -00.2	S	22 02.0 -00.3	212 58.9 -00.2	S	17 20.3 +00.6	119 27.1 -26.6	S	13 44.1 -08.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'0 54'0 54'0 54'0 54'0 54'0						
	SHA 070° 070° 070° 069° 069° 069°			SHA 120° 120° 119° 119° 119° 119°			SHA 036° 034° 032° 030° 028° 026°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 14:47						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	103 18.3 +01.0	N	02 00.1 +00.7	216 08.1 +01.9	S	21 47.2 +00.1	184 53.9 +02.1	S	22 23.6 -00.1	00			
01	118 19.3 +00.9	N	02 00.8 +00.7	231 10.0 +02.0	S	21 47.3 +00.0	199 56.0 +02.2	S	22 23.5 +00.0	01			
02	133 20.2 +00.9	N	02 01.5 +00.7	246 12.0 +01.9	S	21 47.3 +00.1	214 58.2 +02.1	S	22 23.5 +00.0	02			
03	148 21.1 +01.0	N	02 02.2 +00.7	261 13.9 +01.9	S	21 47.4 +00.1	230 00.3 +02.2	S	22 23.5 +00.0	03			
04	163 22.1 +00.9	N	02 02.9 +00.8	276 15.8 +01.9	S	21 47.5 +00.0	245 02.5 +02.1	S	22 23.5 -00.1	04			
05	178 23.0 +00.9	N	02 03.7 +00.7	291 17.7 +02.0	S	21 47.5 +00.1	260 04.6 +02.2	S	22 23.4 +00.0	05			
06	193 23.9 +01.0	N	02 04.4 +00.7	306 19.7 +01.9	S	21 47.6 +00.1	275 06.8 +02.1	S	22 23.4 +00.0	06			
07	208 24.9 +00.9	N	02 05.1 +00.7	321 21.6 +01.9	S	21 47.7 +00.0	290 08.9 +02.2	S	22 23.4 +00.0	07			
08	223 25.8 +00.9	N	02 05.8 +00.7	336 23.5 +01.9	S	21 47.7 +00.1	305 11.1 +02.1	S	22 23.4 -00.1	08			
09	238 26.7 +01.0	N	02 06.5 +00.7	351 25.4 +01.9	S	21 47.8 +00.0	320 13.2 +02.2	S	22 23.3 +00.0	09			
10	253 27.7 +00.9	N	02 07.2 +00.8	6 27.3 +02.0	S	21 47.8 +00.1	335 15.4 +02.1	S	22 23.3 +00.0	10			
11	268 28.6 +00.9	N	02 08.0 +00.7	21 29.3 +01.9	S	21 47.9 +00.1	350 17.5 +02.1	S	22 23.3 +00.0	11			
12	283 29.5 +01.0	N	02 08.7 +00.7	36 31.2 +01.9	S	21 48.0 +00.0	5 19.6 +02.2	S	22 23.3 -00.1	12			
13	298 30.5 +00.9	N	02 09.4 +00.7	51 33.1 +01.9	S	21 48.0 +00.1	20 21.8 +02.1	S	22 23.2 +00.0	13			
14	313 31.4 +00.9	N	02 10.1 +00.7	66 35.0 +02.0	S	21 48.1 +00.1	35 23.9 +02.2	S	22 23.2 +00.0	14			
15	328 32.3 +01.0	N	02 10.8 +00.7	81 37.0 +01.9	S	21 48.2 +00.0	50 26.1 +02.1	S	22 23.2 +00.0	15			
16	343 33.3 +00.9	N	02 11.5 +00.8	96 38.9 +01.9	S	21 48.2 +00.1	65 28.2 +02.2	S	22 23.2 -00.1	16			
17	358 34.2 +00.9	N	02 12.3 +00.7	111 40.8 +01.9	S	21 48.3 +00.0	80 30.4 +02.1	S	22 23.1 +00.0	17			
18	13 35.1 +01.0	N	02 13.0 +00.7	126 42.7 +02.0	S	21 48.3 +00.1	95 32.5 +02.2	S	22 23.1 +00.0	18			
19	28 36.1 +00.9	N	02 13.7 +00.7	141 44.7 +01.9	S	21 48.4 +00.1	110 34.7 +02.1	S	22 23.1 +00.0	19			
20	43 37.0 +00.9	N	02 14.4 +00.7	156 46.6 +01.9	S	21 48.5 +00.0	125 36.8 +02.2	S	22 23.1 -00.1	20			
21	58 37.9 +01.0	N	02 15.1 +00.7	171 48.5 +01.9	S	21 48.5 +00.1	140 39.0 +02.1	S	22 23.0 +00.0	21			
22	73 38.9 +00.9	N	02 15.8 +00.7	186 50.4 +02.0	S	21 48.6 +00.1	155 41.1 +02.2	S	22 23.0 +00.0	22			
23	88 39.8 +00.9	N	02 16.5 +00.8	201 52.4 +01.9	S	21 48.7 +00.0	170 43.3 +02.1	S	22 23.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 355° 355° 355° 355° 355° 355°			SHA 108° 108° 108° 108° 108° 108°			SHA 077° 077° 077° 077° 077° 077°						
	Greenwich Culmination Time: 17:05			Greenwich Culmination Time: 09:34			Greenwich Culmination Time: 11:38						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 11.7 -00.3	S	22 01.7 -00.4	227 58.7 -00.2	S	17 20.9 +00.5	134 00.5 -26.6	S	13 35.6 -08.6	00										
01	193 11.4 -00.2	S	22 01.3 -00.4	242 58.5 -00.2	S	17 21.4 +00.6	148 33.9 -26.5	S	13 27.0 -08.7	01										
02	208 11.2 -00.3	S	22 00.9 -00.3	257 58.3 -00.2	S	17 22.0 +00.5	163 07.4 -26.6	S	13 18.3 -08.7	02										
03	223 10.9 -00.2	S	22 00.6 -00.4	272 58.1 -00.2	S	17 22.5 +00.5	177 40.8 -26.5	S	13 09.6 -08.8	03										
04	238 10.7 -00.3	S	22 00.2 -00.4	287 57.9 -00.3	S	17 23.0 +00.6	192 14.3 -26.4	S	13 00.8 -08.8	04										
05	253 10.4 -00.3	S	21 59.8 -00.3	302 57.6 -00.2	S	17 23.6 +00.5	206 47.9 -26.4	S	12 52.0 -08.9	05										
06	268 10.1 -00.2	S	21 59.5 -00.4	317 57.4 -00.2	S	17 24.1 +00.5	221 21.5 -26.4	S	12 43.1 -08.9	06										
07	283 09.9 -00.3	S	21 59.1 -00.4	332 57.2 -00.2	S	17 24.6 +00.6	235 55.1 -26.4	S	12 34.2 -09.0	07										
08	298 09.6 -00.2	S	21 58.7 -00.3	347 57.0 -00.2	S	17 25.2 +00.5	250 28.7 -26.3	S	12 25.2 -09.0	08										
09	313 09.4 -00.3	S	21 58.4 -00.4	2 56.8 -00.2	S	17 25.7 +00.5	265 02.4 -26.3	S	12 16.2 -09.1	09										
10	328 09.1 -00.2	S	21 58.0 -00.4	17 56.6 -00.2	S	17 26.2 +00.6	279 36.1 -26.3	S	12 07.1 -09.1	10										
11	343 08.9 -00.3	S	21 57.6 -00.3	32 56.4 -00.2	S	17 26.8 +00.5	294 09.8 -26.3	S	11 58.0 -09.2	11										
12	358 08.6 -00.2	S	21 57.3 -00.4	47 56.2 -00.2	S	17 27.3 +00.6	308 43.5 -26.2	S	11 48.8 -09.3	12										
13	13 08.4 -00.3	S	21 56.9 -00.4	62 56.0 -00.3	S	17 27.9 +00.5	323 17.3 -26.2	S	11 39.5 -09.2	13										
14	28 08.1 -00.2	S	21 56.5 -00.4	77 55.7 -00.2	S	17 28.4 +00.5	337 51.1 -26.2	S	11 30.3 -09.4	14										
15	43 07.9 -00.3	S	21 56.1 -00.3	92 55.5 -00.2	S	17 28.9 +00.6	352 24.9 -26.1	S	11 20.9 -09.4	15										
16	58 07.6 -00.3	S	21 55.8 -00.4	107 55.3 -00.2	S	17 29.5 +00.5	6 58.8 -26.1	S	11 11.5 -09.4	16										
17	73 07.3 -00.2	S	21 55.4 -00.4	122 55.1 -00.2	S	17 30.0 +00.5	21 32.7 -26.1	S	11 02.1 -09.5	17										
18	88 07.1 -00.3	S	21 55.0 -00.4	137 54.9 -00.2	S	17 30.5 +00.5	36 06.6 -26.1	S	10 52.6 -09.5	18										
19	103 06.8 -00.2	S	21 54.6 -00.3	152 54.7 -00.3	S	17 31.0 +00.6	50 40.5 -26.0	S	10 43.1 -09.5	19										
20	118 06.6 -00.3	S	21 54.3 -00.4	167 54.4 -00.2	S	17 31.6 +00.5	65 14.5 -26.1	S	10 33.6 -09.6	20										
21	133 06.3 -00.2	S	21 53.9 -00.4	182 54.2 -00.2	S	17 32.1 +00.5	79 48.4 -26.0	S	10 24.0 -09.7	21										
22	148 06.1 -00.3	S	21 53.5 -00.4	197 54.0 -00.2	S	17 32.6 +00.6	94 22.4 -26.0	S	10 14.3 -09.7	22										
23	163 05.8 -00.2	S	21 53.1 -00.4	212 53.8 -00.2	S	17 33.2 +00.5	108 56.4 -25.9	S	10 04.6 -09.7	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	14'7	14'7	14'7	14'7	14'7	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	54'0	54'0	54'1	54'1	54'1	54'2
SHA	069°	069°	069°	068°	068°	068°	SHA	119°	118°	118°	118°	118°	118°	SHA	024°	022°	020°	018°	016°	014°
Greenwich Culmination Time: 12:07							Greenwich Culmination Time: 08:48							Greenwich Culmination Time: 15:31						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	103 40.7 +01.0	N	02 17.3 +00.7	216 54.3 +01.9	S	21 48.7 +00.1	185 45.4 +02.2	S	22 23.0 -00.1	00										
01	118 41.7 +00.9	N	02 18.0 +00.7	231 56.2 +01.9	S	21 48.8 +00.0	200 47.6 +02.1	S	22 22.9 +00.0	01										
02	133 42.6 +00.9	N	02 18.7 +00.7	246 58.1 +02.0	S	21 48.8 +00.1	215 49.7 +02.2	S	22 22.9 +00.0	02										
03	148 43.5 +01.0	N	02 19.4 +00.7	262 00.1 +01.9	S	21 48.9 +00.1	230 51.9 +02.1	S	22 22.9 +00.0	03										
04	163 44.5 +00.9	N	02 20.1 +00.7	277 02.0 +01.9	S	21 49.0 +00.0	245 54.0 +02.1	S	22 22.9 -00.1	04										
05	178 45.4 +00.9	N	02 20.8 +00.8	292 03.9 +01.9	S	21 49.0 +00.1	260 56.1 +02.2	S	22 22.8 +00.0	05										
06	193 46.3 +00.9	N	02 21.6 +00.7	307 05.8 +02.0	S	21 49.1 +00.1	275 58.3 +02.1	S	22 22.8 +00.0	06										
07	208 47.2 +01.0	N	02 22.3 +00.7	322 07.8 +01.9	S	21 49.2 +00.0	291 00.4 +02.2	S	22 22.8 +00.0	07										
08	223 48.2 +00.9	N	02 23.0 +00.7	337 09.7 +01.9	S	21 49.2 +00.1	306 02.6 +02.1	S	22 22.8 -00.1	08										
09	238 49.1 +00.9	N	02 23.7 +00.7	352 11.6 +01.9	S	21 49.3 +00.0	321 04.7 +02.2	S	22 22.7 +00.0	09										
10	253 50.0 +01.0	N	02 24.4 +00.7	7 13.5 +02.0	S	21 49.3 +00.1	336 06.9 +02.1	S	22 22.7 +00.0	10										
11	268 51.0 +00.9	N	02 25.1 +00.7	22 15.5 +01.9	S	21 49.4 +00.1	351 09.0 +02.2	S	22 22.7 +00.0	11										
12	283 51.9 +00.9	N	02 25.8 +00.8	37 17.4 +01.9	S	21 49.5 +00.0	6 11.2 +02.1	S	22 22.7 +00.0	12										
13	298 52.8 +01.0	N	02 26.6 +00.7	52 19.3 +01.9	S	21 49.5 +00.1	21 13.3 +02.2	S	22 22.7 -00.1	13										
14	313 53.8 +00.9	N	02 27.3 +00.7	67 21.2 +02.0	S	21 49.6 +00.0	36 15.5 +02.1	S	22 22.6 +00.0	14										
15	328 54.7 +00.9	N	02 28.0 +00.7	82 23.2 +01.9	S	21 49.6 +00.1	51 17.6 +02.2	S	22 22.6 +00.0	15										
16	343 55.6 +01.0	N	02 28.7 +00.7	97 25.1 +01.9	S	21 49.7 +00.1	66 19.8 +02.1	S	22 22.6 +00.0	16										
17	358 56.6 +00.9	N	02 29.4 +00.7	112 27.0 +01.9	S	21 49.8 +00.0	81 21.9 +02.2	S	22 22.6 -00.1	17										
18	13 57.5 +00.9	N	02 30.1 +00.8	127 28.9 +02.0	S	21 49.8 +00.1	96 24.1 +02.1	S	22 22.5 +00.0	18										
19	28 58.4 +01.0	N	02 30.9 +00.7	142 30.9 +01.9	S	21 49.9 +00.0	111 26.2 +02.2	S	22 22.5 +00.0	19										
20	43 59.4 +00.9	N	02 31.6 +00.7	157 32.8 +01.9	S	21 49.9 +00.1	126 28.4 +02.1	S	22 22.5 +00.0	20										
21	59 00.3 +00.9	N	02 32.3 +00.7	172 34.7 +02.0	S	21 50.0 +00.1	141 30.5 +02.2	S	22 22.5 -00.1	21										
22	74 01.2 +00.9	N	02 33.0 +00.7	187 36.7 +01.9	S	21 50.1 +00.0	156 32.7 +02.1	S	22 22.4 +00.0	22										
23	89 02.1 +01.0	N	02 33.7 +00.7	202 38.6 +01.9	S	21 50.1 +00.1	171 34.8 +02.1	S	22 22.4 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	354°	354°	354°	354°	354°	354°	SHA	108°	108°	108°	108°	108°	107°	SHA	077°	076°	076°	076°	076°	076°
Greenwich Culmination Time: 17:04							Greenwich Culmination Time: 09:31							Greenwich Culmination Time: 11:35						

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	178 05.6 -00.3	S 21 52.7 -00.3	227 53.6 -00.3	S 17 33.7 +00.5	123 30.5 -26.0	S 09 54.9 -09.8	00							
01	193 05.3 -00.2	S 21 52.4 -00.4	242 53.3 -00.2	S 17 34.2 +00.6	138 04.5 -25.9	S 09 45.1 -09.8	01							
02	208 05.1 -00.3	S 21 52.0 -00.4	257 53.1 -00.2	S 17 34.8 +00.5	152 38.6 -25.9	S 09 35.3 -09.9	02							
03	223 04.8 -00.2	S 21 51.6 -00.4	272 52.9 -00.3	S 17 35.3 +00.5	167 12.7 -25.9	S 09 25.4 -09.9	03							
04	238 04.6 -00.3	S 21 51.2 -00.4	287 52.6 -00.2	S 17 35.8 +00.5	181 46.8 -25.8	S 09 15.5 -10.0	04							
05	253 04.3 -00.2	S 21 50.8 -00.4	302 52.4 -00.2	S 17 36.3 +00.6	196 21.0 -25.9	S 09 05.5 -09.9	05							
06	268 04.1 -00.3	S 21 50.4 -00.4	317 52.2 -00.2	S 17 36.9 +00.5	210 55.1 -25.8	S 08 55.6 -10.1	06							
07	283 03.8 -00.2	S 21 50.0 -00.3	332 52.0 -00.3	S 17 37.4 +00.5	225 29.3 -25.8	S 08 45.5 -10.0	07							
08	298 03.6 -00.3	S 21 49.7 -00.4	347 51.7 -00.2	S 17 37.9 +00.6	240 03.5 -25.8	S 08 35.5 -10.1	08							
09	313 03.3 -00.2	S 21 49.3 -00.4	2 51.5 -00.2	S 17 38.5 +00.5	254 37.7 -25.8	S 08 25.4 -10.2	09							
10	328 03.1 -00.3	S 21 48.9 -00.4	17 51.3 -00.3	S 17 39.0 +00.5	269 11.9 -25.8	S 08 15.2 -10.1	10							
11	343 02.8 -00.2	S 21 48.5 -00.4	32 51.0 -00.2	S 17 39.5 +00.5	283 46.1 -25.7	S 08 05.1 -10.3	11							
12	358 02.6 -00.3	S 21 48.1 -00.4	47 50.8 -00.2	S 17 40.0 +00.6	298 20.4 -25.8	S 07 54.8 -10.2	12							
13	13 02.3 -00.2	S 21 47.7 -00.4	62 50.6 -00.3	S 17 40.6 +00.5	312 54.6 -25.7	S 07 44.6 -10.3	13							
14	28 02.1 -00.3	S 21 47.3 -00.4	77 50.3 -00.2	S 17 41.1 +00.5	327 28.9 -25.7	S 07 34.3 -10.3	14							
15	43 01.8 -00.2	S 21 46.9 -00.4	92 50.1 -00.2	S 17 41.6 +00.5	342 03.2 -25.7	S 07 24.0 -10.4	15							
16	58 01.6 -00.2	S 21 46.5 -00.4	107 49.9 -00.3	S 17 42.1 +00.6	356 37.5 -25.8	S 07 13.6 -10.3	16							
17	73 01.4 -00.3	S 21 46.1 -00.4	122 49.6 -00.2	S 17 42.7 +00.5	11 11.7 -25.6	S 07 03.3 -10.5	17							
18	88 01.1 -00.2	S 21 45.7 -00.3	137 49.4 -00.2	S 17 43.2 +00.5	25 46.1 -25.7	S 06 52.8 -10.4	18							
19	103 00.9 -00.3	S 21 45.4 -00.4	152 49.2 -00.3	S 17 43.7 +00.5	40 20.4 -25.7	S 06 42.4 -10.5	19							
20	118 00.6 -00.2	S 21 45.0 -00.4	167 48.9 -00.2	S 17 44.2 +00.5	54 54.7 -25.7	S 06 31.9 -10.5	20							
21	133 00.4 -00.3	S 21 44.6 -00.4	182 48.7 -00.3	S 17 44.7 +00.6	69 29.0 -25.7	S 06 21.4 -10.5	21							
22	148 00.1 -00.2	S 21 44.2 -00.4	197 48.4 -00.2	S 17 45.3 +00.5	84 03.3 -25.6	S 06 10.9 -10.6	22							
23	162 59.9 -00.3	S 21 43.8 -00.4	212 48.2 -00.3	S 17 45.8 +00.5	98 37.7 -25.7	S 06 00.3 -10.6	23							
UT 02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 068° 068° 067° 067° 067° 067°	Greenwich Culmination Time: 12:07	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 118° 117° 117° 117° 117° 117°	Greenwich Culmination Time: 08:48	UT 02 06 10 14 18 22	SD 14'8 14'8 14'8 14'8 14'8 14'8	HP 54'2 54'2 54'3 54'3 54'4 54'5	SHA 012° 010° 009° 007° 005° 003°	Greenwich Culmination Time: 16:13

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	104 03.1 +00.9	N 02 34.4 +00.7	217 40.5 +01.9	S 21 50.2 +00.1	186 36.9 +02.2	S 22 22.4 +00.0	00							
01	119 04.0 +00.9	N 02 35.1 +00.8	232 42.4 +02.0	S 21 50.3 +00.0	201 39.1 +02.1	S 22 22.4 -00.1	01							
02	134 04.9 +01.0	N 02 35.9 +00.7	247 44.4 +01.9	S 21 50.3 +00.1	216 41.2 +02.2	S 22 22.3 +00.0	02							
03	149 05.9 +00.9	N 02 36.6 +00.7	262 46.3 +01.9	S 21 50.4 +00.0	231 43.4 +02.1	S 22 22.3 +00.0	03							
04	164 06.8 +00.9	N 02 37.3 +00.7	277 48.2 +01.9	S 21 50.4 +00.1	246 45.5 +02.2	S 22 22.3 +00.0	04							
05	179 07.7 +01.0	N 02 38.0 +00.7	292 50.1 +02.0	S 21 50.5 +00.1	261 47.7 +02.1	S 22 22.3 -00.1	05							
06	194 08.7 +00.9	N 02 38.7 +00.7	307 52.1 +01.9	S 21 50.6 +00.0	276 49.8 +02.2	S 22 22.2 +00.0	06							
07	209 09.6 +00.9	N 02 39.4 +00.7	322 54.0 +01.9	S 21 50.6 +00.1	291 52.0 +02.1	S 22 22.2 +00.0	07							
08	224 10.5 +01.0	N 02 40.1 +00.8	337 55.9 +02.0	S 21 50.7 +00.0	306 54.1 +02.2	S 22 22.2 +00.0	08							
09	239 11.5 +00.9	N 02 40.9 +00.7	352 57.9 +01.9	S 21 50.7 +00.1	321 56.3 +02.1	S 22 22.2 -00.1	09							
10	254 12.4 +00.9	N 02 41.6 +00.7	7 59.8 +01.9	S 21 50.8 +00.1	336 58.4 +02.2	S 22 22.1 +00.0	10							
11	269 13.3 +00.9	N 02 42.3 +00.7	23 01.7 +01.9	S 21 50.9 +00.0	352 00.6 +02.1	S 22 22.1 +00.0	11							
12	284 14.2 +01.0	N 02 43.0 +00.7	38 03.6 +02.0	S 21 50.9 +00.1	7 02.7 +02.2	S 22 22.1 +00.0	12							
13	299 15.2 +00.9	N 02 43.7 +00.7	53 05.6 +01.9	S 21 51.0 +00.0	22 04.9 +02.1	S 22 22.1 -00.1	13							
14	314 16.1 +00.9	N 02 44.4 +00.7	68 07.5 +01.9	S 21 51.0 +00.1	37 07.0 +02.2	S 22 22.0 +00.0	14							
15	329 17.0 +01.0	N 02 45.1 +00.8	83 09.4 +02.0	S 21 51.1 +00.1	52 09.2 +02.1	S 22 22.0 +00.0	15							
16	344 18.0 +00.9	N 02 45.9 +00.7	98 11.4 +01.9	S 21 51.2 +00.0	67 11.3 +02.2	S 22 22.0 +00.0	16							
17	359 18.9 +00.9	N 02 46.6 +00.7	113 13.3 +01.9	S 21 51.2 +00.1	82 13.5 +02.1	S 22 22.0 -00.1	17							
18	14 19.8 +00.9	N 02 47.3 +00.7	128 15.2 +01.9	S 21 51.3 +00.0	97 15.6 +02.2	S 22 21.9 +00.0	18							
19	29 20.7 +01.0	N 02 48.0 +00.7	143 17.1 +02.0	S 21 51.3 +00.1	112 17.8 +02.1	S 22 21.9 +00.0	19							
20	44 21.7 +00.9	N 02 48.7 +00.7	158 19.1 +01.9	S 21 51.4 +00.1	127 19.9 +02.2	S 22 21.9 +00.0	20							
21	59 22.6 +00.9	N 02 49.4 +00.7	173 21.0 +01.9	S 21 51.5 +00.0	142 22.1 +02.1	S 22 21.9 -00.1	21							
22	74 23.5 +01.0	N 02 50.1 +00.7	188 22.9 +02.0	S 21 51.5 +00.1	157 24.2 +02.1	S 22 21.8 +00.0	22							
23	89 24.5 +00.9	N 02 50.8 +00.8	203 24.9 +01.9	S 21 51.6 +00.0	172 26.3 +02.2	S 22 21.8 +00.0	23							
UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 354° 354° 354° 353° 353° 353°	Greenwich Culmination Time: 17:02	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 107° 107° 107° 107° 107° 107°	Greenwich Culmination Time: 09:28	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 076° 076° 076° 076° 076° 076°	Greenwich Culmination Time: 11:31

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 59.6 -00.2	S 21 43.4 -00.4	227 47.9 -00.2	S 17 46.3 +00.5	113 12.0 -25.7	S 05 49.7 -10.6	00						
01	192 59.4 -00.3	S 21 43.0 -00.4	242 47.7 -00.2	S 17 46.8 +00.5	127 46.3 -25.6	S 05 39.1 -10.7	01						
02	207 59.1 -00.2	S 21 42.6 -00.4	257 47.5 -00.3	S 17 47.3 +00.6	142 20.7 -25.7	S 05 28.4 -10.7	02						
03	222 58.9 -00.2	S 21 42.2 -00.4	272 47.2 -00.2	S 17 47.9 +00.5	156 55.0 -25.6	S 05 17.7 -10.7	03						
04	237 58.7 -00.3	S 21 41.8 -00.4	287 47.0 -00.3	S 17 48.4 +00.5	171 29.4 -25.7	S 05 07.0 -10.7	04						
05	252 58.4 -00.2	S 21 41.4 -00.4	302 46.7 -00.2	S 17 48.9 +00.5	186 03.7 -25.6	S 04 56.3 -10.8	05						
06	267 58.2 -00.3	S 21 41.0 -00.4	317 46.5 -00.3	S 17 49.4 +00.5	200 38.1 -25.7	S 04 45.5 -10.8	06						
07	282 57.9 -00.2	S 21 40.6 -00.5	332 46.2 -00.2	S 17 49.9 +00.6	215 12.4 -25.6	S 04 34.7 -10.8	07						
08	297 57.7 -00.3	S 21 40.1 -00.4	347 46.0 -00.3	S 17 50.5 +00.5	229 46.8 -25.7	S 04 23.9 -10.8	08						
09	312 57.4 -00.2	S 21 39.7 -00.4	2 45.7 -00.2	S 17 51.0 +00.5	244 21.1 -25.7	S 04 13.1 -10.9	09						
10	327 57.2 -00.2	S 21 39.3 -00.4	17 45.5 -00.3	S 17 51.5 +00.5	258 55.4 -25.6	S 04 02.2 -10.9	10						
11	342 57.0 -00.3	S 21 38.9 -00.4	32 45.2 -00.2	S 17 52.0 +00.5	273 29.8 -25.7	S 03 51.3 -10.9	11						
12	357 56.7 -00.2	S 21 38.5 -00.4	47 45.0 -00.3	S 17 52.5 +00.5	288 04.1 -25.7	S 03 40.4 -10.9	12						
13	12 56.5 -00.3	S 21 38.1 -00.4	62 44.7 -00.2	S 17 53.0 +00.5	302 38.4 -25.7	S 03 29.5 -11.0	13						
14	27 56.2 -00.2	S 21 37.7 -00.4	77 44.5 -00.3	S 17 53.5 +00.6	317 12.7 -25.7	S 03 18.5 -11.0	14						
15	42 56.0 -00.2	S 21 37.3 -00.4	92 44.2 -00.2	S 17 54.1 +00.5	331 47.0 -25.7	S 03 07.5 -10.9	15						
16	57 55.8 -00.3	S 21 36.9 -00.4	107 44.0 -00.3	S 17 54.6 +00.5	346 21.3 -25.7	S 02 56.6 -11.1	16						
17	72 55.5 -00.2	S 21 36.5 -00.4	122 43.7 -00.3	S 17 55.1 +00.5	0 55.6 -25.8	S 02 45.5 -11.0	17						
18	87 55.3 -00.3	S 21 36.1 -00.5	137 43.4 -00.2	S 17 55.6 +00.5	15 29.8 -25.7	S 02 34.5 -11.0	18						
19	102 55.0 -00.2	S 21 35.6 -00.4	152 43.2 -00.3	S 17 56.1 +00.5	30 04.1 -25.8	S 02 23.5 -11.1	19						
20	117 54.8 -00.2	S 21 35.2 -00.4	167 42.9 -00.2	S 17 56.6 +00.5	44 38.3 -25.8	S 02 12.4 -11.1	20						
21	132 54.6 -00.3	S 21 34.8 -00.4	182 42.7 -00.3	S 17 57.1 +00.5	59 12.5 -25.7	S 02 01.3 -11.1	21						
22	147 54.3 -00.2	S 21 34.4 -00.4	197 42.4 -00.3	S 17 57.6 +00.6	73 46.8 -25.8	S 01 50.2 -11.1	22						
23	162 54.1 -00.3	S 21 34.0 -00.4	212 42.1 -00.2	S 17 58.2 +00.5	88 21.0 -25.9	S 01 39.1 -11.1	23						
UT	02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	UT	02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT	02 06 10 14 18 22	SD 14'9 14'9 14'9 14'9 14'9 15'0					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'5 54'6 54'7 54'7 54'8 54'9						
	SHA 067° 067° 066° 066° 066° 066°			SHA 117° 116° 116° 116° 116° 116°			SHA 001° 359° 357° 355° 354° 352°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 08:48			Greenwich Culmination Time: 16:56						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	104 25.4 +00.9	N 02 51.6 +00.7	218 26.8 +01.9	S 21 51.6 +00.1	187 28.5 +02.1	S 22 21.8 +00.0	00						
01	119 26.3 +00.9	N 02 52.3 +00.7	233 28.7 +02.0	S 21 51.7 +00.1	202 30.6 +02.2	S 22 21.8 -00.1	01						
02	134 27.2 +01.0	N 02 53.0 +00.7	248 30.7 +01.9	S 21 51.8 +00.0	217 32.8 +02.1	S 22 21.7 +00.0	02						
03	149 28.2 +00.9	N 02 53.7 +00.7	263 32.6 +01.9	S 21 51.8 +00.1	232 34.9 +02.2	S 22 21.7 +00.0	03						
04	164 29.1 +00.9	N 02 54.4 +00.7	278 34.5 +01.9	S 21 51.9 +00.0	247 37.1 +02.1	S 22 21.7 +00.0	04						
05	179 30.0 +01.0	N 02 55.1 +00.7	293 36.4 +02.0	S 21 51.9 +00.1	262 39.2 +02.2	S 22 21.7 -00.1	05						
06	194 31.0 +00.9	N 02 55.8 +00.8	308 38.4 +01.9	S 21 52.0 +00.1	277 41.4 +02.1	S 22 21.6 +00.0	06						
07	209 31.9 +00.9	N 02 56.6 +00.7	323 40.3 +01.9	S 21 52.1 +00.0	292 43.5 +02.2	S 22 21.6 +00.0	07						
08	224 32.8 +01.0	N 02 57.3 +00.7	338 42.2 +02.0	S 21 52.1 +00.1	307 45.7 +02.1	S 22 21.6 +00.0	08						
09	239 33.8 +00.9	N 02 58.0 +00.7	353 44.2 +01.9	S 21 52.2 +00.0	322 47.8 +02.2	S 22 21.6 -00.1	09						
10	254 34.7 +00.9	N 02 58.7 +00.7	8 46.1 +01.9	S 21 52.2 +00.1	337 50.0 +02.1	S 22 21.5 +00.0	10						
11	269 35.6 +00.9	N 02 59.4 +00.7	23 48.0 +02.0	S 21 52.3 +00.0	352 52.1 +02.2	S 22 21.5 +00.0	11						
12	284 36.5 +01.0	N 03 00.1 +00.7	38 50.0 +01.9	S 21 52.3 +00.1	7 54.3 +02.1	S 22 21.5 +00.0	12						
13	299 37.5 +00.9	N 03 00.8 +00.7	53 51.9 +01.9	S 21 52.4 +00.1	22 56.4 +02.2	S 22 21.5 -00.1	13						
14	314 38.4 +00.9	N 03 01.5 +00.8	68 53.8 +02.0	S 21 52.5 +00.0	37 58.6 +02.1	S 22 21.4 +00.0	14						
15	329 39.3 +00.9	N 03 02.3 +00.7	83 55.8 +01.9	S 21 52.5 +00.1	53 00.7 +02.2	S 22 21.4 +00.0	15						
16	344 40.2 +01.0	N 03 03.0 +00.7	98 57.7 +01.9	S 21 52.6 +00.0	68 02.9 +02.1	S 22 21.4 +00.0	16						
17	359 41.2 +00.9	N 03 03.7 +00.7	113 59.6 +02.0	S 21 52.6 +00.1	83 05.0 +02.2	S 22 21.4 -00.1	17						
18	14 42.1 +00.9	N 03 04.4 +00.7	129 01.6 +01.9	S 21 52.7 +00.1	98 07.2 +02.1	S 22 21.3 +00.0	18						
19	29 43.0 +01.0	N 03 05.1 +00.7	144 03.5 +01.9	S 21 52.8 +00.0	113 09.3 +02.2	S 22 21.3 +00.0	19						
20	44 44.0 +00.9	N 03 05.8 +00.7	159 05.4 +02.0	S 21 52.8 +00.1	128 11.5 +02.1	S 22 21.3 +00.0	20						
21	59 44.9 +00.9	N 03 06.5 +00.7	174 07.4 +01.9	S 21 52.9 +00.0	143 13.6 +02.2	S 22 21.3 -00.1	21						
22	74 45.8 +00.9	N 03 07.2 +00.8	189 09.3 +01.9	S 21 52.9 +00.1	158 15.8 +02.1	S 22 21.2 +00.0	22						
23	89 46.7 +01.0	N 03 08.0 +00.7	204 11.2 +02.0	S 21 53.0 +00.1	173 17.9 +02.2	S 22 21.2 +00.0	23						
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 353° 353° 353° 353° 353° 353°			SHA 107° 107° 107° 107° 107° 107°			SHA 076° 076° 076° 076° 076° 076°						
	Greenwich Culmination Time: 17:01			Greenwich Culmination Time: 09:25			Greenwich Culmination Time: 11:28						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 53.8 -00.2	S 21 33.6 -00.4	227 41.9 -00.3	S 17 58.7 +00.5	102 55.1 -25.8	S 01 28.0 -11.2	00						00
01	192 53.6 -00.2	S 21 33.2 -00.5	242 41.6 -00.3	S 17 59.2 +00.5	117 29.3 -25.9	S 01 16.8 -11.1	01						01
02	207 53.4 -00.3	S 21 32.7 -00.4	257 41.3 -00.2	S 17 59.7 +00.5	132 03.4 -25.8	S 01 05.7 -11.2	02						02
03	222 53.1 -00.2	S 21 32.3 -00.4	272 41.1 -00.3	S 18 00.2 +00.5	146 37.6 -25.9	S 00 54.5 -11.2	03						03
04	237 52.9 -00.2	S 21 31.9 -00.4	287 40.8 -00.2	S 18 00.7 +00.5	161 11.7 -25.9	S 00 43.3 -11.2	04						04
05	252 52.7 -00.3	S 21 31.5 -00.4	302 40.6 -00.3	S 18 01.2 +00.5	175 45.8 -26.0	S 00 32.1 -11.2	05						05
06	267 52.4 -00.2	S 21 31.1 -00.5	317 40.3 -00.3	S 18 01.7 +00.5	190 19.8 -25.9	S 00 20.9 -11.2	06						06
07	282 52.2 -00.2	S 21 30.6 -00.4	332 40.0 -00.3	S 18 02.2 +00.5	204 53.9 -26.0	S 00 09.7 -11.3	07						07
08	297 52.0 -00.3	S 21 30.2 -00.4	347 39.7 -00.2	S 18 02.7 +00.5	219 27.9 -26.0	N 00 01.6 +11.2	08						08
09	312 51.7 -00.2	S 21 29.8 -00.4	2 39.5 -00.3	S 18 03.2 +00.5	234 01.9 -26.1	N 00 12.8 +11.3	09						09
10	327 51.5 -00.3	S 21 29.4 -00.5	17 39.2 -00.3	S 18 03.7 +00.6	248 35.8 -26.0	N 00 24.1 +11.2	10						10
11	342 51.2 -00.2	S 21 28.9 -00.4	32 38.9 -00.2	S 18 04.3 +00.5	263 09.8 -26.1	N 00 35.3 +11.3	11						11
12	357 51.0 -00.2	S 21 28.5 -00.4	47 38.7 -00.3	S 18 04.8 +00.5	277 43.7 -26.2	N 00 46.6 +11.3	12						12
13	12 50.8 -00.3	S 21 28.1 -00.4	62 38.4 -00.3	S 18 05.3 +00.5	292 17.5 -26.1	N 00 57.9 +11.2	13						13
14	27 50.5 -00.2	S 21 27.7 -00.5	77 38.1 -00.3	S 18 05.8 +00.5	306 51.4 -26.2	N 01 09.1 +11.3	14						14
15	42 50.3 -00.2	S 21 27.2 -00.4	92 37.8 -00.2	S 18 06.3 +00.5	321 25.2 -26.2	N 01 20.4 +11.3	15						15
16	57 50.1 -00.3	S 21 26.8 -00.4	107 37.6 -00.3	S 18 06.8 +00.5	335 59.0 -26.2	N 01 31.7 +11.3	16						16
17	72 49.8 -00.2	S 21 26.4 -00.4	122 37.3 -00.3	S 18 07.3 +00.5	350 32.8 -26.3	N 01 43.0 +11.3	17						17
18	87 49.6 -00.2	S 21 26.0 -00.5	137 37.0 -00.3	S 18 07.8 +00.5	5 06.5 -26.3	N 01 54.3 +11.3	18						18
19	102 49.4 -00.3	S 21 25.5 -00.4	152 36.7 -00.2	S 18 08.3 +00.5	19 40.2 -26.4	N 02 05.6 +11.3	19						19
20	117 49.1 -00.2	S 21 25.1 -00.4	167 36.5 -00.3	S 18 08.8 +00.5	34 13.8 -26.4	N 02 16.9 +11.3	20						20
21	132 48.9 -00.2	S 21 24.7 -00.5	182 36.2 -00.3	S 18 09.3 +00.5	48 47.4 -26.4	N 02 28.2 +11.3	21						21
22	147 48.7 -00.3	S 21 24.2 -00.4	197 35.9 -00.3	S 18 09.8 +00.5	63 21.0 -26.4	N 02 39.5 +11.3	22						22
23	162 48.4 -00.2	S 21 23.8 -00.4	212 35.6 -00.3	S 18 10.3 +00.5	77 54.6 -26.5	N 02 50.8 +11.3	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'0 15'0 15'0 15'1 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'0 55'1 55'2 55'3 55'4 55'5								
	SHA 066° 065° 065° 065° 065° 065°		SHA 115° 115° 115° 115° 115° 115°		SHA 350° 348° 346° 344° 342° 340°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 08:49		Greenwich Culmination Time: 17:38								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	104 47.7 +00.9	N 03 08.7 +00.7	219 13.2 +01.9	S 21 53.1 +00.0	188 20.1 +02.1	S 22 21.2 +00.0	00						00
01	119 48.6 +00.9	N 03 09.4 +00.7	234 15.1 +01.9	S 21 53.1 +00.1	203 22.2 +02.2	S 22 21.2 -00.1	01						01
02	134 49.5 +01.0	N 03 10.1 +00.7	249 17.0 +02.0	S 21 53.2 +00.0	218 24.4 +02.1	S 22 21.1 +00.0	02						02
03	149 50.5 +00.9	N 03 10.8 +00.7	264 19.0 +01.9	S 21 53.2 +00.1	233 26.5 +02.2	S 22 21.1 +00.0	03						03
04	164 51.4 +00.9	N 03 11.5 +00.7	279 20.9 +01.9	S 21 53.3 +00.0	248 28.7 +02.1	S 22 21.1 +00.0	04						04
05	179 52.3 +00.9	N 03 12.2 +00.7	294 22.8 +02.0	S 21 53.3 +00.1	263 30.8 +02.2	S 22 21.1 -00.1	05						05
06	194 53.2 +01.0	N 03 12.9 +00.8	309 24.8 +01.9	S 21 53.4 +00.1	278 33.0 +02.1	S 22 21.0 +00.0	06						06
07	209 54.2 +00.9	N 03 13.7 +00.7	324 26.7 +01.9	S 21 53.5 +00.0	293 35.1 +02.1	S 22 21.0 +00.0	07						07
08	224 55.1 +00.9	N 03 14.4 +00.7	339 28.6 +02.0	S 21 53.5 +00.1	308 37.2 +02.2	S 22 21.0 +00.0	08						08
09	239 56.0 +00.9	N 03 15.1 +00.7	354 30.6 +01.9	S 21 53.6 +00.0	323 39.4 +02.1	S 22 21.0 -00.1	09						09
10	254 56.9 +01.0	N 03 15.8 +00.7	9 32.5 +01.9	S 21 53.6 +00.1	338 41.5 +02.2	S 22 20.9 +00.0	10						10
11	269 57.9 +00.9	N 03 16.5 +00.7	24 34.4 +02.0	S 21 53.7 +00.1	353 43.7 +02.1	S 22 20.9 +00.0	11						11
12	284 58.8 +00.9	N 03 17.2 +00.7	39 36.4 +01.9	S 21 53.8 +00.0	8 45.8 +02.2	S 22 20.9 -00.1	12						12
13	299 59.7 +00.9	N 03 17.9 +00.7	54 38.3 +01.9	S 21 53.8 +00.1	23 48.0 +02.1	S 22 20.8 +00.0	13						13
14	315 00.6 +01.0	N 03 18.6 +00.8	69 40.2 +02.0	S 21 53.9 +00.0	38 50.1 +02.2	S 22 20.8 +00.0	14						14
15	330 01.6 +00.9	N 03 19.4 +00.7	84 42.2 +01.9	S 21 53.9 +00.1	53 52.3 +02.1	S 22 20.8 +00.0	15						15
16	345 02.5 +00.9	N 03 20.1 +00.7	99 44.1 +01.9	S 21 54.0 +00.0	68 54.4 +02.2	S 22 20.8 -00.1	16						16
17	0 03.4 +01.0	N 03 20.8 +00.7	114 46.0 +02.0	S 21 54.0 +00.1	83 56.6 +02.1	S 22 20.7 +00.0	17						17
18	15 04.4 +00.9	N 03 21.5 +00.7	129 48.0 +01.9	S 21 54.1 +00.1	98 58.7 +02.2	S 22 20.7 +00.0	18						18
19	30 05.3 +00.9	N 03 22.2 +00.7	144 49.9 +01.9	S 21 54.2 +00.0	114 00.9 +02.1	S 22 20.7 +00.0	19						19
20	45 06.2 +00.9	N 03 22.9 +00.7	159 51.8 +02.0	S 21 54.2 +00.1	129 03.0 +02.2	S 22 20.7 -00.1	20						20
21	60 07.1 +01.0	N 03 23.6 +00.7	174 53.8 +01.9	S 21 54.3 +00.0	144 05.2 +02.1	S 22 20.6 +00.0	21						21
22	75 08.1 +00.9	N 03 24.3 +00.7	189 55.7 +01.9	S 21 54.3 +00.1	159 07.3 +02.2	S 22 20.6 +00.0	22						22
23	90 09.0 +00.9	N 03 25.0 +00.8	204 57.6 +02.0	S 21 54.4 +00.0	174 09.5 +02.1	S 22 20.6 +00.0	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 353° 352° 352° 352° 352° 352°		SHA 107° 107° 107° 107° 107° 107°		SHA 076° 076° 076° 076° 076° 076°								
	Greenwich Culmination Time: 16:59		Greenwich Culmination Time: 09:21		Greenwich Culmination Time: 11:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 48.2 -00.2	S 21 23.4 -00.5	227 35.3 -00.2	S 18 10.8 +00.5	92 28.1 -26.6	N 03 02.1 +11.3	00						
01	192 48.0 -00.2	S 21 22.9 -00.4	242 35.1 -00.3	S 18 11.3 +00.5	107 01.5 -26.6	N 03 13.4 +11.3	01						
02	207 47.8 -00.3	S 21 22.5 -00.4	257 34.8 -00.3	S 18 11.8 +00.5	121 34.9 -26.6	N 03 24.7 +11.4	02						
03	222 47.5 -00.2	S 21 22.1 -00.5	272 34.5 -00.3	S 18 12.3 +00.5	136 08.3 -26.6	N 03 36.1 +11.2	03						
04	237 47.3 -00.2	S 21 21.6 -00.4	287 34.2 -00.3	S 18 12.8 +00.5	150 41.7 -26.8	N 03 47.3 +11.3	04						
05	252 47.1 -00.3	S 21 21.2 -00.4	302 33.9 -00.3	S 18 13.3 +00.5	165 14.9 -26.7	N 03 58.6 +11.3	05						
06	267 46.8 -00.2	S 21 20.8 -00.5	317 33.6 -00.3	S 18 13.8 +00.5	179 48.2 -26.8	N 04 09.9 +11.3	06						
07	282 46.6 -00.2	S 21 20.3 -00.4	332 33.3 -00.2	S 18 14.3 +00.5	194 21.4 -26.9	N 04 21.2 +11.3	07						
08	297 46.4 -00.3	S 21 19.9 -00.5	347 33.1 -00.3	S 18 14.8 +00.5	208 54.5 -26.9	N 04 32.5 +11.3	08						
09	312 46.1 -00.2	S 21 19.4 -00.4	2 32.8 -00.3	S 18 15.3 +00.5	223 27.6 -26.9	N 04 43.8 +11.2	09						
10	327 45.9 -00.2	S 21 19.0 -00.4	17 32.5 -00.3	S 18 15.8 +00.4	238 00.7 -27.0	N 04 55.0 +11.3	10						
11	342 45.7 -00.2	S 21 18.6 -00.5	32 32.2 -00.3	S 18 16.2 +00.5	252 33.7 -27.1	N 05 06.3 +11.2	11						
12	357 45.5 -00.3	S 21 18.1 -00.4	47 31.9 -00.3	S 18 16.7 +00.5	267 06.6 -27.1	N 05 17.5 +11.3	12						
13	12 45.2 -00.2	S 21 17.7 -00.5	62 31.6 -00.3	S 18 17.2 +00.5	281 39.5 -27.1	N 05 28.8 +11.2	13						
14	27 45.0 -00.2	S 21 17.2 -00.4	77 31.3 -00.3	S 18 17.7 +00.5	296 12.4 -27.2	N 05 40.0 +11.2	14						
15	42 44.8 -00.2	S 21 16.8 -00.5	92 31.0 -00.3	S 18 18.2 +00.5	310 45.2 -27.3	N 05 51.2 +11.2	15						
16	57 44.6 -00.3	S 21 16.3 -00.4	107 30.7 -00.3	S 18 18.7 +00.5	325 17.9 -27.3	N 06 02.4 +11.2	16						
17	72 44.3 -00.2	S 21 15.9 -00.5	122 30.4 -00.3	S 18 19.2 +00.5	339 50.6 -27.4	N 06 13.6 +11.1	17						
18	87 44.1 -00.2	S 21 15.4 -00.4	137 30.1 -00.3	S 18 19.7 +00.5	354 23.2 -27.4	N 06 24.7 +11.2	18						
19	102 43.9 -00.3	S 21 15.0 -00.5	152 29.8 -00.3	S 18 20.2 +00.5	8 55.8 -27.5	N 06 35.9 +11.1	19						
20	117 43.6 -00.2	S 21 14.5 -00.4	167 29.5 -00.3	S 18 20.7 +00.5	23 28.3 -27.6	N 06 47.0 +11.2	20						
21	132 43.4 -00.2	S 21 14.1 -00.5	182 29.2 -00.3	S 18 21.2 +00.5	38 00.7 -27.6	N 06 58.2 +11.1	21						
22	147 43.2 -00.2	S 21 13.6 -00.4	197 28.9 -00.3	S 18 21.7 +00.4	52 33.1 -27.7	N 07 09.3 +11.1	22						
23	162 43.0 -00.3	S 21 13.2 -00.5	212 28.6 -00.3	S 18 22.1 +00.5	67 05.4 -27.7	N 07 20.4 +11.0	23						
UT	02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	UT	02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT	02 06 10 14 18 22	SD 15'2 15'2 15'2 15'3 15'3 15'3					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'6 55'8 55'9 56'0 56'1 56'3		HP 00'1 00'1 00'1 00'1 00'1 00'1						
	SHA 065° 064° 064° 064° 064° 064°		SHA 114° 114° 114° 114° 114° 113°		SHA 338° 336° 334° 332° 330° 328°		SHA 065° 064° 064° 064° 064° 064°						
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 08:49		Greenwich Culmination Time: 18:23								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	105 09.9 +00.9	N 03 25.8 +00.7	219 59.6 +01.9	S 21 54.4 +00.1	189 11.6 +02.2	S 22 20.6 -00.1	00						
01	120 10.8 +01.0	N 03 26.5 +00.7	235 01.5 +01.9	S 21 54.5 +00.1	204 13.8 +02.1	S 22 20.5 +00.0	01						
02	135 11.8 +00.9	N 03 27.2 +00.7	250 03.4 +02.0	S 21 54.6 +00.0	219 15.9 +02.2	S 22 20.5 +00.0	02						
03	150 12.7 +00.9	N 03 27.9 +00.7	265 05.4 +01.9	S 21 54.6 +00.1	234 18.1 +02.1	S 22 20.5 +00.0	03						
04	165 13.6 +00.9	N 03 28.6 +00.7	280 07.3 +02.0	S 21 54.7 +00.0	249 20.2 +02.2	S 22 20.5 -00.1	04						
05	180 14.5 +01.0	N 03 29.3 +00.7	295 09.3 +01.9	S 21 54.7 +00.1	264 22.4 +02.1	S 22 20.4 +00.0	05						
06	195 15.5 +00.9	N 03 30.0 +00.7	310 11.2 +01.9	S 21 54.8 +00.1	279 24.5 +02.2	S 22 20.4 +00.0	06						
07	210 16.4 +00.9	N 03 30.7 +00.7	325 13.1 +02.0	S 21 54.9 +00.0	294 26.7 +02.1	S 22 20.4 +00.0	07						
08	225 17.3 +00.9	N 03 31.4 +00.8	340 15.1 +01.9	S 21 54.9 +00.1	309 28.8 +02.2	S 22 20.4 -00.1	08						
09	240 18.2 +01.0	N 03 32.2 +00.7	355 17.0 +01.9	S 21 55.0 +00.0	324 31.0 +02.1	S 22 20.3 +00.0	09						
10	255 19.2 +00.9	N 03 32.9 +00.7	10 18.9 +02.0	S 21 55.0 +00.1	339 33.1 +02.2	S 22 20.3 +00.0	10						
11	270 20.1 +00.9	N 03 33.6 +00.7	25 20.9 +01.9	S 21 55.1 +00.0	354 35.3 +02.1	S 22 20.3 +00.0	11						
12	285 21.0 +00.9	N 03 34.3 +00.7	40 22.8 +01.9	S 21 55.1 +00.1	9 37.4 +02.2	S 22 20.3 -00.1	12						
13	300 21.9 +01.0	N 03 35.0 +00.7	55 24.7 +02.0	S 21 55.2 +00.1	24 39.6 +02.1	S 22 20.2 +00.0	13						
14	315 22.9 +00.9	N 03 35.7 +00.7	70 26.7 +01.9	S 21 55.3 +00.0	39 41.7 +02.2	S 22 20.2 +00.0	14						
15	330 23.8 +00.9	N 03 36.4 +00.7	85 28.6 +02.0	S 21 55.3 +00.1	54 43.9 +02.1	S 22 20.2 +00.0	15						
16	345 24.7 +00.9	N 03 37.1 +00.7	100 30.6 +01.9	S 21 55.4 +00.0	69 46.0 +02.2	S 22 20.2 -00.1	16						
17	0 25.6 +01.0	N 03 37.8 +00.7	115 32.5 +01.9	S 21 55.4 +00.1	84 48.2 +02.1	S 22 20.1 +00.0	17						
18	15 26.6 +00.9	N 03 38.5 +00.8	130 34.4 +02.0	S 21 55.5 +00.0	99 50.3 +02.2	S 22 20.1 +00.0	18						
19	30 27.5 +00.9	N 03 39.3 +00.7	145 36.4 +01.9	S 21 55.5 +00.1	114 52.5 +02.1	S 22 20.1 +00.0	19						
20	45 28.4 +00.9	N 03 40.0 +00.7	160 38.3 +02.0	S 21 55.6 +00.0	129 54.6 +02.2	S 22 20.1 -00.1	20						
21	60 29.3 +01.0	N 03 40.7 +00.7	175 40.3 +01.9	S 21 55.6 +00.1	144 56.8 +02.1	S 22 20.0 +00.0	21						
22	75 30.3 +00.9	N 03 41.4 +00.7	190 42.2 +01.9	S 21 55.7 +00.1	159 58.9 +02.2	S 22 20.0 +00.0	22						
23	90 31.2 +00.9	N 03 42.1 +00.7	205 44.1 +02.0	S 21 55.8 +00.0	175 01.1 +02.1	S 22 20.0 +00.0	23						
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'1 00'1 00'1 00'1 00'1 00'1						
	SHA 352° 352° 352° 352° 352° 351°		SHA 107° 107° 107° 107° 107° 107°		SHA 076° 076° 076° 076° 076° 076°		SHA 352° 352° 352° 352° 352° 351°						
	Greenwich Culmination Time: 16:58		Greenwich Culmination Time: 09:18		Greenwich Culmination Time: 11:21								

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	177 42.7 -00.2	S	21 12.7 -00.4	227 28.3 -00.3	S	18 22.6 +00.5	81 37.7 -27.8	N	07 31.4 +11.1	00							
01	192 42.5 -00.2	S	21 12.3 -00.5	242 28.0 -00.3	S	18 23.1 +00.5	96 09.9 -27.9	N	07 42.5 +11.0	01							
02	207 42.3 -00.2	S	21 11.8 -00.4	257 27.7 -00.3	S	18 23.6 +00.5	110 42.0 -27.9	N	07 53.5 +11.0	02							
03	222 42.1 -00.2	S	21 11.4 -00.5	272 27.4 -00.3	S	18 24.1 +00.5	125 14.1 -28.0	N	08 04.5 +11.0	03							
04	237 41.9 -00.3	S	21 10.9 -00.4	287 27.1 -00.3	S	18 24.6 +00.5	139 46.1 -28.1	N	08 15.5 +10.9	04							
05	252 41.6 -00.2	S	21 10.5 -00.5	302 26.8 -00.3	S	18 25.1 +00.4	154 18.0 -28.1	N	08 26.4 +11.0	05							
06	267 41.4 -00.2	S	21 10.0 -00.4	317 26.5 -00.3	S	18 25.5 +00.5	168 49.9 -28.2	N	08 37.4 +10.9	06							
07	282 41.2 -00.2	S	21 09.6 -00.5	332 26.2 -00.3	S	18 26.0 +00.5	183 21.7 -28.3	N	08 48.3 +10.8	07							
08	297 41.0 -00.3	S	21 09.1 -00.4	347 25.9 -00.3	S	18 26.5 +00.5	197 53.4 -28.4	N	08 59.1 +10.9	08							
09	312 40.7 -00.2	S	21 08.7 -00.5	2 25.6 -00.3	S	18 27.0 +00.5	212 25.0 -28.4	N	09 10.0 +10.8	09							
10	327 40.5 -00.2	S	21 08.2 -00.5	17 25.3 -00.3	S	18 27.5 +00.5	226 56.6 -28.5	N	09 20.8 +10.8	10							
11	342 40.3 -00.2	S	21 07.7 -00.4	32 25.0 -00.3	S	18 28.0 +00.4	241 28.1 -28.5	N	09 31.6 +10.8	11							
12	357 40.1 -00.2	S	21 07.3 -00.5	47 24.7 -00.3	S	18 28.4 +00.5	255 59.6 -28.7	N	09 42.4 +10.7	12							
13	12 39.9 -00.3	S	21 06.8 -00.4	62 24.4 -00.3	S	18 28.9 +00.5	270 30.9 -28.7	N	09 53.1 +10.7	13							
14	27 39.6 -00.2	S	21 06.4 -00.5	77 24.1 -00.3	S	18 29.4 +00.5	285 02.2 -28.8	N	10 03.8 +10.6	14							
15	42 39.4 -00.2	S	21 05.9 -00.5	92 23.8 -00.4	S	18 29.9 +00.5	299 33.4 -28.9	N	10 14.4 +10.7	15							
16	57 39.2 -00.2	S	21 05.4 -00.4	107 23.4 -00.3	S	18 30.4 +00.4	314 04.5 -28.9	N	10 25.1 +10.5	16							
17	72 39.0 -00.2	S	21 05.0 -00.5	122 23.1 -00.3	S	18 30.8 +00.5	328 35.6 -29.1	N	10 35.6 +10.6	17							
18	87 38.8 -00.3	S	21 04.5 -00.5	137 22.8 -00.3	S	18 31.3 +00.5	343 06.5 -29.1	N	10 46.2 +10.5	18							
19	102 38.5 -00.2	S	21 04.0 -00.4	152 22.5 -00.3	S	18 31.8 +00.5	357 37.4 -29.2	N	10 56.7 +10.5	19							
20	117 38.3 -00.2	S	21 03.6 -00.5	167 22.2 -00.3	S	18 32.3 +00.5	12 08.2 -29.3	N	11 07.2 +10.4	20							
21	132 38.1 -00.2	S	21 03.1 -00.4	182 21.9 -00.4	S	18 32.8 +00.4	26 38.9 -29.4	N	11 17.6 +10.4	21							
22	147 37.9 -00.2	S	21 02.7 -00.5	197 21.5 -00.3	S	18 33.2 +00.5	41 09.5 -29.4	N	11 28.0 +10.3	22							
23	162 37.7 -00.2	S	21 02.2 -00.5	212 21.2 -00.3	S	18 33.7 +00.5	55 40.1 -29.5	N	11 38.3 +10.3	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD			
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP			
SHA	063°	063°	063°	063°	063°	063°	SHA	113°	113°	113°	113°	112°	112°	SHA			
Greenwich Culmination Time: 12:09						Greenwich Culmination Time: 08:50						Greenwich Culmination Time: 19:09					

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	105 32.1 +00.9	N	03 42.8 +00.7	220 46.1 +01.9	S	21 55.8 +00.1	190 03.2 +02.2	S	22 20.0 -00.1	00							
01	120 33.0 +01.0	N	03 43.5 +00.7	235 48.0 +01.9	S	21 55.9 +00.0	205 05.4 +02.1	S	22 19.9 +00.0	01							
02	135 34.0 +00.9	N	03 44.2 +00.7	250 49.9 +02.0	S	21 55.9 +00.1	220 07.5 +02.2	S	22 19.9 +00.0	02							
03	150 34.9 +00.9	N	03 44.9 +00.7	265 51.9 +01.9	S	21 56.0 +00.0	235 09.7 +02.1	S	22 19.9 +00.0	03							
04	165 35.8 +00.9	N	03 45.6 +00.7	280 53.8 +02.0	S	21 56.0 +00.1	250 11.8 +02.2	S	22 19.9 -00.1	04							
05	180 36.7 +01.0	N	03 46.3 +00.8	295 55.8 +01.9	S	21 56.1 +00.1	265 14.0 +02.1	S	22 19.8 +00.0	05							
06	195 37.7 +00.9	N	03 47.1 +00.7	310 57.7 +01.9	S	21 56.2 +00.0	280 16.1 +02.2	S	22 19.8 +00.0	06							
07	210 38.6 +00.9	N	03 47.8 +00.7	325 59.6 +02.0	S	21 56.2 +00.1	295 18.3 +02.1	S	22 19.8 -00.1	07							
08	225 39.5 +00.9	N	03 48.5 +00.7	341 01.6 +01.9	S	21 56.3 +00.0	310 20.4 +02.2	S	22 19.7 +00.0	08							
09	240 40.4 +00.9	N	03 49.2 +00.7	356 03.5 +02.0	S	21 56.3 +00.1	325 22.6 +02.1	S	22 19.7 +00.0	09							
10	255 41.3 +01.0	N	03 49.9 +00.7	11 05.5 +01.9	S	21 56.4 +00.0	340 24.7 +02.2	S	22 19.7 +00.0	10							
11	270 42.3 +00.9	N	03 50.6 +00.7	26 07.4 +01.9	S	21 56.4 +00.1	355 26.9 +02.1	S	22 19.7 -00.1	11							
12	285 43.2 +00.9	N	03 51.3 +00.7	41 09.3 +02.0	S	21 56.5 +00.0	10 29.0 +02.2	S	22 19.6 +00.0	12							
13	300 44.1 +00.9	N	03 52.0 +00.7	56 11.3 +01.9	S	21 56.5 +00.1	25 31.2 +02.1	S	22 19.6 +00.0	13							
14	315 45.0 +01.0	N	03 52.7 +00.7	71 13.2 +02.0	S	21 56.6 +00.1	40 33.3 +02.2	S	22 19.6 +00.0	14							
15	330 46.0 +00.9	N	03 53.4 +00.7	86 15.2 +01.9	S	21 56.7 +00.0	55 35.5 +02.1	S	22 19.6 -00.1	15							
16	345 46.9 +00.9	N	03 54.1 +00.8	101 17.1 +01.9	S	21 56.7 +00.1	70 37.6 +02.2	S	22 19.5 +00.0	16							
17	0 47.8 +00.9	N	03 54.9 +00.7	116 19.0 +02.0	S	21 56.8 +00.0	85 39.8 +02.1	S	22 19.5 +00.0	17							
18	15 48.7 +01.0	N	03 55.6 +00.7	131 21.0 +01.9	S	21 56.8 +00.1	100 41.9 +02.2	S	22 19.5 +00.0	18							
19	30 49.7 +00.9	N	03 56.3 +00.7	146 22.9 +02.0	S	21 56.9 +00.0	115 44.1 +02.1	S	22 19.5 -00.1	19							
20	45 50.6 +00.9	N	03 57.0 +00.7	161 24.9 +01.9	S	21 56.9 +00.1	130 46.2 +02.2	S	22 19.4 +00.0	20							
21	60 51.5 +00.9	N	03 57.7 +00.7	176 26.8 +01.9	S	21 57.0 +00.0	145 48.4 +02.1	S	22 19.4 +00.0	21							
22	75 52.4 +00.9	N	03 58.4 +00.7	191 28.7 +02.0	S	21 57.0 +00.1	160 50.5 +02.2	S	22 19.4 +00.0	22							
23	90 53.3 +01.0	N	03 59.1 +00.7	206 30.7 +01.9	S	21 57.1 +00.1	175 52.7 +02.1	S	22 19.4 -00.1	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD			
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP			
SHA	351°	351°	351°	351°	351°	351°	SHA	107°	107°	107°	106°	106°	106°	SHA			
Greenwich Culmination Time: 16:56						Greenwich Culmination Time: 09:15						Greenwich Culmination Time: 11:18					

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 37.5 -00.3	S	21 01.7 -00.4	227 20.9 -00.3	S	18 34.2 +00.5	70 10.6 -29.7	N	11 48.6 +10.3	00										
01	192 37.2 -00.2	S	21 01.3 -00.5	242 20.6 -00.3	S	18 34.7 +00.4	84 40.9 -29.7	N	11 58.9 +10.2	01										
02	207 37.0 -00.2	S	21 00.8 -00.5	257 20.3 -00.3	S	18 35.1 +00.5	99 11.2 -29.8	N	12 09.1 +10.2	02										
03	222 36.8 -00.2	S	21 00.3 -00.5	272 20.0 -00.4	S	18 35.6 +00.5	113 41.4 -29.8	N	12 19.3 +10.1	03										
04	237 36.6 -00.2	S	20 59.8 -00.4	287 19.6 -00.3	S	18 36.1 +00.5	128 11.6 -30.0	N	12 29.4 +10.1	04										
05	252 36.4 -00.2	S	20 59.4 -00.5	302 19.3 -00.3	S	18 36.6 +00.4	142 41.6 -30.1	N	12 39.5 +10.0	05										
06	267 36.2 -00.3	S	20 58.9 -00.5	317 19.0 -00.3	S	18 37.0 +00.5	157 11.5 -30.1	N	12 49.5 +09.9	06										
07	282 35.9 -00.2	S	20 58.4 -00.4	332 18.7 -00.4	S	18 37.5 +00.5	171 41.4 -30.3	N	12 59.4 +09.9	07										
08	297 35.7 -00.2	S	20 58.0 -00.5	347 18.3 -00.3	S	18 38.0 +00.4	186 11.1 -30.3	N	13 09.3 +09.9	08										
09	312 35.5 -00.2	S	20 57.5 -00.5	2 18.0 -00.3	S	18 38.4 +00.5	200 40.8 -30.4	N	13 19.2 +09.8	09										
10	327 35.3 -00.2	S	20 57.0 -00.5	17 17.7 -00.3	S	18 38.9 +00.5	215 10.4 -30.5	N	13 29.0 +09.7	10										
11	342 35.1 -00.2	S	20 56.5 -00.4	32 17.4 -00.4	S	18 39.4 +00.5	229 39.9 -30.6	N	13 38.7 +09.7	11										
12	357 34.9 -00.2	S	20 56.1 -00.5	47 17.0 -00.3	S	18 39.9 +00.4	244 09.3 -30.8	N	13 48.4 +09.6	12										
13	12 34.7 -00.3	S	20 55.6 -00.5	62 16.7 -00.3	S	18 40.3 +00.5	258 38.5 -30.8	N	13 58.0 +09.6	13										
14	27 34.4 -00.2	S	20 55.1 -00.5	77 16.4 -00.4	S	18 40.8 +00.5	273 07.7 -30.9	N	14 07.6 +09.5	14										
15	42 34.2 -00.2	S	20 54.6 -00.5	92 16.0 -00.3	S	18 41.3 +00.4	287 36.8 -30.9	N	14 17.1 +09.4	15										
16	57 34.0 -00.2	S	20 54.1 -00.4	107 15.7 -00.3	S	18 41.7 +00.5	302 05.9 -31.1	N	14 26.5 +09.4	16										
17	72 33.8 -00.2	S	20 53.7 -00.5	122 15.4 -00.4	S	18 42.2 +00.5	316 34.8 -31.2	N	14 35.9 +09.3	17										
18	87 33.6 -00.2	S	20 53.2 -00.5	137 15.0 -00.3	S	18 42.7 +00.4	331 03.6 -31.3	N	14 45.2 +09.2	18										
19	102 33.4 -00.2	S	20 52.7 -00.5	152 14.7 -00.3	S	18 43.1 +00.5	345 32.3 -31.4	N	14 54.4 +09.2	19										
20	117 33.2 -00.2	S	20 52.2 -00.5	167 14.4 -00.4	S	18 43.6 +00.5	0 00.9 -31.5	N	15 03.6 +09.1	20										
21	132 33.0 -00.3	S	20 51.7 -00.4	182 14.0 -00.3	S	18 44.1 +00.4	14 29.4 -31.6	N	15 12.7 +09.0	21										
22	147 32.7 -00.2	S	20 51.3 -00.5	197 13.7 -00.3	S	18 44.5 +00.5	28 57.8 -31.6	N	15 21.7 +09.0	22										
23	162 32.5 -00.2	S	20 50.8 -00.5	212 13.4 -00.4	S	18 45.0 +00.4	43 26.2 -31.8	N	15 30.7 +08.8	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP						
SHA	062°	062°	062°	062°	062°	062°	SHA	112°	112°	112°	112°	111°	111°	SHA						
Greenwich Culmination Time: 12:09							Greenwich Culmination Time: 08:50							Greenwich Culmination Time: 19:59						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	105 54.3 +00.9	N	03 59.8 +00.7	221 32.6 +02.0	S	21 57.2 +00.0	190 54.8 +02.2	S	22 19.3 +00.0	00										
01	120 55.2 +00.9	N	04 00.5 +00.7	236 34.6 +01.9	S	21 57.2 +00.1	205 57.0 +02.1	S	22 19.3 +00.0	01										
02	135 56.1 +00.9	N	04 01.2 +00.7	251 36.5 +02.0	S	21 57.3 +00.0	220 59.1 +02.2	S	22 19.3 +00.0	02										
03	150 57.0 +01.0	N	04 01.9 +00.7	266 38.5 +01.9	S	21 57.3 +00.1	236 01.3 +02.1	S	22 19.3 -00.1	03										
04	165 58.0 +00.9	N	04 02.6 +00.8	281 40.4 +01.9	S	21 57.4 +00.0	251 03.4 +02.2	S	22 19.2 +00.0	04										
05	180 58.9 +00.9	N	04 03.4 +00.7	296 42.3 +02.0	S	21 57.4 +00.1	266 05.6 +02.1	S	22 19.2 +00.0	05										
06	195 59.8 +00.9	N	04 04.1 +00.7	311 44.3 +01.9	S	21 57.5 +00.0	281 07.7 +02.2	S	22 19.2 +00.0	06										
07	211 00.7 +00.9	N	04 04.8 +00.7	326 46.2 +02.0	S	21 57.5 +00.1	296 09.9 +02.1	S	22 19.2 -00.1	07										
08	226 01.6 +01.0	N	04 05.5 +00.7	341 48.2 +01.9	S	21 57.6 +00.1	311 12.0 +02.2	S	22 19.1 +00.0	08										
09	241 02.6 +00.9	N	04 06.2 +00.7	356 50.1 +02.0	S	21 57.7 +00.0	326 14.2 +02.2	S	22 19.1 +00.0	09										
10	256 03.5 +00.9	N	04 06.9 +00.7	11 52.1 +01.9	S	21 57.7 +00.1	341 16.4 +02.1	S	22 19.1 -00.1	10										
11	271 04.4 +00.9	N	04 07.6 +00.7	26 54.0 +01.9	S	21 57.8 +00.0	356 18.5 +02.2	S	22 19.0 +00.0	11										
12	286 05.3 +01.0	N	04 08.3 +00.7	41 55.9 +02.0	S	21 57.8 +00.1	11 20.7 +02.1	S	22 19.0 +00.0	12										
13	301 06.3 +00.9	N	04 09.0 +00.7	56 57.9 +01.9	S	21 57.9 +00.0	26 22.8 +02.2	S	22 19.0 +00.0	13										
14	316 07.2 +00.9	N	04 09.7 +00.7	71 59.8 +02.0	S	21 57.9 +00.1	41 25.0 +02.1	S	22 19.0 -00.1	14										
15	331 08.1 +00.9	N	04 10.4 +00.7	87 01.8 +01.9	S	21 58.0 +00.0	56 27.1 +02.2	S	22 18.9 +00.0	15										
16	346 09.0 +00.9	N	04 11.1 +00.7	102 03.7 +02.0	S	21 58.0 +00.1	71 29.3 +02.1	S	22 18.9 +00.0	16										
17	1 09.9 +01.0	N	04 11.8 +00.8	117 05.7 +01.9	S	21 58.1 +00.0	86 31.4 +02.2	S	22 18.9 +00.0	17										
18	16 10.9 +00.9	N	04 12.6 +00.7	132 07.6 +01.9	S	21 58.1 +00.1	101 33.6 +02.1	S	22 18.9 -00.1	18										
19	31 11.8 +00.9	N	04 13.3 +00.7	147 09.5 +02.0	S	21 58.2 +00.1	116 35.7 +02.2	S	22 18.8 +00.0	19										
20	46 12.7 +00.9	N	04 14.0 +00.7	162 11.5 +01.9	S	21 58.3 +00.0	131 37.9 +02.1	S	22 18.8 +00.0	20										
21	61 13.6 +00.9	N	04 14.7 +00.7	177 13.4 +02.0	S	21 58.3 +00.1	146 40.0 +02.2	S	22 18.8 +00.0	21										
22	76 14.5 +01.0	N	04 15.4 +00.7	192 15.4 +01.9	S	21 58.4 +00.0	161 42.2 +02.1	S	22 18.8 -00.1	22										
23	91 15.5 +00.9	N	04 16.1 +00.7	207 17.3 +02.0	S	21 58.4 +00.1	176 44.3 +02.2	S	22 18.7 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP						
SHA	351°	351°	351°	350°	350°	350°	SHA	106°	106°	106°	106°	106°	106°	SHA						
Greenwich Culmination Time: 16:55							Greenwich Culmination Time: 09:12							Greenwich Culmination Time: 11:14						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 32.3 -00.2	S 20 50.3 -00.5	227 13.0 -00.3	S 18 45.4 +00.5	57 54.4 -31.9	N 15 39.5 +08.8	00						
01	192 32.1 -00.2	S 20 49.8 -00.5	242 12.7 -00.3	S 18 45.9 +00.5	72 22.5 -32.0	N 15 48.3 +08.8	01						
02	207 31.9 -00.2	S 20 49.3 -00.5	257 12.4 -00.4	S 18 46.4 +00.4	86 50.5 -32.1	N 15 57.1 +08.6	02						
03	222 31.7 -00.2	S 20 48.8 -00.5	272 12.0 -00.3	S 18 46.8 +00.5	101 18.4 -32.1	N 16 05.7 +08.6	03						
04	237 31.5 -00.2	S 20 48.3 -00.4	287 11.7 -00.4	S 18 47.3 +00.5	115 46.3 -32.3	N 16 14.3 +08.5	04						
05	252 31.3 -00.2	S 20 47.9 -00.5	302 11.3 -00.3	S 18 47.8 +00.4	130 14.0 -32.4	N 16 22.8 +08.4	05						
06	267 31.1 -00.2	S 20 47.4 -00.5	317 11.0 -00.3	S 18 48.2 +00.5	144 41.6 -32.5	N 16 31.2 +08.3	06						
07	282 30.9 -00.2	S 20 46.9 -00.5	332 10.7 -00.4	S 18 48.7 +00.4	159 09.1 -32.6	N 16 39.5 +08.2	07						
08	297 30.7 -00.2	S 20 46.4 -00.5	347 10.3 -00.3	S 18 49.1 +00.5	173 36.5 -32.7	N 16 47.7 +08.2	08						
09	312 30.5 -00.3	S 20 45.9 -00.5	2 10.0 -00.4	S 18 49.6 +00.4	188 03.8 -32.8	N 16 55.9 +08.0	09						
10	327 30.2 -00.2	S 20 45.4 -00.5	17 09.6 -00.3	S 18 50.0 +00.5	202 31.0 -32.9	N 17 03.9 +08.0	10						
11	342 30.0 -00.2	S 20 44.9 -00.5	32 09.3 -00.4	S 18 50.5 +00.5	216 58.1 -33.0	N 17 11.9 +07.8	11						
12	357 29.8 -00.2	S 20 44.4 -00.5	47 08.9 -00.3	S 18 51.0 +00.4	231 25.1 -33.1	N 17 19.7 +07.8	12						
13	12 29.6 -00.2	S 20 43.9 -00.5	62 08.6 -00.4	S 18 51.4 +00.5	245 52.0 -33.2	N 17 27.5 +07.7	13						
14	27 29.4 -00.2	S 20 43.4 -00.5	77 08.2 -00.3	S 18 51.9 +00.4	260 18.8 -33.3	N 17 35.2 +07.6	14						
15	42 29.2 -00.2	S 20 42.9 -00.4	92 07.9 -00.4	S 18 52.3 +00.5	274 45.5 -33.4	N 17 42.8 +07.5	15						
16	57 29.0 -00.2	S 20 42.5 -00.5	107 07.5 -00.3	S 18 52.8 +00.4	289 12.1 -33.5	N 17 50.3 +07.4	16						
17	72 28.8 -00.2	S 20 42.0 -00.5	122 07.2 -00.4	S 18 53.2 +00.5	303 38.6 -33.6	N 17 57.7 +07.3	17						
18	87 28.6 -00.2	S 20 41.5 -00.5	137 06.8 -00.3	S 18 53.7 +00.4	318 05.0 -33.7	N 18 05.0 +07.2	18						
19	102 28.4 -00.2	S 20 41.0 -00.5	152 06.5 -00.4	S 18 54.1 +00.5	332 31.3 -33.8	N 18 12.2 +07.1	19						
20	117 28.2 -00.2	S 20 40.5 -00.5	167 06.1 -00.3	S 18 54.6 +00.4	346 57.5 -34.0	N 18 19.3 +07.0	20						
21	132 28.0 -00.2	S 20 40.0 -00.5	182 05.8 -00.4	S 18 55.0 +00.5	1 23.5 -34.0	N 18 26.3 +06.8	21						
22	147 27.8 -00.2	S 20 39.5 -00.5	197 05.4 -00.3	S 18 55.5 +00.4	15 49.5 -34.1	N 18 33.1 +06.8	22						
23	162 27.6 -00.2	S 20 39.0 -00.5	212 05.1 -00.4	S 18 55.9 +00.5	30 15.4 -34.2	N 18 39.9 +06.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'9 15'9 16'0 16'0 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'3 58'5 58'6 58'8 58'9 59'1								
	SHA 061° 061° 061° 061° 061° 060°		SHA 111° 111° 111° 110° 110° 110°		SHA 301° 298° 296° 294° 291° 289°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 08:51		Greenwich Culmination Time: 20:54								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 16.4 +00.9	N 04 16.8 +00.7	222 19.3 +01.9	S 21 58.5 +00.0	191 46.5 +02.1	S 22 18.7 +00.0	00						
01	121 17.3 +00.9	N 04 17.5 +00.7	237 21.2 +02.0	S 21 58.5 +00.1	206 48.6 +02.2	S 22 18.7 +00.0	01						
02	136 18.2 +01.0	N 04 18.2 +00.7	252 23.2 +01.9	S 21 58.6 +00.0	221 50.8 +02.1	S 22 18.7 -00.1	02						
03	151 19.2 +00.9	N 04 18.9 +00.7	267 25.1 +01.9	S 21 58.6 +00.1	236 52.9 +02.2	S 22 18.6 +00.0	03						
04	166 20.1 +00.9	N 04 19.6 +00.7	282 27.0 +02.0	S 21 58.7 +00.0	251 55.1 +02.1	S 22 18.6 +00.0	04						
05	181 21.0 +00.9	N 04 20.3 +00.7	297 29.0 +01.9	S 21 58.7 +00.1	266 57.2 +02.2	S 22 18.6 +00.0	05						
06	196 21.9 +00.9	N 04 21.0 +00.7	312 30.9 +02.0	S 21 58.8 +00.1	281 59.4 +02.1	S 22 18.6 -00.1	06						
07	211 22.8 +01.0	N 04 21.7 +00.7	327 32.9 +01.9	S 21 58.9 +00.0	297 01.5 +02.2	S 22 18.5 +00.0	07						
08	226 23.8 +00.9	N 04 22.4 +00.7	342 34.8 +02.0	S 21 58.9 +00.1	312 03.7 +02.1	S 22 18.5 +00.0	08						
09	241 24.7 +00.9	N 04 23.1 +00.8	357 36.8 +01.9	S 21 59.0 +00.0	327 05.8 +02.2	S 22 18.5 -00.1	09						
10	256 25.6 +00.9	N 04 23.9 +00.7	12 38.7 +02.0	S 21 59.0 +00.1	342 08.0 +02.1	S 22 18.4 +00.0	10						
11	271 26.5 +00.9	N 04 24.6 +00.7	27 40.7 +01.9	S 21 59.1 +00.0	357 10.1 +02.2	S 22 18.4 +00.0	11						
12	286 27.4 +01.0	N 04 25.3 +00.7	42 42.6 +02.0	S 21 59.1 +00.1	12 12.3 +02.1	S 22 18.4 +00.0	12						
13	301 28.4 +00.9	N 04 26.0 +00.7	57 44.6 +01.9	S 21 59.2 +00.0	27 14.4 +02.2	S 22 18.4 -00.1	13						
14	316 29.3 +00.9	N 04 26.7 +00.7	72 46.5 +01.9	S 21 59.2 +00.1	42 16.6 +02.2	S 22 18.3 +00.0	14						
15	331 30.2 +00.9	N 04 27.4 +00.7	87 48.4 +02.0	S 21 59.3 +00.0	57 18.8 +02.1	S 22 18.3 +00.0	15						
16	346 31.1 +00.9	N 04 28.1 +00.7	102 50.4 +01.9	S 21 59.3 +00.1	72 20.9 +02.2	S 22 18.3 +00.0	16						
17	1 32.0 +01.0	N 04 28.8 +00.7	117 52.3 +02.0	S 21 59.4 +00.0	87 23.1 +02.1	S 22 18.3 -00.1	17						
18	16 33.0 +00.9	N 04 29.5 +00.7	132 54.3 +01.9	S 21 59.4 +00.1	102 25.2 +02.2	S 22 18.2 +00.0	18						
19	31 33.9 +00.9	N 04 30.2 +00.7	147 56.2 +02.0	S 21 59.5 +00.1	117 27.4 +02.1	S 22 18.2 +00.0	19						
20	46 34.8 +00.9	N 04 30.9 +00.7	162 58.2 +01.9	S 21 59.6 +00.0	132 29.5 +02.2	S 22 18.2 +00.0	20						
21	61 35.7 +00.9	N 04 31.6 +00.7	178 00.1 +02.0	S 21 59.6 +00.1	147 31.7 +02.1	S 22 18.2 -00.1	21						
22	76 36.6 +01.0	N 04 32.3 +00.7	193 02.1 +01.9	S 21 59.7 +00.0	162 33.8 +02.2	S 22 18.1 +00.0	22						
23	91 37.6 +00.9	N 04 33.0 +00.7	208 04.0 +02.0	S 21 59.7 +00.1	177 36.0 +02.1	S 22 18.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 350° 350° 350° 350° 350° 350°		SHA 106° 106° 106° 106° 106° 106°		SHA 076° 076° 076° 076° 076° 076°								
	Greenwich Culmination Time: 16:53		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 11:11								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 27.4 -00.2	S 20 38.5 -00.5	227 04.7 -00.3	S 18 56.4 +00.4	44 41.2 -34.3	N 18 46.6 +06.5	00						
01	192 27.2 -00.2	S 20 38.0 -00.5	242 04.4 -00.4	S 18 56.8 +00.5	59 06.9 -34.5	N 18 53.1 +06.5	01						
02	207 27.0 -00.2	S 20 37.5 -00.5	257 04.0 -00.3	S 18 57.3 +00.4	73 32.4 -34.5	N 18 59.6 +06.3	02						
03	222 26.8 -00.2	S 20 37.0 -00.5	272 03.7 -00.4	S 18 57.7 +00.5	87 57.9 -34.6	N 19 05.9 +06.2	03						
04	237 26.6 -00.2	S 20 36.5 -00.5	287 03.3 -00.4	S 18 58.2 +00.4	102 23.3 -34.7	N 19 12.1 +06.1	04						
05	252 26.4 -00.2	S 20 36.0 -00.6	302 02.9 -00.3	S 18 58.6 +00.5	116 48.6 -34.8	N 19 18.2 +06.0	05						
06	267 26.2 -00.2	S 20 35.4 -00.5	317 02.6 -00.4	S 18 59.1 +00.4	131 13.8 -34.9	N 19 24.2 +05.9	06						
07	282 26.0 -00.2	S 20 34.9 -00.5	332 02.2 -00.3	S 18 59.5 +00.5	145 38.9 -35.0	N 19 30.1 +05.7	07						
08	297 25.8 -00.2	S 20 34.4 -00.5	347 01.9 -00.4	S 18 60.0 +00.4	160 03.9 -35.1	N 19 35.8 +05.6	08						
09	312 25.6 -00.2	S 20 33.9 -00.5	2 01.5 -00.4	S 19 00.4 +00.5	174 28.8 -35.2	N 19 41.4 +05.5	09						
10	327 25.4 -00.2	S 20 33.4 -00.5	17 01.1 -00.3	S 19 00.9 +00.4	188 53.6 -35.3	N 19 46.9 +05.4	10						
11	342 25.2 -00.2	S 20 32.9 -00.5	32 00.8 -00.4	S 19 01.3 +00.4	203 18.3 -35.4	N 19 52.3 +05.2	11						
12	357 25.0 -00.2	S 20 32.4 -00.5	47 00.4 -00.3	S 19 01.7 +00.5	217 42.9 -35.4	N 19 57.5 +05.2	12						
13	12 24.8 -00.2	S 20 31.9 -00.5	62 00.1 -00.4	S 19 02.2 +00.4	232 07.5 -35.6	N 20 02.7 +04.9	13						
14	27 24.6 -00.2	S 20 31.4 -00.5	76 59.7 -00.4	S 19 02.6 +00.5	246 31.9 -35.7	N 20 07.6 +04.9	14						
15	42 24.4 -00.2	S 20 30.9 -00.5	91 59.3 -00.3	S 19 03.1 +00.4	260 56.2 -35.7	N 20 12.5 +04.7	15						
16	57 24.2 -00.2	S 20 30.4 -00.5	106 59.0 -00.4	S 19 03.5 +00.5	275 20.5 -35.8	N 20 17.2 +04.6	16						
17	72 24.0 -00.2	S 20 29.9 -00.6	121 58.6 -00.4	S 19 04.0 +00.4	289 44.7 -35.9	N 20 21.8 +04.5	17						
18	87 23.8 -00.2	S 20 29.3 -00.5	136 58.2 -00.3	S 19 04.4 +00.4	304 08.8 -36.0	N 20 26.3 +04.3	18						
19	102 23.6 -00.2	S 20 28.8 -00.5	151 57.9 -00.4	S 19 04.8 +00.5	318 32.8 -36.1	N 20 30.6 +04.2	19						
20	117 23.4 -00.2	S 20 28.3 -00.5	166 57.5 -00.4	S 19 05.3 +00.4	332 56.7 -36.2	N 20 34.8 +04.1	20						
21	132 23.2 -00.2	S 20 27.8 -00.5	181 57.1 -00.3	S 19 05.7 +00.4	347 20.5 -36.2	N 20 38.9 +03.9	21						
22	147 23.0 -00.2	S 20 27.3 -00.5	196 56.8 -00.4	S 19 06.1 +00.5	1 44.3 -36.3	N 20 42.8 +03.8	22						
23	162 22.8 -00.2	S 20 26.8 -00.6	211 56.4 -00.4	S 19 06.6 +00.4	16 08.0 -36.4	N 20 46.6 +03.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'1 16'2 16'2 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'3 59'4 59'6 59'7 59'9 60'0								
	SHA 060° 060° 060° 060° 060° 059°		SHA 110° 110° 109° 109° 109° 109°		SHA 286° 284° 281° 279° 276° 274°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 08:51		Greenwich Culmination Time: 21:52								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 38.5 +00.9	N 04 33.7 +00.7	223 06.0 +01.9	S 21 59.8 +00.0	192 38.1 +02.2	S 22 18.1 +00.0	00						
01	121 39.4 +00.9	N 04 34.4 +00.7	238 07.9 +02.0	S 21 59.8 +00.1	207 40.3 +02.1	S 22 18.1 -00.1	01						
02	136 40.3 +00.9	N 04 35.1 +00.7	253 09.9 +01.9	S 21 59.9 +00.0	222 42.4 +02.2	S 22 18.0 +00.0	02						
03	151 41.2 +01.0	N 04 35.8 +00.7	268 11.8 +02.0	S 21 59.9 +00.1	237 44.6 +02.1	S 22 18.0 +00.0	03						
04	166 42.2 +00.9	N 04 36.5 +00.8	283 13.8 +01.9	S 21 60.0 +00.0	252 46.7 +02.2	S 22 18.0 -00.1	04						
05	181 43.1 +00.9	N 04 37.3 +00.7	298 15.7 +02.0	S 22 00.0 +00.1	267 48.9 +02.1	S 22 17.9 +00.0	05						
06	196 44.0 +00.9	N 04 38.0 +00.7	313 17.7 +01.9	S 22 00.1 +00.0	282 51.0 +02.2	S 22 17.9 +00.0	06						
07	211 44.9 +00.9	N 04 38.7 +00.7	328 19.6 +02.0	S 22 00.1 +00.1	297 53.2 +02.1	S 22 17.9 +00.0	07						
08	226 45.8 +00.9	N 04 39.4 +00.7	343 21.6 +01.9	S 22 00.2 +00.0	312 55.3 +02.2	S 22 17.9 -00.1	08						
09	241 46.7 +01.0	N 04 40.1 +00.7	358 23.5 +02.0	S 22 00.2 +00.1	327 57.5 +02.1	S 22 17.8 +00.0	09						
10	256 47.7 +00.9	N 04 40.8 +00.7	13 25.5 +01.9	S 22 00.3 +00.1	342 59.6 +02.2	S 22 17.8 +00.0	10						
11	271 48.6 +00.9	N 04 41.5 +00.7	28 27.4 +02.0	S 22 00.4 +00.0	358 01.8 +02.2	S 22 17.8 +00.0	11						
12	286 49.5 +00.9	N 04 42.2 +00.7	43 29.4 +01.9	S 22 00.4 +00.1	13 04.0 +02.1	S 22 17.8 -00.1	12						
13	301 50.4 +00.9	N 04 42.9 +00.7	58 31.3 +02.0	S 22 00.5 +00.0	28 06.1 +02.2	S 22 17.7 +00.0	13						
14	316 51.3 +01.0	N 04 43.6 +00.7	73 33.3 +01.9	S 22 00.5 +00.1	43 08.3 +02.1	S 22 17.7 +00.0	14						
15	331 52.3 +00.9	N 04 44.3 +00.7	88 35.2 +02.0	S 22 00.6 +00.0	58 10.4 +02.2	S 22 17.7 +00.0	15						
16	346 53.2 +00.9	N 04 45.0 +00.7	103 37.2 +01.9	S 22 00.6 +00.1	73 12.6 +02.1	S 22 17.7 -00.1	16						
17	1 54.1 +00.9	N 04 45.7 +00.7	118 39.1 +02.0	S 22 00.7 +00.0	88 14.7 +02.2	S 22 17.6 +00.0	17						
18	16 55.0 +00.9	N 04 46.4 +00.7	133 41.1 +01.9	S 22 00.7 +00.1	103 16.9 +02.1	S 22 17.6 +00.0	18						
19	31 55.9 +01.0	N 04 47.1 +00.7	148 43.0 +02.0	S 22 00.8 +00.0	118 19.0 +02.2	S 22 17.6 +00.0	19						
20	46 56.9 +00.9	N 04 47.8 +00.7	163 45.0 +01.9	S 22 00.8 +00.1	133 21.2 +02.1	S 22 17.6 -00.1	20						
21	61 57.8 +00.9	N 04 48.5 +00.7	178 46.9 +02.0	S 22 00.9 +00.0	148 23.3 +02.2	S 22 17.5 +00.0	21						
22	76 58.7 +00.9	N 04 49.2 +00.7	193 48.9 +01.9	S 22 00.9 +00.1	163 25.5 +02.1	S 22 17.5 +00.0	22						
23	91 59.6 +00.9	N 04 49.9 +00.7	208 50.8 +02.0	S 22 01.0 +00.0	178 27.6 +02.2	S 22 17.5 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 349° 349° 349° 349° 349° 349°		SHA 106° 106° 106° 106° 106° 106°		SHA 076° 075° 075° 075° 075° 075°								
	Greenwich Culmination Time: 16:52		Greenwich Culmination Time: 09:06		Greenwich Culmination Time: 11:07								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 22.6 -00.2	S 20 26.2 -00.5	226 56.0 -00.4	S 19 07.0 +00.4	30 31.6 -36.5	N 20 50.2 +03.5	00						
01	192 22.4 -00.2	S 20 25.7 -00.5	241 55.6 -00.3	S 19 07.4 +00.5	44 55.1 -36.6	N 20 53.7 +03.3	01						
02	207 22.2 -00.2	S 20 25.2 -00.5	256 55.3 -00.4	S 19 07.9 +00.4	59 18.5 -36.6	N 20 57.0 +03.3	02						
03	222 22.0 -00.2	S 20 24.7 -00.5	271 54.9 -00.4	S 19 08.3 +00.4	73 41.9 -36.7	N 21 00.3 +03.0	03						
04	237 21.8 -00.1	S 20 24.2 -00.5	286 54.5 -00.4	S 19 08.7 +00.5	88 05.2 -36.8	N 21 03.3 +02.9	04						
05	252 21.7 -00.2	S 20 23.7 -00.6	301 54.1 -00.3	S 19 09.2 +00.4	102 28.4 -36.8	N 21 06.2 +02.8	05						
06	267 21.5 -00.2	S 20 23.1 -00.5	316 53.8 -00.4	S 19 09.6 +00.4	116 51.6 -36.9	N 21 09.0 +02.6	06						
07	282 21.3 -00.2	S 20 22.6 -00.5	331 53.4 -00.4	S 19 10.0 +00.5	131 14.7 -37.0	N 21 11.6 +02.5	07						
08	297 21.1 -00.2	S 20 22.1 -00.5	346 53.0 -00.4	S 19 10.5 +00.4	145 37.7 -37.0	N 21 14.1 +02.3	08						
09	312 20.9 -00.2	S 20 21.6 -00.6	1 52.6 -00.3	S 19 10.9 +00.4	160 00.7 -37.1	N 21 16.4 +02.2	09						
10	327 20.7 -00.2	S 20 21.0 -00.5	16 52.3 -00.4	S 19 11.3 +00.5	174 23.6 -37.2	N 21 18.6 +02.0	10						
11	342 20.5 -00.2	S 20 20.5 -00.5	31 51.9 -00.4	S 19 11.8 +00.4	188 46.4 -37.2	N 21 20.6 +01.8	11						
12	357 20.3 -00.2	S 20 20.0 -00.5	46 51.5 -00.4	S 19 12.2 +00.4	203 09.2 -37.3	N 21 22.4 +01.7	12						
13	12 20.1 -00.2	S 20 19.5 -00.6	61 51.1 -00.4	S 19 12.6 +00.4	217 31.9 -37.4	N 21 24.1 +01.6	13						
14	27 19.9 -00.2	S 20 18.9 -00.5	76 50.7 -00.4	S 19 13.0 +00.5	231 54.5 -37.3	N 21 25.7 +01.4	14						
15	42 19.7 -00.1	S 20 18.4 -00.5	91 50.3 -00.3	S 19 13.5 +00.4	246 17.2 -37.5	N 21 27.1 +01.2	15						
16	57 19.6 -00.2	S 20 17.9 -00.5	106 50.0 -00.4	S 19 13.9 +00.4	260 39.7 -37.5	N 21 28.3 +01.1	16						
17	72 19.4 -00.2	S 20 17.4 -00.6	121 49.6 -00.4	S 19 14.3 +00.5	275 02.2 -37.5	N 21 29.4 +01.0	17						
18	87 19.2 -00.2	S 20 16.8 -00.5	136 49.2 -00.4	S 19 14.8 +00.4	289 24.7 -37.6	N 21 30.4 +00.7	18						
19	102 19.0 -00.2	S 20 16.3 -00.5	151 48.8 -00.4	S 19 15.2 +00.4	303 47.1 -37.6	N 21 31.1 +00.6	19						
20	117 18.8 -00.2	S 20 15.8 -00.6	166 48.4 -00.4	S 19 15.6 +00.4	318 09.5 -37.7	N 21 31.7 +00.5	20						
21	132 18.6 -00.2	S 20 15.2 -00.5	181 48.0 -00.4	S 19 16.0 +00.4	332 31.8 -37.7	N 21 32.2 +00.3	21						
22	147 18.4 -00.2	S 20 14.7 -00.5	196 47.6 -00.3	S 19 16.4 +00.5	346 54.1 -37.7	N 21 32.5 +00.1	22						
23	162 18.2 -00.2	S 20 14.2 -00.6	211 47.3 -00.4	S 19 16.9 +00.4	1 16.4 -37.8	N 21 32.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'4 16'4 16'5 16'5 16'5 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 60'1 60'3 60'4 60'5 60'6 60'7								
	SHA 059° 059° 059° 059° 058° 058°		SHA 109° 109° 108° 108° 108° 108°		SHA 271° 269° 266° 263° 261° 258°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 08:52		Greenwich Culmination Time: 22:54								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107 00.5 +00.9	N 04 50.6 +00.7	223 52.8 +01.9	S 22 01.0 +00.1	193 29.8 +02.1	S 22 17.4 +00.0	00						
01	122 01.4 +01.0	N 04 51.3 +00.7	238 54.7 +02.0	S 22 01.1 +00.0	208 31.9 +02.2	S 22 17.4 +00.0	01						
02	137 02.4 +00.9	N 04 52.0 +00.7	253 56.7 +01.9	S 22 01.1 +00.1	223 34.1 +02.2	S 22 17.4 +00.0	02						
03	152 03.3 +00.9	N 04 52.7 +00.7	268 58.6 +02.0	S 22 01.2 +00.0	238 36.3 +02.1	S 22 17.4 -00.1	03						
04	167 04.2 +00.9	N 04 53.4 +00.7	284 00.6 +01.9	S 22 01.2 +00.1	253 38.4 +02.2	S 22 17.3 +00.0	04						
05	182 05.1 +00.9	N 04 54.1 +00.7	299 02.5 +02.0	S 22 01.3 +00.0	268 40.6 +02.1	S 22 17.3 +00.0	05						
06	197 06.0 +00.9	N 04 54.8 +00.7	314 04.5 +01.9	S 22 01.3 +00.1	283 42.7 +02.2	S 22 17.3 +00.0	06						
07	212 06.9 +01.0	N 04 55.5 +00.7	329 06.4 +02.0	S 22 01.4 +00.1	298 44.9 +02.1	S 22 17.3 -00.1	07						
08	227 07.9 +00.9	N 04 56.2 +00.8	344 08.4 +01.9	S 22 01.5 +00.0	313 47.0 +02.2	S 22 17.2 +00.0	08						
09	242 08.8 +00.9	N 04 57.0 +00.7	359 10.3 +02.0	S 22 01.5 +00.1	328 49.2 +02.1	S 22 17.2 +00.0	09						
10	257 09.7 +00.9	N 04 57.7 +00.7	14 12.3 +01.9	S 22 01.6 +00.0	343 51.3 +02.2	S 22 17.2 +00.0	10						
11	272 10.6 +00.9	N 04 58.4 +00.7	29 14.2 +02.0	S 22 01.6 +00.1	358 53.5 +02.1	S 22 17.2 -00.1	11						
12	287 11.5 +01.0	N 04 59.1 +00.7	44 16.2 +01.9	S 22 01.7 +00.0	13 55.6 +02.2	S 22 17.1 +00.0	12						
13	302 12.5 +00.9	N 04 59.8 +00.7	59 18.1 +02.0	S 22 01.7 +00.1	28 57.8 +02.1	S 22 17.1 +00.0	13						
14	317 13.4 +00.9	N 05 00.5 +00.7	74 20.1 +01.9	S 22 01.8 +00.0	43 59.9 +02.2	S 22 17.1 -00.1	14						
15	332 14.3 +00.9	N 05 01.2 +00.7	89 22.0 +02.0	S 22 01.8 +00.1	59 02.1 +02.2	S 22 17.0 +00.0	15						
16	347 15.2 +00.9	N 05 01.9 +00.7	104 24.0 +01.9	S 22 01.9 +00.0	74 04.3 +02.1	S 22 17.0 +00.0	16						
17	2 16.1 +00.9	N 05 02.6 +00.7	119 25.9 +02.0	S 22 01.9 +00.1	89 06.4 +02.2	S 22 17.0 +00.0	17						
18	17 17.0 +01.0	N 05 03.3 +00.7	134 27.9 +01.9	S 22 02.0 +00.0	104 08.6 +02.1	S 22 17.0 -00.1	18						
19	32 18.0 +00.9	N 05 04.0 +00.7	149 29.8 +02.0	S 22 02.0 +00.1	119 10.7 +02.2	S 22 16.9 +00.0	19						
20	47 18.9 +00.9	N 05 04.7 +00.7	164 31.8 +02.0	S 22 02.1 +00.0	134 12.9 +02.1	S 22 16.9 +00.0	20						
21	62 19.8 +00.9	N 05 05.4 +00.7	179 33.8 +01.9	S 22 02.1 +00.1	149 15.0 +02.2	S 22 16.9 +00.0	21						
22	77 20.7 +00.9	N 05 06.1 +00.7	194 35.7 +02.0	S 22 02.2 +00.0	164 17.2 +02.1	S 22 16.9 -00.1	22						
23	92 21.6 +00.9	N 05 06.8 +00.7	209 37.7 +01.9	S 22 02.2 +00.1	179 19.3 +02.2	S 22 16.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 349° 349° 349° 349° 348° 348°		SHA 106° 106° 106° 106° 106° 106°		SHA 075° 075° 075° 075° 075° 075°								
	Greenwich Culmination Time: 16:50		Greenwich Culmination Time: 09:03		Greenwich Culmination Time: 11:04								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 18.0 -00.1	S	20 13.6 -00.5	226 46.9 -00.4	S	19 17.3 +00.4	15 38.6 -37.8	N	21 32.6 -00.2	00										
01	192 17.9 -00.2	S	20 13.1 -00.5	241 46.5 -00.4	S	19 17.7 +00.4	30 00.8 -37.9	N	21 32.4 -00.4	01										
02	207 17.7 -00.2	S	20 12.6 -00.6	256 46.1 -00.4	S	19 18.1 +00.4	44 22.9 -37.9	N	21 32.0 -00.5	02										
03	222 17.5 -00.2	S	20 12.0 -00.5	271 45.7 -00.4	S	19 18.5 +00.5	58 45.0 -37.9	N	21 31.5 -00.7	03										
04	237 17.3 -00.2	S	20 11.5 -00.5	286 45.3 -00.4	S	19 19.0 +00.4	73 07.1 -37.9	N	21 30.8 -00.8	04										
05	252 17.1 -00.2	S	20 11.0 -00.6	301 44.9 -00.4	S	19 19.4 +00.4	87 29.2 -37.9	N	21 30.0 -01.0	05										
06	267 16.9 -00.2	S	20 10.4 -00.5	316 44.5 -00.4	S	19 19.8 +00.4	101 51.3 -38.0	N	21 29.0 -01.2	06										
07	282 16.7 -00.1	S	20 09.9 -00.5	331 44.1 -00.4	S	19 20.2 +00.4	116 13.3 -38.0	N	21 27.8 -01.3	07										
08	297 16.6 -00.2	S	20 09.4 -00.6	346 43.7 -00.4	S	19 20.6 +00.4	130 35.3 -38.0	N	21 26.5 -01.5	08										
09	312 16.4 -00.2	S	20 08.8 -00.5	1 43.3 -00.4	S	19 21.0 +00.5	144 57.3 -38.0	N	21 25.0 -01.6	09										
10	327 16.2 -00.2	S	20 08.3 -00.6	16 42.9 -00.4	S	19 21.5 +00.4	159 19.3 -38.0	N	21 23.4 -01.9	10										
11	342 16.0 -00.2	S	20 07.7 -00.5	31 42.5 -00.3	S	19 21.9 +00.4	173 41.3 -38.0	N	21 21.5 -01.9	11										
12	357 15.8 -00.2	S	20 07.2 -00.5	46 42.2 -00.4	S	19 22.3 +00.4	188 03.3 -38.1	N	21 19.6 -02.2	12										
13	12 15.6 -00.1	S	20 06.7 -00.6	61 41.8 -00.4	S	19 22.7 +00.4	202 25.2 -38.0	N	21 17.4 -02.3	13										
14	27 15.5 -00.2	S	20 06.1 -00.5	76 41.4 -00.4	S	19 23.1 +00.4	216 47.2 -38.0	N	21 15.1 -02.5	14										
15	42 15.3 -00.2	S	20 05.6 -00.6	91 41.0 -00.4	S	19 23.5 +00.4	231 09.2 -38.1	N	21 12.6 -02.6	15										
16	57 15.1 -00.2	S	20 05.0 -00.5	106 40.6 -00.4	S	19 23.9 +00.4	245 31.1 -38.0	N	21 10.0 -02.8	16										
17	72 14.9 -00.2	S	20 04.5 -00.6	121 40.2 -00.4	S	19 24.3 +00.5	259 53.1 -38.1	N	21 07.2 -02.9	17										
18	87 14.7 -00.1	S	20 03.9 -00.5	136 39.8 -00.4	S	19 24.8 +00.4	274 15.0 -38.0	N	21 04.3 -03.1	18										
19	102 14.6 -00.2	S	20 03.4 -00.5	151 39.4 -00.5	S	19 25.2 +00.4	288 37.0 -38.0	N	21 01.2 -03.3	19										
20	117 14.4 -00.2	S	20 02.9 -00.6	166 38.9 -00.4	S	19 25.6 +00.4	302 59.0 -38.0	N	20 57.9 -03.5	20										
21	132 14.2 -00.2	S	20 02.3 -00.5	181 38.5 -00.4	S	19 26.0 +00.4	317 21.0 -38.0	N	20 54.4 -03.6	21										
22	147 14.0 -00.2	S	20 01.8 -00.6	196 38.1 -00.4	S	19 26.4 +00.4	331 43.0 -38.0	N	20 50.8 -03.7	22										
23	162 13.8 -00.1	S	20 01.2 -00.5	211 37.7 -00.4	S	19 26.8 +00.4	346 05.0 -37.9	N	20 47.1 -03.9	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	16'6	16'6	16'6	16'6	16'7	16'7
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	60'8	60'9	61'0	61'1	61'1	61'2
SHA	058°	058°	058°	058°	057°	057°	SHA	108°	107°	107°	107°	107°	107°	SHA	255°	253°	250°	247°	244°	242°
Greenwich Culmination Time: 12:10							Greenwich Culmination Time: 08:53							Greenwich Culmination Time: 23:58						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	107 22.5 +00.9	N	05 07.5 +00.7	224 39.6 +02.0	S	22 02.3 +00.0	194 21.5 +02.1	S	22 16.8 +00.0	00										
01	122 23.4 +01.0	N	05 08.2 +00.7	239 41.6 +01.9	S	22 02.3 +00.1	209 23.6 +02.2	S	22 16.8 +00.0	01										
02	137 24.4 +00.9	N	05 08.9 +00.7	254 43.5 +02.0	S	22 02.4 +00.0	224 25.8 +02.1	S	22 16.8 -00.1	02										
03	152 25.3 +00.9	N	05 09.6 +00.7	269 45.5 +01.9	S	22 02.4 +00.1	239 27.9 +02.2	S	22 16.7 +00.0	03										
04	167 26.2 +00.9	N	05 10.3 +00.7	284 47.4 +02.0	S	22 02.5 +00.0	254 30.1 +02.2	S	22 16.7 +00.0	04										
05	182 27.1 +00.9	N	05 11.0 +00.7	299 49.4 +01.9	S	22 02.5 +00.1	269 32.3 +02.1	S	22 16.7 -00.1	05										
06	197 28.0 +00.9	N	05 11.7 +00.7	314 51.3 +02.0	S	22 02.6 +00.0	284 34.4 +02.2	S	22 16.6 +00.0	06										
07	212 28.9 +01.0	N	05 12.4 +00.7	329 53.3 +02.0	S	22 02.6 +00.1	299 36.6 +02.1	S	22 16.6 +00.0	07										
08	227 29.9 +00.9	N	05 13.1 +00.7	344 55.3 +01.9	S	22 02.7 +00.0	314 38.7 +02.2	S	22 16.6 +00.0	08										
09	242 30.8 +00.9	N	05 13.8 +00.7	359 57.2 +02.0	S	22 02.7 +00.1	329 40.9 +02.1	S	22 16.6 -00.1	09										
10	257 31.7 +00.9	N	05 14.5 +00.7	14 59.2 +01.9	S	22 02.8 +00.0	344 43.0 +02.2	S	22 16.5 +00.0	10										
11	272 32.6 +00.9	N	05 15.2 +00.7	30 01.1 +02.0	S	22 02.8 +00.1	359 45.2 +02.1	S	22 16.5 +00.0	11										
12	287 33.5 +00.9	N	05 15.9 +00.7	45 03.1 +01.9	S	22 02.9 +00.0	14 47.3 +02.2	S	22 16.5 +00.0	12										
13	302 34.4 +01.0	N	05 16.6 +00.7	60 05.0 +02.0	S	22 02.9 +00.1	29 49.5 +02.1	S	22 16.5 -00.1	13										
14	317 35.4 +00.9	N	05 17.3 +00.7	75 07.0 +01.9	S	22 03.0 +00.0	44 51.6 +02.2	S	22 16.4 +00.0	14										
15	332 36.3 +00.9	N	05 18.0 +00.7	90 08.9 +02.0	S	22 03.0 +00.1	59 53.8 +02.2	S	22 16.4 +00.0	15										
16	347 37.2 +00.9	N	05 18.7 +00.7	105 10.9 +02.0	S	22 03.1 +00.0	74 56.0 +02.1	S	22 16.4 +00.0	16										
17	2 38.1 +00.9	N	05 19.4 +00.7	120 12.9 +01.9	S	22 03.1 +00.1	89 58.1 +02.2	S	22 16.4 -00.1	17										
18	17 39.0 +00.9	N	05 20.1 +00.7	135 14.8 +02.0	S	22 03.2 +00.0	105 00.3 +02.1	S	22 16.3 +00.0	18										
19	32 39.9 +00.9	N	05 20.8 +00.7	150 16.8 +01.9	S	22 03.2 +00.1	120 02.4 +02.2	S	22 16.3 +00.0	19										
20	47 40.8 +01.0	N	05 21.5 +00.7	165 18.7 +02.0	S	22 03.3 +00.0	135 04.6 +02.1	S	22 16.3 -00.1	20										
21	62 41.8 +00.9	N	05 22.2 +00.7	180 20.7 +01.9	S	22 03.3 +00.1	150 06.7 +02.2	S	22 16.2 +00.0	21										
22	77 42.7 +00.9	N	05 22.9 +00.7	195 22.6 +02.0	S	22 03.4 +00.0	165 08.9 +02.1	S	22 16.2 +00.0	22										
23	92 43.6 +00.9	N	05 23.6 +00.7	210 24.6 +02.0	S	22 03.4 +00.1	180 11.0 +02.2	S	22 16.2 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	348°	348°	348°	348°	348°	348°	SHA	106°	106°	105°	105°	105°	105°	SHA	075°	075°	075°	075°	075°	075°
Greenwich Culmination Time: 16:49							Greenwich Culmination Time: 09:00							Greenwich Culmination Time: 11:00						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 13.7 -00.2	S	20 00.7 -00.6	226 37.3 -00.4	S	19 27.2 +00.4	0 27.1 -38.0	N	20 43.2 -04.1	00			
01	192 13.5 -00.2	S	20 00.1 -00.5	241 36.9 -00.4	S	19 27.6 +00.4	14 49.1 -37.9	N	20 39.1 -04.2	01			
02	207 13.3 -00.2	S	19 59.6 -00.6	256 36.5 -00.4	S	19 28.0 +00.4	29 11.2 -37.9	N	20 34.9 -04.4	02			
03	222 13.1 -00.2	S	19 59.0 -00.5	271 36.1 -00.4	S	19 28.4 +00.4	43 33.3 -37.9	N	20 30.5 -04.6	03			
04	237 12.9 -00.1	S	19 58.5 -00.6	286 35.7 -00.4	S	19 28.8 +00.4	57 55.4 -37.8	N	20 25.9 -04.7	04			
05	252 12.8 -00.2	S	19 57.9 -00.5	301 35.3 -00.4	S	19 29.2 +00.4	72 17.6 -37.8	N	20 21.2 -04.9	05			
06	267 12.6 -00.2	S	19 57.4 -00.6	316 34.9 -00.4	S	19 29.6 +00.4	86 39.8 -37.8	N	20 16.3 -05.0	06			
07	282 12.4 -00.2	S	19 56.8 -00.5	331 34.5 -00.4	S	19 30.0 +00.4	101 02.0 -37.7	N	20 11.3 -05.1	07			
08	297 12.2 -00.1	S	19 56.3 -00.6	346 34.1 -00.4	S	19 30.4 +00.4	115 24.3 -37.7	N	20 06.2 -05.4	08			
09	312 12.1 -00.2	S	19 55.7 -00.6	1 33.7 -00.5	S	19 30.8 +00.4	129 46.6 -37.7	N	20 00.8 -05.4	09			
10	327 11.9 -00.2	S	19 55.1 -00.5	16 33.2 -00.4	S	19 31.2 +00.4	144 08.9 -37.6	N	19 55.4 -05.7	10			
11	342 11.7 -00.2	S	19 54.6 -00.6	31 32.8 -00.4	S	19 31.6 +00.4	158 31.3 -37.6	N	19 49.7 -05.7	11			
12	357 11.5 -00.1	S	19 54.0 -00.5	46 32.4 -00.4	S	19 32.0 +00.4	172 53.7 -37.6	N	19 44.0 -06.0	12			
13	12 11.4 -00.2	S	19 53.5 -00.6	61 32.0 -00.4	S	19 32.4 +00.4	187 16.1 -37.5	N	19 38.0 -06.0	13			
14	27 11.2 -00.2	S	19 52.9 -00.5	76 31.6 -00.4	S	19 32.8 +00.4	201 38.6 -37.4	N	19 32.0 -06.3	14			
15	42 11.0 -00.2	S	19 52.4 -00.6	91 31.2 -00.4	S	19 33.2 +00.4	216 01.2 -37.5	N	19 25.7 -06.3	15			
16	57 10.8 -00.1	S	19 51.8 -00.6	106 30.8 -00.5	S	19 33.6 +00.4	230 23.7 -37.3	N	19 19.4 -06.5	16			
17	72 10.7 -00.2	S	19 51.2 -00.5	121 30.3 -00.4	S	19 34.0 +00.4	244 46.4 -37.3	N	19 12.9 -06.7	17			
18	87 10.5 -00.2	S	19 50.7 -00.6	136 29.9 -00.4	S	19 34.4 +00.4	259 09.1 -37.3	N	19 06.2 -06.8	18			
19	102 10.3 -00.2	S	19 50.1 -00.5	151 29.5 -00.4	S	19 34.8 +00.4	273 31.8 -37.2	N	18 59.4 -06.9	19			
20	117 10.1 -00.1	S	19 49.6 -00.6	166 29.1 -00.4	S	19 35.2 +00.4	287 54.6 -37.1	N	18 52.5 -07.1	20			
21	132 10.0 -00.2	S	19 49.0 -00.6	181 28.7 -00.5	S	19 35.6 +00.4	302 17.5 -37.1	N	18 45.4 -07.2	21			
22	147 09.8 -00.2	S	19 48.4 -00.5	196 28.2 -00.4	S	19 36.0 +00.4	316 40.4 -37.0	N	18 38.2 -07.4	22			
23	162 09.6 -00.1	S	19 47.9 -00.6	211 27.8 -00.4	S	19 36.4 +00.3	331 03.4 -37.0	N	18 30.8 -07.4	23			
UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'3 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 057° 057° 057° 057° 056° 056° Greenwich Culmination Time: 12:11				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 106° 106° 106° 106° 106° 105° Greenwich Culmination Time: 08:53				UT 02 06 10 14 18 22 SD 16'7 16'7 16'7 16'7 16'7 16'7 HP 61'2 61'3 61'3 61'3 61'3 61'3 SHA 239° 236° 234° 231° 228° 226° Greenwich Culmination Time: -1:00					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107 44.5 +00.9	N	05 24.3 +00.7	225 26.6 +01.9	S	22 03.5 +00.0	195 13.2 +02.2	S	22 16.2 -00.1	00			
01	122 45.4 +00.9	N	05 25.0 +00.7	240 28.5 +02.0	S	22 03.5 +00.1	210 15.4 +02.1	S	22 16.1 +00.0	01			
02	137 46.3 +00.9	N	05 25.7 +00.7	255 30.5 +01.9	S	22 03.6 +00.0	225 17.5 +02.2	S	22 16.1 +00.0	02			
03	152 47.2 +01.0	N	05 26.4 +00.7	270 32.4 +02.0	S	22 03.6 +00.1	240 19.7 +02.1	S	22 16.1 +00.0	03			
04	167 48.2 +00.9	N	05 27.1 +00.7	285 34.4 +01.9	S	22 03.7 +00.0	255 21.8 +02.2	S	22 16.1 -00.1	04			
05	182 49.1 +00.9	N	05 27.8 +00.7	300 36.3 +02.0	S	22 03.7 +00.1	270 24.0 +02.1	S	22 16.0 +00.0	05			
06	197 50.0 +00.9	N	05 28.5 +00.7	315 38.3 +02.0	S	22 03.8 +00.0	285 26.1 +02.2	S	22 16.0 +00.0	06			
07	212 50.9 +00.9	N	05 29.2 +00.7	330 40.3 +01.9	S	22 03.8 +00.1	300 28.3 +02.1	S	22 16.0 +00.0	07			
08	227 51.8 +00.9	N	05 29.9 +00.7	345 42.2 +02.0	S	22 03.9 +00.0	315 30.4 +02.2	S	22 16.0 -00.1	08			
09	242 52.7 +00.9	N	05 30.6 +00.7	0 44.2 +01.9	S	22 03.9 +00.1	330 32.6 +02.2	S	22 15.9 +00.0	09			
10	257 53.6 +01.0	N	05 31.3 +00.7	15 46.1 +02.0	S	22 04.0 +00.0	345 34.8 +02.1	S	22 15.9 +00.0	10			
11	272 54.6 +00.9	N	05 32.0 +00.7	30 48.1 +02.0	S	22 04.0 +00.1	0 36.9 +02.2	S	22 15.9 -00.1	11			
12	287 55.5 +00.9	N	05 32.7 +00.7	45 50.1 +01.9	S	22 04.1 +00.0	15 39.1 +02.1	S	22 15.8 +00.0	12			
13	302 56.4 +00.9	N	05 33.4 +00.7	60 52.0 +02.0	S	22 04.1 +00.1	30 41.2 +02.2	S	22 15.8 +00.0	13			
14	317 57.3 +00.9	N	05 34.1 +00.7	75 54.0 +01.9	S	22 04.2 +00.0	45 43.4 +02.1	S	22 15.8 +00.0	14			
15	332 58.2 +00.9	N	05 34.8 +00.7	90 55.9 +02.0	S	22 04.2 +00.1	60 45.5 +02.2	S	22 15.8 -00.1	15			
16	347 59.1 +00.9	N	05 35.5 +00.7	105 57.9 +02.0	S	22 04.3 +00.0	75 47.7 +02.1	S	22 15.7 +00.0	16			
17	3 00.0 +01.0	N	05 36.2 +00.7	120 59.9 +01.9	S	22 04.3 +00.1	90 49.8 +02.2	S	22 15.7 +00.0	17			
18	18 01.0 +00.9	N	05 36.9 +00.7	136 01.8 +02.0	S	22 04.4 +00.0	105 52.0 +02.2	S	22 15.7 +00.0	18			
19	33 01.9 +00.9	N	05 37.6 +00.6	151 03.8 +01.9	S	22 04.4 +00.1	120 54.2 +02.1	S	22 15.7 -00.1	19			
20	48 02.8 +00.9	N	05 38.2 +00.7	166 05.7 +02.0	S	22 04.5 +00.0	135 56.3 +02.2	S	22 15.6 +00.0	20			
21	63 03.7 +00.9	N	05 38.9 +00.7	181 07.7 +02.0	S	22 04.5 +00.1	150 58.5 +02.1	S	22 15.6 +00.0	21			
22	78 04.6 +00.9	N	05 39.6 +00.7	196 09.7 +01.9	S	22 04.6 +00.0	166 00.6 +02.2	S	22 15.6 -00.1	22			
23	93 05.5 +00.9	N	05 40.3 +00.7	211 11.6 +02.0	S	22 04.6 +00.1	181 02.8 +02.1	S	22 15.5 +00.0	23			
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 348° 348° 347° 347° 347° 347° Greenwich Culmination Time: 16:48				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 105° 105° 105° 105° 105° 105° Greenwich Culmination Time: 08:57				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 075° 075° 075° 075° 075° 075° Greenwich Culmination Time: 10:57					

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 09.5 -00.2	S	19 47.3 -00.6	226 27.4 -00.4	S	19 36.7 +00.4	345 26.4 -36.9	N	18 23.4 -07.7	00										
01	192 09.3 -00.2	S	19 46.7 -00.5	241 27.0 -00.4	S	19 37.1 +00.4	359 49.5 -36.8	N	18 15.7 -07.7	01										
02	207 09.1 -00.2	S	19 46.2 -00.6	256 26.6 -00.5	S	19 37.5 +00.4	14 12.7 -36.8	N	18 08.0 -07.9	02										
03	222 08.9 -00.1	S	19 45.6 -00.6	271 26.1 -00.4	S	19 37.9 +00.4	28 35.9 -36.7	N	18 00.1 -08.0	03										
04	237 08.8 -00.2	S	19 45.0 -00.5	286 25.7 -00.4	S	19 38.3 +00.4	42 59.2 -36.7	N	17 52.1 -08.2	04										
05	252 08.6 -00.2	S	19 44.5 -00.6	301 25.3 -00.4	S	19 38.7 +00.4	57 22.5 -36.5	N	17 43.9 -08.2	05										
06	267 08.4 -00.1	S	19 43.9 -00.6	316 24.9 -00.5	S	19 39.1 +00.4	71 46.0 -36.5	N	17 35.7 -08.4	06										
07	282 08.3 -00.2	S	19 43.3 -00.5	331 24.4 -00.4	S	19 39.5 +00.3	86 09.5 -36.5	N	17 27.3 -08.6	07										
08	297 08.1 -00.2	S	19 42.8 -00.6	346 24.0 -00.4	S	19 39.8 +00.4	100 33.0 -36.3	N	17 18.7 -08.6	08										
09	312 07.9 -00.1	S	19 42.2 -00.6	1 23.6 -00.5	S	19 40.2 +00.4	114 56.7 -36.3	N	17 10.1 -08.8	09										
10	327 07.8 -00.2	S	19 41.6 -00.5	16 23.1 -00.4	S	19 40.6 +00.4	129 20.4 -36.3	N	17 01.3 -08.9	10										
11	342 07.6 -00.2	S	19 41.1 -00.6	31 22.7 -00.4	S	19 41.0 +00.4	143 44.1 -36.1	N	16 52.4 -09.0	11										
12	357 07.4 -00.1	S	19 40.5 -00.6	46 22.3 -00.4	S	19 41.4 +00.4	158 08.0 -36.1	N	16 43.4 -09.1	12										
13	12 07.3 -00.2	S	19 39.9 -00.5	61 21.9 -00.5	S	19 41.8 +00.3	172 31.9 -36.0	N	16 34.3 -09.2	13										
14	27 07.1 -00.2	S	19 39.4 -00.6	76 21.4 -00.4	S	19 42.1 +00.4	186 55.9 -35.9	N	16 25.1 -09.4	14										
15	42 06.9 -00.1	S	19 38.8 -00.6	91 21.0 -00.4	S	19 42.5 +00.4	201 20.0 -35.9	N	16 15.7 -09.4	15										
16	57 06.8 -00.2	S	19 38.2 -00.6	106 20.6 -00.5	S	19 42.9 +00.4	215 44.1 -35.7	N	16 06.3 -09.6	16										
17	72 06.6 -00.2	S	19 37.6 -00.5	121 20.1 -00.4	S	19 43.3 +00.4	230 08.4 -35.7	N	15 56.7 -09.7	17										
18	87 06.4 -00.1	S	19 37.1 -00.6	136 19.7 -00.4	S	19 43.7 +00.3	244 32.7 -35.6	N	15 47.0 -09.7	18										
19	102 06.3 -00.2	S	19 36.5 -00.6	151 19.3 -00.5	S	19 44.0 +00.4	258 57.1 -35.6	N	15 37.3 -09.9	19										
20	117 06.1 -00.2	S	19 35.9 -00.6	166 18.8 -00.4	S	19 44.4 +00.4	273 21.5 -35.4	N	15 27.4 -10.0	20										
21	132 05.9 -00.1	S	19 35.3 -00.6	181 18.4 -00.4	S	19 44.8 +00.4	287 46.1 -35.4	N	15 17.4 -10.1	21										
22	147 05.8 -00.2	S	19 34.7 -00.5	196 18.0 -00.5	S	19 45.2 +00.3	302 10.7 -35.3	N	15 07.3 -10.2	22										
23	162 05.6 -00.2	S	19 34.2 -00.6	211 17.5 -00.4	S	19 45.5 +00.4	316 35.4 -35.2	N	14 57.1 -10.3	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	16'7	16'7	16'7	16'7	16'7	16'7
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	61'3	61'3	61'3	61'2	61'2	61'1
SHA	056°	056°	056°	055°	055°	055°	SHA	105°	105°	105°	105°	105°	104°	SHA	223°	220°	218°	215°	213°	210°
Greenwich Culmination Time: 12:11							Greenwich Culmination Time: 08:54							Greenwich Culmination Time: 01:00						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	108 06.4 +00.9	N	05 41.0 +00.7	226 13.6 +01.9	S	22 04.7 +00.0	196 04.9 +02.2	S	22 15.5 +00.0	00										
01	123 07.3 +01.0	N	05 41.7 +00.7	241 15.5 +02.0	S	22 04.7 +00.1	211 07.1 +02.2	S	22 15.5 +00.0	01										
02	138 08.3 +00.9	N	05 42.4 +00.7	256 17.5 +02.0	S	22 04.8 +00.0	226 09.3 +02.1	S	22 15.5 -00.1	02										
03	153 09.2 +00.9	N	05 43.1 +00.7	271 19.5 +01.9	S	22 04.8 +00.1	241 11.4 +02.2	S	22 15.4 +00.0	03										
04	168 10.1 +00.9	N	05 43.8 +00.7	286 21.4 +02.0	S	22 04.9 +00.0	256 13.6 +02.1	S	22 15.4 +00.0	04										
05	183 11.0 +00.9	N	05 44.5 +00.7	301 23.4 +01.9	S	22 04.9 +00.1	271 15.7 +02.2	S	22 15.4 +00.0	05										
06	198 11.9 +00.9	N	05 45.2 +00.7	316 25.3 +02.0	S	22 05.0 +00.0	286 17.9 +02.1	S	22 15.4 -00.1	06										
07	213 12.8 +00.9	N	05 45.9 +00.7	331 27.3 +02.0	S	22 05.0 +00.1	301 20.0 +02.2	S	22 15.3 +00.0	07										
08	228 13.7 +00.9	N	05 46.6 +00.7	346 29.3 +01.9	S	22 05.1 +00.0	316 22.2 +02.1	S	22 15.3 +00.0	08										
09	243 14.6 +01.0	N	05 47.3 +00.7	1 31.2 +02.0	S	22 05.1 +00.1	331 24.3 +02.2	S	22 15.3 +00.0	09										
10	258 15.6 +00.9	N	05 48.0 +00.7	16 33.2 +02.0	S	22 05.2 +00.0	346 26.5 +02.2	S	22 15.3 -00.1	10										
11	273 16.5 +00.9	N	05 48.7 +00.7	31 35.2 +01.9	S	22 05.2 +00.1	1 28.7 +02.1	S	22 15.2 +00.0	11										
12	288 17.4 +00.9	N	05 49.4 +00.7	46 37.1 +02.0	S	22 05.3 +00.0	16 30.8 +02.2	S	22 15.2 +00.0	12										
13	303 18.3 +00.9	N	05 50.1 +00.7	61 39.1 +01.9	S	22 05.3 +00.1	31 33.0 +02.1	S	22 15.2 -00.1	13										
14	318 19.2 +00.9	N	05 50.8 +00.7	76 41.0 +02.0	S	22 05.4 +00.0	46 35.1 +02.2	S	22 15.1 +00.0	14										
15	333 20.1 +00.9	N	05 51.5 +00.7	91 43.0 +02.0	S	22 05.4 +00.1	61 37.3 +02.1	S	22 15.1 +00.0	15										
16	348 21.0 +00.9	N	05 52.2 +00.7	106 45.0 +01.9	S	22 05.5 +00.0	76 39.4 +02.2	S	22 15.1 +00.0	16										
17	3 21.9 +00.9	N	05 52.9 +00.7	121 46.9 +02.0	S	22 05.5 +00.1	91 41.6 +02.2	S	22 15.1 -00.1	17										
18	18 22.8 +01.0	N	05 53.6 +00.7	136 48.9 +02.0	S	22 05.6 +00.0	106 43.8 +02.1	S	22 15.0 +00.0	18										
19	33 23.8 +00.9	N	05 54.3 +00.7	151 50.9 +01.9	S	22 05.6 +00.1	121 45.9 +02.2	S	22 15.0 +00.0	19										
20	48 24.7 +00.9	N	05 55.0 +00.7	166 52.8 +02.0	S	22 05.7 +00.0	136 48.1 +02.1	S	22 15.0 +00.0	20										
21	63 25.6 +00.9	N	05 55.7 +00.7	181 54.8 +02.0	S	22 05.7 +00.1	151 50.2 +02.2	S	22 15.0 -00.1	21										
22	78 26.5 +00.9	N	05 56.4 +00.6	196 56.8 +01.9	S	22 05.8 +00.0	166 52.4 +02.1	S	22 14.9 +00.0	22										
23	93 27.4 +00.9	N	05 57.0 +00.7	211 58.7 +02.0	S	22 05.8 +00.1	181 54.5 +02.2	S	22 14.9 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	347°	347°	347°	347°	347°	346°	SHA	105°	105°	105°	105°	105°	105°	SHA	075°	075°	075°	075°	075°	075°
Greenwich Culmination Time: 16:46							Greenwich Culmination Time: 08:53							Greenwich Culmination Time: 10:54						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 05.4 -00.1	S	19 33.6 -00.6	226 17.1 -00.5	S	19 45.9 +00.4	331 00.2 -35.1	N	14 46.8 -10.4	00			
01	192 05.3 -00.2	S	19 33.0 -00.6	241 16.6 -00.4	S	19 46.3 +00.4	345 25.1 -35.1	N	14 36.4 -10.5	01			
02	207 05.1 -00.1	S	19 32.4 -00.6	256 16.2 -00.4	S	19 46.7 +00.3	359 50.0 -35.0	N	14 25.9 -10.5	02			
03	222 05.0 -00.2	S	19 31.8 -00.5	271 15.8 -00.5	S	19 47.0 +00.4	14 15.0 -34.8	N	14 15.4 -10.7	03			
04	237 04.8 -00.2	S	19 31.3 -00.6	286 15.3 -00.4	S	19 47.4 +00.4	28 40.2 -34.8	N	14 04.7 -10.7	04			
05	252 04.6 -00.1	S	19 30.7 -00.6	301 14.9 -00.5	S	19 47.8 +00.3	43 05.4 -34.8	N	13 54.0 -10.9	05			
06	267 04.5 -00.2	S	19 30.1 -00.6	316 14.4 -00.4	S	19 48.1 +00.4	57 30.6 -34.6	N	13 43.1 -10.9	06			
07	282 04.3 -00.2	S	19 29.5 -00.6	331 14.0 -00.4	S	19 48.5 +00.4	71 56.0 -34.6	N	13 32.2 -11.0	07			
08	297 04.1 -00.1	S	19 28.9 -00.6	346 13.6 -00.5	S	19 48.9 +00.3	86 21.4 -34.4	N	13 21.2 -11.1	08			
09	312 04.0 -00.2	S	19 28.3 -00.5	1 13.1 -00.4	S	19 49.2 +00.4	100 47.0 -34.4	N	13 10.1 -11.1	09			
10	327 03.8 -00.1	S	19 27.8 -00.6	16 12.7 -00.5	S	19 49.6 +00.4	115 12.6 -34.3	N	12 59.0 -11.3	10			
11	342 03.7 -00.2	S	19 27.2 -00.6	31 12.2 -00.4	S	19 50.0 +00.3	129 38.3 -34.3	N	12 47.7 -11.3	11			
12	357 03.5 -00.2	S	19 26.6 -00.6	46 11.8 -00.5	S	19 50.3 +00.4	144 04.0 -34.1	N	12 36.4 -11.4	12			
13	12 03.3 -00.1	S	19 26.0 -00.6	61 11.3 -00.4	S	19 50.7 +00.4	158 29.9 -34.1	N	12 25.0 -11.5	13			
14	27 03.2 -00.2	S	19 25.4 -00.6	76 10.9 -00.5	S	19 51.1 +00.3	172 55.8 -34.0	N	12 13.5 -11.5	14			
15	42 03.0 -00.1	S	19 24.8 -00.6	91 10.4 -00.4	S	19 51.4 +00.4	187 21.8 -33.9	N	12 02.0 -11.6	15			
16	57 02.9 -00.2	S	19 24.2 -00.6	106 10.0 -00.5	S	19 51.8 +00.4	201 47.9 -33.8	N	11 50.4 -11.7	16			
17	72 02.7 -00.1	S	19 23.6 -00.5	121 09.5 -00.4	S	19 52.2 +00.3	216 14.1 -33.7	N	11 38.7 -11.7	17			
18	87 02.6 -00.2	S	19 23.1 -00.6	136 09.1 -00.5	S	19 52.5 +00.4	230 40.4 -33.7	N	11 27.0 -11.8	18			
19	102 02.4 -00.2	S	19 22.5 -00.6	151 08.6 -00.4	S	19 52.9 +00.3	245 06.7 -33.5	N	11 15.2 -11.9	19			
20	117 02.2 -00.1	S	19 21.9 -00.6	166 08.2 -00.5	S	19 53.2 +00.4	259 33.2 -33.5	N	11 03.3 -11.9	20			
21	132 02.1 -00.2	S	19 21.3 -00.6	181 07.7 -00.4	S	19 53.6 +00.4	273 59.7 -33.4	N	10 51.4 -12.0	21			
22	147 01.9 -00.1	S	19 20.7 -00.6	196 07.3 -00.5	S	19 54.0 +00.3	288 26.3 -33.4	N	10 39.4 -12.0	22			
23	162 01.8 -00.2	S	19 20.1 -00.6	211 06.8 -00.4	S	19 54.3 +00.4	302 52.9 -33.2	N	10 27.4 -12.1	23			
UT 02 06 10 14 18 22 SD 16'3 16'3 16'3 16'3 16'3 16'2 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 055° 055° 055° 054° 054° 054° Greenwich Culmination Time: 12:11				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 104° 104° 104° 104° 103° 103° Greenwich Culmination Time: 08:55				UT 02 06 10 14 18 22 SD 16'6 16'6 16'6 16'6 16'6 16'5 HP 61'1 61'0 60'9 60'8 60'7 60'6 SHA 208° 205° 203° 200° 198° 195° Greenwich Culmination Time: 02:00					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 28.3 +00.9	N	05 57.7 +00.7	227 00.7 +01.9	S	22 05.9 +00.0	196 56.7 +02.2	S	22 14.9 -00.1	00			
01	123 29.2 +00.9	N	05 58.4 +00.7	242 02.6 +02.0	S	22 05.9 +00.1	211 58.9 +02.1	S	22 14.8 +00.0	01			
02	138 30.1 +00.9	N	05 59.1 +00.7	257 04.6 +02.0	S	22 06.0 +00.0	227 01.0 +02.2	S	22 14.8 +00.0	02			
03	153 31.0 +01.0	N	05 59.8 +00.7	272 06.6 +01.9	S	22 06.0 +00.1	242 03.2 +02.1	S	22 14.8 +00.0	03			
04	168 32.0 +00.9	N	06 00.5 +00.7	287 08.5 +02.0	S	22 06.1 +00.0	257 05.3 +02.2	S	22 14.8 -00.1	04			
05	183 32.9 +00.9	N	06 01.2 +00.7	302 10.5 +02.0	S	22 06.1 +00.1	272 07.5 +02.1	S	22 14.7 +00.0	05			
06	198 33.8 +00.9	N	06 01.9 +00.7	317 12.5 +01.9	S	22 06.2 +00.0	287 09.6 +02.2	S	22 14.7 +00.0	06			
07	213 34.7 +00.9	N	06 02.6 +00.7	332 14.4 +02.0	S	22 06.2 +00.0	302 11.8 +02.2	S	22 14.7 +00.0	07			
08	228 35.6 +00.9	N	06 03.3 +00.7	347 16.4 +02.0	S	22 06.2 +00.1	317 14.0 +02.1	S	22 14.7 -00.1	08			
09	243 36.5 +00.9	N	06 04.0 +00.7	2 18.4 +01.9	S	22 06.3 +00.0	332 16.1 +02.2	S	22 14.6 +00.0	09			
10	258 37.4 +00.9	N	06 04.7 +00.7	17 20.3 +02.0	S	22 06.3 +00.1	347 18.3 +02.1	S	22 14.6 +00.0	10			
11	273 38.3 +00.9	N	06 05.4 +00.7	32 22.3 +02.0	S	22 06.4 +00.0	2 20.4 +02.2	S	22 14.6 -00.1	11			
12	288 39.2 +01.0	N	06 06.1 +00.7	47 24.3 +01.9	S	22 06.4 +00.1	17 22.6 +02.2	S	22 14.5 +00.0	12			
13	303 40.2 +00.9	N	06 06.8 +00.7	62 26.2 +02.0	S	22 06.5 +00.0	32 24.8 +02.1	S	22 14.5 +00.0	13			
14	318 41.1 +00.9	N	06 07.5 +00.7	77 28.2 +02.0	S	22 06.5 +00.1	47 26.9 +02.2	S	22 14.5 +00.0	14			
15	333 42.0 +00.9	N	06 08.2 +00.6	92 30.2 +01.9	S	22 06.6 +00.0	62 29.1 +02.1	S	22 14.5 -00.1	15			
16	348 42.9 +00.9	N	06 08.8 +00.7	107 32.1 +02.0	S	22 06.6 +00.1	77 31.2 +02.2	S	22 14.4 +00.0	16			
17	3 43.8 +00.9	N	06 09.5 +00.7	122 34.1 +02.0	S	22 06.7 +00.0	92 33.4 +02.1	S	22 14.4 +00.0	17			
18	18 44.7 +00.9	N	06 10.2 +00.7	137 36.1 +01.9	S	22 06.7 +00.1	107 35.5 +02.2	S	22 14.4 +00.0	18			
19	33 45.6 +00.9	N	06 10.9 +00.7	152 38.0 +02.0	S	22 06.8 +00.0	122 37.7 +02.2	S	22 14.4 -00.1	19			
20	48 46.5 +00.9	N	06 11.6 +00.7	167 40.0 +02.0	S	22 06.8 +00.1	137 39.9 +02.1	S	22 14.3 +00.0	20			
21	63 47.4 +00.9	N	06 12.3 +00.7	182 42.0 +01.9	S	22 06.9 +00.0	152 42.0 +02.2	S	22 14.3 +00.0	21			
22	78 48.3 +00.9	N	06 13.0 +00.7	197 43.9 +02.0	S	22 06.9 +00.1	167 44.2 +02.1	S	22 14.3 -00.1	22			
23	93 49.2 +01.0	N	06 13.7 +00.7	212 45.9 +02.0	S	22 07.0 +00.0	182 46.3 +02.2	S	22 14.2 +00.0	23			
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 346° 346° 346° 346° 346° 346° Greenwich Culmination Time: 16:45				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 105° 105° 105° 105° 105° 105° Greenwich Culmination Time: 08:50				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 075° 075° 075° 075° 075° 075° Greenwich Culmination Time: 10:50					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 01.6 -00.1	S 19 19.5 -00.6	226 06.4 -00.5	S 19 54.7 +00.3	317 19.7 -33.2	N 10 15.3 -12.2	00						
01	192 01.5 -00.2	S 19 18.9 -00.6	241 05.9 -00.4	S 19 55.0 +00.4	331 46.5 -33.1	N 10 03.1 -12.2	01						
02	207 01.3 -00.1	S 19 18.3 -00.6	256 05.5 -00.5	S 19 55.4 +00.3	346 13.4 -33.0	N 09 50.9 -12.2	02						
03	222 01.2 -00.2	S 19 17.7 -00.6	271 05.0 -00.4	S 19 55.7 +00.4	0 40.4 -32.9	N 09 38.7 -12.3	03						
04	237 01.0 -00.2	S 19 17.1 -00.6	286 04.6 -00.5	S 19 56.1 +00.3	15 07.5 -32.9	N 09 26.4 -12.4	04						
05	252 00.8 -00.1	S 19 16.5 -00.6	301 04.1 -00.4	S 19 56.4 +00.4	29 34.6 -32.8	N 09 14.0 -12.4	05						
06	267 00.7 -00.2	S 19 15.9 -00.6	316 03.7 -00.5	S 19 56.8 +00.3	44 01.8 -32.7	N 09 01.6 -12.4	06						
07	282 00.5 -00.1	S 19 15.3 -00.6	331 03.2 -00.5	S 19 57.1 +00.4	58 29.1 -32.6	N 08 49.2 -12.5	07						
08	297 00.4 -00.2	S 19 14.7 -00.6	346 02.7 -00.4	S 19 57.5 +00.3	72 56.5 -32.6	N 08 36.7 -12.5	08						
09	312 00.2 -00.1	S 19 14.1 -00.6	1 02.3 -00.5	S 19 57.8 +00.4	87 23.9 -32.4	N 08 24.2 -12.6	09						
10	327 00.1 -00.2	S 19 13.5 -00.6	16 01.8 -00.4	S 19 58.2 +00.3	101 51.5 -32.4	N 08 11.6 -12.6	10						
11	341 59.9 -00.1	S 19 12.9 -00.6	31 01.4 -00.5	S 19 58.5 +00.4	116 19.1 -32.4	N 07 59.0 -12.6	11						
12	356 59.8 -00.2	S 19 12.3 -00.6	46 00.9 -00.5	S 19 58.9 +00.3	130 46.7 -32.2	N 07 46.4 -12.6	12						
13	11 59.6 -00.1	S 19 11.7 -00.6	61 00.4 -00.4	S 19 59.2 +00.4	145 14.5 -32.2	N 07 33.8 -12.7	13						
14	26 59.5 -00.2	S 19 11.1 -00.6	75 60.0 -00.5	S 19 59.6 +00.3	159 42.3 -32.1	N 07 21.1 -12.8	14						
15	41 59.3 -00.1	S 19 10.5 -00.6	90 59.5 -00.4	S 19 59.9 +00.4	174 10.2 -32.1	N 07 08.3 -12.7	15						
16	56 59.2 -00.2	S 19 09.9 -00.6	105 59.1 -00.5	S 20 00.3 +00.3	188 38.1 -32.0	N 06 55.6 -12.8	16						
17	71 59.0 -00.1	S 19 09.3 -00.6	120 58.6 -00.5	S 20 00.6 +00.4	203 06.1 -31.9	N 06 42.8 -12.8	17						
18	86 58.9 -00.2	S 19 08.7 -00.6	135 58.1 -00.4	S 20 01.0 +00.3	217 34.2 -31.8	N 06 30.0 -12.8	18						
19	101 58.7 -00.1	S 19 08.1 -00.6	150 57.7 -00.5	S 20 01.3 +00.4	232 02.4 -31.8	N 06 17.2 -12.9	19						
20	116 58.6 -00.2	S 19 07.5 -00.6	165 57.2 -00.5	S 20 01.7 +00.3	246 30.6 -31.7	N 06 04.3 -12.8	20						
21	131 58.4 -00.1	S 19 06.9 -00.6	180 56.7 -00.4	S 20 02.0 +00.3	260 58.9 -31.6	N 05 51.5 -12.9	21						
22	146 58.3 -00.2	S 19 06.3 -00.6	195 56.3 -00.5	S 20 02.3 +00.4	275 27.3 -31.6	N 05 38.6 -12.9	22						
23	161 58.1 -00.1	S 19 05.7 -00.6	210 55.8 -00.5	S 20 02.7 +00.3	289 55.7 -31.5	N 05 25.7 -13.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	16'2 16'2 16'2 16'2 16'2 16'2		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	16'5 16'5 16'4 16'4 16'4 16'3						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	60'5 60'4 60'3 60'2 60'1 59'9						
SHA	054° 054° 054° 053° 053° 053°		SHA	103° 103° 103° 102° 102° 102°		SHA	193° 191° 188° 186° 184° 182°						
Greenwich Culmination Time: 12:12				Greenwich Culmination Time: 08:55				Greenwich Culmination Time: 02:57					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 50.2 +00.9	N 06 14.4 +00.7	227 47.9 +01.9	S 22 07.0 +00.1	197 48.5 +02.2	S 22 14.2 +00.0	00						
01	123 51.1 +00.9	N 06 15.1 +00.7	242 49.8 +02.0	S 22 07.1 +00.0	212 50.7 +02.1	S 22 14.2 +00.0	01						
02	138 52.0 +00.9	N 06 15.8 +00.7	257 51.8 +02.0	S 22 07.1 +00.0	227 52.8 +02.2	S 22 14.2 -00.1	02						
03	153 52.9 +00.9	N 06 16.5 +00.7	272 53.8 +01.9	S 22 07.1 +00.1	242 55.0 +02.1	S 22 14.1 +00.0	03						
04	168 53.8 +00.9	N 06 17.2 +00.7	287 55.7 +02.0	S 22 07.2 +00.0	257 57.1 +02.2	S 22 14.1 +00.0	04						
05	183 54.7 +00.9	N 06 17.9 +00.6	302 57.7 +02.0	S 22 07.2 +00.1	272 59.3 +02.1	S 22 14.1 +00.0	05						
06	198 55.6 +00.9	N 06 18.5 +00.7	317 59.7 +01.9	S 22 07.3 +00.0	288 01.4 +02.2	S 22 14.1 -00.1	06						
07	213 56.5 +00.9	N 06 19.2 +00.7	333 01.6 +02.0	S 22 07.3 +00.1	303 03.6 +02.2	S 22 14.0 +00.0	07						
08	228 57.4 +00.9	N 06 19.9 +00.7	348 03.6 +02.0	S 22 07.4 +00.0	318 05.8 +02.1	S 22 14.0 +00.0	08						
09	243 58.3 +00.9	N 06 20.6 +00.7	3 05.6 +02.0	S 22 07.4 +00.1	333 07.9 +02.2	S 22 14.0 -00.1	09						
10	258 59.2 +01.0	N 06 21.3 +00.7	18 07.6 +01.9	S 22 07.5 +00.0	348 10.1 +02.1	S 22 13.9 +00.0	10						
11	274 00.2 +00.9	N 06 22.0 +00.7	33 09.5 +02.0	S 22 07.5 +00.1	3 12.2 +02.2	S 22 13.9 +00.0	11						
12	289 01.1 +00.9	N 06 22.7 +00.7	48 11.5 +02.0	S 22 07.6 +00.0	18 14.4 +02.2	S 22 13.9 +00.0	12						
13	304 02.0 +00.9	N 06 23.4 +00.7	63 13.5 +01.9	S 22 07.6 +00.1	33 16.6 +02.1	S 22 13.9 -00.1	13						
14	319 02.9 +00.9	N 06 24.1 +00.7	78 15.4 +02.0	S 22 07.7 +00.0	48 18.7 +02.2	S 22 13.8 +00.0	14						
15	334 03.8 +00.9	N 06 24.8 +00.7	93 17.4 +02.0	S 22 07.7 +00.1	63 20.9 +02.1	S 22 13.8 +00.0	15						
16	349 04.7 +00.9	N 06 25.5 +00.7	108 19.4 +01.9	S 22 07.8 +00.0	78 23.0 +02.2	S 22 13.8 +00.0	16						
17	4 05.6 +00.9	N 06 26.2 +00.6	123 21.3 +02.0	S 22 07.8 +00.1	93 25.2 +02.2	S 22 13.8 -00.1	17						
18	19 06.5 +00.9	N 06 26.8 +00.7	138 23.3 +02.0	S 22 07.9 +00.0	108 27.4 +02.1	S 22 13.7 +00.0	18						
19	34 07.4 +00.9	N 06 27.5 +00.7	153 25.3 +02.0	S 22 07.9 +00.0	123 29.5 +02.2	S 22 13.7 +00.0	19						
20	49 08.3 +00.9	N 06 28.2 +00.7	168 27.3 +01.9	S 22 07.9 +00.1	138 31.7 +02.1	S 22 13.7 -00.1	20						
21	64 09.2 +00.9	N 06 28.9 +00.7	183 29.2 +02.0	S 22 08.0 +00.0	153 33.8 +02.2	S 22 13.6 +00.0	21						
22	79 10.1 +01.0	N 06 29.6 +00.7	198 31.2 +02.0	S 22 08.0 +00.1	168 36.0 +02.2	S 22 13.6 +00.0	22						
23	94 11.1 +00.9	N 06 30.3 +00.7	213 33.2 +01.9	S 22 08.1 +00.0	183 38.2 +02.1	S 22 13.6 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	346° 346° 346° 345° 345° 345°		SHA	105° 105° 105° 105° 105° 105°		SHA	075° 075° 075° 075° 075° 075°						
Greenwich Culmination Time: 16:43				Greenwich Culmination Time: 08:47				Greenwich Culmination Time: 10:47					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 58.0 -00.2	S	19 05.1 -00.6	225 55.3 -00.4	S	20 03.0 +00.4	304 24.2 -31.4	N	05 12.7 -12.9	00			
01	191 57.8 -00.1	S	19 04.5 -00.7	240 54.9 -00.5	S	20 03.4 +00.3	318 52.8 -31.4	N	04 59.8 -13.0	01			
02	206 57.7 -00.2	S	19 03.8 -00.6	255 54.4 -00.5	S	20 03.7 +00.3	333 21.4 -31.3	N	04 46.8 -12.9	02			
03	221 57.5 -00.1	S	19 03.2 -00.6	270 53.9 -00.5	S	20 04.0 +00.4	347 50.1 -31.3	N	04 33.9 -13.0	03			
04	236 57.4 -00.1	S	19 02.6 -00.6	285 53.4 -00.4	S	20 04.4 +00.3	2 18.8 -31.2	N	04 20.9 -13.0	04			
05	251 57.3 -00.2	S	19 02.0 -00.6	300 53.0 -00.5	S	20 04.7 +00.3	16 47.6 -31.1	N	04 07.9 -13.0	05			
06	266 57.1 -00.1	S	19 01.4 -00.6	315 52.5 -00.5	S	20 05.0 +00.4	31 16.5 -31.1	N	03 54.9 -13.0	06			
07	281 57.0 -00.2	S	19 00.8 -00.6	330 52.0 -00.4	S	20 05.4 +00.3	45 45.4 -31.0	N	03 41.9 -13.0	07			
08	296 56.8 -00.1	S	19 00.2 -00.6	345 51.6 -00.5	S	20 05.7 +00.3	60 14.4 -30.9	N	03 28.9 -13.0	08			
09	311 56.7 -00.2	S	18 59.6 -00.7	0 51.1 -00.5	S	20 06.0 +00.4	74 43.5 -31.0	N	03 15.9 -13.0	09			
10	326 56.5 -00.1	S	18 58.9 -00.6	15 50.6 -00.5	S	20 06.4 +00.3	89 12.5 -30.8	N	03 02.9 -13.0	10			
11	341 56.4 -00.2	S	18 58.3 -00.6	30 50.1 -00.4	S	20 06.7 +00.3	103 41.7 -30.8	N	02 49.9 -13.0	11			
12	356 56.2 -00.1	S	18 57.7 -00.6	45 49.7 -00.5	S	20 07.0 +00.4	118 10.9 -30.7	N	02 36.9 -13.0	12			
13	11 56.1 -00.1	S	18 57.1 -00.6	60 49.2 -00.5	S	20 07.4 +00.3	132 40.2 -30.7	N	02 23.9 -13.0	13			
14	26 56.0 -00.2	S	18 56.5 -00.6	75 48.7 -00.5	S	20 07.7 +00.3	147 09.5 -30.7	N	02 10.9 -13.0	14			
15	41 55.8 -00.1	S	18 55.9 -00.7	90 48.2 -00.4	S	20 08.0 +00.3	161 38.8 -30.5	N	01 57.9 -13.0	15			
16	56 55.7 -00.2	S	18 55.2 -00.6	105 47.8 -00.5	S	20 08.3 +00.4	176 08.3 -30.6	N	01 44.9 -13.0	16			
17	71 55.5 -00.1	S	18 54.6 -00.6	120 47.3 -00.5	S	20 08.7 +00.3	190 37.7 -30.5	N	01 31.9 -13.0	17			
18	86 55.4 -00.1	S	18 54.0 -00.6	135 46.8 -00.5	S	20 09.0 +00.3	205 07.2 -30.4	N	01 18.9 -12.9	18			
19	101 55.3 -00.2	S	18 53.4 -00.6	150 46.3 -00.5	S	20 09.3 +00.3	219 36.8 -30.4	N	01 06.0 -13.0	19			
20	116 55.1 -00.1	S	18 52.8 -00.7	165 45.8 -00.4	S	20 09.6 +00.4	234 06.4 -30.3	N	00 53.0 -12.9	20			
21	131 55.0 -00.2	S	18 52.1 -00.6	180 45.4 -00.5	S	20 10.0 +00.3	248 36.1 -30.3	N	00 40.1 -13.0	21			
22	146 54.8 -00.1	S	18 51.5 -00.6	195 44.9 -00.5	S	20 10.3 +00.3	263 05.8 -30.3	N	00 27.1 -12.9	22			
23	161 54.7 -00.1	S	18 50.9 -00.6	210 44.4 -00.5	S	20 10.6 +00.3	277 35.5 -30.2	N	00 14.2 -12.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'3 16'3 16'2 16'2 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 59'8 59'7 59'5 59'4 59'2 59'1						
	SHA 053° 053° 053° 052° 052° 052°			SHA 102° 102° 101° 101° 101° 101°			SHA 179° 177° 175° 173° 170° 168°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 08:56			Greenwich Culmination Time: 03:50						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	109 12.0 +00.9	N	06 31.0 +00.7	228 35.1 +02.0	S	22 08.1 +00.1	198 40.3 +02.2	S	22 13.6 -00.1	00			
01	124 12.9 +00.9	N	06 31.7 +00.7	243 37.1 +02.0	S	22 08.2 +00.0	213 42.5 +02.1	S	22 13.5 +00.0	01			
02	139 13.8 +00.9	N	06 32.4 +00.7	258 39.1 +02.0	S	22 08.2 +00.1	228 44.6 +02.2	S	22 13.5 +00.0	02			
03	154 14.7 +00.9	N	06 33.1 +00.6	273 41.1 +01.9	S	22 08.3 +00.0	243 46.8 +02.2	S	22 13.5 +00.0	03			
04	169 15.6 +00.9	N	06 33.7 +00.7	288 43.0 +02.0	S	22 08.3 +00.1	258 49.0 +02.1	S	22 13.5 -00.1	04			
05	184 16.5 +00.9	N	06 34.4 +00.7	303 45.0 +02.0	S	22 08.4 +00.0	273 51.1 +02.2	S	22 13.4 +00.0	05			
06	199 17.4 +00.9	N	06 35.1 +00.7	318 47.0 +01.9	S	22 08.4 +00.1	288 53.3 +02.1	S	22 13.4 +00.0	06			
07	214 18.3 +00.9	N	06 35.8 +00.7	333 48.9 +02.0	S	22 08.5 +00.0	303 55.4 +02.2	S	22 13.4 -00.1	07			
08	229 19.2 +00.9	N	06 36.5 +00.7	348 50.9 +02.0	S	22 08.5 +00.0	318 57.6 +02.2	S	22 13.3 +00.0	08			
09	244 20.1 +00.9	N	06 37.2 +00.7	3 52.9 +02.0	S	22 08.5 +00.1	333 59.8 +02.1	S	22 13.3 +00.0	09			
10	259 21.0 +00.9	N	06 37.9 +00.7	18 54.9 +01.9	S	22 08.6 +00.0	349 01.9 +02.2	S	22 13.3 +00.0	10			
11	274 21.9 +00.9	N	06 38.6 +00.7	33 56.8 +02.0	S	22 08.6 +00.1	4 04.1 +02.1	S	22 13.3 -00.1	11			
12	289 22.8 +00.9	N	06 39.3 +00.7	48 58.8 +02.0	S	22 08.7 +00.0	19 06.2 +02.2	S	22 13.2 +00.0	12			
13	304 23.7 +01.0	N	06 40.0 +00.6	64 00.8 +02.0	S	22 08.7 +00.1	34 08.4 +02.2	S	22 13.2 +00.0	13			
14	319 24.7 +00.9	N	06 40.6 +00.7	79 02.8 +01.9	S	22 08.8 +00.0	49 10.6 +02.1	S	22 13.2 -00.1	14			
15	334 25.6 +00.9	N	06 41.3 +00.7	94 04.7 +02.0	S	22 08.8 +00.1	64 12.7 +02.2	S	22 13.1 +00.0	15			
16	349 26.5 +00.9	N	06 42.0 +00.7	109 06.7 +02.0	S	22 08.9 +00.0	79 14.9 +02.1	S	22 13.1 +00.0	16			
17	4 27.4 +00.9	N	06 42.7 +00.7	124 08.7 +02.0	S	22 08.9 +00.1	94 17.0 +02.2	S	22 13.1 +00.0	17			
18	19 28.3 +00.9	N	06 43.4 +00.7	139 10.7 +01.9	S	22 09.0 +00.0	109 19.2 +02.2	S	22 13.1 -00.1	18			
19	34 29.2 +00.9	N	06 44.1 +00.7	154 12.6 +02.0	S	22 09.0 +00.0	124 21.4 +02.1	S	22 13.0 +00.0	19			
20	49 30.1 +00.9	N	06 44.8 +00.7	169 14.6 +02.0	S	22 09.0 +00.1	139 23.5 +02.2	S	22 13.0 +00.0	20			
21	64 31.0 +00.9	N	06 45.5 +00.7	184 16.6 +01.9	S	22 09.1 +00.0	154 25.7 +02.1	S	22 13.0 +00.0	21			
22	79 31.9 +00.9	N	06 46.2 +00.6	199 18.5 +02.0	S	22 09.1 +00.1	169 27.8 +02.2	S	22 13.0 -00.1	22			
23	94 32.8 +00.9	N	06 46.8 +00.7	214 20.5 +02.0	S	22 09.2 +00.0	184 30.0 +02.2	S	22 12.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 345° 345° 345° 345° 345° 345°			SHA 105° 105° 104° 104° 104° 104°			SHA 075° 075° 075° 075° 075° 075°						
	Greenwich Culmination Time: 16:42			Greenwich Culmination Time: 08:44			Greenwich Culmination Time: 10:43						

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	176 54.6 -00.2	S 18 50.3 -00.7	225 43.9 -00.5	S 20 10.9 +00.4	292 05.3 -30.1	N 00 01.3 -12.9	00	01.3 -12.9	00	01.3 -12.9	00	01.3 -12.9	00	
01	191 54.4 -00.1	S 18 49.6 -00.6	240 43.4 -00.5	S 20 11.3 +00.3	306 35.2 -30.2	S 00 11.6 +12.8	01	11.6 +12.8	01	11.6 +12.8	01	11.6 +12.8	01	
02	206 54.3 -00.2	S 18 49.0 -00.6	255 42.9 -00.4	S 20 11.6 +00.3	321 05.0 -30.0	S 00 24.4 +12.9	02	24.4 +12.9	02	24.4 +12.9	02	24.4 +12.9	02	
03	221 54.1 -00.1	S 18 48.4 -00.6	270 42.5 -00.5	S 20 11.9 +00.3	335 35.0 -30.1	S 00 37.3 +12.8	03	37.3 +12.8	03	37.3 +12.8	03	37.3 +12.8	03	
04	236 54.0 -00.1	S 18 47.8 -00.7	285 42.0 -00.5	S 20 12.2 +00.3	350 04.9 -30.0	S 00 50.1 +12.8	04	50.1 +12.8	04	50.1 +12.8	04	50.1 +12.8	04	
05	251 53.9 -00.2	S 18 47.1 -00.6	300 41.5 -00.5	S 20 12.5 +00.4	4 34.9 -29.9	S 01 02.9 +12.8	05	02.9 +12.8	05	02.9 +12.8	05	02.9 +12.8	05	
06	266 53.7 -00.1	S 18 46.5 -00.6	315 41.0 -00.5	S 20 12.9 +00.3	19 05.0 -30.0	S 01 15.7 +12.8	06	15.7 +12.8	06	15.7 +12.8	06	15.7 +12.8	06	
07	281 53.6 -00.1	S 18 45.9 -00.6	330 40.5 -00.5	S 20 13.2 +00.3	33 35.0 -29.9	S 01 28.5 +12.7	07	28.5 +12.7	07	28.5 +12.7	07	28.5 +12.7	07	
08	296 53.5 -00.2	S 18 45.3 -00.7	345 40.0 -00.5	S 20 13.5 +00.3	48 05.1 -29.8	S 01 41.2 +12.7	08	41.2 +12.7	08	41.2 +12.7	08	41.2 +12.7	08	
09	311 53.3 -00.1	S 18 44.6 -00.6	0 39.5 -00.4	S 20 13.8 +00.3	62 35.3 -29.8	S 01 53.9 +12.7	09	53.9 +12.7	09	53.9 +12.7	09	53.9 +12.7	09	
10	326 53.2 -00.2	S 18 44.0 -00.6	15 39.1 -00.5	S 20 14.1 +00.3	77 05.5 -29.8	S 02 06.6 +12.6	10	06.6 +12.6	10	06.6 +12.6	10	06.6 +12.6	10	
11	341 53.0 -00.1	S 18 43.4 -00.7	30 38.6 -00.5	S 20 14.4 +00.3	91 35.7 -29.8	S 02 19.2 +12.7	11	19.2 +12.7	11	19.2 +12.7	11	19.2 +12.7	11	
12	356 52.9 -00.1	S 18 42.7 -00.6	45 38.1 -00.5	S 20 14.7 +00.4	106 05.9 -29.7	S 02 31.9 +12.6	12	31.9 +12.6	12	31.9 +12.6	12	31.9 +12.6	12	
13	11 52.8 -00.2	S 18 42.1 -00.6	60 37.6 -00.5	S 20 15.1 +00.3	120 36.2 -29.7	S 02 44.5 +12.5	13	44.5 +12.5	13	44.5 +12.5	13	44.5 +12.5	13	
14	26 52.6 -00.1	S 18 41.5 -00.6	75 37.1 -00.5	S 20 15.4 +00.3	135 06.5 -29.6	S 02 57.0 +12.6	14	57.0 +12.6	14	57.0 +12.6	14	57.0 +12.6	14	
15	41 52.5 -00.1	S 18 40.9 -00.7	90 36.6 -00.5	S 20 15.7 +00.3	149 36.9 -29.7	S 03 09.6 +12.5	15	09.6 +12.5	15	09.6 +12.5	15	09.6 +12.5	15	
16	56 52.4 -00.2	S 18 40.2 -00.6	105 36.1 -00.5	S 20 16.0 +00.3	164 07.2 -29.6	S 03 22.1 +12.4	16	22.1 +12.4	16	22.1 +12.4	16	22.1 +12.4	16	
17	71 52.2 -00.1	S 18 39.6 -00.6	120 35.6 -00.5	S 20 16.3 +00.3	178 37.6 -29.5	S 03 34.5 +12.5	17	34.5 +12.5	17	34.5 +12.5	17	34.5 +12.5	17	
18	86 52.1 -00.1	S 18 39.0 -00.7	135 35.1 -00.5	S 20 16.6 +00.3	193 08.1 -29.6	S 03 47.0 +12.4	18	47.0 +12.4	18	47.0 +12.4	18	47.0 +12.4	18	
19	101 52.0 -00.2	S 18 38.3 -00.6	150 34.6 -00.5	S 20 16.9 +00.3	207 38.5 -29.5	S 03 59.4 +12.3	19	59.4 +12.3	19	59.4 +12.3	19	59.4 +12.3	19	
20	116 51.8 -00.1	S 18 37.7 -00.7	165 34.1 -00.4	S 20 17.2 +00.3	222 09.0 -29.5	S 04 11.7 +12.3	20	11.7 +12.3	20	11.7 +12.3	20	11.7 +12.3	20	
21	131 51.7 -00.1	S 18 37.0 -00.6	180 33.7 -00.5	S 20 17.5 +00.3	236 39.5 -29.5	S 04 24.0 +12.3	21	24.0 +12.3	21	24.0 +12.3	21	24.0 +12.3	21	
22	146 51.6 -00.2	S 18 36.4 -00.6	195 33.2 -00.5	S 20 17.8 +00.3	251 10.0 -29.4	S 04 36.3 +12.3	22	36.3 +12.3	22	36.3 +12.3	22	36.3 +12.3	22	
23	161 51.4 -00.1	S 18 35.8 -00.7	210 32.7 -00.5	S 20 18.1 +00.3	265 40.6 -29.4	S 04 48.6 +12.2	23	48.6 +12.2	23	48.6 +12.2	23	48.6 +12.2	23	
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22	
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'1 16'0 16'0 15'9 15'9 15'9		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1	
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'9 58'8 58'6 58'5 58'3 58'2		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0	
	SHA 052° 052° 051° 051° 051° 051°		SHA 101° 100° 100° 100° 100° 100°		SHA 166° 164° 162° 160° 157° 155°		SHA 052° 052° 051° 051° 051° 051°		SHA 104° 104° 104° 104° 104° 104°		SHA 075° 075° 074° 074° 074° 074°		SHA 075° 075° 074° 074° 074° 074°	
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 08:57		Greenwich Culmination Time: 04:41		Greenwich Culmination Time: 16:40		Greenwich Culmination Time: 08:41		Greenwich Culmination Time: 10:40		Greenwich Culmination Time: 10:40	

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 48.3 -00.2	S	18 19.7 -00.7	225 20.1 -00.5	S	20 25.5 +00.3	268 29.8 -29.1	S	09 39.1 +10.9	00			
01	191 48.1 -00.1	S	18 19.0 -00.6	240 19.6 -00.5	S	20 25.8 +00.2	283 00.7 -29.2	S	09 50.0 +10.9	01			
02	206 48.0 -00.1	S	18 18.4 -00.7	255 19.1 -00.5	S	20 26.0 +00.3	297 31.5 -29.1	S	10 00.9 +10.8	02			
03	221 47.9 -00.1	S	18 17.7 -00.7	270 18.6 -00.6	S	20 26.3 +00.3	312 02.4 -29.1	S	10 11.7 +10.7	03			
04	236 47.8 -00.1	S	18 17.0 -00.6	285 18.0 -00.5	S	20 26.6 +00.3	326 33.3 -29.1	S	10 22.4 +10.6	04			
05	251 47.7 -00.2	S	18 16.4 -00.7	300 17.5 -00.5	S	20 26.9 +00.3	341 04.2 -29.1	S	10 33.0 +10.6	05			
06	266 47.5 -00.1	S	18 15.7 -00.6	315 17.0 -00.5	S	20 27.2 +00.2	355 35.1 -29.0	S	10 43.6 +10.6	06			
07	281 47.4 -00.1	S	18 15.1 -00.7	330 16.5 -00.5	S	20 27.4 +00.3	10 06.1 -29.1	S	10 54.2 +10.4	07			
08	296 47.3 -00.1	S	18 14.4 -00.6	345 16.0 -00.5	S	20 27.7 +00.3	24 37.0 -29.1	S	11 04.6 +10.4	08			
09	311 47.2 -00.1	S	18 13.8 -00.7	0 15.5 -00.5	S	20 28.0 +00.3	39 07.9 -29.1	S	11 15.0 +10.3	09			
10	326 47.1 -00.2	S	18 13.1 -00.6	15 15.0 -00.6	S	20 28.3 +00.2	53 38.8 -29.1	S	11 25.3 +10.3	10			
11	341 46.9 -00.1	S	18 12.5 -00.7	30 14.4 -00.5	S	20 28.5 +00.3	68 09.7 -29.2	S	11 35.6 +10.2	11			
12	356 46.8 -00.1	S	18 11.8 -00.7	45 13.9 -00.5	S	20 28.8 +00.3	82 40.5 -29.1	S	11 45.8 +10.1	12			
13	11 46.7 -00.1	S	18 11.1 -00.6	60 13.4 -00.5	S	20 29.1 +00.3	97 11.4 -29.1	S	11 55.9 +10.0	13			
14	26 46.6 -00.1	S	18 10.5 -00.7	75 12.9 -00.5	S	20 29.4 +00.2	111 42.3 -29.1	S	12 05.9 +10.0	14			
15	41 46.5 -00.2	S	18 09.8 -00.6	90 12.4 -00.5	S	20 29.6 +00.3	126 13.2 -29.1	S	12 15.9 +09.9	15			
16	56 46.3 -00.1	S	18 09.2 -00.7	105 11.9 -00.6	S	20 29.9 +00.3	140 44.1 -29.1	S	12 25.8 +09.9	16			
17	71 46.2 -00.1	S	18 08.5 -00.7	120 11.3 -00.5	S	20 30.2 +00.2	155 15.0 -29.2	S	12 35.7 +09.7	17			
18	86 46.1 -00.1	S	18 07.8 -00.6	135 10.8 -00.5	S	20 30.4 +00.3	169 45.8 -29.1	S	12 45.4 +09.7	18			
19	101 46.0 -00.1	S	18 07.2 -00.7	150 10.3 -00.5	S	20 30.7 +00.3	184 16.7 -29.1	S	12 55.1 +09.6	19			
20	116 45.9 -00.1	S	18 06.5 -00.7	165 09.8 -00.5	S	20 31.0 +00.3	198 47.6 -29.2	S	13 04.7 +09.6	20			
21	131 45.8 -00.2	S	18 05.8 -00.6	180 09.3 -00.6	S	20 31.3 +00.2	213 18.4 -29.1	S	13 14.3 +09.4	21			
22	146 45.6 -00.1	S	18 05.2 -00.7	195 08.7 -00.5	S	20 31.5 +00.3	227 49.3 -29.2	S	13 23.7 +09.4	22			
23	161 45.5 -00.1	S	18 04.5 -00.6	210 08.2 -00.5	S	20 31.8 +00.3	242 20.1 -29.2	S	13 33.1 +09.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'6 15'5 15'5 15'5 15'4 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 57'2 57'0 56'9 56'8 56'6 56'5						
	SHA 050° 050° 049° 049° 049° 049°			SHA 098° 098° 098° 098° 097° 097°			SHA 140° 138° 136° 134° 132° 130°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 08:58			Greenwich Culmination Time: 06:18						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110 17.1 +00.9	N	07 20.4 +00.7	230 57.5 +02.0	S	22 11.3 +00.1	201 16.0 +02.1	S	22 11.6 -00.1	00			
01	125 18.0 +00.9	N	07 21.1 +00.7	245 59.5 +02.0	S	22 11.4 +00.0	216 18.1 +02.2	S	22 11.5 +00.0	01			
02	140 18.9 +00.9	N	07 21.8 +00.7	261 01.5 +01.9	S	22 11.4 +00.1	231 20.3 +02.1	S	22 11.5 +00.0	02			
03	155 19.8 +00.9	N	07 22.5 +00.7	276 03.4 +02.0	S	22 11.5 +00.0	246 22.4 +02.2	S	22 11.5 +00.0	03			
04	170 20.7 +00.9	N	07 23.2 +00.6	291 05.4 +02.0	S	22 11.5 +00.1	261 24.6 +02.2	S	22 11.5 -00.1	04			
05	185 21.6 +00.9	N	07 23.8 +00.7	306 07.4 +02.0	S	22 11.6 +00.0	276 26.8 +02.1	S	22 11.4 +00.0	05			
06	200 22.5 +00.9	N	07 24.5 +00.7	321 09.4 +02.0	S	22 11.6 +00.1	291 28.9 +02.2	S	22 11.4 +00.0	06			
07	215 23.4 +00.9	N	07 25.2 +00.7	336 11.4 +02.0	S	22 11.7 +00.0	306 31.1 +02.2	S	22 11.4 -00.1	07			
08	230 24.3 +00.9	N	07 25.9 +00.7	351 13.4 +01.9	S	22 11.7 +00.0	321 33.3 +02.1	S	22 11.3 +00.0	08			
09	245 25.2 +00.9	N	07 26.6 +00.7	6 15.3 +02.0	S	22 11.7 +00.1	336 35.4 +02.2	S	22 11.3 +00.0	09			
10	260 26.1 +00.9	N	07 27.3 +00.6	21 17.3 +02.0	S	22 11.8 +00.0	351 37.6 +02.2	S	22 11.3 +00.0	10			
11	275 27.0 +00.9	N	07 27.9 +00.7	36 19.3 +02.0	S	22 11.8 +00.1	6 39.8 +02.1	S	22 11.3 -00.1	11			
12	290 27.9 +00.9	N	07 28.6 +00.7	51 21.3 +02.0	S	22 11.9 +00.0	21 41.9 +02.2	S	22 11.2 +00.0	12			
13	305 28.8 +00.9	N	07 29.3 +00.7	66 23.3 +02.0	S	22 11.9 +00.1	36 44.1 +02.1	S	22 11.2 +00.0	13			
14	320 29.7 +00.9	N	07 30.0 +00.7	81 25.3 +01.9	S	22 12.0 +00.0	51 46.2 +02.2	S	22 11.2 +00.0	14			
15	335 30.6 +00.9	N	07 30.7 +00.6	96 27.2 +02.0	S	22 12.0 +00.0	66 48.4 +02.2	S	22 11.2 -00.1	15			
16	350 31.5 +00.9	N	07 31.3 +00.7	111 29.2 +02.0	S	22 12.0 +00.1	81 50.6 +02.1	S	22 11.1 +00.0	16			
17	5 32.4 +00.9	N	07 32.0 +00.7	126 31.2 +02.0	S	22 12.1 +00.0	96 52.7 +02.2	S	22 11.1 +00.0	17			
18	20 33.3 +00.9	N	07 32.7 +00.7	141 33.2 +02.0	S	22 12.1 +00.1	111 54.9 +02.2	S	22 11.1 -00.1	18			
19	35 34.2 +00.9	N	07 33.4 +00.7	156 35.2 +02.0	S	22 12.2 +00.0	126 57.1 +02.1	S	22 11.0 +00.0	19			
20	50 35.1 +00.9	N	07 34.1 +00.6	171 37.2 +02.0	S	22 12.2 +00.0	141 59.2 +02.2	S	22 11.0 +00.0	20			
21	65 36.0 +00.9	N	07 34.7 +00.7	186 39.2 +01.9	S	22 12.2 +00.1	157 01.4 +02.2	S	22 11.0 +00.0	21			
22	80 36.9 +00.9	N	07 35.4 +00.7	201 41.1 +02.0	S	22 12.3 +00.0	172 03.6 +02.1	S	22 11.0 -00.1	22			
23	95 37.8 +00.9	N	07 36.1 +00.7	216 43.1 +02.0	S	22 12.3 +00.1	187 05.7 +02.2	S	22 10.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 343° 343° 343° 343° 343° 343°			SHA 104° 104° 104° 104° 104° 104°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 16:37			Greenwich Culmination Time: 08:35			Greenwich Culmination Time: 10:33						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 45.4 -00.1	S	18 03.9 -00.7	225 07.7 -00.5	S	20 32.1 +00.2	256 50.9 -29.1	S	13 42.4 +09.3	00			
01	191 45.3 -00.1	S	18 03.2 -00.7	240 07.2 -00.5	S	20 32.3 +00.3	271 21.8 -29.2	S	13 51.7 +09.1	01			
02	206 45.2 -00.1	S	18 02.5 -00.6	255 06.7 -00.6	S	20 32.6 +00.2	285 52.6 -29.2	S	14 00.8 +09.1	02			
03	221 45.1 -00.1	S	18 01.9 -00.7	270 06.1 -00.5	S	20 32.8 +00.3	300 23.4 -29.2	S	14 09.9 +09.0	03			
04	236 45.0 -00.2	S	18 01.2 -00.7	285 05.6 -00.5	S	20 33.1 +00.3	314 54.2 -29.3	S	14 18.9 +09.0	04			
05	251 44.8 -00.1	S	18 00.5 -00.6	300 05.1 -00.5	S	20 33.4 +00.2	329 24.9 -29.2	S	14 27.9 +08.8	05			
06	266 44.7 -00.1	S	17 59.9 -00.7	315 04.6 -00.6	S	20 33.6 +00.3	343 55.7 -29.2	S	14 36.7 +08.8	06			
07	281 44.6 -00.1	S	17 59.2 -00.7	330 04.0 -00.5	S	20 33.9 +00.2	358 26.5 -29.3	S	14 45.5 +08.6	07			
08	296 44.5 -00.1	S	17 58.5 -00.7	345 03.5 -00.5	S	20 34.1 +00.3	12 57.2 -29.2	S	14 54.1 +08.6	08			
09	311 44.4 -00.1	S	17 57.8 -00.6	0 03.0 -00.6	S	20 34.4 +00.3	27 28.0 -29.3	S	15 02.7 +08.6	09			
10	326 44.3 -00.1	S	17 57.2 -00.7	15 02.4 -00.5	S	20 34.7 +00.2	41 58.7 -29.3	S	15 11.3 +08.4	10			
11	341 44.2 -00.1	S	17 56.5 -00.7	30 01.9 -00.5	S	20 34.9 +00.3	56 29.4 -29.3	S	15 19.7 +08.4	11			
12	356 44.1 -00.1	S	17 55.8 -00.6	45 01.4 -00.5	S	20 35.2 +00.2	71 00.1 -29.3	S	15 28.1 +08.2	12			
13	11 44.0 -00.2	S	17 55.2 -00.7	60 00.9 -00.6	S	20 35.4 +00.3	85 30.8 -29.3	S	15 36.3 +08.2	13			
14	26 43.8 -00.1	S	17 54.5 -00.7	75 00.3 -00.5	S	20 35.7 +00.2	100 01.5 -29.3	S	15 44.5 +08.1	14			
15	41 43.7 -00.1	S	17 53.8 -00.7	89 59.8 -00.5	S	20 35.9 +00.3	114 32.2 -29.4	S	15 52.6 +08.0	15			
16	56 43.6 -00.1	S	17 53.1 -00.6	104 59.3 -00.6	S	20 36.2 +00.2	129 02.8 -29.3	S	16 00.6 +08.0	16			
17	71 43.5 -00.1	S	17 52.5 -00.7	119 58.7 -00.5	S	20 36.4 +00.3	143 33.5 -29.4	S	16 08.6 +07.8	17			
18	86 43.4 -00.1	S	17 51.8 -00.7	134 58.2 -00.5	S	20 36.7 +00.2	158 04.1 -29.4	S	16 16.4 +07.8	18			
19	101 43.3 -00.1	S	17 51.1 -00.7	149 57.7 -00.6	S	20 36.9 +00.3	172 34.7 -29.3	S	16 24.2 +07.6	19			
20	116 43.2 -00.1	S	17 50.4 -00.6	164 57.1 -00.5	S	20 37.2 +00.2	187 05.4 -29.4	S	16 31.8 +07.6	20			
21	131 43.1 -00.1	S	17 49.8 -00.7	179 56.6 -00.5	S	20 37.4 +00.3	201 36.0 -29.5	S	16 39.4 +07.5	21			
22	146 43.0 -00.1	S	17 49.1 -00.7	194 56.1 -00.6	S	20 37.7 +00.2	216 06.5 -29.4	S	16 46.9 +07.4	22			
23	161 42.9 -00.1	S	17 48.4 -00.7	209 55.5 -00.5	S	20 37.9 +00.3	230 37.1 -29.4	S	16 54.3 +07.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'4 15'3 15'3 15'3 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 56'4 56'3 56'2 56'0 55'9 55'8						
	SHA 049° 049° 048° 048° 048° 048°			SHA 097° 097° 097° 096° 096° 096°			SHA 128° 126° 124° 121° 119° 117°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 08:59			Greenwich Culmination Time: 07:06						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110 38.7 +00.9	N	07 36.8 +00.7	231 45.1 +02.0	S	22 12.4 +00.0	202 07.9 +02.2	S	22 10.9 +00.0	00			
01	125 39.6 +00.9	N	07 37.5 +00.7	246 47.1 +02.0	S	22 12.4 +00.1	217 10.1 +02.1	S	22 10.9 -00.1	01			
02	140 40.5 +00.9	N	07 38.2 +00.6	261 49.1 +02.0	S	22 12.5 +00.0	232 12.2 +02.2	S	22 10.8 +00.0	02			
03	155 41.4 +00.9	N	07 38.8 +00.7	276 51.1 +02.0	S	22 12.5 +00.0	247 14.4 +02.2	S	22 10.8 +00.0	03			
04	170 42.3 +00.9	N	07 39.5 +00.7	291 53.1 +02.0	S	22 12.5 +00.1	262 16.6 +02.1	S	22 10.8 +00.0	04			
05	185 43.2 +00.9	N	07 40.2 +00.7	306 55.1 +01.9	S	22 12.6 +00.0	277 18.7 +02.2	S	22 10.8 -00.1	05			
06	200 44.1 +00.9	N	07 40.9 +00.6	321 57.0 +02.0	S	22 12.6 +00.1	292 20.9 +02.1	S	22 10.7 +00.0	06			
07	215 45.0 +00.9	N	07 41.5 +00.7	336 59.0 +02.0	S	22 12.7 +00.0	307 23.0 +02.2	S	22 10.7 +00.0	07			
08	230 45.9 +00.9	N	07 42.2 +00.7	352 01.0 +02.0	S	22 12.7 +00.1	322 25.2 +02.2	S	22 10.7 -00.1	08			
09	245 46.8 +00.9	N	07 42.9 +00.7	7 03.0 +02.0	S	22 12.8 +00.0	337 27.4 +02.1	S	22 10.6 +00.0	09			
10	260 47.7 +00.9	N	07 43.6 +00.7	22 05.0 +02.0	S	22 12.8 +00.0	352 29.5 +02.2	S	22 10.6 +00.0	10			
11	275 48.6 +00.9	N	07 44.3 +00.6	37 07.0 +02.0	S	22 12.8 +00.1	7 31.7 +02.2	S	22 10.6 +00.0	11			
12	290 49.5 +00.9	N	07 44.9 +00.7	52 09.0 +02.0	S	22 12.9 +00.0	22 33.9 +02.1	S	22 10.6 -00.1	12			
13	305 50.4 +00.8	N	07 45.6 +00.7	67 11.0 +02.0	S	22 12.9 +00.1	37 36.0 +02.2	S	22 10.5 +00.0	13			
14	320 51.2 +00.9	N	07 46.3 +00.7	82 13.0 +01.9	S	22 13.0 +00.0	52 38.2 +02.2	S	22 10.5 +00.0	14			
15	335 52.1 +00.9	N	07 47.0 +00.7	97 14.9 +02.0	S	22 13.0 +00.0	67 40.4 +02.1	S	22 10.5 +00.0	15			
16	350 53.0 +00.9	N	07 47.7 +00.6	112 16.9 +02.0	S	22 13.0 +00.1	82 42.5 +02.2	S	22 10.5 -00.1	16			
17	5 53.9 +00.9	N	07 48.3 +00.7	127 18.9 +02.0	S	22 13.1 +00.0	97 44.7 +02.2	S	22 10.4 +00.0	17			
18	20 54.8 +00.9	N	07 49.0 +00.7	142 20.9 +02.0	S	22 13.1 +00.1	112 46.9 +02.1	S	22 10.4 +00.0	18			
19	35 55.7 +00.9	N	07 49.7 +00.7	157 22.9 +02.0	S	22 13.2 +00.0	127 49.0 +02.2	S	22 10.4 -00.1	19			
20	50 56.6 +00.9	N	07 50.4 +00.7	172 24.9 +02.0	S	22 13.2 +00.1	142 51.2 +02.2	S	22 10.3 +00.0	20			
21	65 57.5 +00.9	N	07 51.1 +00.6	187 26.9 +02.0	S	22 13.3 +00.0	157 53.4 +02.1	S	22 10.3 +00.0	21			
22	80 58.4 +00.9	N	07 51.7 +00.7	202 28.9 +02.0	S	22 13.3 +00.0	172 55.5 +02.2	S	22 10.3 +00.0	22			
23	95 59.3 +00.9	N	07 52.4 +00.7	217 30.9 +02.0	S	22 13.3 +00.1	187 57.7 +02.2	S	22 10.3 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 343° 343° 342° 342° 342° 342°			SHA 104° 104° 104° 104° 104° 104°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 16:36			Greenwich Culmination Time: 08:31			Greenwich Culmination Time: 10:29						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 42.8 -00.1	S	17 47.7 -00.7	224 55.0 -00.5	S	20 38.2 +00.2	245 07.7 -29.5	S	17 01.7 +07.2	00			
01	191 42.7 -00.1	S	17 47.0 -00.6	239 54.5 -00.6	S	20 38.4 +00.3	259 38.2 -29.5	S	17 08.9 +07.1	01			
02	206 42.6 -00.1	S	17 46.4 -00.7	254 53.9 -00.5	S	20 38.7 +00.2	274 08.7 -29.5	S	17 16.0 +07.1	02			
03	221 42.5 -00.2	S	17 45.7 -00.7	269 53.4 -00.5	S	20 38.9 +00.2	288 39.2 -29.5	S	17 23.1 +06.9	03			
04	236 42.3 -00.1	S	17 45.0 -00.7	284 52.9 -00.6	S	20 39.1 +00.3	303 09.7 -29.5	S	17 30.0 +06.9	04			
05	251 42.2 -00.1	S	17 44.3 -00.7	299 52.3 -00.5	S	20 39.4 +00.2	317 40.2 -29.5	S	17 36.9 +06.8	05			
06	266 42.1 -00.1	S	17 43.6 -00.6	314 51.8 -00.5	S	20 39.6 +00.3	332 10.7 -29.5	S	17 43.7 +06.7	06			
07	281 42.0 -00.1	S	17 43.0 -00.7	329 51.3 -00.6	S	20 39.9 +00.2	346 41.2 -29.6	S	17 50.4 +06.6	07			
08	296 41.9 -00.1	S	17 42.3 -00.7	344 50.7 -00.5	S	20 40.1 +00.2	1 11.6 -29.6	S	17 57.0 +06.5	08			
09	311 41.8 -00.1	S	17 41.6 -00.7	359 50.2 -00.6	S	20 40.3 +00.3	15 42.0 -29.6	S	18 03.5 +06.4	09			
10	326 41.7 -00.1	S	17 40.9 -00.7	14 49.6 -00.5	S	20 40.6 +00.2	30 12.4 -29.6	S	18 09.9 +06.3	10			
11	341 41.6 -00.1	S	17 40.2 -00.7	29 49.1 -00.5	S	20 40.8 +00.2	44 42.8 -29.6	S	18 16.2 +06.2	11			
12	356 41.5 -00.1	S	17 39.5 -00.6	44 48.6 -00.6	S	20 41.0 +00.3	59 13.2 -29.6	S	18 22.4 +06.1	12			
13	11 41.4 -00.1	S	17 38.9 -00.7	59 48.0 -00.5	S	20 41.3 +00.2	73 43.6 -29.6	S	18 28.5 +06.0	13			
14	26 41.3 -00.1	S	17 38.2 -00.7	74 47.5 -00.6	S	20 41.5 +00.2	88 14.0 -29.7	S	18 34.5 +06.0	14			
15	41 41.2 -00.1	S	17 37.5 -00.7	89 46.9 -00.5	S	20 41.7 +00.3	102 44.3 -29.6	S	18 40.5 +05.8	15			
16	56 41.1 -00.1	S	17 36.8 -00.7	104 46.4 -00.6	S	20 42.0 +00.2	117 14.7 -29.7	S	18 46.3 +05.8	16			
17	71 41.0 -00.1	S	17 36.1 -00.7	119 45.8 -00.5	S	20 42.2 +00.2	131 45.0 -29.7	S	18 52.1 +05.6	17			
18	86 40.9 -00.1	S	17 35.4 -00.7	134 45.3 -00.5	S	20 42.4 +00.3	146 15.3 -29.7	S	18 57.7 +05.6	18			
19	101 40.8 -00.1	S	17 34.7 -00.7	149 44.8 -00.6	S	20 42.7 +00.2	160 45.6 -29.7	S	19 03.3 +05.4	19			
20	116 40.7 -00.1	S	17 34.0 -00.7	164 44.2 -00.5	S	20 42.9 +00.2	175 15.9 -29.7	S	19 08.7 +05.4	20			
21	131 40.6 -00.1	S	17 33.3 -00.6	179 43.7 -00.6	S	20 43.1 +00.2	189 46.2 -29.8	S	19 14.1 +05.2	21			
22	146 40.5 -00.1	S	17 32.7 -00.7	194 43.1 -00.5	S	20 43.3 +00.3	204 16.4 -29.7	S	19 19.3 +05.2	22			
23	161 40.4 -00.1	S	17 32.0 -00.7	209 42.6 -00.6	S	20 43.6 +00.2	218 46.7 -29.8	S	19 24.5 +05.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'2 15'2 15'1 15'1 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 55'7 55'6 55'5 55'4 55'3 55'2						
	SHA 048° 048° 047° 047° 047° 047°			SHA 096° 096° 095° 095° 095° 095°			SHA 115° 113° 111° 109° 107° 104°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:00			Greenwich Culmination Time: 07:55						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111 00.2 +00.9	N	07 53.1 +00.7	232 32.9 +01.9	S	22 13.4 +00.0	202 59.9 +02.1	S	22 10.2 +00.0	00			
01	126 01.1 +00.9	N	07 53.8 +00.6	247 34.8 +02.0	S	22 13.4 +00.1	218 02.0 +02.2	S	22 10.2 +00.0	01			
02	141 02.0 +00.9	N	07 54.4 +00.7	262 36.8 +02.0	S	22 13.5 +00.0	233 04.2 +02.2	S	22 10.2 -00.1	02			
03	156 02.9 +00.9	N	07 55.1 +00.7	277 38.8 +02.0	S	22 13.5 +00.0	248 06.4 +02.1	S	22 10.1 +00.0	03			
04	171 03.8 +00.9	N	07 55.8 +00.7	292 40.8 +02.0	S	22 13.5 +00.1	263 08.5 +02.2	S	22 10.1 +00.0	04			
05	186 04.7 +00.9	N	07 56.5 +00.7	307 42.8 +02.0	S	22 13.6 +00.0	278 10.7 +02.2	S	22 10.1 +00.0	05			
06	201 05.6 +00.9	N	07 57.2 +00.6	322 44.8 +02.0	S	22 13.6 +00.1	293 12.9 +02.1	S	22 10.1 -00.1	06			
07	216 06.5 +00.9	N	07 57.8 +00.7	337 46.8 +02.0	S	22 13.7 +00.0	308 15.0 +02.2	S	22 10.0 +00.0	07			
08	231 07.4 +00.9	N	07 58.5 +00.7	352 48.8 +02.0	S	22 13.7 +00.0	323 17.2 +02.2	S	22 10.0 +00.0	08			
09	246 08.3 +00.9	N	07 59.2 +00.7	7 50.8 +02.0	S	22 13.7 +00.1	338 19.4 +02.1	S	22 10.0 -00.1	09			
10	261 09.2 +00.9	N	07 59.9 +00.6	22 52.8 +02.0	S	22 13.8 +00.0	353 21.5 +02.2	S	22 09.9 +00.0	10			
11	276 10.1 +00.9	N	08 00.5 +00.7	37 54.8 +02.0	S	22 13.8 +00.1	8 23.7 +02.2	S	22 09.9 +00.0	11			
12	291 11.0 +00.9	N	08 01.2 +00.7	52 56.8 +01.9	S	22 13.9 +00.0	23 25.9 +02.1	S	22 09.9 +00.0	12			
13	306 11.9 +00.9	N	08 01.9 +00.7	67 58.7 +02.0	S	22 13.9 +00.1	38 28.0 +02.2	S	22 09.9 -00.1	13			
14	321 12.8 +00.9	N	08 02.6 +00.6	83 00.7 +02.0	S	22 14.0 +00.0	53 30.2 +02.2	S	22 09.8 +00.0	14			
15	336 13.7 +00.9	N	08 03.2 +00.7	98 02.7 +02.0	S	22 14.0 +00.0	68 32.4 +02.1	S	22 09.8 +00.0	15			
16	351 14.6 +00.9	N	08 03.9 +00.7	113 04.7 +02.0	S	22 14.0 +00.1	83 34.5 +02.2	S	22 09.8 -00.1	16			
17	6 15.5 +00.9	N	08 04.6 +00.7	128 06.7 +02.0	S	22 14.1 +00.0	98 36.7 +02.2	S	22 09.7 +00.0	17			
18	21 16.4 +00.8	N	08 05.3 +00.6	143 08.7 +02.0	S	22 14.1 +00.1	113 38.9 +02.1	S	22 09.7 +00.0	18			
19	36 17.2 +00.9	N	08 05.9 +00.7	158 10.7 +02.0	S	22 14.2 +00.0	128 41.0 +02.2	S	22 09.7 +00.0	19			
20	51 18.1 +00.9	N	08 06.6 +00.7	173 12.7 +02.0	S	22 14.2 +00.0	143 43.2 +02.2	S	22 09.7 -00.1	20			
21	66 19.0 +00.9	N	08 07.3 +00.7	188 14.7 +02.0	S	22 14.2 +00.1	158 45.4 +02.1	S	22 09.6 +00.0	21			
22	81 19.9 +00.9	N	08 08.0 +00.6	203 16.7 +02.0	S	22 14.3 +00.0	173 47.5 +02.2	S	22 09.6 +00.0	22			
23	96 20.8 +00.9	N	08 08.6 +00.7	218 18.7 +02.0	S	22 14.3 +00.1	188 49.7 +02.2	S	22 09.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 342° 342° 342° 342° 342° 341°			SHA 104° 104° 104° 103° 103° 103°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 16:34			Greenwich Culmination Time: 08:28			Greenwich Culmination Time: 10:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 40.3 -00.1	S	17 31.3 -00.7	224 42.0 -00.5	S	20 43.8 +00.2	233 16.9 -29.7	S	19 29.5 +05.0	00			
01	191 40.2 -00.1	S	17 30.6 -00.7	239 41.5 -00.6	S	20 44.0 +00.2	247 47.2 -29.8	S	19 34.5 +04.9	01			
02	206 40.1 -00.1	S	17 29.9 -00.7	254 40.9 -00.5	S	20 44.2 +00.3	262 17.4 -29.8	S	19 39.4 +04.7	02			
03	221 40.0 -00.1	S	17 29.2 -00.7	269 40.4 -00.6	S	20 44.5 +00.2	276 47.6 -29.8	S	19 44.1 +04.7	03			
04	236 39.9 -00.1	S	17 28.5 -00.7	284 39.8 -00.5	S	20 44.7 +00.2	291 17.8 -29.8	S	19 48.8 +04.6	04			
05	251 39.8 -00.1	S	17 27.8 -00.7	299 39.3 -00.6	S	20 44.9 +00.2	305 48.0 -29.8	S	19 53.4 +04.4	05			
06	266 39.7 -00.1	S	17 27.1 -00.7	314 38.7 -00.5	S	20 45.1 +00.2	320 18.2 -29.9	S	19 57.8 +04.4	06			
07	281 39.6 -00.1	S	17 26.4 -00.7	329 38.2 -00.6	S	20 45.3 +00.3	334 48.3 -29.8	S	20 02.2 +04.3	07			
08	296 39.5 -00.1	S	17 25.7 -00.7	344 37.6 -00.5	S	20 45.6 +00.2	349 18.5 -29.9	S	20 06.5 +04.1	08			
09	311 39.4 +00.0	S	17 25.0 -00.7	359 37.1 -00.6	S	20 45.8 +00.2	3 48.6 -29.8	S	20 10.6 +04.1	09			
10	326 39.4 -00.1	S	17 24.3 -00.7	14 36.5 -00.5	S	20 46.0 +00.2	18 18.8 -29.9	S	20 14.7 +04.0	10			
11	341 39.3 -00.1	S	17 23.6 -00.7	29 36.0 -00.6	S	20 46.2 +00.2	32 48.9 -29.8	S	20 18.7 +03.8	11			
12	356 39.2 -00.1	S	17 22.9 -00.7	44 35.4 -00.5	S	20 46.4 +00.2	47 19.1 -29.9	S	20 22.5 +03.8	12			
13	11 39.1 -00.1	S	17 22.2 -00.7	59 34.9 -00.6	S	20 46.6 +00.3	61 49.2 -29.9	S	20 26.3 +03.6	13			
14	26 39.0 -00.1	S	17 21.5 -00.7	74 34.3 -00.5	S	20 46.9 +00.2	76 19.3 -29.9	S	20 29.9 +03.6	14			
15	41 38.9 -00.1	S	17 20.8 -00.7	89 33.8 -00.6	S	20 47.1 +00.2	90 49.4 -29.9	S	20 33.5 +03.5	15			
16	56 38.8 -00.1	S	17 20.1 -00.7	104 33.2 -00.5	S	20 47.3 +00.2	105 19.5 -29.9	S	20 37.0 +03.3	16			
17	71 38.7 -00.1	S	17 19.4 -00.7	119 32.7 -00.6	S	20 47.5 +00.2	119 49.6 -29.9	S	20 40.3 +03.2	17			
18	86 38.6 -00.1	S	17 18.7 -00.7	134 32.1 -00.5	S	20 47.7 +00.2	134 19.7 -29.9	S	20 43.5 +03.2	18			
19	101 38.5 -00.1	S	17 18.0 -00.7	149 31.6 -00.6	S	20 47.9 +00.2	148 49.8 -29.9	S	20 46.7 +03.0	19			
20	116 38.4 -00.1	S	17 17.3 -00.7	164 31.0 -00.6	S	20 48.1 +00.2	163 19.9 -30.0	S	20 49.7 +03.0	20			
21	131 38.3 -00.1	S	17 16.6 -00.7	179 30.4 -00.5	S	20 48.3 +00.2	177 49.9 -29.9	S	20 52.7 +02.8	21			
22	146 38.2 +00.0	S	17 15.9 -00.7	194 29.9 -00.6	S	20 48.5 +00.2	192 20.0 -29.9	S	20 55.5 +02.7	22			
23	161 38.2 -00.1	S	17 15.2 -00.7	209 29.3 -00.5	S	20 48.7 +00.2	206 50.1 -30.0	S	20 58.2 +02.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'0 15'0 15'0 15'0 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 55'2 55'1 55'0 54'9 54'9 54'8						
	SHA 047° 046° 046° 046° 046° 046°			SHA 095° 094° 094° 094° 094° 094°			SHA 102° 100° 098° 096° 094° 092°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:01			Greenwich Culmination Time: 08:44						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111 21.7 +00.9	N	08 09.3 +00.7	233 20.7 +02.0	S	22 14.4 +00.0	203 51.9 +02.1	S	22 09.6 -00.1	00			
01	126 22.6 +00.9	N	08 10.0 +00.7	248 22.7 +02.0	S	22 14.4 +00.0	218 54.0 +02.2	S	22 09.5 +00.0	01			
02	141 23.5 +00.9	N	08 10.7 +00.6	263 24.7 +02.0	S	22 14.4 +00.1	233 56.2 +02.2	S	22 09.5 +00.0	02			
03	156 24.4 +00.9	N	08 11.3 +00.7	278 26.7 +02.0	S	22 14.5 +00.0	248 58.4 +02.2	S	22 09.5 -00.1	03			
04	171 25.3 +00.9	N	08 12.0 +00.7	293 28.7 +02.0	S	22 14.5 +00.1	264 00.6 +02.1	S	22 09.4 +00.0	04			
05	186 26.2 +00.9	N	08 12.7 +00.7	308 30.7 +01.9	S	22 14.6 +00.0	279 02.7 +02.2	S	22 09.4 +00.0	05			
06	201 27.1 +00.9	N	08 13.4 +00.6	323 32.6 +02.0	S	22 14.6 +00.0	294 04.9 +02.2	S	22 09.4 +00.0	06			
07	216 28.0 +00.9	N	08 14.0 +00.7	338 34.6 +02.0	S	22 14.6 +00.1	309 07.1 +02.1	S	22 09.4 -00.1	07			
08	231 28.9 +00.9	N	08 14.7 +00.7	353 36.6 +02.0	S	22 14.7 +00.0	324 09.2 +02.2	S	22 09.3 +00.0	08			
09	246 29.8 +00.9	N	08 15.4 +00.7	8 38.6 +02.0	S	22 14.7 +00.1	339 11.4 +02.2	S	22 09.3 +00.0	09			
10	261 30.7 +00.9	N	08 16.1 +00.6	23 40.6 +02.0	S	22 14.8 +00.0	354 13.6 +02.1	S	22 09.3 -00.1	10			
11	276 31.6 +00.8	N	08 16.7 +00.7	38 42.6 +02.0	S	22 14.8 +00.0	9 15.7 +02.2	S	22 09.2 +00.0	11			
12	291 32.4 +00.9	N	08 17.4 +00.7	53 44.6 +02.0	S	22 14.8 +00.1	24 17.9 +02.2	S	22 09.2 +00.0	12			
13	306 33.3 +00.9	N	08 18.1 +00.7	68 46.6 +02.0	S	22 14.9 +00.0	39 20.1 +02.1	S	22 09.2 +00.0	13			
14	321 34.2 +00.9	N	08 18.8 +00.6	83 48.6 +02.0	S	22 14.9 +00.1	54 22.2 +02.2	S	22 09.2 -00.1	14			
15	336 35.1 +00.9	N	08 19.4 +00.7	98 50.6 +02.0	S	22 15.0 +00.0	69 24.4 +02.2	S	22 09.1 +00.0	15			
16	351 36.0 +00.9	N	08 20.1 +00.7	113 52.6 +02.0	S	22 15.0 +00.0	84 26.6 +02.1	S	22 09.1 +00.0	16			
17	6 36.9 +00.9	N	08 20.8 +00.6	128 54.6 +02.0	S	22 15.0 +00.1	99 28.7 +02.2	S	22 09.1 -00.1	17			
18	21 37.8 +00.9	N	08 21.4 +00.7	143 56.6 +02.0	S	22 15.1 +00.0	114 30.9 +02.2	S	22 09.0 +00.0	18			
19	36 38.7 +00.9	N	08 22.1 +00.7	158 58.6 +02.0	S	22 15.1 +00.1	129 33.1 +02.1	S	22 09.0 +00.0	19			
20	51 39.6 +00.9	N	08 22.8 +00.7	174 00.6 +02.0	S	22 15.2 +00.0	144 35.2 +02.2	S	22 09.0 +00.0	20			
21	66 40.5 +00.9	N	08 23.5 +00.6	189 02.6 +02.0	S	22 15.2 +00.0	159 37.4 +02.2	S	22 09.0 -00.1	21			
22	81 41.4 +00.9	N	08 24.1 +00.7	204 04.6 +02.0	S	22 15.2 +00.1	174 39.6 +02.2	S	22 08.9 +00.0	22			
23	96 42.3 +00.9	N	08 24.8 +00.7	219 06.6 +02.0	S	22 15.3 +00.0	189 41.8 +02.1	S	22 08.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 341° 341° 341° 341° 341° 341°			SHA 103° 103° 103° 103° 103° 103°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 16:33			Greenwich Culmination Time: 08:25			Greenwich Culmination Time: 10:23						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 38.1 -00.1	S	17 14.5 -00.7	224 28.8 -00.6	S	20 48.9 +00.2	221 20.1 -29.9	S	21 00.9 +02.5	00										
01	191 38.0 -00.1	S	17 13.8 -00.7	239 28.2 -00.5	S	20 49.1 +00.2	235 50.2 -29.9	S	21 03.4 +02.4	01										
02	206 37.9 -00.1	S	17 13.1 -00.7	254 27.7 -00.6	S	20 49.3 +00.2	250 20.3 -30.0	S	21 05.8 +02.3	02										
03	221 37.8 -00.1	S	17 12.4 -00.7	269 27.1 -00.6	S	20 49.5 +00.2	264 50.3 -29.9	S	21 08.1 +02.3	03										
04	236 37.7 -00.1	S	17 11.7 -00.7	284 26.5 -00.5	S	20 49.7 +00.2	279 20.4 -29.9	S	21 10.4 +02.1	04										
05	251 37.6 -00.1	S	17 11.0 -00.7	299 26.0 -00.6	S	20 49.9 +00.2	293 50.5 -30.0	S	21 12.5 +02.0	05										
06	266 37.5 -00.1	S	17 10.3 -00.7	314 25.4 -00.5	S	20 50.1 +00.2	308 20.5 -29.9	S	21 14.5 +01.9	06										
07	281 37.4 +00.0	S	17 09.6 -00.7	329 24.9 -00.6	S	20 50.3 +00.2	322 50.6 -29.9	S	21 16.4 +01.8	07										
08	296 37.4 -00.1	S	17 08.9 -00.8	344 24.3 -00.6	S	20 50.5 +00.2	337 20.7 -29.9	S	21 18.2 +01.7	08										
09	311 37.3 -00.1	S	17 08.1 -00.7	359 23.7 -00.5	S	20 50.7 +00.2	351 50.8 -30.0	S	21 19.9 +01.6	09										
10	326 37.2 -00.1	S	17 07.4 -00.7	14 23.2 -00.6	S	20 50.9 +00.2	6 20.8 -29.9	S	21 21.5 +01.4	10										
11	341 37.1 -00.1	S	17 06.7 -00.7	29 22.6 -00.5	S	20 51.1 +00.2	20 50.9 -29.9	S	21 22.9 +01.4	11										
12	356 37.0 -00.1	S	17 06.0 -00.7	44 22.1 -00.6	S	20 51.3 +00.2	35 21.0 -29.9	S	21 24.3 +01.3	12										
13	11 36.9 -00.1	S	17 05.3 -00.7	59 21.5 -00.6	S	20 51.5 +00.2	49 51.1 -29.9	S	21 25.6 +01.2	13										
14	26 36.8 +00.0	S	17 04.6 -00.7	74 20.9 -00.5	S	20 51.7 +00.2	64 21.2 -29.9	S	21 26.8 +01.0	14										
15	41 36.8 -00.1	S	17 03.9 -00.7	89 20.4 -00.6	S	20 51.9 +00.2	78 51.3 -29.9	S	21 27.8 +01.0	15										
16	56 36.7 -00.1	S	17 03.2 -00.7	104 19.8 -00.6	S	20 52.1 +00.2	93 21.4 -29.9	S	21 28.8 +00.9	16										
17	71 36.6 -00.1	S	17 02.5 -00.8	119 19.2 -00.5	S	20 52.3 +00.2	107 51.5 -29.9	S	21 29.7 +00.7	17										
18	86 36.5 -00.1	S	17 01.7 -00.7	134 18.7 -00.6	S	20 52.5 +00.2	122 21.6 -29.9	S	21 30.4 +00.7	18										
19	101 36.4 -00.1	S	17 01.0 -00.7	149 18.1 -00.6	S	20 52.7 +00.1	136 51.7 -29.8	S	21 31.1 +00.5	19										
20	116 36.3 +00.0	S	17 00.3 -00.7	164 17.5 -00.5	S	20 52.8 +00.2	151 21.9 -29.9	S	21 31.6 +00.4	20										
21	131 36.3 -00.1	S	16 59.6 -00.7	179 17.0 -00.6	S	20 53.0 +00.2	165 52.0 -29.8	S	21 32.0 +00.4	21										
22	146 36.2 -00.1	S	16 58.9 -00.7	194 16.4 -00.6	S	20 53.2 +00.2	180 22.2 -29.9	S	21 32.4 +00.2	22										
23	161 36.1 -00.1	S	16 58.2 -00.8	209 15.8 -00.5	S	20 53.4 +00.2	194 52.3 -29.8	S	21 32.6 +00.2	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	14'9	14'9	14'9	14'9	14'8	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	54'7	54'7	54'6	54'5	54'5	54'4
SHA	046°	045°	045°	045°	045°	045°	SHA	093°	093°	093°	093°	093°	092°	SHA	089°	087°	085°	083°	081°	079°
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 09:02							Greenwich Culmination Time: 09:33						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	111 43.2 +00.9	N	08 25.5 +00.7	234 08.6 +02.0	S	22 15.3 +00.1	204 43.9 +02.2	S	22 08.9 -00.1	00										
01	126 44.1 +00.8	N	08 26.2 +00.6	249 10.6 +02.0	S	22 15.4 +00.0	219 46.1 +02.2	S	22 08.8 +00.0	01										
02	141 44.9 +00.9	N	08 26.8 +00.7	264 12.6 +02.0	S	22 15.4 +00.0	234 48.3 +02.1	S	22 08.8 +00.0	02										
03	156 45.8 +00.9	N	08 27.5 +00.7	279 14.6 +02.0	S	22 15.4 +00.1	249 50.4 +02.2	S	22 08.8 +00.0	03										
04	171 46.7 +00.9	N	08 28.2 +00.6	294 16.6 +02.0	S	22 15.5 +00.0	264 52.6 +02.2	S	22 08.8 -00.1	04										
05	186 47.6 +00.9	N	08 28.8 +00.7	309 18.6 +02.0	S	22 15.5 +00.1	279 54.8 +02.1	S	22 08.7 +00.0	05										
06	201 48.5 +00.9	N	08 29.5 +00.7	324 20.6 +02.0	S	22 15.6 +00.0	294 56.9 +02.2	S	22 08.7 +00.0	06										
07	216 49.4 +00.9	N	08 30.2 +00.7	339 22.6 +02.0	S	22 15.6 +00.0	309 59.1 +02.2	S	22 08.7 -00.1	07										
08	231 50.3 +00.9	N	08 30.9 +00.6	354 24.6 +02.0	S	22 15.6 +00.1	325 01.3 +02.2	S	22 08.6 +00.0	08										
09	246 51.2 +00.9	N	08 31.5 +00.7	9 26.6 +02.0	S	22 15.7 +00.0	340 03.5 +02.1	S	22 08.6 +00.0	09										
10	261 52.1 +00.9	N	08 32.2 +00.7	24 28.6 +02.0	S	22 15.7 +00.0	355 05.6 +02.2	S	22 08.6 +00.0	10										
11	276 53.0 +00.9	N	08 32.9 +00.6	39 30.6 +02.0	S	22 15.7 +00.1	10 07.8 +02.2	S	22 08.6 -00.1	11										
12	291 53.9 +00.9	N	08 33.5 +00.7	54 32.6 +02.0	S	22 15.8 +00.0	25 10.0 +02.1	S	22 08.5 +00.0	12										
13	306 54.8 +00.8	N	08 34.2 +00.7	69 34.6 +02.0	S	22 15.8 +00.1	40 12.1 +02.2	S	22 08.5 +00.0	13										
14	321 55.6 +00.9	N	08 34.9 +00.6	84 36.6 +02.0	S	22 15.9 +00.0	55 14.3 +02.2	S	22 08.5 +00.0	14										
15	336 56.5 +00.9	N	08 35.5 +00.7	99 38.6 +02.0	S	22 15.9 +00.0	70 16.5 +02.1	S	22 08.5 -00.1	15										
16	351 57.4 +00.9	N	08 36.2 +00.7	114 40.6 +02.0	S	22 15.9 +00.1	85 18.6 +02.2	S	22 08.4 +00.0	16										
17	6 58.3 +00.9	N	08 36.9 +00.7	129 42.6 +02.0	S	22 16.0 +00.0	100 20.8 +02.2	S	22 08.4 +00.0	17										
18	21 59.2 +00.9	N	08 37.6 +00.6	144 44.6 +02.0	S	22 16.0 +00.1	115 23.0 +02.2	S	22 08.4 -00.1	18										
19	37 00.1 +00.9	N	08 38.2 +00.7	159 46.6 +02.0	S	22 16.1 +00.0	130 25.2 +02.1	S	22 08.3 +00.0	19										
20	52 01.0 +00.9	N	08 38.9 +00.7	174 48.6 +02.0	S	22 16.1 +00.0	145 27.3 +02.2	S	22 08.3 +00.0	20										
21	67 01.9 +00.9	N	08 39.6 +00.6	189 50.6 +02.0	S	22 16.1 +00.1	160 29.5 +02.2	S	22 08.3 +00.0	21										
22	82 02.8 +00.9	N	08 40.2 +00.7	204 52.6 +02.0	S	22 16.2 +00.0	175 31.7 +02.1	S	22 08.3 -00.1	22										
23	97 03.7 +00.8	N	08 40.9 +00.7	219 54.6 +02.0	S	22 16.2 +00.1	190 33.8 +02.2	S	22 08.2 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	341°	341°	341°	340°	340°	340°	SHA	103°	103°	103°	103°	103°	103°	SHA	074°	074°	074°	074°	074°	074°
Greenwich Culmination Time: 16:32							Greenwich Culmination Time: 08:22							Greenwich Culmination Time: 10:19						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.0 -00.1	S	16 57.4 -00.7	224 15.3 -00.6	S	20 53.6 +00.2	209 22.5 -29.8	S	21 32.8 +00.0				
01	191 35.9 +00.0	S	16 56.7 -00.7	239 14.7 -00.6	S	20 53.8 +00.1	223 52.7 -29.8	S	21 32.8 -00.1				
02	206 35.9 -00.1	S	16 56.0 -00.7	254 14.1 -00.5	S	20 53.9 +00.2	238 22.9 -29.8	S	21 32.7 -00.2				
03	221 35.8 -00.1	S	16 55.3 -00.7	269 13.6 -00.6	S	20 54.1 +00.2	252 53.1 -29.8	S	21 32.5 -00.3				
04	236 35.7 -00.1	S	16 54.6 -00.8	284 13.0 -00.6	S	20 54.3 +00.2	267 23.3 -29.7	S	21 32.2 -00.3				
05	251 35.6 -00.1	S	16 53.8 -00.7	299 12.4 -00.6	S	20 54.5 +00.2	281 53.6 -29.8	S	21 31.9 -00.5				
06	266 35.5 +00.0	S	16 53.1 -00.7	314 11.8 -00.5	S	20 54.7 +00.1	296 23.8 -29.7	S	21 31.4 -00.6				
07	281 35.5 -00.1	S	16 52.4 -00.7	329 11.3 -00.6	S	20 54.8 +00.2	310 54.1 -29.7	S	21 30.8 -00.7				
08	296 35.4 -00.1	S	16 51.7 -00.7	344 10.7 -00.6	S	20 55.0 +00.2	325 24.4 -29.7	S	21 30.1 -00.8				
09	311 35.3 -00.1	S	16 51.0 -00.8	359 10.1 -00.5	S	20 55.2 +00.2	339 54.7 -29.7	S	21 29.3 -00.9				
10	326 35.2 -00.1	S	16 50.2 -00.7	14 09.6 -00.6	S	20 55.4 +00.1	354 25.0 -29.7	S	21 28.4 -01.0				
11	341 35.1 +00.0	S	16 49.5 -00.7	29 09.0 -00.6	S	20 55.5 +00.2	8 55.3 -29.6	S	21 27.4 -01.1				
12	356 35.1 -00.1	S	16 48.8 -00.7	44 08.4 -00.6	S	20 55.7 +00.2	23 25.7 -29.7	S	21 26.3 -01.2				
13	11 35.0 -00.1	S	16 48.1 -00.8	59 07.8 -00.5	S	20 55.9 +00.2	37 56.0 -29.6	S	21 25.1 -01.3				
14	26 34.9 -00.1	S	16 47.3 -00.7	74 07.3 -00.6	S	20 56.1 +00.1	52 26.4 -29.6	S	21 23.8 -01.5				
15	41 34.8 +00.0	S	16 46.6 -00.7	89 06.7 -00.6	S	20 56.2 +00.2	66 56.8 -29.6	S	21 22.3 -01.5				
16	56 34.8 -00.1	S	16 45.9 -00.7	104 06.1 -00.6	S	20 56.4 +00.2	81 27.2 -29.5	S	21 20.8 -01.6				
17	71 34.7 -00.1	S	16 45.2 -00.8	119 05.5 -00.5	S	20 56.6 +00.1	95 57.7 -29.5	S	21 19.2 -01.7				
18	86 34.6 -00.1	S	16 44.4 -00.7	134 05.0 -00.6	S	20 56.7 +00.2	110 28.2 -29.5	S	21 17.5 -01.8				
19	101 34.5 +00.0	S	16 43.7 -00.7	149 04.4 -00.6	S	20 56.9 +00.2	124 58.7 -29.5	S	21 15.7 -01.9				
20	116 34.5 -00.1	S	16 43.0 -00.7	164 03.8 -00.6	S	20 57.1 +00.1	139 29.2 -29.5	S	21 13.8 -02.0				
21	131 34.4 -00.1	S	16 42.3 -00.8	179 03.2 -00.5	S	20 57.2 +00.2	153 59.7 -29.4	S	21 11.8 -02.1				
22	146 34.3 -00.1	S	16 41.5 -00.7	194 02.7 -00.6	S	20 57.4 +00.2	168 30.3 -29.4	S	21 09.7 -02.2				
23	161 34.2 +00.0	S	16 40.8 -00.7	209 02.1 -00.6	S	20 57.6 +00.1	183 00.9 -29.4	S	21 07.5 -02.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'8 14'8 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'4 54'3 54'3 54'2 54'2 54'2						
	SHA 045° 044° 044° 044° 044° 044°			SHA 092° 092° 092° 092° 091° 091°			SHA 076° 074° 072° 070° 068° 066°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:03			Greenwich Culmination Time: 10:23						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 04.5 +00.9	N	08 41.6 +00.6	234 56.6 +02.0	S	22 16.3 +00.0	205 36.0 +02.2	S	22 08.2 +00.0				
01	127 05.4 +00.9	N	08 42.2 +00.7	249 58.6 +02.0	S	22 16.3 +00.0	220 38.2 +02.2	S	22 08.2 -00.1				
02	142 06.3 +00.9	N	08 42.9 +00.7	265 00.6 +02.0	S	22 16.3 +00.1	235 40.4 +02.1	S	22 08.1 +00.0				
03	157 07.2 +00.9	N	08 43.6 +00.7	280 02.6 +02.0	S	22 16.4 +00.0	250 42.5 +02.2	S	22 08.1 +00.0				
04	172 08.1 +00.9	N	08 44.3 +00.6	295 04.6 +02.1	S	22 16.4 +00.0	265 44.7 +02.2	S	22 08.1 +00.0				
05	187 09.0 +00.9	N	08 44.9 +00.7	310 06.7 +02.0	S	22 16.4 +00.1	280 46.9 +02.1	S	22 08.1 -00.1				
06	202 09.9 +00.9	N	08 45.6 +00.7	325 08.7 +02.0	S	22 16.5 +00.0	295 49.0 +02.2	S	22 08.0 +00.0				
07	217 10.8 +00.9	N	08 46.3 +00.6	340 10.7 +02.0	S	22 16.5 +00.1	310 51.2 +02.2	S	22 08.0 +00.0				
08	232 11.7 +00.9	N	08 46.9 +00.7	355 12.7 +02.0	S	22 16.6 +00.0	325 53.4 +02.2	S	22 08.0 -00.1				
09	247 12.6 +00.8	N	08 47.6 +00.7	10 14.7 +02.0	S	22 16.6 +00.0	340 55.6 +02.1	S	22 07.9 +00.0				
10	262 13.4 +00.9	N	08 48.3 +00.6	25 16.7 +02.0	S	22 16.6 +00.1	355 57.7 +02.2	S	22 07.9 +00.0				
11	277 14.3 +00.9	N	08 48.9 +00.7	40 18.7 +02.0	S	22 16.7 +00.0	10 59.9 +02.2	S	22 07.9 +00.0				
12	292 15.2 +00.9	N	08 49.6 +00.7	55 20.7 +02.0	S	22 16.7 +00.0	26 02.1 +02.1	S	22 07.9 -00.1				
13	307 16.1 +00.9	N	08 50.3 +00.6	70 22.7 +02.0	S	22 16.7 +00.1	41 04.2 +02.2	S	22 07.8 +00.0				
14	322 17.0 +00.9	N	08 50.9 +00.7	85 24.7 +02.0	S	22 16.8 +00.0	56 06.4 +02.2	S	22 07.8 +00.0				
15	337 17.9 +00.9	N	08 51.6 +00.7	100 26.7 +02.0	S	22 16.8 +00.1	71 08.6 +02.2	S	22 07.8 -00.1				
16	352 18.8 +00.9	N	08 52.3 +00.6	115 28.7 +02.0	S	22 16.9 +00.0	86 10.8 +02.1	S	22 07.7 +00.0				
17	7 19.7 +00.9	N	08 52.9 +00.7	130 30.7 +02.0	S	22 16.9 +00.0	101 12.9 +02.2	S	22 07.7 +00.0				
18	22 20.6 +00.8	N	08 53.6 +00.7	145 32.7 +02.0	S	22 16.9 +00.1	116 15.1 +02.2	S	22 07.7 +00.0				
19	37 21.4 +00.9	N	08 54.3 +00.6	160 34.7 +02.0	S	22 17.0 +00.0	131 17.3 +02.1	S	22 07.7 -00.1				
20	52 22.3 +00.9	N	08 54.9 +00.7	175 36.7 +02.0	S	22 17.0 +00.1	146 19.4 +02.2	S	22 07.6 +00.0				
21	67 23.2 +00.9	N	08 55.6 +00.7	190 38.7 +02.0	S	22 17.1 +00.0	161 21.6 +02.2	S	22 07.6 +00.0				
22	82 24.1 +00.9	N	08 56.3 +00.6	205 40.7 +02.1	S	22 17.1 +00.0	176 23.8 +02.2	S	22 07.6 -00.1				
23	97 25.0 +00.9	N	08 56.9 +00.7	220 42.8 +02.0	S	22 17.1 +00.1	191 26.0 +02.1	S	22 07.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 340° 340° 340° 340° 340° 340°			SHA 103° 103° 103° 103° 103° 103°			SHA 074° 074° 074° 074° 074° 074°						
	Greenwich Culmination Time: 16:30			Greenwich Culmination Time: 08:19			Greenwich Culmination Time: 10:16						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.2 -00.1	S	16 40.1 -00.8	224 01.5 -00.6	S	20 57.7 +00.2	197 31.5 -29.4	S	21 05.1 -02.4	00			
01	191 34.1 -00.1	S	16 39.3 -00.7	239 00.9 -00.5	S	20 57.9 +00.1	212 02.1 -29.3	S	21 02.7 -02.5	01			
02	206 34.0 +00.0	S	16 38.6 -00.7	254 00.4 -00.6	S	20 58.0 +00.2	226 32.8 -29.4	S	21 00.2 -02.6	02			
03	221 34.0 -00.1	S	16 37.9 -00.7	268 59.8 -00.6	S	20 58.2 +00.2	241 03.4 -29.2	S	20 57.6 -02.7	03			
04	236 33.9 -00.1	S	16 37.2 -00.8	283 59.2 -00.6	S	20 58.4 +00.1	255 34.2 -29.3	S	20 54.9 -02.8	04			
05	251 33.8 -00.1	S	16 36.4 -00.7	298 58.6 -00.6	S	20 58.5 +00.2	270 04.9 -29.2	S	20 52.1 -02.9	05			
06	266 33.7 +00.0	S	16 35.7 -00.7	313 58.0 -00.5	S	20 58.7 +00.1	284 35.7 -29.2	S	20 49.2 -03.0	06			
07	281 33.7 -00.1	S	16 35.0 -00.8	328 57.5 -00.6	S	20 58.8 +00.2	299 06.5 -29.2	S	20 46.2 -03.1	07			
08	296 33.6 -00.1	S	16 34.2 -00.7	343 56.9 -00.6	S	20 59.0 +00.1	313 37.3 -29.2	S	20 43.1 -03.1	08			
09	311 33.5 +00.0	S	16 33.5 -00.7	358 56.3 -00.6	S	20 59.1 +00.2	328 08.1 -29.1	S	20 40.0 -03.3	09			
10	326 33.5 -00.1	S	16 32.8 -00.8	13 55.7 -00.6	S	20 59.3 +00.1	342 39.0 -29.1	S	20 36.7 -03.4	10			
11	341 33.4 -00.1	S	16 32.0 -00.7	28 55.1 -00.6	S	20 59.4 +00.2	357 09.9 -29.0	S	20 33.3 -03.5	11			
12	356 33.3 +00.0	S	16 31.3 -00.8	43 54.5 -00.5	S	20 59.6 +00.1	11 40.9 -29.1	S	20 29.8 -03.5	12			
13	11 33.3 -00.1	S	16 30.5 -00.7	58 54.0 -00.6	S	20 59.7 +00.2	26 11.8 -29.0	S	20 26.3 -03.7	13			
14	26 33.2 -00.1	S	16 29.8 -00.7	73 53.4 -00.6	S	20 59.9 +00.1	40 42.8 -28.9	S	20 22.6 -03.7	14			
15	41 33.1 -00.1	S	16 29.1 -00.8	88 52.8 -00.6	S	21 00.0 +00.2	55 13.9 -29.0	S	20 18.9 -03.9	15			
16	56 33.0 +00.0	S	16 28.3 -00.7	103 52.2 -00.6	S	21 00.2 +00.1	69 44.9 -28.9	S	20 15.0 -03.9	16			
17	71 33.0 -00.1	S	16 27.6 -00.7	118 51.6 -00.6	S	21 00.3 +00.2	84 16.0 -28.8	S	20 11.1 -04.0	17			
18	86 32.9 -00.1	S	16 26.9 -00.8	133 51.0 -00.5	S	21 00.5 +00.1	98 47.2 -28.9	S	20 07.1 -04.2	18			
19	101 32.8 +00.0	S	16 26.1 -00.7	148 50.5 -00.6	S	21 00.6 +00.2	113 18.3 -28.8	S	20 02.9 -04.2	19			
20	116 32.8 -00.1	S	16 25.4 -00.8	163 49.9 -00.6	S	21 00.8 +00.1	127 49.5 -28.8	S	19 58.7 -04.3	20			
21	131 32.7 +00.0	S	16 24.6 -00.7	178 49.3 -00.6	S	21 00.9 +00.2	142 20.7 -28.7	S	19 54.4 -04.4	21			
22	146 32.7 -00.1	S	16 23.9 -00.7	193 48.7 -00.6	S	21 01.1 +00.1	156 52.0 -28.7	S	19 50.0 -04.4	22			
23	161 32.6 -00.1	S	16 23.2 -00.8	208 48.1 -00.6	S	21 01.2 +00.1	171 23.3 -28.7	S	19 45.6 -04.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'1 54'1 54'1 54'0 54'0 54'0						
	SHA 044° 043° 043° 043° 043° 043°			SHA 091° 091° 091° 090° 090° 090°			SHA 064° 061° 059° 057° 055° 053°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:04			Greenwich Culmination Time: 11:11						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 25.9 +00.9	N	08 57.6 +00.7	235 44.8 +02.0	S	22 17.2 +00.0	206 28.1 +02.2	S	22 07.5 +00.0	00			
01	127 26.8 +00.9	N	08 58.3 +00.6	250 46.8 +02.0	S	22 17.2 +00.0	221 30.3 +02.2	S	22 07.5 +00.0	01			
02	142 27.7 +00.8	N	08 58.9 +00.7	265 48.8 +02.0	S	22 17.2 +00.1	236 32.5 +02.2	S	22 07.5 -00.1	02			
03	157 28.5 +00.9	N	08 59.6 +00.7	280 50.8 +02.0	S	22 17.3 +00.0	251 34.7 +02.1	S	22 07.4 +00.0	03			
04	172 29.4 +00.9	N	09 00.3 +00.6	295 52.8 +02.0	S	22 17.3 +00.1	266 36.8 +02.2	S	22 07.4 +00.0	04			
05	187 30.3 +00.9	N	09 00.9 +00.7	310 54.8 +02.0	S	22 17.4 +00.0	281 39.0 +02.2	S	22 07.4 -00.1	05			
06	202 31.2 +00.9	N	09 01.6 +00.7	325 56.8 +02.0	S	22 17.4 +00.0	296 41.2 +02.1	S	22 07.3 +00.0	06			
07	217 32.1 +00.9	N	09 02.3 +00.6	340 58.8 +02.0	S	22 17.4 +00.1	311 43.3 +02.2	S	22 07.3 +00.0	07			
08	232 33.0 +00.9	N	09 02.9 +00.7	356 00.8 +02.0	S	22 17.5 +00.0	326 45.5 +02.2	S	22 07.3 +00.0	08			
09	247 33.9 +00.9	N	09 03.6 +00.7	11 02.8 +02.0	S	22 17.5 +00.0	341 47.7 +02.2	S	22 07.3 -00.1	09			
10	262 34.8 +00.8	N	09 04.3 +00.6	26 04.8 +02.1	S	22 17.5 +00.1	356 49.9 +02.1	S	22 07.2 +00.0	10			
11	277 35.6 +00.9	N	09 04.9 +00.7	41 06.9 +02.0	S	22 17.6 +00.0	11 52.0 +02.2	S	22 07.2 +00.0	11			
12	292 36.5 +00.9	N	09 05.6 +00.6	56 08.9 +02.0	S	22 17.6 +00.1	26 54.2 +02.2	S	22 07.2 -00.1	12			
13	307 37.4 +00.9	N	09 06.2 +00.7	71 10.9 +02.0	S	22 17.7 +00.0	41 56.4 +02.2	S	22 07.1 +00.0	13			
14	322 38.3 +00.9	N	09 06.9 +00.7	86 12.9 +02.0	S	22 17.7 +00.0	56 58.6 +02.1	S	22 07.1 +00.0	14			
15	337 39.2 +00.9	N	09 07.6 +00.6	101 14.9 +02.0	S	22 17.7 +00.1	72 00.7 +02.2	S	22 07.1 +00.0	15			
16	352 40.1 +00.9	N	09 08.2 +00.7	116 16.9 +02.0	S	22 17.8 +00.0	87 02.9 +02.2	S	22 07.1 -00.1	16			
17	7 41.0 +00.8	N	09 08.9 +00.7	131 18.9 +02.0	S	22 17.8 +00.0	102 05.1 +02.2	S	22 07.0 +00.0	17			
18	22 41.8 +00.9	N	09 09.6 +00.6	146 20.9 +02.0	S	22 17.8 +00.1	117 07.3 +02.1	S	22 07.0 +00.0	18			
19	37 42.7 +00.9	N	09 10.2 +00.7	161 22.9 +02.1	S	22 17.9 +00.0	132 09.4 +02.2	S	22 07.0 -00.1	19			
20	52 43.6 +00.9	N	09 10.9 +00.7	176 25.0 +02.0	S	22 17.9 +00.0	147 11.6 +02.2	S	22 06.9 +00.0	20			
21	67 44.5 +00.9	N	09 11.6 +00.6	191 27.0 +02.0	S	22 17.9 +00.1	162 13.8 +02.1	S	22 06.9 +00.0	21			
22	82 45.4 +00.9	N	09 12.2 +00.7	206 29.0 +02.0	S	22 18.0 +00.0	177 15.9 +02.2	S	22 06.9 +00.0	22			
23	97 46.3 +00.9	N	09 12.9 +00.6	221 31.0 +02.0	S	22 18.0 +00.1	192 18.1 +02.2	S	22 06.9 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 339° 339° 339° 339° 339° 339°			SHA 103° 103° 103° 103° 103° 103°			SHA 074° 074° 074° 074° 073° 073°						
	Greenwich Culmination Time: 16:29			Greenwich Culmination Time: 08:15			Greenwich Culmination Time: 10:12						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 32.5 +00.0	S 16 22.4 -00.7	223 47.5 -00.6	S 21 01.3 +00.2	185 54.6 -28.6	S 19 41.0 -04.7	00						
01	191 32.5 -00.1	S 16 21.7 -00.8	238 46.9 -00.6	S 21 01.5 +00.1	200 26.0 -28.6	S 19 36.3 -04.7	01						
02	206 32.4 -00.1	S 16 20.9 -00.7	253 46.3 -00.5	S 21 01.6 +00.1	214 57.4 -28.6	S 19 31.6 -04.8	02						
03	221 32.3 +00.0	S 16 20.2 -00.8	268 45.8 -00.6	S 21 01.7 +00.2	229 28.8 -28.5	S 19 26.8 -05.0	03						
04	236 32.3 -00.1	S 16 19.4 -00.7	283 45.2 -00.6	S 21 01.9 +00.1	244 00.3 -28.5	S 19 21.8 -05.0	04						
05	251 32.2 -00.1	S 16 18.7 -00.7	298 44.6 -00.6	S 21 02.0 +00.2	258 31.8 -28.5	S 19 16.8 -05.1	05						
06	266 32.1 +00.0	S 16 18.0 -00.8	313 44.0 -00.6	S 21 02.2 +00.1	273 03.3 -28.4	S 19 11.7 -05.2	06						
07	281 32.1 -00.1	S 16 17.2 -00.7	328 43.4 -00.6	S 21 02.3 +00.1	287 34.9 -28.4	S 19 06.5 -05.2	07						
08	296 32.0 +00.0	S 16 16.5 -00.8	343 42.8 -00.6	S 21 02.4 +00.2	302 06.5 -28.3	S 19 01.3 -05.4	08						
09	311 32.0 -00.1	S 16 15.7 -00.7	358 42.2 -00.6	S 21 02.6 +00.1	316 38.2 -28.3	S 18 55.9 -05.4	09						
10	326 31.9 -00.1	S 16 15.0 -00.8	13 41.6 -00.6	S 21 02.7 +00.1	331 09.9 -28.3	S 18 50.5 -05.5	10						
11	341 31.8 +00.0	S 16 14.2 -00.7	28 41.0 -00.6	S 21 02.8 +00.1	345 41.6 -28.3	S 18 45.0 -05.6	11						
12	356 31.8 -00.1	S 16 13.5 -00.8	43 40.4 -00.5	S 21 02.9 +00.2	0 13.3 -28.2	S 18 39.4 -05.7	12						
13	11 31.7 +00.0	S 16 12.7 -00.7	58 39.9 -00.6	S 21 03.1 +00.1	14 45.1 -28.1	S 18 33.7 -05.8	13						
14	26 31.7 -00.1	S 16 12.0 -00.8	73 39.3 -00.6	S 21 03.2 +00.1	29 17.0 -28.2	S 18 27.9 -05.8	14						
15	41 31.6 -00.1	S 16 11.2 -00.7	88 38.7 -00.6	S 21 03.3 +00.2	43 48.8 -28.0	S 18 22.1 -06.0	15						
16	56 31.5 +00.0	S 16 10.5 -00.8	103 38.1 -00.6	S 21 03.5 +00.1	58 20.8 -28.1	S 18 16.1 -06.0	16						
17	71 31.5 -00.1	S 16 09.7 -00.7	118 37.5 -00.6	S 21 03.6 +00.1	72 52.7 -28.0	S 18 10.1 -06.1	17						
18	86 31.4 +00.0	S 16 09.0 -00.8	133 36.9 -00.6	S 21 03.7 +00.1	87 24.7 -28.0	S 18 04.0 -06.1	18						
19	101 31.4 -00.1	S 16 08.2 -00.7	148 36.3 -00.6	S 21 03.8 +00.1	101 56.7 -27.9	S 17 57.9 -06.3	19						
20	116 31.3 -00.1	S 16 07.5 -00.8	163 35.7 -00.6	S 21 03.9 +00.2	116 28.8 -27.9	S 17 51.6 -06.3	20						
21	131 31.2 +00.0	S 16 06.7 -00.7	178 35.1 -00.6	S 21 04.1 +00.1	131 00.9 -27.9	S 17 45.3 -06.4	21						
22	146 31.2 -00.1	S 16 06.0 -00.8	193 34.5 -00.6	S 21 04.2 +00.1	145 33.0 -27.8	S 17 38.9 -06.5	22						
23	161 31.1 +00.0	S 16 05.2 -00.7	208 33.9 -00.6	S 21 04.3 +00.1	160 05.2 -27.8	S 17 32.4 -06.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'0 54'0 53'9 53'9 53'9 53'9								
	SHA 043° 042° 042° 042° 042° 042°		SHA 090° 090° 089° 089° 089° 089°		SHA 051° 049° 047° 045° 043° 041°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:05		Greenwich Culmination Time: 11:59								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 47.2 +00.8	N 09 13.5 +00.7	236 33.0 +02.0	S 22 18.1 +00.0	207 20.3 +02.2	S 22 06.8 +00.0	00						
01	127 48.0 +00.9	N 09 14.2 +00.7	251 35.0 +02.0	S 22 18.1 +00.0	222 22.5 +02.1	S 22 06.8 +00.0	01						
02	142 48.9 +00.9	N 09 14.9 +00.6	266 37.0 +02.0	S 22 18.1 +00.1	237 24.6 +02.2	S 22 06.8 -00.1	02						
03	157 49.8 +00.9	N 09 15.5 +00.7	281 39.0 +02.1	S 22 18.2 +00.0	252 26.8 +02.2	S 22 06.7 +00.0	03						
04	172 50.7 +00.9	N 09 16.2 +00.7	296 41.1 +02.0	S 22 18.2 +00.0	267 29.0 +02.2	S 22 06.7 +00.0	04						
05	187 51.6 +00.9	N 09 16.9 +00.6	311 43.1 +02.0	S 22 18.2 +00.1	282 31.2 +02.1	S 22 06.7 +00.0	05						
06	202 52.5 +00.8	N 09 17.5 +00.7	326 45.1 +02.0	S 22 18.3 +00.0	297 33.3 +02.2	S 22 06.7 -00.1	06						
07	217 53.3 +00.9	N 09 18.2 +00.6	341 47.1 +02.0	S 22 18.3 +00.0	312 35.5 +02.2	S 22 06.6 +00.0	07						
08	232 54.2 +00.9	N 09 18.8 +00.7	356 49.1 +02.0	S 22 18.3 +00.1	327 37.7 +02.2	S 22 06.6 +00.0	08						
09	247 55.1 +00.9	N 09 19.5 +00.7	11 51.1 +02.0	S 22 18.4 +00.0	342 39.9 +02.1	S 22 06.6 +00.0	09						
10	262 56.0 +00.9	N 09 20.2 +00.6	26 53.1 +02.0	S 22 18.4 +00.1	357 42.0 +02.2	S 22 06.6 -00.1	10						
11	277 56.9 +00.9	N 09 20.8 +00.7	41 55.1 +02.1	S 22 18.5 +00.0	12 44.2 +02.2	S 22 06.5 +00.0	11						
12	292 57.8 +00.9	N 09 21.5 +00.7	56 57.2 +02.0	S 22 18.5 +00.0	27 46.4 +02.2	S 22 06.5 +00.0	12						
13	307 58.7 +00.8	N 09 22.2 +00.6	71 59.2 +02.0	S 22 18.5 +00.1	42 48.6 +02.1	S 22 06.5 -00.1	13						
14	322 59.5 +00.9	N 09 22.8 +00.7	87 01.2 +02.0	S 22 18.6 +00.0	57 50.7 +02.2	S 22 06.4 +00.0	14						
15	338 00.4 +00.9	N 09 23.5 +00.6	102 03.2 +02.0	S 22 18.6 +00.0	72 52.9 +02.2	S 22 06.4 +00.0	15						
16	353 01.3 +00.9	N 09 24.1 +00.7	117 05.2 +02.0	S 22 18.6 +00.1	87 55.1 +02.2	S 22 06.4 +00.0	16						
17	8 02.2 +00.9	N 09 24.8 +00.7	132 07.2 +02.1	S 22 18.7 +00.0	102 57.3 +02.1	S 22 06.4 -00.1	17						
18	23 03.1 +00.9	N 09 25.5 +00.6	147 09.3 +02.0	S 22 18.7 +00.0	117 59.4 +02.2	S 22 06.3 +00.0	18						
19	38 04.0 +00.8	N 09 26.1 +00.7	162 11.3 +02.0	S 22 18.7 +00.1	133 01.6 +02.2	S 22 06.3 +00.0	19						
20	53 04.8 +00.9	N 09 26.8 +00.6	177 13.3 +02.0	S 22 18.8 +00.0	148 03.8 +02.2	S 22 06.3 -00.1	20						
21	68 05.7 +00.9	N 09 27.4 +00.7	192 15.3 +02.0	S 22 18.8 +00.1	163 06.0 +02.2	S 22 06.2 +00.0	21						
22	83 06.6 +00.9	N 09 28.1 +00.7	207 17.3 +02.0	S 22 18.9 +00.0	178 08.2 +02.1	S 22 06.2 +00.0	22						
23	98 07.5 +00.9	N 09 28.8 +00.6	222 19.3 +02.0	S 22 18.9 +00.0	193 10.3 +02.2	S 22 06.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 339° 339° 339° 339° 338° 338°		SHA 103° 103° 103° 103° 103° 103°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 16:27		Greenwich Culmination Time: 08:12		Greenwich Culmination Time: 10:09								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 31.1 -00.1	S	16 04.5 -00.8	223 33.3 -00.6	S	21 04.4 +00.1	174 37.4 -27.7	S	17 25.9 -06.7	00			
01	191 31.0 +00.0	S	16 03.7 -00.7	238 32.7 -00.6	S	21 04.5 +00.2	189 09.7 -27.8	S	17 19.2 -06.7	01			
02	206 31.0 -00.1	S	16 03.0 -00.8	253 32.1 -00.6	S	21 04.7 +00.1	203 41.9 -27.6	S	17 12.5 -06.8	02			
03	221 30.9 +00.0	S	16 02.2 -00.7	268 31.5 -00.6	S	21 04.8 +00.1	218 14.3 -27.7	S	17 05.7 -06.8	03			
04	236 30.9 -00.1	S	16 01.5 -00.8	283 30.9 -00.6	S	21 04.9 +00.1	232 46.6 -27.6	S	16 58.9 -06.9	04			
05	251 30.8 -00.1	S	16 00.7 -00.8	298 30.3 -00.6	S	21 05.0 +00.1	247 19.0 -27.5	S	16 52.0 -07.0	05			
06	266 30.7 +00.0	S	15 59.9 -00.7	313 29.7 -00.6	S	21 05.1 +00.1	261 51.5 -27.5	S	16 45.0 -07.1	06			
07	281 30.7 -00.1	S	15 59.2 -00.8	328 29.1 -00.6	S	21 05.2 +00.1	276 24.0 -27.5	S	16 37.9 -07.2	07			
08	296 30.6 +00.0	S	15 58.4 -00.7	343 28.5 -00.6	S	21 05.3 +00.2	290 56.5 -27.5	S	16 30.7 -07.2	08			
09	311 30.6 -00.1	S	15 57.7 -00.8	358 27.9 -00.6	S	21 05.5 +00.1	305 29.0 -27.4	S	16 23.5 -07.3	09			
10	326 30.5 +00.0	S	15 56.9 -00.7	13 27.3 -00.6	S	21 05.6 +00.1	320 01.6 -27.3	S	16 16.2 -07.3	10			
11	341 30.5 -00.1	S	15 56.2 -00.8	28 26.7 -00.6	S	21 05.7 +00.1	334 34.3 -27.4	S	16 08.9 -07.5	11			
12	356 30.4 +00.0	S	15 55.4 -00.8	43 26.1 -00.6	S	21 05.8 +00.1	349 06.9 -27.3	S	16 01.4 -07.4	12			
13	11 30.4 -00.1	S	15 54.6 -00.7	58 25.5 -00.6	S	21 05.9 +00.1	3 39.6 -27.2	S	15 54.0 -07.6	13			
14	26 30.3 +00.0	S	15 53.9 -00.8	73 24.9 -00.6	S	21 06.0 +00.1	18 12.4 -27.2	S	15 46.4 -07.6	14			
15	41 30.3 -00.1	S	15 53.1 -00.7	88 24.3 -00.6	S	21 06.1 +00.1	32 45.2 -27.2	S	15 38.8 -07.7	15			
16	56 30.2 +00.0	S	15 52.4 -00.8	103 23.7 -00.6	S	21 06.2 +00.1	47 18.0 -27.2	S	15 31.1 -07.8	16			
17	71 30.2 -00.1	S	15 51.6 -00.8	118 23.1 -00.6	S	21 06.3 +00.1	61 50.8 -27.1	S	15 23.3 -07.8	17			
18	86 30.1 +00.0	S	15 50.8 -00.7	133 22.5 -00.6	S	21 06.4 +00.1	76 23.7 -27.0	S	15 15.5 -07.9	18			
19	101 30.1 -00.1	S	15 50.1 -00.8	148 21.9 -00.6	S	21 06.5 +00.1	90 56.7 -27.1	S	15 07.6 -08.0	19			
20	116 30.0 +00.0	S	15 49.3 -00.7	163 21.3 -00.6	S	21 06.6 +00.1	105 29.6 -27.0	S	14 59.6 -08.0	20			
21	131 30.0 -00.1	S	15 48.6 -00.8	178 20.7 -00.6	S	21 06.7 +00.1	120 02.6 -26.9	S	14 51.6 -08.1	21			
22	146 29.9 +00.0	S	15 47.8 -00.8	193 20.1 -00.6	S	21 06.8 +00.1	134 35.7 -27.0	S	14 43.5 -08.1	22			
23	161 29.9 -00.1	S	15 47.0 -00.7	208 19.5 -00.6	S	21 06.9 +00.1	149 08.7 -26.9	S	14 35.4 -08.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 53'9 53'9 53'9 53'9 53'9 53'9						
	SHA 042° 041° 041° 041° 041° 041°			SHA 089° 088° 088° 088° 088° 088°			SHA 039° 037° 035° 033° 031° 029°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:06			Greenwich Culmination Time: 12:44						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 08.4 +00.9	N	09 29.4 +00.7	237 21.3 +02.1	S	22 18.9 +00.1	208 12.5 +02.2	S	22 06.2 -00.1	00			
01	128 09.3 +00.8	N	09 30.1 +00.6	252 23.4 +02.0	S	22 19.0 +00.0	223 14.7 +02.2	S	22 06.1 +00.0	01			
02	143 10.1 +00.9	N	09 30.7 +00.7	267 25.4 +02.0	S	22 19.0 +00.0	238 16.9 +02.1	S	22 06.1 +00.0	02			
03	158 11.0 +00.9	N	09 31.4 +00.7	282 27.4 +02.0	S	22 19.0 +00.1	253 19.0 +02.2	S	22 06.1 -00.1	03			
04	173 11.9 +00.9	N	09 32.1 +00.6	297 29.4 +02.0	S	22 19.1 +00.0	268 21.2 +02.2	S	22 06.0 +00.0	04			
05	188 12.8 +00.9	N	09 32.7 +00.7	312 31.4 +02.1	S	22 19.1 +00.0	283 23.4 +02.2	S	22 06.0 +00.0	05			
06	203 13.7 +00.8	N	09 33.4 +00.6	327 33.5 +02.0	S	22 19.1 +00.1	298 25.6 +02.1	S	22 06.0 +00.0	06			
07	218 14.5 +00.9	N	09 34.0 +00.7	342 35.5 +02.0	S	22 19.2 +00.0	313 27.7 +02.2	S	22 06.0 -00.1	07			
08	233 15.4 +00.9	N	09 34.7 +00.7	357 37.5 +02.0	S	22 19.2 +00.0	328 29.9 +02.2	S	22 05.9 +00.0	08			
09	248 16.3 +00.9	N	09 35.4 +00.6	12 39.5 +02.0	S	22 19.2 +00.1	343 32.1 +02.2	S	22 05.9 +00.0	09			
10	263 17.2 +00.9	N	09 36.0 +00.7	27 41.5 +02.0	S	22 19.3 +00.0	358 34.3 +02.1	S	22 05.9 -00.1	10			
11	278 18.1 +00.9	N	09 36.7 +00.6	42 43.5 +02.1	S	22 19.3 +00.1	13 36.4 +02.2	S	22 05.8 +00.0	11			
12	293 19.0 +00.8	N	09 37.3 +00.7	57 45.6 +02.0	S	22 19.4 +00.0	28 38.6 +02.2	S	22 05.8 +00.0	12			
13	308 19.8 +00.9	N	09 38.0 +00.6	72 47.6 +02.0	S	22 19.4 +00.0	43 40.8 +02.2	S	22 05.8 +00.0	13			
14	323 20.7 +00.9	N	09 38.6 +00.7	87 49.6 +02.0	S	22 19.4 +00.1	58 43.0 +02.2	S	22 05.8 -00.1	14			
15	338 21.6 +00.9	N	09 39.3 +00.7	102 51.6 +02.0	S	22 19.5 +00.0	73 45.2 +02.1	S	22 05.7 +00.0	15			
16	353 22.5 +00.9	N	09 40.0 +00.6	117 53.6 +02.1	S	22 19.5 +00.0	88 47.3 +02.2	S	22 05.7 +00.0	16			
17	8 23.4 +00.8	N	09 40.6 +00.7	132 55.7 +02.0	S	22 19.5 +00.1	103 49.5 +02.2	S	22 05.7 -00.1	17			
18	23 24.2 +00.9	N	09 41.3 +00.6	147 57.7 +02.0	S	22 19.6 +00.0	118 51.7 +02.2	S	22 05.6 +00.0	18			
19	38 25.1 +00.9	N	09 41.9 +00.7	162 59.7 +02.0	S	22 19.6 +00.0	133 53.9 +02.1	S	22 05.6 +00.0	19			
20	53 26.0 +00.9	N	09 42.6 +00.6	178 01.7 +02.0	S	22 19.6 +00.1	148 56.0 +02.2	S	22 05.6 +00.0	20			
21	68 26.9 +00.9	N	09 43.2 +00.7	193 03.7 +02.1	S	22 19.7 +00.0	163 58.2 +02.2	S	22 05.6 -00.1	21			
22	83 27.8 +00.8	N	09 43.9 +00.7	208 05.8 +02.0	S	22 19.7 +00.0	179 00.4 +02.2	S	22 05.5 +00.0	22			
23	98 28.6 +00.9	N	09 44.6 +00.6	223 07.8 +02.0	S	22 19.7 +00.1	194 02.6 +02.2	S	22 05.5 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 338° 338° 338° 338° 338° 338°			SHA 102° 102° 102° 102° 102° 102°			SHA 073° 073° 073° 073° 073° 073°						
	Greenwich Culmination Time: 16:26			Greenwich Culmination Time: 08:09			Greenwich Culmination Time: 10:05						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 29.8 +00.0	S 15 46.3 -00.8	223 18.9 -00.6	S 21 07.0 +00.1	163 41.8 -26.8	S 14 27.2 -08.3	00						
01	191 29.8 -00.1	S 15 45.5 -00.8	238 18.3 -00.6	S 21 07.1 +00.1	178 15.0 -26.8	S 14 18.9 -08.3	01						
02	206 29.7 +00.0	S 15 44.7 -00.7	253 17.7 -00.6	S 21 07.2 +00.1	192 48.2 -26.8	S 14 10.6 -08.4	02						
03	221 29.7 +00.0	S 15 44.0 -00.8	268 17.1 -00.6	S 21 07.3 +00.1	207 21.4 -26.8	S 14 02.2 -08.5	03						
04	236 29.7 -00.1	S 15 43.2 -00.8	283 16.5 -00.6	S 21 07.4 +00.1	221 54.6 -26.7	S 13 53.7 -08.5	04						
05	251 29.6 +00.0	S 15 42.4 -00.7	298 15.9 -00.6	S 21 07.5 +00.0	236 27.9 -26.7	S 13 45.2 -08.5	05						
06	266 29.6 -00.1	S 15 41.7 -00.8	313 15.3 -00.6	S 21 07.5 +00.1	251 01.2 -26.6	S 13 36.7 -08.7	06						
07	281 29.5 +00.0	S 15 40.9 -00.8	328 14.7 -00.6	S 21 07.6 +00.1	265 34.6 -26.7	S 13 28.0 -08.6	07						
08	296 29.5 -00.1	S 15 40.1 -00.7	343 14.1 -00.6	S 21 07.7 +00.1	280 07.9 -26.6	S 13 19.4 -08.8	08						
09	311 29.4 +00.0	S 15 39.4 -00.8	358 13.5 -00.7	S 21 07.8 +00.1	294 41.3 -26.5	S 13 10.6 -08.8	09						
10	326 29.4 -00.1	S 15 38.6 -00.8	13 12.8 -00.6	S 21 07.9 +00.1	309 14.8 -26.5	S 13 01.8 -08.8	10						
11	341 29.3 +00.0	S 15 37.8 -00.8	28 12.2 -00.6	S 21 08.0 +00.1	323 48.3 -26.5	S 12 53.0 -08.9	11						
12	356 29.3 +00.0	S 15 37.0 -00.7	43 11.6 -00.6	S 21 08.1 +00.1	338 21.8 -26.5	S 12 44.1 -09.0	12						
13	11 29.3 -00.1	S 15 36.3 -00.8	58 11.0 -00.6	S 21 08.2 +00.0	352 55.3 -26.4	S 12 35.1 -09.0	13						
14	26 29.2 +00.0	S 15 35.5 -00.8	73 10.4 -00.6	S 21 08.2 +00.1	7 28.9 -26.4	S 12 26.1 -09.0	14						
15	41 29.2 -00.1	S 15 34.7 -00.7	88 09.8 -00.6	S 21 08.3 +00.1	22 02.5 -26.4	S 12 17.1 -09.1	15						
16	56 29.1 +00.0	S 15 34.0 -00.8	103 09.2 -00.6	S 21 08.4 +00.1	36 36.1 -26.3	S 12 08.0 -09.2	16						
17	71 29.1 -00.1	S 15 33.2 -00.8	118 08.6 -00.6	S 21 08.5 +00.1	51 09.8 -26.3	S 11 58.8 -09.2	17						
18	86 29.0 +00.0	S 15 32.4 -00.8	133 08.0 -00.6	S 21 08.6 +00.0	65 43.5 -26.3	S 11 49.6 -09.2	18						
19	101 29.0 +00.0	S 15 31.6 -00.7	148 07.4 -00.6	S 21 08.6 +00.1	80 17.2 -26.3	S 11 40.4 -09.4	19						
20	116 29.0 -00.1	S 15 30.9 -00.8	163 06.8 -00.7	S 21 08.7 +00.1	94 50.9 -26.2	S 11 31.0 -09.3	20						
21	131 28.9 +00.0	S 15 30.1 -00.8	178 06.1 -00.6	S 21 08.8 +00.1	109 24.7 -26.2	S 11 21.7 -09.4	21						
22	146 28.9 -00.1	S 15 29.3 -00.8	193 05.5 -00.6	S 21 08.9 +00.0	123 58.5 -26.2	S 11 12.3 -09.5	22						
23	161 28.8 +00.0	S 15 28.5 -00.7	208 04.9 -00.6	S 21 08.9 +00.1	138 32.3 -26.1	S 11 02.8 -09.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 53'9 53'9 54'0 54'0 54'0 54'0								
	SHA 041° 040° 040° 040° 040° 040°		SHA 087° 087° 087° 087° 087° 086°		SHA 027° 025° 023° 021° 019° 017°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:07		Greenwich Culmination Time: 13:29								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 29.5 +00.9	N 09 45.2 +00.7	238 09.8 +02.0	S 22 19.8 +00.0	209 04.8 +02.1	S 22 05.5 -00.1	00						
01	128 30.4 +00.9	N 09 45.9 +00.6	253 11.8 +02.0	S 22 19.8 +00.0	224 06.9 +02.2	S 22 05.4 +00.0	01						
02	143 31.3 +00.9	N 09 46.5 +00.7	268 13.8 +02.1	S 22 19.8 +00.1	239 09.1 +02.2	S 22 05.4 +00.0	02						
03	158 32.2 +00.9	N 09 47.2 +00.6	283 15.9 +02.0	S 22 19.9 +00.0	254 11.3 +02.2	S 22 05.4 +00.0	03						
04	173 33.1 +00.8	N 09 47.8 +00.7	298 17.9 +02.0	S 22 19.9 +00.0	269 13.5 +02.1	S 22 05.4 -00.1	04						
05	188 33.9 +00.9	N 09 48.5 +00.7	313 19.9 +02.0	S 22 19.9 +00.1	284 15.6 +02.2	S 22 05.3 +00.0	05						
06	203 34.8 +00.9	N 09 49.2 +00.6	328 21.9 +02.1	S 22 20.0 +00.0	299 17.8 +02.2	S 22 05.3 +00.0	06						
07	218 35.7 +00.9	N 09 49.8 +00.7	343 24.0 +02.0	S 22 20.0 +00.1	314 20.0 +02.2	S 22 05.3 -00.1	07						
08	233 36.6 +00.8	N 09 50.5 +00.6	358 26.0 +02.0	S 22 20.1 +00.0	329 22.2 +02.2	S 22 05.2 +00.0	08						
09	248 37.4 +00.9	N 09 51.1 +00.7	13 28.0 +02.0	S 22 20.1 +00.0	344 24.4 +02.1	S 22 05.2 +00.0	09						
10	263 38.3 +00.9	N 09 51.8 +00.6	28 30.0 +02.1	S 22 20.1 +00.1	359 26.5 +02.2	S 22 05.2 +00.0	10						
11	278 39.2 +00.9	N 09 52.4 +00.7	43 32.1 +02.0	S 22 20.2 +00.0	14 28.7 +02.2	S 22 05.2 -00.1	11						
12	293 40.1 +00.9	N 09 53.1 +00.6	58 34.1 +02.0	S 22 20.2 +00.0	29 30.9 +02.2	S 22 05.1 +00.0	12						
13	308 41.0 +00.8	N 09 53.7 +00.7	73 36.1 +02.0	S 22 20.2 +00.1	44 33.1 +02.1	S 22 05.1 +00.0	13						
14	323 41.8 +00.9	N 09 54.4 +00.7	88 38.1 +02.0	S 22 20.3 +00.0	59 35.2 +02.2	S 22 05.1 -00.1	14						
15	338 42.7 +00.9	N 09 55.1 +00.6	103 40.1 +02.1	S 22 20.3 +00.0	74 37.4 +02.2	S 22 05.0 +00.0	15						
16	353 43.6 +00.9	N 09 55.7 +00.7	118 42.2 +02.0	S 22 20.3 +00.1	89 39.6 +02.2	S 22 05.0 +00.0	16						
17	8 44.5 +00.9	N 09 56.4 +00.6	133 44.2 +02.0	S 22 20.4 +00.0	104 41.8 +02.2	S 22 05.0 +00.0	17						
18	23 45.4 +00.8	N 09 57.0 +00.7	148 46.2 +02.0	S 22 20.4 +00.0	119 44.0 +02.1	S 22 05.0 -00.1	18						
19	38 46.2 +00.9	N 09 57.7 +00.6	163 48.2 +02.1	S 22 20.4 +00.1	134 46.1 +02.2	S 22 04.9 +00.0	19						
20	53 47.1 +00.9	N 09 58.3 +00.7	178 50.3 +02.0	S 22 20.5 +00.0	149 48.3 +02.2	S 22 04.9 +00.0	20						
21	68 48.0 +00.9	N 09 59.0 +00.6	193 52.3 +02.0	S 22 20.5 +00.0	164 50.5 +02.2	S 22 04.9 -00.1	21						
22	83 48.9 +00.9	N 09 59.6 +00.7	208 54.3 +02.0	S 22 20.5 +00.1	179 52.7 +02.2	S 22 04.8 +00.0	22						
23	98 49.8 +00.8	N 10 00.3 +00.6	223 56.3 +02.1	S 22 20.6 +00.0	194 54.9 +02.1	S 22 04.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 338° 337° 337° 337° 337° 337°		SHA 102° 102° 102° 102° 102° 102°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 16:25		Greenwich Culmination Time: 08:06		Greenwich Culmination Time: 10:02								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.8 +00.0	S	15 27.8 -00.8	223 04.3 -00.6	S	21 09.0 +00.1	153 06.2 -26.1	S	10 53.3 -09.5	00			
01	191 28.8 -00.1	S	15 27.0 -00.8	238 03.7 -00.6	S	21 09.1 +00.1	167 40.1 -26.1	S	10 43.8 -09.6	01			
02	206 28.7 +00.0	S	15 26.2 -00.8	253 03.1 -00.6	S	21 09.2 +00.0	182 14.0 -26.1	S	10 34.2 -09.6	02			
03	221 28.7 -00.1	S	15 25.4 -00.7	268 02.5 -00.6	S	21 09.2 +00.1	196 47.9 -26.0	S	10 24.6 -09.7	03			
04	236 28.6 +00.0	S	15 24.7 -00.8	283 01.9 -00.7	S	21 09.3 +00.1	211 21.9 -26.1	S	10 14.9 -09.7	04			
05	251 28.6 +00.0	S	15 23.9 -00.8	298 01.2 -00.6	S	21 09.4 +00.0	225 55.8 -26.0	S	10 05.2 -09.8	05			
06	266 28.6 -00.1	S	15 23.1 -00.8	313 00.6 -00.6	S	21 09.4 +00.1	240 29.8 -25.9	S	09 55.4 -09.8	06			
07	281 28.5 +00.0	S	15 22.3 -00.8	328 00.0 -00.6	S	21 09.5 +00.1	255 03.9 -26.0	S	09 45.6 -09.8	07			
08	296 28.5 +00.0	S	15 21.5 -00.7	342 59.4 -00.6	S	21 09.6 +00.0	269 37.9 -25.9	S	09 35.8 -09.9	08			
09	311 28.5 -00.1	S	15 20.8 -00.8	357 58.8 -00.6	S	21 09.6 +00.1	284 12.0 -25.9	S	09 25.9 -09.9	09			
10	326 28.4 +00.0	S	15 20.0 -00.8	12 58.2 -00.6	S	21 09.7 +00.1	298 46.1 -25.9	S	09 16.0 -10.0	10			
11	341 28.4 +00.0	S	15 19.2 -00.8	27 57.6 -00.7	S	21 09.8 +00.0	313 20.2 -25.9	S	09 06.0 -10.0	11			
12	356 28.4 -00.1	S	15 18.4 -00.8	42 56.9 -00.6	S	21 09.8 +00.1	327 54.3 -25.8	S	08 56.0 -10.1	12			
13	11 28.3 +00.0	S	15 17.6 -00.7	57 56.3 -00.6	S	21 09.9 +00.0	342 28.5 -25.8	S	08 45.9 -10.0	13			
14	26 28.3 +00.0	S	15 16.9 -00.8	72 55.7 -00.6	S	21 09.9 +00.1	357 02.7 -25.8	S	08 35.9 -10.1	14			
15	41 28.3 -00.1	S	15 16.1 -00.8	87 55.1 -00.6	S	21 10.0 +00.1	11 36.9 -25.8	S	08 25.8 -10.2	15			
16	56 28.2 +00.0	S	15 15.3 -00.8	102 54.5 -00.6	S	21 10.1 +00.0	26 11.1 -25.8	S	08 15.6 -10.2	16			
17	71 28.2 +00.0	S	15 14.5 -00.8	117 53.9 -00.7	S	21 10.1 +00.1	40 45.3 -25.8	S	08 05.4 -10.2	17			
18	86 28.2 -00.1	S	15 13.7 -00.8	132 53.2 -00.6	S	21 10.2 +00.0	55 19.5 -25.7	S	07 55.2 -10.3	18			
19	101 28.1 +00.0	S	15 12.9 -00.7	147 52.6 -00.6	S	21 10.2 +00.1	69 53.8 -25.7	S	07 44.9 -10.3	19			
20	116 28.1 +00.0	S	15 12.2 -00.8	162 52.0 -00.6	S	21 10.3 +00.0	84 28.1 -25.7	S	07 34.6 -10.3	20			
21	131 28.1 -00.1	S	15 11.4 -00.8	177 51.4 -00.6	S	21 10.3 +00.1	99 02.4 -25.7	S	07 24.3 -10.3	21			
22	146 28.0 +00.0	S	15 10.6 -00.8	192 50.8 -00.6	S	21 10.4 +00.0	113 36.7 -25.7	S	07 14.0 -10.4	22			
23	161 28.0 +00.0	S	15 09.8 -00.8	207 50.2 -00.7	S	21 10.4 +00.1	128 11.0 -25.7	S	07 03.6 -10.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'7 14'7 14'7 14'7 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'0 54'1 54'1 54'1 54'2 54'2						
	SHA 040° 039° 039° 039° 039° 039°			SHA 086° 086° 086° 086° 085° 085°			SHA 015° 013° 012° 010° 008° 006°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 14:12						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 50.6 +00.9	N	10 00.9 +00.7	238 58.4 +02.0	S	22 20.6 +00.0	209 57.0 +02.2	S	22 04.8 +00.0	00			
01	128 51.5 +00.9	N	10 01.6 +00.6	254 00.4 +02.0	S	22 20.6 +00.1	224 59.2 +02.2	S	22 04.8 -00.1	01			
02	143 52.4 +00.9	N	10 02.2 +00.7	269 02.4 +02.1	S	22 20.7 +00.0	240 01.4 +02.2	S	22 04.7 +00.0	02			
03	158 53.3 +00.8	N	10 02.9 +00.6	284 04.5 +02.0	S	22 20.7 +00.0	255 03.6 +02.2	S	22 04.7 +00.0	03			
04	173 54.1 +00.9	N	10 03.5 +00.7	299 06.5 +02.0	S	22 20.7 +00.1	270 05.8 +02.1	S	22 04.7 -00.1	04			
05	188 55.0 +00.9	N	10 04.2 +00.7	314 08.5 +02.0	S	22 20.8 +00.0	285 07.9 +02.2	S	22 04.6 +00.0	05			
06	203 55.9 +00.9	N	10 04.9 +00.6	329 10.5 +02.1	S	22 20.8 +00.0	300 10.1 +02.2	S	22 04.6 +00.0	06			
07	218 56.8 +00.9	N	10 05.5 +00.7	344 12.6 +02.0	S	22 20.8 +00.1	315 12.3 +02.2	S	22 04.6 +00.0	07			
08	233 57.7 +00.8	N	10 06.2 +00.6	359 14.6 +02.0	S	22 20.9 +00.0	330 14.5 +02.2	S	22 04.6 -00.1	08			
09	248 58.5 +00.9	N	10 06.8 +00.7	14 16.6 +02.0	S	22 20.9 +00.0	345 16.7 +02.1	S	22 04.5 +00.0	09			
10	263 59.4 +00.9	N	10 07.5 +00.6	29 18.6 +02.1	S	22 20.9 +00.1	0 18.8 +02.2	S	22 04.5 +00.0	10			
11	279 00.3 +00.9	N	10 08.1 +00.7	44 20.7 +02.0	S	22 21.0 +00.0	15 21.0 +02.2	S	22 04.5 -00.1	11			
12	294 01.2 +00.8	N	10 08.8 +00.6	59 22.7 +02.0	S	22 21.0 +00.0	30 23.2 +02.2	S	22 04.4 +00.0	12			
13	309 02.0 +00.9	N	10 09.4 +00.7	74 24.7 +02.1	S	22 21.0 +00.1	45 25.4 +02.2	S	22 04.4 +00.0	13			
14	324 02.9 +00.9	N	10 10.1 +00.6	89 26.8 +02.0	S	22 21.1 +00.0	60 27.6 +02.1	S	22 04.4 +00.0	14			
15	339 03.8 +00.9	N	10 10.7 +00.7	104 28.8 +02.0	S	22 21.1 +00.0	75 29.7 +02.2	S	22 04.4 -00.1	15			
16	354 04.7 +00.8	N	10 11.4 +00.6	119 30.8 +02.0	S	22 21.1 +00.1	90 31.9 +02.2	S	22 04.3 +00.0	16			
17	9 05.5 +00.9	N	10 12.0 +00.7	134 32.8 +02.1	S	22 21.2 +00.0	105 34.1 +02.2	S	22 04.3 +00.0	17			
18	24 06.4 +00.9	N	10 12.7 +00.6	149 34.9 +02.0	S	22 21.2 +00.0	120 36.3 +02.2	S	22 04.3 -00.1	18			
19	39 07.3 +00.9	N	10 13.3 +00.7	164 36.9 +02.0	S	22 21.2 +00.1	135 38.5 +02.2	S	22 04.2 +00.0	19			
20	54 08.2 +00.8	N	10 14.0 +00.6	179 38.9 +02.1	S	22 21.3 +00.0	150 40.7 +02.1	S	22 04.2 +00.0	20			
21	69 09.0 +00.9	N	10 14.6 +00.7	194 41.0 +02.0	S	22 21.3 +00.0	165 42.8 +02.2	S	22 04.2 +00.0	21			
22	84 09.9 +00.9	N	10 15.3 +00.6	209 43.0 +02.0	S	22 21.3 +00.1	180 45.0 +02.2	S	22 04.2 -00.1	22			
23	99 10.8 +00.9	N	10 15.9 +00.7	224 45.0 +02.1	S	22 21.4 +00.0	195 47.2 +02.2	S	22 04.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 337° 337° 337° 337° 337° 336°			SHA 102° 102° 102° 102° 102° 102°			SHA 073° 073° 073° 073° 073° 073°						
	Greenwich Culmination Time: 16:23			Greenwich Culmination Time: 08:03			Greenwich Culmination Time: 09:58						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.0 -00.1	S 15 09.0 -00.8	222 49.5 -00.6	S 21 10.5 +00.0	142 45.3 -25.6	S 06 53.1 -10.4	00						
01	191 27.9 +00.0	S 15 08.2 -00.8	237 48.9 -00.6	S 21 10.5 +00.1	157 19.7 -25.7	S 06 42.7 -10.5	01						
02	206 27.9 +00.0	S 15 07.4 -00.7	252 48.3 -00.6	S 21 10.6 +00.0	171 54.0 -25.6	S 06 32.2 -10.5	02						
03	221 27.9 -00.1	S 15 06.7 -00.8	267 47.7 -00.6	S 21 10.6 +00.1	186 28.4 -25.6	S 06 21.7 -10.5	03						
04	236 27.8 +00.0	S 15 05.9 -00.8	282 47.1 -00.7	S 21 10.7 +00.0	201 02.8 -25.6	S 06 11.2 -10.6	04						
05	251 27.8 +00.0	S 15 05.1 -00.8	297 46.4 -00.6	S 21 10.7 +00.1	215 37.2 -25.7	S 06 00.6 -10.6	05						
06	266 27.8 +00.0	S 15 04.3 -00.8	312 45.8 -00.6	S 21 10.8 +00.0	230 11.5 -25.5	S 05 50.0 -10.6	06						
07	281 27.8 -00.1	S 15 03.5 -00.8	327 45.2 -00.6	S 21 10.8 +00.1	244 46.0 -25.6	S 05 39.4 -10.7	07						
08	296 27.7 +00.0	S 15 02.7 -00.8	342 44.6 -00.6	S 21 10.9 +00.0	259 20.4 -25.6	S 05 28.7 -10.6	08						
09	311 27.7 +00.0	S 15 01.9 -00.8	357 44.0 -00.7	S 21 10.9 +00.0	273 54.8 -25.6	S 05 18.1 -10.7	09						
10	326 27.7 -00.1	S 15 01.1 -00.8	12 43.3 -00.6	S 21 10.9 +00.1	288 29.2 -25.6	S 05 07.4 -10.8	10						
11	341 27.6 +00.0	S 15 00.3 -00.8	27 42.7 -00.6	S 21 11.0 +00.0	303 03.6 -25.5	S 04 56.6 -10.7	11						
12	356 27.6 +00.0	S 14 59.5 -00.7	42 42.1 -00.6	S 21 11.0 +00.1	317 38.1 -25.6	S 04 45.9 -10.8	12						
13	11 27.6 +00.0	S 14 58.8 -00.8	57 41.5 -00.7	S 21 11.1 +00.0	332 12.5 -25.5	S 04 35.1 -10.8	13						
14	26 27.6 -00.1	S 14 58.0 -00.8	72 40.8 -00.6	S 21 11.1 +00.0	346 47.0 -25.6	S 04 24.3 -10.8	14						
15	41 27.5 +00.0	S 14 57.2 -00.8	87 40.2 -00.6	S 21 11.1 +00.1	1 21.4 -25.5	S 04 13.5 -10.8	15						
16	56 27.5 +00.0	S 14 56.4 -00.8	102 39.6 -00.6	S 21 11.2 +00.0	15 55.9 -25.6	S 04 02.7 -10.9	16						
17	71 27.5 +00.0	S 14 55.6 -00.8	117 39.0 -00.6	S 21 11.2 +00.0	30 30.3 -25.5	S 03 51.8 -10.9	17						
18	86 27.5 -00.1	S 14 54.8 -00.8	132 38.4 -00.7	S 21 11.2 +00.1	45 04.8 -25.6	S 03 40.9 -10.8	18						
19	101 27.4 +00.0	S 14 54.0 -00.8	147 37.7 -00.6	S 21 11.3 +00.0	59 39.2 -25.5	S 03 30.1 -11.0	19						
20	116 27.4 +00.0	S 14 53.2 -00.8	162 37.1 -00.6	S 21 11.3 +00.0	74 13.7 -25.6	S 03 19.1 -10.9	20						
21	131 27.4 +00.0	S 14 52.4 -00.8	177 36.5 -00.6	S 21 11.3 +00.1	88 48.1 -25.6	S 03 08.2 -10.9	21						
22	146 27.4 +00.0	S 14 51.6 -00.8	192 35.9 -00.7	S 21 11.4 +00.0	103 22.5 -25.5	S 02 57.3 -11.0	22						
23	161 27.4 -00.1	S 14 50.8 -00.8	207 35.2 -00.6	S 21 11.4 +00.0	117 57.0 -25.6	S 02 46.3 -11.0	23						
UT	02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	UT	02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	UT	02 06 10 14 18 22	SD 14'8 14'8 14'8 14'8 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'2 54'3 54'3 54'4 54'4 54'5						
	SHA 039° 038° 038° 038° 038° 038°			SHA 085° 085° 085° 084° 084° 084°			SHA 004° 002° 000° 358° 357° 355°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 14:54						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 11.7 +00.8	N 10 16.6 +00.6	239 47.1 +02.0	S 22 21.4 +00.0	210 49.4 +02.2	S 22 04.1 +00.0	00						
01	129 12.5 +00.9	N 10 17.2 +00.7	254 49.1 +02.0	S 22 21.4 +00.1	225 51.6 +02.1	S 22 04.1 -00.1	01						
02	144 13.4 +00.9	N 10 17.9 +00.6	269 51.1 +02.0	S 22 21.5 +00.0	240 53.7 +02.2	S 22 04.0 +00.0	02						
03	159 14.3 +00.9	N 10 18.5 +00.7	284 53.1 +02.1	S 22 21.5 +00.0	255 55.9 +02.2	S 22 04.0 +00.0	03						
04	174 15.2 +00.8	N 10 19.2 +00.6	299 55.2 +02.0	S 22 21.5 +00.1	270 58.1 +02.2	S 22 04.0 +00.0	04						
05	189 16.0 +00.9	N 10 19.8 +00.7	314 57.2 +02.0	S 22 21.6 +00.0	286 00.3 +02.2	S 22 04.0 -00.1	05						
06	204 16.9 +00.9	N 10 20.5 +00.6	329 59.2 +02.1	S 22 21.6 +00.0	301 02.5 +02.2	S 22 03.9 +00.0	06						
07	219 17.8 +00.9	N 10 21.1 +00.7	345 01.3 +02.0	S 22 21.6 +00.1	316 04.7 +02.1	S 22 03.9 +00.0	07						
08	234 18.7 +00.8	N 10 21.8 +00.6	0 03.3 +02.0	S 22 21.7 +00.0	331 06.8 +02.2	S 22 03.9 -00.1	08						
09	249 19.5 +00.9	N 10 22.4 +00.7	15 05.3 +02.1	S 22 21.7 +00.0	346 09.0 +02.2	S 22 03.8 +00.0	09						
10	264 20.4 +00.9	N 10 23.1 +00.6	30 07.4 +02.0	S 22 21.7 +00.1	1 11.2 +02.2	S 22 03.8 +00.0	10						
11	279 21.3 +00.9	N 10 23.7 +00.7	45 09.4 +02.0	S 22 21.8 +00.0	16 13.4 +02.2	S 22 03.8 +00.0	11						
12	294 22.2 +00.8	N 10 24.4 +00.6	60 11.4 +02.1	S 22 21.8 +00.0	31 15.6 +02.1	S 22 03.8 -00.1	12						
13	309 23.0 +00.9	N 10 25.0 +00.7	75 13.5 +02.0	S 22 21.8 +00.1	46 17.7 +02.2	S 22 03.7 +00.0	13						
14	324 23.9 +00.9	N 10 25.7 +00.6	90 15.5 +02.0	S 22 21.9 +00.0	61 19.9 +02.2	S 22 03.7 +00.0	14						
15	339 24.8 +00.9	N 10 26.3 +00.6	105 17.5 +02.1	S 22 21.9 +00.0	76 22.1 +02.2	S 22 03.7 -00.1	15						
16	354 25.7 +00.8	N 10 26.9 +00.7	120 19.6 +02.0	S 22 21.9 +00.1	91 24.3 +02.2	S 22 03.6 +00.0	16						
17	9 26.5 +00.9	N 10 27.6 +00.6	135 21.6 +02.0	S 22 22.0 +00.0	106 26.5 +02.2	S 22 03.6 +00.0	17						
18	24 27.4 +00.9	N 10 28.2 +00.7	150 23.6 +02.1	S 22 22.0 +00.0	121 28.7 +02.1	S 22 03.6 +00.0	18						
19	39 28.3 +00.9	N 10 28.9 +00.6	165 25.7 +02.0	S 22 22.0 +00.1	136 30.8 +02.2	S 22 03.6 -00.1	19						
20	54 29.2 +00.8	N 10 29.5 +00.7	180 27.7 +02.0	S 22 22.1 +00.0	151 33.0 +02.2	S 22 03.5 +00.0	20						
21	69 30.0 +00.9	N 10 30.2 +00.6	195 29.7 +02.1	S 22 22.1 +00.0	166 35.2 +02.2	S 22 03.5 +00.0	21						
22	84 30.9 +00.9	N 10 30.8 +00.7	210 31.8 +02.0	S 22 22.1 +00.1	181 37.4 +02.2	S 22 03.5 -00.1	22						
23	99 31.8 +00.9	N 10 31.5 +00.6	225 33.8 +02.1	S 22 22.2 +00.0	196 39.6 +02.2	S 22 03.4 +00.0	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 336° 336° 336° 336° 336° 336°			SHA 102° 102° 102° 102° 102° 102°			SHA 073° 073° 073° 073° 073° 073°						
	Greenwich Culmination Time: 16:22			Greenwich Culmination Time: 07:59			Greenwich Culmination Time: 09:55						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.3 +00.0	S 14 50.0 -00.8	222 34.6 -00.6	S 21 11.4 +00.0	132 31.4 -25.5	S 02 35.3 -11.0	00						
01	191 27.3 +00.0	S 14 49.2 -00.8	237 34.0 -00.6	S 21 11.4 +00.1	147 05.9 -25.6	S 02 24.3 -11.0	01						
02	206 27.3 +00.0	S 14 48.4 -00.8	252 33.4 -00.7	S 21 11.5 +00.0	161 40.3 -25.6	S 02 13.3 -11.0	02						
03	221 27.3 -00.1	S 14 47.6 -00.8	267 32.7 -00.6	S 21 11.5 +00.0	176 14.7 -25.6	S 02 02.3 -11.1	03						
04	236 27.2 +00.0	S 14 46.8 -00.8	282 32.1 -00.6	S 21 11.5 +00.0	190 49.1 -25.6	S 01 51.2 -11.0	04						
05	251 27.2 +00.0	S 14 46.0 -00.8	297 31.5 -00.6	S 21 11.5 +00.1	205 23.5 -25.6	S 01 40.2 -11.1	05						
06	266 27.2 +00.0	S 14 45.2 -00.8	312 30.9 -00.7	S 21 11.6 +00.0	219 57.9 -25.6	S 01 29.1 -11.1	06						
07	281 27.2 +00.0	S 14 44.4 -00.8	327 30.2 -00.6	S 21 11.6 +00.0	234 32.3 -25.6	S 01 18.0 -11.0	07						
08	296 27.2 -00.1	S 14 43.6 -00.8	342 29.6 -00.6	S 21 11.6 +00.0	249 06.7 -25.7	S 01 07.0 -11.1	08						
09	311 27.1 +00.0	S 14 42.8 -00.8	357 29.0 -00.7	S 21 11.6 +00.0	263 41.0 -25.6	S 00 55.9 -11.2	09						
10	326 27.1 +00.0	S 14 42.0 -00.8	12 28.3 -00.6	S 21 11.6 +00.1	278 15.4 -25.7	S 00 44.7 -11.1	10						
11	341 27.1 +00.0	S 14 41.2 -00.8	27 27.7 -00.6	S 21 11.7 +00.0	292 49.7 -25.6	S 00 33.6 -11.1	11						
12	356 27.1 +00.0	S 14 40.4 -00.8	42 27.1 -00.6	S 21 11.7 +00.0	307 24.1 -25.7	S 00 22.5 -11.1	12						
13	11 27.1 -00.1	S 14 39.6 -00.8	57 26.5 -00.7	S 21 11.7 +00.0	321 58.4 -25.7	S 00 11.4 -11.2	13						
14	26 27.0 +00.0	S 14 38.8 -00.8	72 25.8 -00.6	S 21 11.7 +00.0	336 32.7 -25.7	S 00 00.2 -11.1	14						
15	41 27.0 +00.0	S 14 38.0 -00.8	87 25.2 -00.6	S 21 11.7 +00.0	351 07.0 -25.8	N 00 10.9 +11.2	15						
16	56 27.0 +00.0	S 14 37.2 -00.8	102 24.6 -00.7	S 21 11.7 +00.0	5 41.2 -25.7	N 00 22.1 +11.1	16						
17	71 27.0 +00.0	S 14 36.4 -00.8	117 23.9 -00.6	S 21 11.7 +00.1	20 15.5 -25.8	N 00 33.2 +11.2	17						
18	86 27.0 +00.0	S 14 35.6 -00.8	132 23.3 -00.6	S 21 11.8 +00.0	34 49.7 -25.8	N 00 44.4 +11.2	18						
19	101 27.0 +00.0	S 14 34.8 -00.8	147 22.7 -00.6	S 21 11.8 +00.0	49 23.9 -25.8	N 00 55.6 +11.1	19						
20	116 27.0 -00.1	S 14 34.0 -00.8	162 22.1 -00.7	S 21 11.8 +00.0	63 58.1 -25.8	N 01 06.7 +11.2	20						
21	131 26.9 +00.0	S 14 33.2 -00.8	177 21.4 -00.6	S 21 11.8 +00.0	78 32.3 -25.9	N 01 17.9 +11.2	21						
22	146 26.9 +00.0	S 14 32.4 -00.8	192 20.8 -00.6	S 21 11.8 +00.0	93 06.4 -25.9	N 01 29.1 +11.2	22						
23	161 26.9 +00.0	S 14 31.6 -00.9	207 20.2 -00.7	S 21 11.8 +00.0	107 40.5 -25.9	N 01 40.3 +11.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'9 14'9 14'9 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'6 54'6 54'7 54'8 54'8 54'9								
	SHA 038° 037° 037° 037° 037° 037°		SHA 084° 083° 083° 083° 083° 083°		SHA 353° 351° 349° 347° 345° 343°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:10		Greenwich Culmination Time: 15:36								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 32.7 +00.8	N 10 32.1 +00.7	240 35.9 +02.0	S 22 22.2 +00.0	211 41.8 +02.1	S 22 03.4 +00.0	00						
01	129 33.5 +00.9	N 10 32.8 +00.6	255 37.9 +02.0	S 22 22.2 +00.0	226 43.9 +02.2	S 22 03.4 +00.0	01						
02	144 34.4 +00.9	N 10 33.4 +00.7	270 39.9 +02.1	S 22 22.2 +00.1	241 46.1 +02.2	S 22 03.4 -00.1	02						
03	159 35.3 +00.8	N 10 34.1 +00.6	285 42.0 +02.0	S 22 22.3 +00.0	256 48.3 +02.2	S 22 03.3 +00.0	03						
04	174 36.1 +00.9	N 10 34.7 +00.7	300 44.0 +02.0	S 22 22.3 +00.0	271 50.5 +02.2	S 22 03.3 +00.0	04						
05	189 37.0 +00.9	N 10 35.4 +00.6	315 46.0 +02.1	S 22 22.3 +00.1	286 52.7 +02.2	S 22 03.3 -00.1	05						
06	204 37.9 +00.9	N 10 36.0 +00.6	330 48.1 +02.0	S 22 22.4 +00.0	301 54.9 +02.2	S 22 03.2 +00.0	06						
07	219 38.8 +00.8	N 10 36.6 +00.7	345 50.1 +02.0	S 22 22.4 +00.0	316 57.1 +02.1	S 22 03.2 +00.0	07						
08	234 39.6 +00.9	N 10 37.3 +00.6	0 52.1 +02.1	S 22 22.4 +00.1	331 59.2 +02.2	S 22 03.2 +00.0	08						
09	249 40.5 +00.9	N 10 37.9 +00.7	15 54.2 +02.0	S 22 22.5 +00.0	347 01.4 +02.2	S 22 03.2 -00.1	09						
10	264 41.4 +00.8	N 10 38.6 +00.6	30 56.2 +02.1	S 22 22.5 +00.0	2 03.6 +02.2	S 22 03.1 +00.0	10						
11	279 42.2 +00.9	N 10 39.2 +00.7	45 58.3 +02.0	S 22 22.5 +00.1	17 05.8 +02.2	S 22 03.1 +00.0	11						
12	294 43.1 +00.9	N 10 39.9 +00.6	61 00.3 +02.0	S 22 22.6 +00.0	32 08.0 +02.2	S 22 03.1 -00.1	12						
13	309 44.0 +00.9	N 10 40.5 +00.7	76 02.3 +02.1	S 22 22.6 +00.0	47 10.2 +02.1	S 22 03.0 +00.0	13						
14	324 44.9 +00.8	N 10 41.2 +00.6	91 04.4 +02.0	S 22 22.6 +00.1	62 12.3 +02.2	S 22 03.0 +00.0	14						
15	339 45.7 +00.9	N 10 41.8 +00.6	106 06.4 +02.1	S 22 22.7 +00.0	77 14.5 +02.2	S 22 03.0 +00.0	15						
16	354 46.6 +00.9	N 10 42.4 +00.7	121 08.5 +02.0	S 22 22.7 +00.0	92 16.7 +02.2	S 22 03.0 -00.1	16						
17	9 47.5 +00.8	N 10 43.1 +00.6	136 10.5 +02.0	S 22 22.7 +00.1	107 18.9 +02.2	S 22 02.9 +00.0	17						
18	24 48.3 +00.9	N 10 43.7 +00.7	151 12.5 +02.1	S 22 22.8 +00.0	122 21.1 +02.2	S 22 02.9 +00.0	18						
19	39 49.2 +00.9	N 10 44.4 +00.6	166 14.6 +02.0	S 22 22.8 +00.0	137 23.3 +02.2	S 22 02.9 -00.1	19						
20	54 50.1 +00.9	N 10 45.0 +00.7	181 16.6 +02.1	S 22 22.8 +00.1	152 25.5 +02.1	S 22 02.8 +00.0	20						
21	69 51.0 +00.8	N 10 45.7 +00.6	196 18.7 +02.0	S 22 22.9 +00.0	167 27.6 +02.2	S 22 02.8 +00.0	21						
22	84 51.8 +00.9	N 10 46.3 +00.6	211 20.7 +02.0	S 22 22.9 +00.0	182 29.8 +02.2	S 22 02.8 +00.0	22						
23	99 52.7 +00.9	N 10 46.9 +00.7	226 22.7 +02.1	S 22 22.9 +00.0	197 32.0 +02.2	S 22 02.8 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 336° 336° 335° 335° 335° 335°		SHA 102° 102° 102° 102° 102° 102°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 16:20		Greenwich Culmination Time: 07:56		Greenwich Culmination Time: 09:51								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 26.9 +00.0	S 14 30.7 -00.8	222 19.5 -00.6	S 21 11.8 +00.0	122 14.6 -25.9	N 01 51.4 +11.2	00						
01	191 26.9 +00.0	S 14 29.9 -00.8	237 18.9 -00.6	S 21 11.8 +00.0	136 48.7 -25.9	N 02 02.6 +11.2	01						
02	206 26.9 +00.0	S 14 29.1 -00.8	252 18.3 -00.7	S 21 11.8 +00.0	151 22.8 -26.0	N 02 13.8 +11.2	02						
03	221 26.9 -00.1	S 14 28.3 -00.8	267 17.6 -00.6	S 21 11.8 +00.0	165 56.8 -26.0	N 02 25.0 +11.1	03						
04	236 26.8 +00.0	S 14 27.5 -00.8	282 17.0 -00.6	S 21 11.8 +00.0	180 30.8 -26.1	N 02 36.1 +11.2	04						
05	251 26.8 +00.0	S 14 26.7 -00.8	297 16.4 -00.7	S 21 11.8 +00.0	195 04.7 -26.0	N 02 47.3 +11.2	05						
06	266 26.8 +00.0	S 14 25.9 -00.8	312 15.7 -00.6	S 21 11.8 +00.0	209 38.7 -26.1	N 02 58.5 +11.1	06						
07	281 26.8 +00.0	S 14 25.1 -00.8	327 15.1 -00.6	S 21 11.8 +00.0	224 12.6 -26.1	N 03 09.6 +11.2	07						
08	296 26.8 +00.0	S 14 24.3 -00.8	342 14.5 -00.7	S 21 11.8 +00.0	238 46.5 -26.2	N 03 20.8 +11.1	08						
09	311 26.8 +00.0	S 14 23.5 -00.8	357 13.8 -00.6	S 21 11.8 +00.0	253 20.3 -26.2	N 03 31.9 +11.2	09						
10	326 26.8 +00.0	S 14 22.7 -00.9	12 13.2 -00.6	S 21 11.8 +00.0	267 54.1 -26.2	N 03 43.1 +11.1	10						
11	341 26.8 -00.1	S 14 21.8 -00.8	27 12.6 -00.7	S 21 11.8 +00.0	282 27.9 -26.2	N 03 54.2 +11.1	11						
12	356 26.7 +00.0	S 14 21.0 -00.8	42 11.9 -00.6	S 21 11.8 +00.0	297 01.7 -26.3	N 04 05.3 +11.2	12						
13	11 26.7 +00.0	S 14 20.2 -00.8	57 11.3 -00.6	S 21 11.8 +00.0	311 35.4 -26.3	N 04 16.5 +11.1	13						
14	26 26.7 +00.0	S 14 19.4 -00.8	72 10.7 -00.7	S 21 11.8 -00.1	326 09.1 -26.4	N 04 27.6 +11.1	14						
15	41 26.7 +00.0	S 14 18.6 -00.8	87 10.0 -00.6	S 21 11.7 +00.0	340 42.7 -26.4	N 04 38.7 +11.1	15						
16	56 26.7 +00.0	S 14 17.8 -00.8	102 09.4 -00.6	S 21 11.7 +00.0	355 16.3 -26.4	N 04 49.8 +11.0	16						
17	71 26.7 +00.0	S 14 17.0 -00.9	117 08.8 -00.7	S 21 11.7 +00.0	9 49.9 -26.5	N 05 00.8 +11.1	17						
18	86 26.7 +00.0	S 14 16.1 -00.8	132 08.1 -00.6	S 21 11.7 +00.0	24 23.4 -26.5	N 05 11.9 +11.1	18						
19	101 26.7 +00.0	S 14 15.3 -00.8	147 07.5 -00.6	S 21 11.7 +00.0	38 56.9 -26.6	N 05 23.0 +11.0	19						
20	116 26.7 +00.0	S 14 14.5 -00.8	162 06.9 -00.7	S 21 11.7 +00.0	53 30.3 -26.6	N 05 34.0 +11.0	20						
21	131 26.7 +00.0	S 14 13.7 -00.8	177 06.2 -00.6	S 21 11.7 -00.1	68 03.7 -26.6	N 05 45.0 +11.0	21						
22	146 26.7 +00.0	S 14 12.9 -00.8	192 05.6 -00.6	S 21 11.6 +00.0	82 37.1 -26.7	N 05 56.0 +11.0	22						
23	161 26.7 +00.0	S 14 12.1 -00.9	207 05.0 -00.7	S 21 11.6 +00.0	97 10.4 -26.8	N 06 07.0 +11.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	16'2 16'2 16'2 16'2 16'2 16'2		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	15'0 15'0 15'0 15'1 15'1 15'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	55'0 55'1 55'2 55'3 55'3 55'4						
SHA	037° 036° 036° 036° 036° 036°		SHA	082° 082° 082° 082° 082° 081°		SHA	342° 340° 338° 336° 334° 332°						
Greenwich Culmination Time: 12:14				Greenwich Culmination Time: 09:11				Greenwich Culmination Time: 16:19					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 53.6 +00.8	N 10 47.6 +00.6	241 24.8 +02.0	S 22 22.9 +00.1	212 34.2 +02.2	S 22 02.7 +00.0	00						
01	129 54.4 +00.9	N 10 48.2 +00.7	256 26.8 +02.1	S 22 23.0 +00.0	227 36.4 +02.2	S 22 02.7 +00.0	01						
02	144 55.3 +00.9	N 10 48.9 +00.6	271 28.9 +02.0	S 22 23.0 +00.0	242 38.6 +02.2	S 22 02.7 -00.1	02						
03	159 56.2 +00.9	N 10 49.5 +00.7	286 30.9 +02.0	S 22 23.0 +00.1	257 40.8 +02.1	S 22 02.6 +00.0	03						
04	174 57.1 +00.8	N 10 50.2 +00.6	301 32.9 +02.1	S 22 23.1 +00.0	272 42.9 +02.2	S 22 02.6 +00.0	04						
05	189 57.9 +00.9	N 10 50.8 +00.6	316 35.0 +02.0	S 22 23.1 +00.0	287 45.1 +02.2	S 22 02.6 +00.0	05						
06	204 58.8 +00.9	N 10 51.4 +00.7	331 37.0 +02.1	S 22 23.1 +00.1	302 47.3 +02.2	S 22 02.6 -00.1	06						
07	219 59.7 +00.8	N 10 52.1 +00.6	346 39.1 +02.0	S 22 23.2 +00.0	317 49.5 +02.2	S 22 02.5 +00.0	07						
08	235 00.5 +00.9	N 10 52.7 +00.7	1 41.1 +02.0	S 22 23.2 +00.0	332 51.7 +02.2	S 22 02.5 +00.0	08						
09	250 01.4 +00.9	N 10 53.4 +00.6	16 43.1 +02.1	S 22 23.2 +00.1	347 53.9 +02.2	S 22 02.5 -00.1	09						
10	265 02.3 +00.8	N 10 54.0 +00.6	31 45.2 +02.0	S 22 23.3 +00.0	2 56.1 +02.1	S 22 02.4 +00.0	10						
11	280 03.1 +00.9	N 10 54.6 +00.7	46 47.2 +02.1	S 22 23.3 +00.0	17 58.2 +02.2	S 22 02.4 +00.0	11						
12	295 04.0 +00.9	N 10 55.3 +00.6	61 49.3 +02.0	S 22 23.3 +00.0	33 00.4 +02.2	S 22 02.4 +00.0	12						
13	310 04.9 +00.9	N 10 55.9 +00.7	76 51.3 +02.1	S 22 23.3 +00.1	48 02.6 +02.2	S 22 02.4 -00.1	13						
14	325 05.8 +00.8	N 10 56.6 +00.6	91 53.4 +02.0	S 22 23.4 +00.0	63 04.8 +02.2	S 22 02.3 +00.0	14						
15	340 06.6 +00.9	N 10 57.2 +00.6	106 55.4 +02.0	S 22 23.4 +00.0	78 07.0 +02.2	S 22 02.3 +00.0	15						
16	355 07.5 +00.9	N 10 57.8 +00.7	121 57.4 +02.1	S 22 23.4 +00.1	93 09.2 +02.2	S 22 02.3 -00.1	16						
17	10 08.4 +00.8	N 10 58.5 +00.6	136 59.5 +02.0	S 22 23.5 +00.0	108 11.4 +02.2	S 22 02.2 +00.0	17						
18	25 09.2 +00.9	N 10 59.1 +00.7	152 01.5 +02.1	S 22 23.5 +00.0	123 13.6 +02.1	S 22 02.2 +00.0	18						
19	40 10.1 +00.9	N 10 59.8 +00.6	167 03.6 +02.0	S 22 23.5 +00.1	138 15.7 +02.2	S 22 02.2 +00.0	19						
20	55 11.0 +00.8	N 11 00.4 +00.6	182 05.6 +02.1	S 22 23.6 +00.0	153 17.9 +02.2	S 22 02.2 -00.1	20						
21	70 11.8 +00.9	N 11 01.0 +00.7	197 07.7 +02.0	S 22 23.6 +00.0	168 20.1 +02.2	S 22 02.1 +00.0	21						
22	85 12.7 +00.9	N 11 01.7 +00.6	212 09.7 +02.1	S 22 23.6 +00.1	183 22.3 +02.2	S 22 02.1 +00.0	22						
23	100 13.6 +00.8	N 11 02.3 +00.7	227 11.8 +02.0	S 22 23.7 +00.0	198 24.5 +02.2	S 22 02.1 -00.1	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	335° 335° 335° 335° 335° 335°		SHA	102° 102° 102° 102° 102° 101°		SHA	073° 073° 073° 073° 073° 073°						
Greenwich Culmination Time: 16:19				Greenwich Culmination Time: 07:53				Greenwich Culmination Time: 09:48					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 26.7 -00.1	S 14 11.2 -00.8	222 04.3 -00.6	S 21 11.6 +00.0	111 43.6 -26.7	N 06 18.0 +11.0	00						
01	191 26.6 +00.0	S 14 10.4 -00.8	237 03.7 -00.7	S 21 11.6 +00.0	126 16.9 -26.9	N 06 29.0 +10.9	01						
02	206 26.6 +00.0	S 14 09.6 -00.8	252 03.0 -00.6	S 21 11.6 -00.1	140 50.0 -26.8	N 06 39.9 +10.9	02						
03	221 26.6 +00.0	S 14 08.8 -00.8	267 02.4 -00.6	S 21 11.5 +00.0	155 23.2 -27.0	N 06 50.8 +10.9	03						
04	236 26.6 +00.0	S 14 08.0 -00.8	282 01.8 -00.7	S 21 11.5 +00.0	169 56.2 -26.9	N 07 01.7 +10.9	04						
05	251 26.6 +00.0	S 14 07.2 -00.9	297 01.1 -00.6	S 21 11.5 +00.0	184 29.3 -27.1	N 07 12.6 +10.9	05						
06	266 26.6 +00.0	S 14 06.3 -00.8	312 00.5 -00.6	S 21 11.5 -00.1	199 02.2 -27.0	N 07 23.5 +10.8	06						
07	281 26.6 +00.0	S 14 05.5 -00.8	326 59.9 -00.7	S 21 11.4 +00.0	213 35.2 -27.2	N 07 34.3 +10.8	07						
08	296 26.6 +00.0	S 14 04.7 -00.8	341 59.2 -00.6	S 21 11.4 +00.0	228 08.0 -27.1	N 07 45.1 +10.8	08						
09	311 26.6 +00.0	S 14 03.9 -00.8	356 58.6 -00.7	S 21 11.4 +00.0	242 40.9 -27.3	N 07 55.9 +10.8	09						
10	326 26.6 +00.0	S 14 03.1 -00.9	11 57.9 -00.6	S 21 11.4 -00.1	257 13.6 -27.2	N 08 06.7 +10.7	10						
11	341 26.6 +00.0	S 14 02.2 -00.8	26 57.3 -00.6	S 21 11.3 +00.0	271 46.4 -27.4	N 08 17.4 +10.8	11						
12	356 26.6 +00.0	S 14 01.4 -00.8	41 56.7 -00.7	S 21 11.3 +00.0	286 19.0 -27.4	N 08 28.2 +10.6	12						
13	11 26.6 +00.0	S 14 00.6 -00.8	56 56.0 -00.6	S 21 11.3 -00.1	300 51.6 -27.4	N 08 38.8 +10.7	13						
14	26 26.6 +00.0	S 13 59.8 -00.9	71 55.4 -00.7	S 21 11.2 +00.0	315 24.2 -27.6	N 08 49.5 +10.6	14						
15	41 26.6 +00.0	S 13 58.9 -00.8	86 54.7 -00.6	S 21 11.2 +00.0	329 56.6 -27.5	N 09 00.1 +10.6	15						
16	56 26.6 +00.0	S 13 58.1 -00.8	101 54.1 -00.6	S 21 11.2 -00.1	344 29.1 -27.7	N 09 10.7 +10.6	16						
17	71 26.6 +00.0	S 13 57.3 -00.8	116 53.5 -00.7	S 21 11.1 +00.0	359 01.4 -27.7	N 09 21.3 +10.5	17						
18	86 26.6 +00.0	S 13 56.5 -00.9	131 52.8 -00.6	S 21 11.1 +00.0	13 33.7 -27.7	N 09 31.8 +10.5	18						
19	101 26.6 +00.0	S 13 55.6 -00.8	146 52.2 -00.7	S 21 11.1 -00.1	28 06.0 -27.8	N 09 42.3 +10.5	19						
20	116 26.6 +00.0	S 13 54.8 -00.8	161 51.5 -00.6	S 21 11.0 +00.0	42 38.2 -27.9	N 09 52.8 +10.5	20						
21	131 26.6 +00.0	S 13 54.0 -00.8	176 50.9 -00.6	S 21 11.0 -00.1	57 10.3 -28.0	N 10 03.3 +10.4	21						
22	146 26.6 +00.0	S 13 53.2 -00.9	191 50.3 -00.7	S 21 10.9 +00.0	71 42.3 -28.0	N 10 13.7 +10.3	22						
23	161 26.6 +00.0	S 13 52.3 -00.8	206 49.6 -00.6	S 21 10.9 +00.0	86 14.3 -28.1	N 10 24.0 +10.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'2 15'2 15'2 15'3 15'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 55'6 55'7 55'8 55'9 56'0 56'1								
	SHA 036° 035° 035° 035° 035° 035°		SHA 081° 081° 081° 081° 080° 080°		SHA 330° 328° 326° 324° 322° 320°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:12		Greenwich Culmination Time: 17:04								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	115 14.4 +00.9	N 11 03.0 +00.6	242 13.8 +02.1	S 22 23.7 +00.0	213 26.7 +02.2	S 22 02.0 +00.0	00						
01	130 15.3 +00.9	N 11 03.6 +00.6	257 15.9 +02.0	S 22 23.7 +00.0	228 28.9 +02.2	S 22 02.0 +00.0	01						
02	145 16.2 +00.8	N 11 04.2 +00.7	272 17.9 +02.0	S 22 23.7 +00.1	243 31.1 +02.1	S 22 02.0 +00.0	02						
03	160 17.0 +00.9	N 11 04.9 +00.6	287 19.9 +02.1	S 22 23.8 +00.0	258 33.2 +02.2	S 22 02.0 -00.1	03						
04	175 17.9 +00.9	N 11 05.5 +00.7	302 22.0 +02.0	S 22 23.8 +00.0	273 35.4 +02.2	S 22 01.9 +00.0	04						
05	190 18.8 +00.8	N 11 06.2 +00.6	317 24.0 +02.1	S 22 23.8 +00.1	288 37.6 +02.2	S 22 01.9 +00.0	05						
06	205 19.6 +00.9	N 11 06.8 +00.6	332 26.1 +02.0	S 22 23.9 +00.0	303 39.8 +02.2	S 22 01.9 -00.1	06						
07	220 20.5 +00.9	N 11 07.4 +00.7	347 28.1 +02.1	S 22 23.9 +00.0	318 42.0 +02.2	S 22 01.8 +00.0	07						
08	235 21.4 +00.8	N 11 08.1 +00.6	2 30.2 +02.0	S 22 23.9 +00.1	333 44.2 +02.2	S 22 01.8 +00.0	08						
09	250 22.2 +00.9	N 11 08.7 +00.6	17 32.2 +02.1	S 22 24.0 +00.0	348 46.4 +02.2	S 22 01.8 +00.0	09						
10	265 23.1 +00.9	N 11 09.3 +00.7	32 34.3 +02.0	S 22 24.0 +00.0	3 48.6 +02.1	S 22 01.8 -00.1	10						
11	280 24.0 +00.8	N 11 10.0 +00.6	47 36.3 +02.1	S 22 24.0 +00.0	18 50.7 +02.2	S 22 01.7 +00.0	11						
12	295 24.8 +00.9	N 11 10.6 +00.7	62 38.4 +02.0	S 22 24.0 +00.1	33 52.9 +02.2	S 22 01.7 +00.0	12						
13	310 25.7 +00.9	N 11 11.3 +00.6	77 40.4 +02.1	S 22 24.1 +00.0	48 55.1 +02.2	S 22 01.7 -00.1	13						
14	325 26.6 +00.8	N 11 11.9 +00.6	92 42.5 +02.0	S 22 24.1 +00.0	63 57.3 +02.2	S 22 01.6 +00.0	14						
15	340 27.4 +00.9	N 11 12.5 +00.7	107 44.5 +02.1	S 22 24.1 +00.1	78 59.5 +02.2	S 22 01.6 +00.0	15						
16	355 28.3 +00.9	N 11 13.2 +00.6	122 46.6 +02.0	S 22 24.2 +00.0	94 01.7 +02.2	S 22 01.6 +00.0	16						
17	10 29.2 +00.8	N 11 13.8 +00.6	137 48.6 +02.1	S 22 24.2 +00.0	109 03.9 +02.2	S 22 01.6 -00.1	17						
18	25 30.0 +00.9	N 11 14.4 +00.7	152 50.7 +02.0	S 22 24.2 +00.1	124 06.1 +02.2	S 22 01.5 +00.0	18						
19	40 30.9 +00.9	N 11 15.1 +00.6	167 52.7 +02.1	S 22 24.3 +00.0	139 08.3 +02.1	S 22 01.5 +00.0	19						
20	55 31.8 +00.8	N 11 15.7 +00.6	182 54.8 +02.0	S 22 24.3 +00.0	154 10.4 +02.2	S 22 01.5 -00.1	20						
21	70 32.6 +00.9	N 11 16.3 +00.7	197 56.8 +02.1	S 22 24.3 +00.0	169 12.6 +02.2	S 22 01.4 +00.0	21						
22	85 33.5 +00.9	N 11 17.0 +00.6	212 58.9 +02.0	S 22 24.3 +00.1	184 14.8 +02.2	S 22 01.4 +00.0	22						
23	100 34.4 +00.8	N 11 17.6 +00.7	228 00.9 +02.1	S 22 24.4 +00.0	199 17.0 +02.2	S 22 01.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 334° 334° 334° 334° 334° 334°		SHA 101° 101° 101° 101° 101° 101°		SHA 073° 073° 073° 073° 073° 073°								
	Greenwich Culmination Time: 16:18		Greenwich Culmination Time: 07:50		Greenwich Culmination Time: 09:44								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 26.6 +00.0	S 13 51.5 -00.8	221 49.0 -00.7	S 21 10.9 -00.1	100 46.2 -28.1	N 10 34.4 +10.2	00						
01	191 26.6 +00.0	S 13 50.7 -00.8	236 48.3 -00.6	S 21 10.8 +00.0	115 18.1 -28.2	N 10 44.6 +10.3	01						
02	206 26.6 +00.0	S 13 49.9 -00.9	251 47.7 -00.6	S 21 10.8 -00.1	129 49.9 -28.3	N 10 54.9 +10.2	02						
03	221 26.6 +00.0	S 13 49.0 -00.8	266 47.1 -00.7	S 21 10.7 +00.0	144 21.6 -28.4	N 11 05.1 +10.2	03						
04	236 26.6 +00.0	S 13 48.2 -00.8	281 46.4 -00.6	S 21 10.7 -00.1	158 53.2 -28.4	N 11 15.3 +10.1	04						
05	251 26.6 +00.0	S 13 47.4 -00.9	296 45.8 -00.7	S 21 10.6 +00.0	173 24.8 -28.5	N 11 25.4 +10.1	05						
06	266 26.6 +00.0	S 13 46.5 -00.8	311 45.1 -00.6	S 21 10.6 -00.1	187 56.3 -28.5	N 11 35.5 +10.0	06						
07	281 26.6 +00.0	S 13 45.7 -00.8	326 44.5 -00.6	S 21 10.5 +00.0	202 27.8 -28.7	N 11 45.5 +10.0	07						
08	296 26.6 +00.1	S 13 44.9 -00.8	341 43.9 -00.7	S 21 10.5 -00.1	216 59.1 -28.7	N 11 55.5 +10.0	08						
09	311 26.7 +00.0	S 13 44.1 -00.9	356 43.2 -00.6	S 21 10.4 +00.0	231 30.4 -28.8	N 12 05.5 +09.9	09						
10	326 26.7 +00.0	S 13 43.2 -00.8	11 42.6 -00.7	S 21 10.4 -00.1	246 01.6 -28.8	N 12 15.4 +09.9	10						
11	341 26.7 +00.0	S 13 42.4 -00.8	26 41.9 -00.6	S 21 10.3 +00.0	260 32.8 -29.0	N 12 25.3 +09.8	11						
12	356 26.7 +00.0	S 13 41.6 -00.9	41 41.3 -00.7	S 21 10.3 -00.1	275 03.8 -29.0	N 12 35.1 +09.7	12						
13	11 26.7 +00.0	S 13 40.7 -00.8	56 40.6 -00.6	S 21 10.2 +00.0	289 34.8 -29.1	N 12 44.8 +09.7	13						
14	26 26.7 +00.0	S 13 39.9 -00.8	71 40.0 -00.7	S 21 10.2 -00.1	304 05.7 -29.2	N 12 54.5 +09.7	14						
15	41 26.7 +00.0	S 13 39.1 -00.9	86 39.3 -00.6	S 21 10.1 -00.1	318 36.5 -29.2	N 13 04.2 +09.6	15						
16	56 26.7 +00.0	S 13 38.2 -00.8	101 38.7 -00.6	S 21 10.0 +00.0	333 07.3 -29.3	N 13 13.8 +09.6	16						
17	71 26.7 +00.0	S 13 37.4 -00.8	116 38.1 -00.7	S 21 10.0 -00.1	347 38.0 -29.4	N 13 23.4 +09.5	17						
18	86 26.7 +00.0	S 13 36.6 -00.9	131 37.4 -00.6	S 21 09.9 +00.0	2 08.6 -29.5	N 13 32.9 +09.4	18						
19	101 26.7 +00.0	S 13 35.7 -00.8	146 36.8 -00.7	S 21 09.9 -00.1	16 39.1 -29.6	N 13 42.3 +09.4	19						
20	116 26.7 +00.0	S 13 34.9 -00.8	161 36.1 -00.6	S 21 09.8 -00.1	31 09.5 -29.7	N 13 51.7 +09.3	20						
21	131 26.7 +00.1	S 13 34.1 -00.9	176 35.5 -00.7	S 21 09.7 +00.0	45 39.8 -29.7	N 14 01.0 +09.3	21						
22	146 26.8 +00.0	S 13 33.2 -00.8	191 34.8 -00.6	S 21 09.7 -00.1	60 10.1 -29.8	N 14 10.3 +09.2	22						
23	161 26.8 +00.0	S 13 32.4 -00.8	206 34.2 -00.7	S 21 09.6 -00.1	74 40.3 -29.9	N 14 19.5 +09.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'4 15'4 15'4 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 56'2 56'4 56'5 56'6 56'8 56'9								
	SHA 035° 034° 034° 034° 034° 034°		SHA 080° 080° 080° 079° 079° 079°		SHA 318° 316° 314° 312° 310° 308°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:13		Greenwich Culmination Time: 17:51								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	115 35.2 +00.9	N 11 18.3 +00.6	243 03.0 +02.0	S 22 24.4 +00.0	214 19.2 +02.2	S 22 01.4 -00.1	00						
01	130 36.1 +00.9	N 11 18.9 +00.6	258 05.0 +02.1	S 22 24.4 +00.1	229 21.4 +02.2	S 22 01.3 +00.0	01						
02	145 37.0 +00.8	N 11 19.5 +00.7	273 07.1 +02.0	S 22 24.5 +00.0	244 23.6 +02.2	S 22 01.3 +00.0	02						
03	160 37.8 +00.9	N 11 20.2 +00.6	288 09.1 +02.1	S 22 24.5 +00.0	259 25.8 +02.2	S 22 01.3 -00.1	03						
04	175 38.7 +00.9	N 11 20.8 +00.6	303 11.2 +02.0	S 22 24.5 +00.1	274 28.0 +02.2	S 22 01.2 +00.0	04						
05	190 39.6 +00.8	N 11 21.4 +00.7	318 13.2 +02.1	S 22 24.6 +00.0	289 30.2 +02.1	S 22 01.2 +00.0	05						
06	205 40.4 +00.9	N 11 22.1 +00.6	333 15.3 +02.0	S 22 24.6 +00.0	304 32.3 +02.2	S 22 01.2 +00.0	06						
07	220 41.3 +00.9	N 11 22.7 +00.6	348 17.3 +02.1	S 22 24.6 +00.0	319 34.5 +02.2	S 22 01.2 -00.1	07						
08	235 42.2 +00.8	N 11 23.3 +00.7	3 19.4 +02.0	S 22 24.6 +00.1	334 36.7 +02.2	S 22 01.1 +00.0	08						
09	250 43.0 +00.9	N 11 24.0 +00.6	18 21.4 +02.1	S 22 24.7 +00.0	349 38.9 +02.2	S 22 01.1 +00.0	09						
10	265 43.9 +00.9	N 11 24.6 +00.6	33 23.5 +02.0	S 22 24.7 +00.0	4 41.1 +02.2	S 22 01.1 -00.1	10						
11	280 44.8 +00.8	N 11 25.2 +00.7	48 25.5 +02.1	S 22 24.7 +00.1	19 43.3 +02.2	S 22 01.0 +00.0	11						
12	295 45.6 +00.9	N 11 25.9 +00.6	63 27.6 +02.0	S 22 24.8 +00.0	34 45.5 +02.2	S 22 01.0 +00.0	12						
13	310 46.5 +00.8	N 11 26.5 +00.6	78 29.6 +02.1	S 22 24.8 +00.0	49 47.7 +02.2	S 22 01.0 +00.0	13						
14	325 47.3 +00.9	N 11 27.1 +00.7	93 31.7 +02.1	S 22 24.8 +00.0	64 49.9 +02.2	S 22 01.0 -00.1	14						
15	340 48.2 +00.9	N 11 27.8 +00.6	108 33.8 +02.0	S 22 24.8 +00.1	79 52.1 +02.2	S 22 00.9 +00.0	15						
16	355 49.1 +00.8	N 11 28.4 +00.6	123 35.8 +02.1	S 22 24.9 +00.0	94 54.3 +02.1	S 22 00.9 +00.0	16						
17	10 49.9 +00.9	N 11 29.0 +00.7	138 37.9 +02.0	S 22 24.9 +00.0	109 56.4 +02.2	S 22 00.9 -00.1	17						
18	25 50.8 +00.9	N 11 29.7 +00.6	153 39.9 +02.1	S 22 24.9 +00.1	124 58.6 +02.2	S 22 00.8 +00.0	18						
19	40 51.7 +00.8	N 11 30.3 +00.6	168 42.0 +02.0	S 22 25.0 +00.0	140 00.8 +02.2	S 22 00.8 +00.0	19						
20	55 52.5 +00.9	N 11 30.9 +00.7	183 44.0 +02.1	S 22 25.0 +00.0	155 03.0 +02.2	S 22 00.8 +00.0	20						
21	70 53.4 +00.9	N 11 31.6 +00.6	198 46.1 +02.0	S 22 25.0 +00.0	170 05.2 +02.2	S 22 00.8 -00.1	21						
22	85 54.3 +00.8	N 11 32.2 +00.6	213 48.1 +02.1	S 22 25.0 +00.1	185 07.4 +02.2	S 22 00.7 +00.0	22						
23	100 55.1 +00.9	N 11 32.8 +00.6	228 50.2 +02.0	S 22 25.1 +00.0	200 09.6 +02.2	S 22 00.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 334° 334° 334° 333° 333° 333°		SHA 101° 101° 101° 101° 101° 101°		SHA 073° 073° 073° 073° 072° 072°								
	Greenwich Culmination Time: 16:16		Greenwich Culmination Time: 07:46		Greenwich Culmination Time: 09:41								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 26.8 +00.0	S 13 31.6 -00.9	221 33.5 -00.6	S 21 09.5 +00.0	89 10.4 -30.0	N 14 28.6 +09.1	00						
01	191 26.8 +00.0	S 13 30.7 -00.8	236 32.9 -00.6	S 21 09.5 -00.1	103 40.4 -30.1	N 14 37.7 +09.0	01						
02	206 26.8 +00.0	S 13 29.9 -00.9	251 32.3 -00.7	S 21 09.4 -00.1	118 10.3 -30.1	N 14 46.7 +09.0	02						
03	221 26.8 +00.0	S 13 29.0 -00.8	266 31.6 -00.6	S 21 09.3 +00.0	132 40.2 -30.3	N 14 55.7 +08.9	03						
04	236 26.8 +00.0	S 13 28.2 -00.8	281 31.0 -00.7	S 21 09.3 -00.1	147 09.9 -30.3	N 15 04.6 +08.8	04						
05	251 26.8 +00.0	S 13 27.4 -00.9	296 30.3 -00.6	S 21 09.2 -00.1	161 39.6 -30.4	N 15 13.4 +08.7	05						
06	266 26.8 +00.1	S 13 26.5 -00.8	311 29.7 -00.7	S 21 09.1 -00.1	176 09.2 -30.6	N 15 22.1 +08.7	06						
07	281 26.9 +00.0	S 13 25.7 -00.9	326 29.0 -00.6	S 21 09.0 +00.0	190 38.6 -30.6	N 15 30.8 +08.6	07						
08	296 26.9 +00.0	S 13 24.8 -00.8	341 28.4 -00.7	S 21 09.0 -00.1	205 08.0 -30.6	N 15 39.4 +08.6	08						
09	311 26.9 +00.0	S 13 24.0 -00.8	356 27.7 -00.6	S 21 08.9 -00.1	219 37.4 -30.8	N 15 48.0 +08.4	09						
10	326 26.9 +00.0	S 13 23.2 -00.9	11 27.1 -00.7	S 21 08.8 -00.1	234 06.6 -30.9	N 15 56.4 +08.4	10						
11	341 26.9 +00.0	S 13 22.3 -00.8	26 26.4 -00.6	S 21 08.7 +00.0	248 35.7 -31.0	N 16 04.8 +08.4	11						
12	356 26.9 +00.0	S 13 21.5 -00.9	41 25.8 -00.7	S 21 08.7 -00.1	263 04.7 -31.0	N 16 13.2 +08.2	12						
13	11 26.9 +00.1	S 13 20.6 -00.8	56 25.1 -00.6	S 21 08.6 -00.1	277 33.7 -31.1	N 16 21.4 +08.2	13						
14	26 27.0 +00.0	S 13 19.8 -00.8	71 24.5 -00.6	S 21 08.5 -00.1	292 02.6 -31.3	N 16 29.6 +08.1	14						
15	41 27.0 +00.0	S 13 19.0 -00.9	86 23.9 -00.7	S 21 08.4 -00.1	306 31.3 -31.3	N 16 37.7 +08.0	15						
16	56 27.0 +00.0	S 13 18.1 -00.8	101 23.2 -00.6	S 21 08.3 +00.0	320 60.0 -31.4	N 16 45.7 +07.9	16						
17	71 27.0 +00.0	S 13 17.3 -00.9	116 22.6 -00.7	S 21 08.3 -00.1	335 28.6 -31.5	N 16 53.6 +07.8	17						
18	86 27.0 +00.0	S 13 16.4 -00.8	131 21.9 -00.6	S 21 08.2 -00.1	349 57.1 -31.6	N 17 01.4 +07.8	18						
19	101 27.0 +00.0	S 13 15.6 -00.9	146 21.3 -00.7	S 21 08.1 -00.1	4 25.5 -31.7	N 17 09.2 +07.7	19						
20	116 27.0 +00.1	S 13 14.7 -00.8	161 20.6 -00.6	S 21 08.0 -00.1	18 53.8 -31.8	N 17 16.9 +07.5	20						
21	131 27.1 +00.0	S 13 13.9 -00.8	176 20.0 -00.7	S 21 07.9 -00.1	33 22.0 -31.9	N 17 24.4 +07.5	21						
22	146 27.1 +00.0	S 13 13.1 -00.9	191 19.3 -00.6	S 21 07.8 -00.1	47 50.1 -32.0	N 17 31.9 +07.4	22						
23	161 27.1 +00.0	S 13 12.2 -00.8	206 18.7 -00.7	S 21 07.7 -00.1	62 18.1 -32.1	N 17 39.3 +07.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'5 15'6 15'6 15'7 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'1 57'2 57'3 57'5 57'6 57'8								
	SHA 034° 033° 033° 033° 033° 033°		SHA 079° 079° 078° 078° 078° 078°		SHA 305° 303° 301° 299° 296° 294°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:14		Greenwich Culmination Time: 18:41								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	115 56.0 +00.8	N 11 33.4 +00.7	243 52.2 +02.1	S 22 25.1 +00.0	215 11.8 +02.2	S 22 00.7 -00.1	00						
01	130 56.8 +00.9	N 11 34.1 +00.6	258 54.3 +02.1	S 22 25.1 +00.1	230 14.0 +02.2	S 22 00.6 +00.0	01						
02	145 57.7 +00.9	N 11 34.7 +00.6	273 56.4 +02.0	S 22 25.2 +00.0	245 16.2 +02.2	S 22 00.6 +00.0	02						
03	160 58.6 +00.8	N 11 35.3 +00.7	288 58.4 +02.1	S 22 25.2 +00.0	260 18.4 +02.2	S 22 00.6 +00.0	03						
04	175 59.4 +00.9	N 11 36.0 +00.6	304 00.5 +02.0	S 22 25.2 +00.0	275 20.6 +02.2	S 22 00.6 -00.1	04						
05	191 00.3 +00.9	N 11 36.6 +00.6	319 02.5 +02.1	S 22 25.2 +00.1	290 22.8 +02.1	S 22 00.5 +00.0	05						
06	206 01.2 +00.8	N 11 37.2 +00.7	334 04.6 +02.0	S 22 25.3 +00.0	305 24.9 +02.2	S 22 00.5 +00.0	06						
07	221 02.0 +00.9	N 11 37.9 +00.6	349 06.6 +02.1	S 22 25.3 +00.0	320 27.1 +02.2	S 22 00.5 -00.1	07						
08	236 02.9 +00.8	N 11 38.5 +00.6	4 08.7 +02.1	S 22 25.3 +00.1	335 29.3 +02.2	S 22 00.4 +00.0	08						
09	251 03.7 +00.9	N 11 39.1 +00.6	19 10.8 +02.0	S 22 25.4 +00.0	350 31.5 +02.2	S 22 00.4 +00.0	09						
10	266 04.6 +00.9	N 11 39.7 +00.7	34 12.8 +02.1	S 22 25.4 +00.0	5 33.7 +02.2	S 22 00.4 +00.0	10						
11	281 05.5 +00.8	N 11 40.4 +00.6	49 14.9 +02.0	S 22 25.4 +00.0	20 35.9 +02.2	S 22 00.4 -00.1	11						
12	296 06.3 +00.9	N 11 41.0 +00.6	64 16.9 +02.1	S 22 25.4 +00.1	35 38.1 +02.2	S 22 00.3 +00.0	12						
13	311 07.2 +00.9	N 11 41.6 +00.7	79 19.0 +02.1	S 22 25.5 +00.0	50 40.3 +02.2	S 22 00.3 +00.0	13						
14	326 08.1 +00.8	N 11 42.3 +00.6	94 21.1 +02.0	S 22 25.5 +00.0	65 42.5 +02.2	S 22 00.3 -00.1	14						
15	341 08.9 +00.9	N 11 42.9 +00.6	109 23.1 +02.1	S 22 25.5 +00.1	80 44.7 +02.2	S 22 00.2 +00.0	15						
16	356 09.8 +00.8	N 11 43.5 +00.7	124 25.2 +02.0	S 22 25.6 +00.0	95 46.9 +02.2	S 22 00.2 +00.0	16						
17	11 10.6 +00.9	N 11 44.2 +00.6	139 27.2 +02.1	S 22 25.6 +00.0	110 49.1 +02.2	S 22 00.2 +00.0	17						
18	26 11.5 +00.9	N 11 44.8 +00.6	154 29.3 +02.1	S 22 25.6 +00.0	125 51.3 +02.2	S 22 00.2 -00.1	18						
19	41 12.4 +00.8	N 11 45.4 +00.6	169 31.4 +02.0	S 22 25.6 +00.1	140 53.5 +02.1	S 22 00.1 +00.0	19						
20	56 13.2 +00.9	N 11 46.0 +00.7	184 33.4 +02.1	S 22 25.7 +00.0	155 55.6 +02.2	S 22 00.1 +00.0	20						
21	71 14.1 +00.8	N 11 46.7 +00.6	199 35.5 +02.0	S 22 25.7 +00.0	170 57.8 +02.2	S 22 00.1 -00.1	21						
22	86 14.9 +00.9	N 11 47.3 +00.6	214 37.5 +02.1	S 22 25.7 +00.1	186 00.0 +02.2	S 22 00.0 +00.0	22						
23	101 15.8 +00.9	N 11 47.9 +00.6	229 39.6 +02.1	S 22 25.8 +00.0	201 02.2 +02.2	S 22 00.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 333° 333° 333° 333° 333° 333°		SHA 101° 101° 101° 101° 101° 101°		SHA 072° 072° 072° 072° 072° 072°								
	Greenwich Culmination Time: 16:15		Greenwich Culmination Time: 07:43		Greenwich Culmination Time: 09:37								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.1 +00.0	S 13 11.4 -00.9	221 18.0 -00.6	S 21 07.6 +00.0	76 46.0 -32.1	N 17 46.7 +07.2	00						
01	191 27.1 +00.1	S 13 10.5 -00.8	236 17.4 -00.7	S 21 07.6 -00.1	91 13.9 -32.3	N 17 53.9 +07.1	01						
02	206 27.2 +00.0	S 13 09.7 -00.9	251 16.7 -00.6	S 21 07.5 -00.1	105 41.6 -32.4	N 18 01.0 +07.1	02						
03	221 27.2 +00.0	S 13 08.8 -00.8	266 16.1 -00.7	S 21 07.4 -00.1	120 09.2 -32.4	N 18 08.1 +06.9	03						
04	236 27.2 +00.0	S 13 08.0 -00.9	281 15.4 -00.6	S 21 07.3 -00.1	134 36.8 -32.6	N 18 15.0 +06.9	04						
05	251 27.2 +00.0	S 13 07.1 -00.8	296 14.8 -00.7	S 21 07.2 -00.1	149 04.2 -32.6	N 18 21.9 +06.7	05						
06	266 27.2 +00.1	S 13 06.3 -00.9	311 14.1 -00.6	S 21 07.1 -00.1	163 31.6 -32.7	N 18 28.6 +06.7	06						
07	281 27.3 +00.0	S 13 05.4 -00.8	326 13.5 -00.7	S 21 07.0 -00.1	177 58.9 -32.9	N 18 35.3 +06.5	07						
08	296 27.3 +00.0	S 13 04.6 -00.9	341 12.8 -00.6	S 21 06.9 -00.1	192 26.0 -32.9	N 18 41.8 +06.5	08						
09	311 27.3 +00.0	S 13 03.7 -00.8	356 12.2 -00.7	S 21 06.8 -00.1	206 53.1 -33.0	N 18 48.3 +06.3	09						
10	326 27.3 +00.0	S 13 02.9 -00.9	11 11.5 -00.6	S 21 06.7 -00.1	221 20.1 -33.1	N 18 54.6 +06.3	10						
11	341 27.3 +00.1	S 13 02.0 -00.8	26 10.9 -00.7	S 21 06.6 -00.1	235 47.0 -33.2	N 19 00.9 +06.1	11						
12	356 27.4 +00.0	S 13 01.2 -00.9	41 10.2 -00.6	S 21 06.5 -00.1	250 13.8 -33.3	N 19 07.0 +06.1	12						
13	11 27.4 +00.0	S 13 00.3 -00.8	56 09.6 -00.7	S 21 06.4 -00.1	264 40.5 -33.4	N 19 13.1 +05.9	13						
14	26 27.4 +00.0	S 12 59.5 -00.9	71 08.9 -00.6	S 21 06.3 -00.1	279 07.1 -33.5	N 19 19.0 +05.8	14						
15	41 27.4 +00.1	S 12 58.6 -00.8	86 08.3 -00.7	S 21 06.2 -00.1	293 33.6 -33.6	N 19 24.8 +05.7	15						
16	56 27.5 +00.0	S 12 57.8 -00.9	101 07.6 -00.6	S 21 06.1 -00.1	308 00.0 -33.7	N 19 30.5 +05.6	16						
17	71 27.5 +00.0	S 12 56.9 -00.8	116 07.0 -00.7	S 21 06.0 -00.1	322 26.3 -33.7	N 19 36.1 +05.5	17						
18	86 27.5 +00.0	S 12 56.1 -00.9	131 06.3 -00.6	S 21 05.9 -00.2	336 52.6 -33.9	N 19 41.6 +05.4	18						
19	101 27.5 +00.1	S 12 55.2 -00.8	146 05.7 -00.7	S 21 05.7 -00.1	351 18.7 -33.9	N 19 47.0 +05.2	19						
20	116 27.6 +00.0	S 12 54.4 -00.9	161 05.0 -00.6	S 21 05.6 -00.1	5 44.8 -34.1	N 19 52.2 +05.2	20						
21	131 27.6 +00.0	S 12 53.5 -00.8	176 04.4 -00.7	S 21 05.5 -00.1	20 10.7 -34.1	N 19 57.4 +05.0	21						
22	146 27.6 +00.0	S 12 52.7 -00.9	191 03.7 -00.6	S 21 05.4 -00.1	34 36.6 -34.2	N 20 02.4 +04.9	22						
23	161 27.6 +00.1	S 12 51.8 -00.8	206 03.1 -00.7	S 21 05.3 -00.1	49 02.4 -34.3	N 20 07.3 +04.8	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	16'2 16'2 16'2 16'2 16'2 16'2		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	15'8 15'8 15'9 15'9 16'0 16'0						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	58'0 58'1 58'3 58'4 58'6 58'7						
SHA	033° 032° 032° 032° 032° 032°		SHA	077° 077° 077° 077° 077° 076°		SHA	292° 290° 287° 285° 282° 280°						
Greenwich Culmination Time: 12:14				Greenwich Culmination Time: 09:15				Greenwich Culmination Time: 19:36					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 16.7 +00.8	N 11 48.5 +00.7	244 41.7 +02.0	S 22 25.8 +00.0	216 04.4 +02.2	S 21 60.0 +00.0	00						
01	131 17.5 +00.9	N 11 49.2 +00.6	259 43.7 +02.1	S 22 25.8 +00.0	231 06.6 +02.2	S 21 60.0 -00.1	01						
02	146 18.4 +00.8	N 11 49.8 +00.6	274 45.8 +02.0	S 22 25.8 +00.1	246 08.8 +02.2	S 21 59.9 +00.0	02						
03	161 19.2 +00.9	N 11 50.4 +00.7	289 47.8 +02.1	S 22 25.9 +00.0	261 11.0 +02.2	S 21 59.9 +00.0	03						
04	176 20.1 +00.9	N 11 51.1 +00.6	304 49.9 +02.1	S 22 25.9 +00.0	276 13.2 +02.2	S 21 59.9 -00.1	04						
05	191 21.0 +00.8	N 11 51.7 +00.6	319 52.0 +02.0	S 22 25.9 +00.1	291 15.4 +02.2	S 21 59.8 +00.0	05						
06	206 21.8 +00.9	N 11 52.3 +00.6	334 54.0 +02.1	S 22 26.0 +00.0	306 17.6 +02.2	S 21 59.8 +00.0	06						
07	221 22.7 +00.8	N 11 52.9 +00.7	349 56.1 +02.1	S 22 26.0 +00.0	321 19.8 +02.2	S 21 59.8 +00.0	07						
08	236 23.5 +00.9	N 11 53.6 +00.6	4 58.2 +02.0	S 22 26.0 +00.0	336 22.0 +02.2	S 21 59.8 -00.1	08						
09	251 24.4 +00.9	N 11 54.2 +00.6	20 00.2 +02.1	S 22 26.0 +00.1	351 24.2 +02.2	S 21 59.7 +00.0	09						
10	266 25.3 +00.8	N 11 54.8 +00.6	35 02.3 +02.0	S 22 26.1 +00.0	6 26.4 +02.2	S 21 59.7 +00.0	10						
11	281 26.1 +00.9	N 11 55.4 +00.7	50 04.3 +02.1	S 22 26.1 +00.0	21 28.6 +02.2	S 21 59.7 -00.1	11						
12	296 27.0 +00.8	N 11 56.1 +00.6	65 06.4 +02.1	S 22 26.1 +00.0	36 30.8 +02.2	S 21 59.6 +00.0	12						
13	311 27.8 +00.9	N 11 56.7 +00.6	80 08.5 +02.0	S 22 26.1 +00.1	51 33.0 +02.2	S 21 59.6 +00.0	13						
14	326 28.7 +00.9	N 11 57.3 +00.6	95 10.5 +02.1	S 22 26.2 +00.0	66 35.2 +02.1	S 21 59.6 +00.0	14						
15	341 29.6 +00.8	N 11 57.9 +00.7	110 12.6 +02.1	S 22 26.2 +00.0	81 37.3 +02.2	S 21 59.6 -00.1	15						
16	356 30.4 +00.9	N 11 58.6 +00.6	125 14.7 +02.0	S 22 26.2 +00.1	96 39.5 +02.2	S 21 59.5 +00.0	16						
17	11 31.3 +00.8	N 11 59.2 +00.6	140 16.7 +02.1	S 22 26.3 +00.0	111 41.7 +02.2	S 21 59.5 +00.0	17						
18	26 32.1 +00.9	N 11 59.8 +00.6	155 18.8 +02.1	S 22 26.3 +00.0	126 43.9 +02.2	S 21 59.5 -00.1	18						
19	41 33.0 +00.9	N 12 00.4 +00.7	170 20.9 +02.0	S 22 26.3 +00.0	141 46.1 +02.2	S 21 59.4 +00.0	19						
20	56 33.9 +00.8	N 12 01.1 +00.6	185 22.9 +02.1	S 22 26.3 +00.1	156 48.3 +02.2	S 21 59.4 +00.0	20						
21	71 34.7 +00.9	N 12 01.7 +00.6	200 25.0 +02.1	S 22 26.4 +00.0	171 50.5 +02.2	S 21 59.4 +00.0	21						
22	86 35.6 +00.8	N 12 02.3 +00.6	215 27.1 +02.0	S 22 26.4 +00.0	186 52.7 +02.2	S 21 59.4 -00.1	22						
23	101 36.4 +00.9	N 12 02.9 +00.6	230 29.1 +02.1	S 22 26.4 +00.0	201 54.9 +02.2	S 21 59.3 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'0 00'0 00'0 00'0 00'0 00'0		SD	00'3 00'3 00'3 00'3 00'3 00'3		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	332° 332° 332° 332° 332° 332°		SHA	101° 101° 101° 101° 101° 101°		SHA	072° 072° 072° 072° 072° 072°						
Greenwich Culmination Time: 16:13				Greenwich Culmination Time: 07:40				Greenwich Culmination Time: 09:34					

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 27.7 +00.0	S	12 51.0 -00.9	221 02.4 -00.6	S	21 05.2 -00.1	63 28.1 -34.4	N	20 12.1 +04.6	00										
01	191 27.7 +00.0	S	12 50.1 -00.8	236 01.8 -00.7	S	21 05.1 -00.2	77 53.7 -34.5	N	20 16.7 +04.6	01										
02	206 27.7 +00.0	S	12 49.3 -00.9	251 01.1 -00.6	S	21 04.9 -00.1	92 19.2 -34.6	N	20 21.3 +04.4	02										
03	221 27.7 +00.1	S	12 48.4 -00.9	266 00.5 -00.7	S	21 04.8 -00.1	106 44.6 -34.6	N	20 25.7 +04.3	03										
04	236 27.8 +00.0	S	12 47.5 -00.8	280 59.8 -00.6	S	21 04.7 -00.1	121 10.0 -34.8	N	20 30.0 +04.1	04										
05	251 27.8 +00.0	S	12 46.7 -00.9	295 59.2 -00.7	S	21 04.6 -00.1	135 35.2 -34.8	N	20 34.1 +04.1	05										
06	266 27.8 +00.0	S	12 45.8 -00.8	310 58.5 -00.7	S	21 04.5 -00.1	150 00.4 -34.9	N	20 38.2 +03.9	06										
07	281 27.8 +00.1	S	12 45.0 -00.9	325 57.8 -00.6	S	21 04.4 -00.2	164 25.5 -35.0	N	20 42.1 +03.8	07										
08	296 27.9 +00.0	S	12 44.1 -00.8	340 57.2 -00.7	S	21 04.2 -00.1	178 50.5 -35.1	N	20 45.9 +03.6	08										
09	311 27.9 +00.0	S	12 43.3 -00.9	355 56.5 -00.6	S	21 04.1 -00.1	193 15.4 -35.1	N	20 49.5 +03.5	09										
10	326 27.9 +00.1	S	12 42.4 -00.8	10 55.9 -00.7	S	21 04.0 -00.1	207 40.3 -35.3	N	20 53.0 +03.4	10										
11	341 28.0 +00.0	S	12 41.6 -00.9	25 55.2 -00.6	S	21 03.9 -00.2	222 05.0 -35.3	N	20 56.4 +03.2	11										
12	356 28.0 +00.0	S	12 40.7 -00.9	40 54.6 -00.7	S	21 03.7 -00.1	236 29.7 -35.4	N	20 59.6 +03.2	12										
13	11 28.0 +00.1	S	12 39.8 -00.8	55 53.9 -00.6	S	21 03.6 -00.1	250 54.3 -35.4	N	21 02.8 +02.9	13										
14	26 28.1 +00.0	S	12 39.0 -00.9	70 53.3 -00.7	S	21 03.5 -00.2	265 18.9 -35.6	N	21 05.7 +02.9	14										
15	41 28.1 +00.0	S	12 38.1 -00.8	85 52.6 -00.6	S	21 03.3 -00.1	279 43.3 -35.6	N	21 08.6 +02.7	15										
16	56 28.1 +00.1	S	12 37.3 -00.9	100 52.0 -00.7	S	21 03.2 -00.1	294 07.7 -35.7	N	21 11.3 +02.5	16										
17	71 28.2 +00.0	S	12 36.4 -00.9	115 51.3 -00.6	S	21 03.1 -00.1	308 32.0 -35.8	N	21 13.8 +02.5	17										
18	86 28.2 +00.0	S	12 35.5 -00.8	130 50.7 -00.7	S	21 03.0 -00.2	322 56.2 -35.8	N	21 16.3 +02.3	18										
19	101 28.2 +00.0	S	12 34.7 -00.9	145 50.0 -00.6	S	21 02.8 -00.1	337 20.4 -35.9	N	21 18.6 +02.1	19										
20	116 28.2 +00.1	S	12 33.8 -00.8	160 49.4 -00.7	S	21 02.7 -00.1	351 44.5 -36.0	N	21 20.7 +02.0	20										
21	131 28.3 +00.0	S	12 33.0 -00.9	175 48.7 -00.7	S	21 02.6 -00.2	6 08.5 -36.1	N	21 22.7 +01.8	21										
22	146 28.3 +00.0	S	12 32.1 -00.9	190 48.0 -00.6	S	21 02.4 -00.1	20 32.4 -36.1	N	21 24.5 +01.8	22										
23	161 28.3 +00.1	S	12 31.2 -00.8	205 47.4 -00.7	S	21 02.3 -00.2	34 56.3 -36.1	N	21 26.3 +01.5	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	16'0	16'1	16'1	16'2	16'2	16'3
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'2	00'2	00'2	00'2	00'2	00'1	HP	58'9	59'0	59'2	59'4	59'5	59'7
SHA	032°	032°	031°	031°	031°	031°	SHA	076°	076°	076°	076°	075°	075°	SHA	278°	275°	273°	270°	267°	265°
Greenwich Culmination Time: 12:14							Greenwich Culmination Time: 09:16							Greenwich Culmination Time: 20:34						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	116 37.3 +00.8	N	12 03.5 +00.7	245 31.2 +02.1	S	22 26.4 +00.1	216 57.1 +02.2	S	21 59.3 +00.0	00										
01	131 38.1 +00.9	N	12 04.2 +00.6	260 33.3 +02.0	S	22 26.5 +00.0	231 59.3 +02.2	S	21 59.3 +00.0	01										
02	146 39.0 +00.9	N	12 04.8 +00.6	275 35.3 +02.1	S	22 26.5 +00.0	247 01.5 +02.2	S	21 59.3 -00.1	02										
03	161 39.9 +00.8	N	12 05.4 +00.6	290 37.4 +02.1	S	22 26.5 +00.1	262 03.7 +02.2	S	21 59.2 +00.0	03										
04	176 40.7 +00.9	N	12 06.0 +00.7	305 39.5 +02.0	S	22 26.6 +00.0	277 05.9 +02.2	S	21 59.2 +00.0	04										
05	191 41.6 +00.8	N	12 06.7 +00.6	320 41.5 +02.1	S	22 26.6 +00.0	292 08.1 +02.2	S	21 59.2 -00.1	05										
06	206 42.4 +00.9	N	12 07.3 +00.6	335 43.6 +02.1	S	22 26.6 +00.0	307 10.3 +02.2	S	21 59.1 +00.0	06										
07	221 43.3 +00.8	N	12 07.9 +00.6	350 45.7 +02.0	S	22 26.6 +00.1	322 12.5 +02.2	S	21 59.1 +00.0	07										
08	236 44.1 +00.9	N	12 08.5 +00.6	5 47.7 +02.1	S	22 26.7 +00.0	337 14.7 +02.2	S	21 59.1 +00.0	08										
09	251 45.0 +00.9	N	12 09.1 +00.7	20 49.8 +02.1	S	22 26.7 +00.0	352 16.9 +02.2	S	21 59.1 -00.1	09										
10	266 45.9 +00.8	N	12 09.8 +00.6	35 51.9 +02.0	S	22 26.7 +00.0	7 19.1 +02.2	S	21 59.0 +00.0	10										
11	281 46.7 +00.9	N	12 10.4 +00.6	50 53.9 +02.1	S	22 26.7 +00.1	22 21.3 +02.2	S	21 59.0 +00.0	11										
12	296 47.6 +00.8	N	12 11.0 +00.6	65 56.0 +02.1	S	22 26.8 +00.0	37 23.5 +02.2	S	21 59.0 -00.1	12										
13	311 48.4 +00.9	N	12 11.6 +00.7	80 58.1 +02.0	S	22 26.8 +00.0	52 25.7 +02.2	S	21 58.9 +00.0	13										
14	326 49.3 +00.8	N	12 12.3 +00.6	96 00.1 +02.1	S	22 26.8 +00.0	67 27.9 +02.2	S	21 58.9 +00.0	14										
15	341 50.1 +00.9	N	12 12.9 +00.6	111 02.2 +02.1	S	22 26.8 +00.1	82 30.1 +02.2	S	21 58.9 +00.0	15										
16	356 51.0 +00.9	N	12 13.5 +00.6	126 04.3 +02.1	S	22 26.9 +00.0	97 32.3 +02.2	S	21 58.9 -00.1	16										
17	11 51.9 +00.8	N	12 14.1 +00.6	141 06.4 +02.0	S	22 26.9 +00.0	112 34.5 +02.2	S	21 58.8 +00.0	17										
18	26 52.7 +00.9	N	12 14.7 +00.7	156 08.4 +02.1	S	22 26.9 +00.1	127 36.7 +02.2	S	21 58.8 +00.0	18										
19	41 53.6 +00.8	N	12 15.4 +00.6	171 10.5 +02.1	S	22 27.0 +00.0	142 38.9 +02.2	S	21 58.8 -00.1	19										
20	56 54.4 +00.9	N	12 16.0 +00.6	186 12.6 +02.0	S	22 27.0 +00.0	157 41.1 +02.2	S	21 58.7 +00.0	20										
21	71 55.3 +00.8	N	12 16.6 +00.6	201 14.6 +02.1	S	22 27.0 +00.0	172 43.3 +02.2	S	21 58.7 +00.0	21										
22	86 56.1 +00.9	N	12 17.2 +00.6	216 16.7 +02.1	S	22 27.0 +00.1	187 45.5 +02.2	S	21 58.7 +00.0	22										
23	101 57.0 +00.8	N	12 17.8 +00.7	231 18.8 +02.1	S	22 27.1 +00.0	202 47.7 +02.2	S	21 58.7 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	332°	332°	332°	332°	331°	331°	SHA	101°	101°	101°	101°	101°	101°	SHA	072°	072°	072°	072°	072°	072°
Greenwich Culmination Time: 16:12							Greenwich Culmination Time: 07:36							Greenwich Culmination Time: 09:30						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.4 +00.0	S	12 30.4 -00.9	220 46.7 -00.6	S	21 02.1 -00.1	49 20.2 -36.3	N	21 27.8 +01.4	00			
01	191 28.4 +00.1	S	12 29.5 -00.9	235 46.1 -00.7	S	21 02.0 -00.1	63 43.9 -36.3	N	21 29.2 +01.3	01			
02	206 28.5 +00.0	S	12 28.6 -00.8	250 45.4 -00.6	S	21 01.9 -00.2	78 07.6 -36.3	N	21 30.5 +01.1	02			
03	221 28.5 +00.0	S	12 27.8 -00.9	265 44.8 -00.7	S	21 01.7 -00.1	92 31.3 -36.5	N	21 31.6 +01.0	03			
04	236 28.5 +00.1	S	12 26.9 -00.9	280 44.1 -00.6	S	21 01.6 -00.2	106 54.8 -36.4	N	21 32.6 +00.8	04			
05	251 28.6 +00.0	S	12 26.0 -00.8	295 43.5 -00.7	S	21 01.4 -00.1	121 18.4 -36.6	N	21 33.4 +00.7	05			
06	266 28.6 +00.0	S	12 25.2 -00.9	310 42.8 -00.6	S	21 01.3 -00.2	135 41.8 -36.6	N	21 34.1 +00.5	06			
07	281 28.6 +00.1	S	12 24.3 -00.8	325 42.2 -00.7	S	21 01.1 -00.1	150 05.2 -36.6	N	21 34.6 +00.4	07			
08	296 28.7 +00.0	S	12 23.5 -00.9	340 41.5 -00.7	S	21 01.0 -00.1	164 28.6 -36.7	N	21 35.0 +00.2	08			
09	311 28.7 +00.0	S	12 22.6 -00.9	355 40.8 -00.6	S	21 00.9 -00.2	178 51.9 -36.7	N	21 35.2 +00.1	09			
10	326 28.7 +00.1	S	12 21.7 -00.8	10 40.2 -00.7	S	21 00.7 -00.1	193 15.2 -36.8	N	21 35.3 -00.1	10			
11	341 28.8 +00.0	S	12 20.9 -00.9	25 39.5 -00.6	S	21 00.6 -00.2	207 38.4 -36.8	N	21 35.2 -00.2	11			
12	356 28.8 +00.1	S	12 20.0 -00.9	40 38.9 -00.7	S	21 00.4 -00.1	222 01.6 -36.9	N	21 35.0 -00.4	12			
13	11 28.9 +00.0	S	12 19.1 -00.8	55 38.2 -00.6	S	21 00.3 -00.2	236 24.7 -36.9	N	21 34.6 -00.6	13			
14	26 28.9 +00.0	S	12 18.3 -00.9	70 37.6 -00.7	S	21 00.1 -00.2	250 47.8 -37.0	N	21 34.0 -00.7	14			
15	41 28.9 +00.1	S	12 17.4 -00.9	85 36.9 -00.6	S	20 59.9 -00.1	265 10.8 -37.0	N	21 33.3 -00.9	15			
16	56 29.0 +00.0	S	12 16.5 -00.9	100 36.3 -00.7	S	20 59.8 -00.2	279 33.8 -37.0	N	21 32.4 -01.0	16			
17	71 29.0 +00.0	S	12 15.6 -00.8	115 35.6 -00.7	S	20 59.6 -00.1	293 56.8 -37.1	N	21 31.4 -01.1	17			
18	86 29.0 +00.1	S	12 14.8 -00.9	130 34.9 -00.6	S	20 59.5 -00.2	308 19.7 -37.1	N	21 30.3 -01.4	18			
19	101 29.1 +00.0	S	12 13.9 -00.9	145 34.3 -00.7	S	20 59.3 -00.1	322 42.6 -37.1	N	21 28.9 -01.5	19			
20	116 29.1 +00.1	S	12 13.0 -00.8	160 33.6 -00.6	S	20 59.2 -00.2	337 05.5 -37.2	N	21 27.4 -01.6	20			
21	131 29.2 +00.0	S	12 12.2 -00.9	175 33.0 -00.7	S	20 59.0 -00.2	351 28.3 -37.1	N	21 25.8 -01.8	21			
22	146 29.2 +00.0	S	12 11.3 -00.9	190 32.3 -00.6	S	20 58.8 -00.1	5 51.2 -37.3	N	21 24.0 -02.0	22			
23	161 29.2 +00.1	S	12 10.4 -00.8	205 31.7 -00.7	S	20 58.7 -00.2	20 13.9 -37.2	N	21 22.0 -02.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'3 16'3 16'4 16'4 16'4 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'8 59'9 60'1 60'2 60'3 60'5						
	SHA 031° 031° 030° 030° 030° 030°			SHA 075° 075° 075° 074° 074° 074°			SHA 262° 260° 257° 255° 252° 249°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:17			Greenwich Culmination Time: 21:35						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 57.8 +00.9	N	12 18.5 +00.6	246 20.9 +02.0	S	22 27.1 +00.0	217 49.9 +02.2	S	21 58.6 +00.0	00			
01	131 58.7 +00.9	N	12 19.1 +00.6	261 22.9 +02.1	S	22 27.1 +00.0	232 52.1 +02.2	S	21 58.6 +00.0	01			
02	146 59.6 +00.8	N	12 19.7 +00.6	276 25.0 +02.1	S	22 27.1 +00.1	247 54.3 +02.1	S	21 58.6 -00.1	02			
03	162 00.4 +00.9	N	12 20.3 +00.6	291 27.1 +02.0	S	22 27.2 +00.0	262 56.4 +02.2	S	21 58.5 +00.0	03			
04	177 01.3 +00.8	N	12 20.9 +00.6	306 29.1 +02.1	S	22 27.2 +00.0	277 58.6 +02.2	S	21 58.5 +00.0	04			
05	192 02.1 +00.9	N	12 21.5 +00.7	321 31.2 +02.1	S	22 27.2 +00.0	293 00.8 +02.2	S	21 58.5 +00.0	05			
06	207 03.0 +00.8	N	12 22.2 +00.6	336 33.3 +02.1	S	22 27.2 +00.1	308 03.0 +02.2	S	21 58.5 -00.1	06			
07	222 03.8 +00.9	N	12 22.8 +00.6	351 35.4 +02.0	S	22 27.3 +00.0	323 05.2 +02.2	S	21 58.4 +00.0	07			
08	237 04.7 +00.8	N	12 23.4 +00.6	6 37.4 +02.1	S	22 27.3 +00.0	338 07.4 +02.2	S	21 58.4 +00.0	08			
09	252 05.5 +00.9	N	12 24.0 +00.6	21 39.5 +02.1	S	22 27.3 +00.0	353 09.6 +02.2	S	21 58.4 -00.1	09			
10	267 06.4 +00.9	N	12 24.6 +00.6	36 41.6 +02.1	S	22 27.3 +00.1	8 11.8 +02.2	S	21 58.3 +00.0	10			
11	282 07.3 +00.8	N	12 25.2 +00.7	51 43.7 +02.0	S	22 27.4 +00.0	23 14.0 +02.2	S	21 58.3 +00.0	11			
12	297 08.1 +00.9	N	12 25.9 +00.6	66 45.7 +02.1	S	22 27.4 +00.0	38 16.2 +02.2	S	21 58.3 +00.0	12			
13	312 09.0 +00.8	N	12 26.5 +00.6	81 47.8 +02.1	S	22 27.4 +00.1	53 18.4 +02.2	S	21 58.3 -00.1	13			
14	327 09.8 +00.9	N	12 27.1 +00.6	96 49.9 +02.1	S	22 27.5 +00.0	68 20.6 +02.2	S	21 58.2 +00.0	14			
15	342 10.7 +00.8	N	12 27.7 +00.6	111 52.0 +02.0	S	22 27.5 +00.0	83 22.8 +02.2	S	21 58.2 +00.0	15			
16	357 11.5 +00.9	N	12 28.3 +00.6	126 54.0 +02.1	S	22 27.5 +00.0	98 25.0 +02.2	S	21 58.2 -00.1	16			
17	12 12.4 +00.8	N	12 28.9 +00.7	141 56.1 +02.1	S	22 27.5 +00.1	113 27.2 +02.2	S	21 58.1 +00.0	17			
18	27 13.2 +00.9	N	12 29.6 +00.6	156 58.2 +02.1	S	22 27.6 +00.0	128 29.4 +02.2	S	21 58.1 +00.0	18			
19	42 14.1 +00.8	N	12 30.2 +00.6	172 00.3 +02.0	S	22 27.6 +00.0	143 31.6 +02.2	S	21 58.1 +00.0	19			
20	57 14.9 +00.9	N	12 30.8 +00.6	187 02.3 +02.1	S	22 27.6 +00.0	158 33.8 +02.2	S	21 58.1 -00.1	20			
21	72 15.8 +00.8	N	12 31.4 +00.6	202 04.4 +02.1	S	22 27.6 +00.1	173 36.0 +02.2	S	21 58.0 +00.0	21			
22	87 16.6 +00.9	N	12 32.0 +00.6	217 06.5 +02.1	S	22 27.7 +00.0	188 38.2 +02.2	S	21 58.0 +00.0	22			
23	102 17.5 +00.9	N	12 32.6 +00.7	232 08.6 +02.0	S	22 27.7 +00.0	203 40.4 +02.2	S	21 58.0 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 331° 331° 331° 331° 331° 331°			SHA 101° 101° 101° 101° 101° 101°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 16:11			Greenwich Culmination Time: 07:33			Greenwich Culmination Time: 09:27						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 41%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	176 29.3 +00.0	S	12 09.6 -00.9	220 31.0 -00.6	S	20 58.5 -00.1	34 36.7 -37.3	N	21 19.9 -02.3	00			
01	191 29.3 +00.1	S	12 08.7 -00.9	235 30.4 -00.7	S	20 58.4 -00.2	48 59.4 -37.2	N	21 17.6 -02.4	01			
02	206 29.4 +00.0	S	12 07.8 -00.9	250 29.7 -00.7	S	20 58.2 -00.2	63 22.2 -37.3	N	21 15.2 -02.6	02			
03	221 29.4 +00.1	S	12 06.9 -00.8	265 29.0 -00.6	S	20 58.0 -00.1	77 44.9 -37.3	N	21 12.6 -02.7	03			
04	236 29.5 +00.0	S	12 06.1 -00.9	280 28.4 -00.7	S	20 57.9 -00.2	92 07.6 -37.4	N	21 09.9 -02.9	04			
05	251 29.5 +00.0	S	12 05.2 -00.9	295 27.7 -00.6	S	20 57.7 -00.2	106 30.2 -37.3	N	21 07.0 -03.1	05			
06	266 29.5 +00.1	S	12 04.3 -00.8	310 27.1 -00.7	S	20 57.5 -00.1	120 52.9 -37.3	N	21 03.9 -03.2	06			
07	281 29.6 +00.0	S	12 03.5 -00.9	325 26.4 -00.6	S	20 57.4 -00.2	135 15.6 -37.4	N	21 00.7 -03.4	07			
08	296 29.6 +00.1	S	12 02.6 -00.9	340 25.8 -00.7	S	20 57.2 -00.2	149 38.2 -37.4	N	20 57.3 -03.5	08			
09	311 29.7 +00.0	S	12 01.7 -00.9	355 25.1 -00.7	S	20 57.0 -00.2	164 00.8 -37.3	N	20 53.8 -03.7	09			
10	326 29.7 +00.1	S	12 00.8 -00.8	10 24.4 -00.6	S	20 56.8 -00.1	178 23.5 -37.4	N	20 50.1 -03.9	10			
11	341 29.8 +00.0	S	11 60.0 -00.9	25 23.8 -00.7	S	20 56.7 -00.2	192 46.1 -37.4	N	20 46.2 -04.0	11			
12	356 29.8 +00.1	S	11 59.1 -00.9	40 23.1 -00.6	S	20 56.5 -00.2	207 08.7 -37.3	N	20 42.2 -04.2	12			
13	11 29.9 +00.0	S	11 58.2 -00.9	55 22.5 -00.7	S	20 56.3 -00.2	221 31.4 -37.4	N	20 38.0 -04.3	13			
14	26 29.9 +00.0	S	11 57.3 -00.8	70 21.8 -00.6	S	20 56.1 -00.1	235 54.0 -37.4	N	20 33.7 -04.5	14			
15	41 29.9 +00.1	S	11 56.5 -00.9	85 21.2 -00.7	S	20 56.0 -00.2	250 16.6 -37.3	N	20 29.2 -04.6	15			
16	56 30.0 +00.0	S	11 55.6 -00.9	100 20.5 -00.7	S	20 55.8 -00.2	264 39.3 -37.4	N	20 24.6 -04.8	16			
17	71 30.0 +00.1	S	11 54.7 -00.9	115 19.8 -00.6	S	20 55.6 -00.2	279 01.9 -37.3	N	20 19.8 -04.9	17			
18	86 30.1 +00.0	S	11 53.8 -00.8	130 19.2 -00.7	S	20 55.4 -00.2	293 24.6 -37.3	N	20 14.9 -05.1	18			
19	101 30.1 +00.1	S	11 53.0 -00.9	145 18.5 -00.6	S	20 55.2 -00.1	307 47.3 -37.3	N	20 09.8 -05.3	19			
20	116 30.2 +00.0	S	11 52.1 -00.9	160 17.9 -00.7	S	20 55.1 -00.2	322 10.0 -37.3	N	20 04.5 -05.4	20			
21	131 30.2 +00.1	S	11 51.2 -00.9	175 17.2 -00.6	S	20 54.9 -00.2	336 32.7 -37.3	N	19 59.1 -05.5	21			
22	146 30.3 +00.0	S	11 50.3 -00.9	190 16.6 -00.7	S	20 54.7 -00.2	350 55.4 -37.3	N	19 53.6 -05.7	22			
23	161 30.3 +00.1	S	11 49.4 -00.8	205 15.9 -00.7	S	20 54.5 -00.2	5 18.1 -37.2	N	19 47.9 -05.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'5 16'5 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'6 60'7 60'8 60'9 61'0 61'1						
	SHA 030° 030° 029° 029° 029° 029°			SHA 074° 074° 073° 073° 073° 073°			SHA 247° 244° 241° 239° 236° 233°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:18			Greenwich Culmination Time: 22:37						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	117 18.4 +00.8	N	12 33.3 +00.6	247 10.6 +02.1	S	22 27.7 +00.0	218 42.6 +02.3	S	21 57.9 +00.0	00			
01	132 19.2 +00.9	N	12 33.9 +00.6	262 12.7 +02.1	S	22 27.7 +00.1	233 44.9 +02.2	S	21 57.9 +00.0	01			
02	147 20.1 +00.8	N	12 34.5 +00.6	277 14.8 +02.1	S	22 27.8 +00.0	248 47.1 +02.2	S	21 57.9 +00.0	02			
03	162 20.9 +00.9	N	12 35.1 +00.6	292 16.9 +02.1	S	22 27.8 +00.0	263 49.3 +02.2	S	21 57.9 -00.1	03			
04	177 21.8 +00.8	N	12 35.7 +00.6	307 19.0 +02.0	S	22 27.8 +00.0	278 51.5 +02.2	S	21 57.8 +00.0	04			
05	192 22.6 +00.9	N	12 36.3 +00.6	322 21.0 +02.1	S	22 27.8 +00.1	293 53.7 +02.2	S	21 57.8 +00.0	05			
06	207 23.5 +00.8	N	12 36.9 +00.7	337 23.1 +02.1	S	22 27.9 +00.0	308 55.9 +02.2	S	21 57.8 -00.1	06			
07	222 24.3 +00.9	N	12 37.6 +00.6	352 25.2 +02.1	S	22 27.9 +00.0	323 58.1 +02.2	S	21 57.7 +00.0	07			
08	237 25.2 +00.8	N	12 38.2 +00.6	7 27.3 +02.1	S	22 27.9 +00.0	339 00.3 +02.2	S	21 57.7 +00.0	08			
09	252 26.0 +00.9	N	12 38.8 +00.6	22 29.4 +02.0	S	22 27.9 +00.1	354 02.5 +02.2	S	21 57.7 +00.0	09			
10	267 26.9 +00.8	N	12 39.4 +00.6	37 31.4 +02.1	S	22 28.0 +00.0	9 04.7 +02.2	S	21 57.7 -00.1	10			
11	282 27.7 +00.9	N	12 40.0 +00.6	52 33.5 +02.1	S	22 28.0 +00.0	24 06.9 +02.2	S	21 57.6 +00.0	11			
12	297 28.6 +00.8	N	12 40.6 +00.6	67 35.6 +02.1	S	22 28.0 +00.0	39 09.1 +02.2	S	21 57.6 +00.0	12			
13	312 29.4 +00.9	N	12 41.2 +00.6	82 37.7 +02.1	S	22 28.0 +00.1	54 11.3 +02.2	S	21 57.6 +00.0	13			
14	327 30.3 +00.8	N	12 41.8 +00.7	97 39.8 +02.0	S	22 28.1 +00.0	69 13.5 +02.2	S	21 57.6 -00.1	14			
15	342 31.1 +00.9	N	12 42.5 +00.6	112 41.8 +02.1	S	22 28.1 +00.0	84 15.7 +02.2	S	21 57.5 +00.0	15			
16	357 32.0 +00.8	N	12 43.1 +00.6	127 43.9 +02.1	S	22 28.1 +00.0	99 17.9 +02.2	S	21 57.5 +00.0	16			
17	12 32.8 +00.9	N	12 43.7 +00.6	142 46.0 +02.1	S	22 28.1 +00.1	114 20.1 +02.2	S	21 57.5 -00.1	17			
18	27 33.7 +00.8	N	12 44.3 +00.6	157 48.1 +02.1	S	22 28.2 +00.0	129 22.3 +02.2	S	21 57.4 +00.0	18			
19	42 34.5 +00.9	N	12 44.9 +00.6	172 50.2 +02.0	S	22 28.2 +00.0	144 24.5 +02.2	S	21 57.4 +00.0	19			
20	57 35.4 +00.8	N	12 45.5 +00.6	187 52.2 +02.1	S	22 28.2 +00.0	159 26.7 +02.2	S	21 57.4 +00.0	20			
21	72 36.2 +00.9	N	12 46.1 +00.6	202 54.3 +02.1	S	22 28.2 +00.1	174 28.9 +02.2	S	21 57.4 -00.1	21			
22	87 37.1 +00.8	N	12 46.7 +00.6	217 56.4 +02.1	S	22 28.3 +00.0	189 31.1 +02.2	S	21 57.3 +00.0	22			
23	102 37.9 +00.9	N	12 47.3 +00.7	232 58.5 +02.1	S	22 28.3 +00.0	204 33.3 +02.2	S	21 57.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 331° 330° 330° 330° 330° 330°			SHA 100° 100° 100° 100° 100° 100°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 16:09			Greenwich Culmination Time: 07:30			Greenwich Culmination Time: 09:23						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 30.4 +00.0	S 11 48.6 -00.9	220 15.2 -00.6	S 20 54.3 -00.2	19 40.9 -37.2	N 19 42.0 -06.0	00						
01	191 30.4 +00.1	S 11 47.7 -00.9	235 14.6 -00.7	S 20 54.1 -00.1	34 03.7 -37.2	N 19 36.0 -06.1	01						
02	206 30.5 +00.0	S 11 46.8 -00.9	250 13.9 -00.6	S 20 54.0 -00.2	48 26.5 -37.2	N 19 29.9 -06.3	02						
03	221 30.5 +00.1	S 11 45.9 -00.9	265 13.3 -00.7	S 20 53.8 -00.2	62 49.3 -37.1	N 19 23.6 -06.5	03						
04	236 30.6 +00.0	S 11 45.0 -00.8	280 12.6 -00.7	S 20 53.6 -00.2	77 12.2 -37.1	N 19 17.1 -06.6	04						
05	251 30.6 +00.1	S 11 44.2 -00.9	295 11.9 -00.6	S 20 53.4 -00.2	91 35.1 -37.1	N 19 10.5 -06.7	05						
06	266 30.7 +00.0	S 11 43.3 -00.9	310 11.3 -00.7	S 20 53.2 -00.2	105 58.0 -37.1	N 19 03.8 -06.9	06						
07	281 30.7 +00.1	S 11 42.4 -00.9	325 10.6 -00.6	S 20 53.0 -00.2	120 20.9 -37.0	N 18 56.9 -07.0	07						
08	296 30.8 +00.0	S 11 41.5 -00.9	340 10.0 -00.7	S 20 52.8 -00.2	134 43.9 -37.0	N 18 49.9 -07.2	08						
09	311 30.8 +00.1	S 11 40.6 -00.8	355 09.3 -00.6	S 20 52.6 -00.2	149 06.9 -36.9	N 18 42.7 -07.3	09						
10	326 30.9 +00.0	S 11 39.8 -00.9	10 08.7 -00.7	S 20 52.4 -00.2	163 30.0 -36.9	N 18 35.4 -07.5	10						
11	341 30.9 +00.1	S 11 38.9 -00.9	25 08.0 -00.7	S 20 52.2 -00.2	177 53.1 -36.9	N 18 27.9 -07.6	11						
12	356 31.0 +00.0	S 11 38.0 -00.9	40 07.3 -00.6	S 20 52.0 -00.2	192 16.2 -36.8	N 18 20.3 -07.7	12						
13	11 31.0 +00.1	S 11 37.1 -00.9	55 06.7 -00.7	S 20 51.8 -00.2	206 39.4 -36.8	N 18 12.6 -07.9	13						
14	26 31.1 +00.0	S 11 36.2 -00.9	70 06.0 -00.6	S 20 51.6 -00.2	221 02.6 -36.7	N 18 04.7 -08.0	14						
15	41 31.1 +00.1	S 11 35.3 -00.8	85 05.4 -00.7	S 20 51.4 -00.2	235 25.9 -36.7	N 17 56.7 -08.1	15						
16	56 31.2 +00.1	S 11 34.5 -00.9	100 04.7 -00.7	S 20 51.2 -00.2	249 49.2 -36.7	N 17 48.6 -08.3	16						
17	71 31.3 +00.0	S 11 33.6 -00.9	115 04.0 -00.6	S 20 51.0 -00.2	264 12.5 -36.6	N 17 40.3 -08.4	17						
18	86 31.3 +00.1	S 11 32.7 -00.9	130 03.4 -00.7	S 20 50.8 -00.2	278 35.9 -36.5	N 17 31.9 -08.5	18						
19	101 31.4 +00.0	S 11 31.8 -00.9	145 02.7 -00.6	S 20 50.6 -00.2	292 59.4 -36.5	N 17 23.4 -08.6	19						
20	116 31.4 +00.1	S 11 30.9 -00.9	160 02.1 -00.7	S 20 50.4 -00.2	307 22.9 -36.5	N 17 14.8 -08.8	20						
21	131 31.5 +00.0	S 11 30.0 -00.8	175 01.4 -00.6	S 20 50.2 -00.2	321 46.4 -36.4	N 17 06.0 -08.9	21						
22	146 31.5 +00.1	S 11 29.2 -00.9	190 00.8 -00.7	S 20 50.0 -00.2	336 10.0 -36.3	N 16 57.1 -09.1	22						
23	161 31.6 +00.0	S 11 28.3 -00.9	205 00.1 -00.7	S 20 49.8 -00.2	350 33.7 -36.3	N 16 48.0 -09.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'7 16'7 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'1 61'2 61'3 61'3 61'4 61'4								
	SHA 029° 029° 028° 028° 028° 028°		SHA 072° 072° 072° 072° 072° 071°		SHA 231° 228° 225° 223° 220° 218°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:19		Greenwich Culmination Time: 23:39								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117 38.8 +00.8	N 12 48.0 +00.6	248 00.6 +02.1	S 22 28.3 +00.0	219 35.5 +02.2	S 21 57.3 -00.1	00						
01	132 39.6 +00.9	N 12 48.6 +00.6	263 02.7 +02.0	S 22 28.3 +00.1	234 37.7 +02.2	S 21 57.2 +00.0	01						
02	147 40.5 +00.8	N 12 49.2 +00.6	278 04.7 +02.1	S 22 28.4 +00.0	249 39.9 +02.2	S 21 57.2 +00.0	02						
03	162 41.3 +00.9	N 12 49.8 +00.6	293 06.8 +02.1	S 22 28.4 +00.0	264 42.1 +02.2	S 21 57.2 +00.0	03						
04	177 42.2 +00.8	N 12 50.4 +00.6	308 08.9 +02.1	S 22 28.4 +00.0	279 44.3 +02.2	S 21 57.2 -00.1	04						
05	192 43.0 +00.9	N 12 51.0 +00.6	323 11.0 +02.1	S 22 28.4 +00.1	294 46.5 +02.2	S 21 57.1 +00.0	05						
06	207 43.9 +00.8	N 12 51.6 +00.6	338 13.1 +02.1	S 22 28.5 +00.0	309 48.7 +02.2	S 21 57.1 +00.0	06						
07	222 44.7 +00.9	N 12 52.2 +00.6	353 15.2 +02.0	S 22 28.5 +00.0	324 50.9 +02.2	S 21 57.1 -00.1	07						
08	237 45.6 +00.8	N 12 52.8 +00.6	8 17.2 +02.1	S 22 28.5 +00.0	339 53.1 +02.2	S 21 57.0 +00.0	08						
09	252 46.4 +00.9	N 12 53.4 +00.6	23 19.3 +02.1	S 22 28.5 +00.1	354 55.3 +02.2	S 21 57.0 +00.0	09						
10	267 47.3 +00.8	N 12 54.0 +00.7	38 21.4 +02.1	S 22 28.6 +00.0	9 57.5 +02.2	S 21 57.0 +00.0	10						
11	282 48.1 +00.9	N 12 54.7 +00.6	53 23.5 +02.1	S 22 28.6 +00.0	24 59.7 +02.3	S 21 57.0 -00.1	11						
12	297 49.0 +00.8	N 12 55.3 +00.6	68 25.6 +02.1	S 22 28.6 +00.0	40 02.0 +02.2	S 21 56.9 +00.0	12						
13	312 49.8 +00.9	N 12 55.9 +00.6	83 27.7 +02.1	S 22 28.6 +00.1	55 04.2 +02.2	S 21 56.9 +00.0	13						
14	327 50.7 +00.8	N 12 56.5 +00.6	98 29.8 +02.0	S 22 28.7 +00.0	70 06.4 +02.2	S 21 56.9 -00.1	14						
15	342 51.5 +00.9	N 12 57.1 +00.6	113 31.8 +02.1	S 22 28.7 +00.0	85 08.6 +02.2	S 21 56.8 +00.0	15						
16	357 52.4 +00.8	N 12 57.7 +00.6	128 33.9 +02.1	S 22 28.7 +00.0	100 10.8 +02.2	S 21 56.8 +00.0	16						
17	12 53.2 +00.9	N 12 58.3 +00.6	143 36.0 +02.1	S 22 28.7 +00.1	115 13.0 +02.2	S 21 56.8 +00.0	17						
18	27 54.1 +00.8	N 12 58.9 +00.6	158 38.1 +02.1	S 22 28.8 +00.0	130 15.2 +02.2	S 21 56.8 -00.1	18						
19	42 54.9 +00.9	N 12 59.5 +00.6	173 40.2 +02.1	S 22 28.8 +00.0	145 17.4 +02.2	S 21 56.7 +00.0	19						
20	57 55.8 +00.8	N 13 00.1 +00.6	188 42.3 +02.1	S 22 28.8 +00.0	160 19.6 +02.2	S 21 56.7 +00.0	20						
21	72 56.6 +00.9	N 13 00.7 +00.6	203 44.4 +02.1	S 22 28.8 +00.1	175 21.8 +02.2	S 21 56.7 +00.0	21						
22	87 57.5 +00.8	N 13 01.3 +00.6	218 46.5 +02.0	S 22 28.9 +00.0	190 24.0 +02.2	S 21 56.7 -00.1	22						
23	102 58.3 +00.9	N 13 01.9 +00.6	233 48.5 +02.1	S 22 28.9 +00.0	205 26.2 +02.2	S 21 56.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 330° 330° 330° 330° 329° 329°		SHA 100° 100° 100° 100° 100° 100°		SHA 072° 072° 072° 072° 072° 072°								
	Greenwich Culmination Time: 16:08		Greenwich Culmination Time: 07:26		Greenwich Culmination Time: 09:20								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 31.6 +00.1	S 11 27.4 -00.9	219 59.4 -00.6	S 20 49.6 -00.3	4 57.4 -36.3	N 16 38.9 -09.3	00						
01	191 31.7 +00.1	S 11 26.5 -00.9	234 58.8 -00.7	S 20 49.3 -00.2	19 21.1 -36.1	N 16 29.6 -09.4	01						
02	206 31.8 +00.0	S 11 25.6 -00.9	249 58.1 -00.6	S 20 49.1 -00.2	33 45.0 -36.2	N 16 20.2 -09.6	02						
03	221 31.8 +00.1	S 11 24.7 -00.9	264 57.5 -00.7	S 20 48.9 -00.2	48 08.8 -36.0	N 16 10.6 -09.6	03						
04	236 31.9 +00.0	S 11 23.8 -00.9	279 56.8 -00.7	S 20 48.7 -00.2	62 32.8 -36.1	N 16 01.0 -09.7	04						
05	251 31.9 +00.1	S 11 22.9 -00.8	294 56.1 -00.6	S 20 48.5 -00.2	76 56.7 -35.9	N 15 51.3 -09.9	05						
06	266 32.0 +00.0	S 11 22.1 -00.9	309 55.5 -00.7	S 20 48.3 -00.2	91 20.8 -35.9	N 15 41.4 -10.0	06						
07	281 32.0 +00.1	S 11 21.2 -00.9	324 54.8 -00.6	S 20 48.1 -00.3	105 44.9 -35.8	N 15 31.4 -10.1	07						
08	296 32.1 +00.1	S 11 20.3 -00.9	339 54.2 -00.7	S 20 47.8 -00.2	120 09.1 -35.8	N 15 21.3 -10.2	08						
09	311 32.2 +00.0	S 11 19.4 -00.9	354 53.5 -00.7	S 20 47.6 -00.2	134 33.3 -35.7	N 15 11.1 -10.3	09						
10	326 32.2 +00.1	S 11 18.5 -00.9	9 52.8 -00.6	S 20 47.4 -00.2	148 57.6 -35.7	N 15 00.8 -10.4	10						
11	341 32.3 +00.0	S 11 17.6 -00.9	24 52.2 -00.7	S 20 47.2 -00.3	163 21.9 -35.6	N 14 50.4 -10.5	11						
12	356 32.3 +00.1	S 11 16.7 -00.9	39 51.5 -00.6	S 20 46.9 -00.2	177 46.3 -35.5	N 14 39.9 -10.7	12						
13	11 32.4 +00.1	S 11 15.8 -00.9	54 50.9 -00.7	S 20 46.7 -00.2	192 10.8 -35.5	N 14 29.2 -10.7	13						
14	26 32.5 +00.0	S 11 14.9 -00.8	69 50.2 -00.6	S 20 46.5 -00.2	206 35.3 -35.4	N 14 18.5 -10.8	14						
15	41 32.5 +00.1	S 11 14.1 -00.9	84 49.6 -00.7	S 20 46.3 -00.3	220 59.9 -35.3	N 14 07.7 -10.9	15						
16	56 32.6 +00.0	S 11 13.2 -00.9	99 48.9 -00.7	S 20 46.0 -00.2	235 24.6 -35.3	N 13 56.8 -11.0	16						
17	71 32.6 +00.1	S 11 12.3 -00.9	114 48.2 -00.6	S 20 45.8 -00.2	249 49.3 -35.2	N 13 45.8 -11.2	17						
18	86 32.7 +00.1	S 11 11.4 -00.9	129 47.6 -00.7	S 20 45.6 -00.2	264 14.1 -35.1	N 13 34.6 -11.2	18						
19	101 32.8 +00.0	S 11 10.5 -00.9	144 46.9 -00.6	S 20 45.4 -00.3	278 39.0 -35.1	N 13 23.4 -11.3	19						
20	116 32.8 +00.1	S 11 09.6 -00.9	159 46.3 -00.7	S 20 45.1 -00.2	293 03.9 -35.0	N 13 12.1 -11.3	20						
21	131 32.9 +00.0	S 11 08.7 -00.9	174 45.6 -00.7	S 20 44.9 -00.2	307 28.9 -34.9	N 13 00.8 -11.5	21						
22	146 32.9 +00.1	S 11 07.8 -00.9	189 44.9 -00.6	S 20 44.7 -00.3	321 54.0 -34.9	N 12 49.3 -11.6	22						
23	161 33.0 +00.1	S 11 06.9 -00.9	204 44.3 -00.7	S 20 44.4 -00.2	336 19.1 -34.8	N 12 37.7 -11.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'7 16'7 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'4 61'4 61'4 61'4 61'4 61'4								
	SHA 028° 028° 027° 027° 027° 027°		SHA 071° 071° 071° 071° 070° 070°		SHA 215° 212° 210° 207° 205° 202°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:20		Greenwich Culmination Time: -1:00								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117 59.2 +00.8	N 13 02.5 +00.7	248 50.6 +02.1	S 22 28.9 +00.0	220 28.4 +02.2	S 21 56.6 +00.0	00						
01	133 00.0 +00.9	N 13 03.2 +00.6	263 52.7 +02.1	S 22 28.9 +00.1	235 30.6 +02.2	S 21 56.6 -00.1	01						
02	148 00.9 +00.8	N 13 03.8 +00.6	278 54.8 +02.1	S 22 29.0 +00.0	250 32.8 +02.2	S 21 56.5 +00.0	02						
03	163 01.7 +00.9	N 13 04.4 +00.6	293 56.9 +02.1	S 22 29.0 +00.0	265 35.0 +02.2	S 21 56.5 +00.0	03						
04	178 02.6 +00.8	N 13 05.0 +00.6	308 59.0 +02.1	S 22 29.0 +00.0	280 37.2 +02.2	S 21 56.5 +00.0	04						
05	193 03.4 +00.9	N 13 05.6 +00.6	324 01.1 +02.1	S 22 29.0 +00.0	295 39.4 +02.3	S 21 56.5 -00.1	05						
06	208 04.3 +00.8	N 13 06.2 +00.6	339 03.2 +02.1	S 22 29.0 +00.1	310 41.7 +02.2	S 21 56.4 +00.0	06						
07	223 05.1 +00.9	N 13 06.8 +00.6	354 05.3 +02.0	S 22 29.1 +00.0	325 43.9 +02.2	S 21 56.4 +00.0	07						
08	238 06.0 +00.8	N 13 07.4 +00.6	9 07.3 +02.1	S 22 29.1 +00.0	340 46.1 +02.2	S 21 56.4 -00.1	08						
09	253 06.8 +00.8	N 13 08.0 +00.6	24 09.4 +02.1	S 22 29.1 +00.0	355 48.3 +02.2	S 21 56.3 +00.0	09						
10	268 07.6 +00.9	N 13 08.6 +00.6	39 11.5 +02.1	S 22 29.1 +00.1	10 50.5 +02.2	S 21 56.3 +00.0	10						
11	283 08.5 +00.8	N 13 09.2 +00.6	54 13.6 +02.1	S 22 29.2 +00.0	25 52.7 +02.2	S 21 56.3 +00.0	11						
12	298 09.3 +00.9	N 13 09.8 +00.6	69 15.7 +02.1	S 22 29.2 +00.0	40 54.9 +02.2	S 21 56.3 -00.1	12						
13	313 10.2 +00.8	N 13 10.4 +00.6	84 17.8 +02.1	S 22 29.2 +00.0	55 57.1 +02.2	S 21 56.2 +00.0	13						
14	328 11.0 +00.9	N 13 11.0 +00.6	99 19.9 +02.1	S 22 29.2 +00.1	70 59.3 +02.2	S 21 56.2 +00.0	14						
15	343 11.9 +00.8	N 13 11.6 +00.6	114 22.0 +02.1	S 22 29.3 +00.0	86 01.5 +02.2	S 21 56.2 -00.1	15						
16	358 12.7 +00.9	N 13 12.2 +00.6	129 24.1 +02.1	S 22 29.3 +00.0	101 03.7 +02.2	S 21 56.1 +00.0	16						
17	13 13.6 +00.8	N 13 12.8 +00.6	144 26.2 +02.1	S 22 29.3 +00.0	116 05.9 +02.2	S 21 56.1 +00.0	17						
18	28 14.4 +00.9	N 13 13.4 +00.6	159 28.3 +02.1	S 22 29.3 +00.1	131 08.1 +02.2	S 21 56.1 +00.0	18						
19	43 15.3 +00.8	N 13 14.0 +00.6	174 30.4 +02.0	S 22 29.4 +00.0	146 10.3 +02.3	S 21 56.1 -00.1	19						
20	58 16.1 +00.9	N 13 14.6 +00.6	189 32.4 +02.1	S 22 29.4 +00.0	161 12.6 +02.2	S 21 56.0 +00.0	20						
21	73 17.0 +00.8	N 13 15.2 +00.6	204 34.5 +02.1	S 22 29.4 +00.0	176 14.8 +02.2	S 21 56.0 +00.0	21						
22	88 17.8 +00.8	N 13 15.8 +00.6	219 36.6 +02.1	S 22 29.4 +00.0	191 17.0 +02.2	S 21 56.0 +00.0	22						
23	103 18.6 +00.9	N 13 16.4 +00.6	234 38.7 +02.1	S 22 29.4 +00.1	206 19.2 +02.2	S 21 56.0 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 329° 329° 329° 329° 329° 329°		SHA 100° 100° 100° 100° 100° 100°		SHA 072° 072° 072° 072° 072° 072°								
	Greenwich Culmination Time: 16:07		Greenwich Culmination Time: 07:23		Greenwich Culmination Time: 09:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 33.1 +00.0	S	11 06.0 -00.9	219 43.6 -00.6	S	20 44.2 -00.2	350 44.3 -34.7	N	12 26.1 -11.7	00			
01	191 33.1 +00.1	S	11 05.1 -00.9	234 43.0 -00.7	S	20 44.0 -00.3	5 09.6 -34.7	N	12 14.4 -11.8	01			
02	206 33.2 +00.1	S	11 04.2 -00.9	249 42.3 -00.7	S	20 43.7 -00.2	19 34.9 -34.6	N	12 02.6 -11.9	02			
03	221 33.3 +00.0	S	11 03.3 -00.9	264 41.6 -00.6	S	20 43.5 -00.3	34 00.3 -34.5	N	11 50.7 -11.9	03			
04	236 33.3 +00.1	S	11 02.4 -00.8	279 41.0 -00.7	S	20 43.2 -00.2	48 25.8 -34.5	N	11 38.8 -12.1	04			
05	251 33.4 +00.1	S	11 01.6 -00.9	294 40.3 -00.6	S	20 43.0 -00.2	62 51.3 -34.4	N	11 26.7 -12.1	05			
06	266 33.5 +00.0	S	11 00.7 -00.9	309 39.7 -00.7	S	20 42.8 -00.3	77 16.9 -34.3	N	11 14.6 -12.1	06			
07	281 33.5 +00.1	S	10 59.8 -00.9	324 39.0 -00.7	S	20 42.5 -00.2	91 42.6 -34.3	N	11 02.5 -12.3	07			
08	296 33.6 +00.1	S	10 58.9 -00.9	339 38.3 -00.6	S	20 42.3 -00.3	106 08.3 -34.2	N	10 50.2 -12.3	08			
09	311 33.7 +00.0	S	10 58.0 -00.9	354 37.7 -00.7	S	20 42.0 -00.2	120 34.1 -34.1	N	10 37.9 -12.4	09			
10	326 33.7 +00.1	S	10 57.1 -00.9	9 37.0 -00.6	S	20 41.8 -00.2	134 60.0 -34.1	N	10 25.5 -12.4	10			
11	341 33.8 +00.1	S	10 56.2 -00.9	24 36.4 -00.7	S	20 41.6 -00.3	149 25.9 -34.0	N	10 13.1 -12.5	11			
12	356 33.9 +00.0	S	10 55.3 -00.9	39 35.7 -00.7	S	20 41.3 -00.2	163 51.9 -33.9	N	10 00.6 -12.5	12			
13	11 33.9 +00.1	S	10 54.4 -00.9	54 35.0 -00.6	S	20 41.1 -00.3	178 18.0 -33.8	N	09 48.1 -12.7	13			
14	26 34.0 +00.1	S	10 53.5 -00.9	69 34.4 -00.7	S	20 40.8 -00.2	192 44.2 -33.8	N	09 35.4 -12.6	14			
15	41 34.1 +00.0	S	10 52.6 -00.9	84 33.7 -00.6	S	20 40.6 -00.3	207 10.4 -33.8	N	09 22.8 -12.7	15			
16	56 34.1 +00.1	S	10 51.7 -00.9	99 33.1 -00.7	S	20 40.3 -00.2	221 36.6 -33.6	N	09 10.1 -12.8	16			
17	71 34.2 +00.1	S	10 50.8 -00.9	114 32.4 -00.7	S	20 40.1 -00.3	236 03.0 -33.6	N	08 57.3 -12.8	17			
18	86 34.3 +00.0	S	10 49.9 -00.9	129 31.7 -00.6	S	20 39.8 -00.3	250 29.4 -33.6	N	08 44.5 -12.9	18			
19	101 34.3 +00.1	S	10 49.0 -00.9	144 31.1 -00.7	S	20 39.5 -00.2	264 55.8 -33.4	N	08 31.6 -12.9	19			
20	116 34.4 +00.1	S	10 48.1 -00.9	159 30.4 -00.6	S	20 39.3 -00.3	279 22.4 -33.4	N	08 18.7 -13.0	20			
21	131 34.5 +00.0	S	10 47.2 -00.9	174 29.8 -00.7	S	20 39.0 -00.2	293 49.0 -33.4	N	08 05.7 -13.0	21			
22	146 34.5 +00.1	S	10 46.3 -00.9	189 29.1 -00.6	S	20 38.8 -00.3	308 15.6 -33.2	N	07 52.7 -13.0	22			
23	161 34.6 +00.1	S	10 45.4 -00.9	204 28.5 -00.7	S	20 38.5 -00.2	322 42.4 -33.2	N	07 39.7 -13.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'7 16'7 16'7 16'7 16'7 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 61'3 61'3 61'2 61'2 61'1 61'0						
	SHA 027° 027° 027° 026° 026° 026°			SHA 070° 070° 070° 069° 069° 069°			SHA 200° 197° 195° 193° 190° 188°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:21			Greenwich Culmination Time: 00:38						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 19.5 +00.8	N	13 17.0 +00.6	249 40.8 +02.1	S	22 29.5 +00.0	221 21.4 +02.2	S	21 55.9 +00.0	00			
01	133 20.3 +00.9	N	13 17.6 +00.6	264 42.9 +02.1	S	22 29.5 +00.0	236 23.6 +02.2	S	21 55.9 +00.0	01			
02	148 21.2 +00.8	N	13 18.2 +00.6	279 45.0 +02.1	S	22 29.5 +00.0	251 25.8 +02.2	S	21 55.9 -00.1	02			
03	163 22.0 +00.9	N	13 18.8 +00.6	294 47.1 +02.1	S	22 29.5 +00.1	266 28.0 +02.2	S	21 55.8 +00.0	03			
04	178 22.9 +00.8	N	13 19.4 +00.6	309 49.2 +02.1	S	22 29.6 +00.0	281 30.2 +02.2	S	21 55.8 +00.0	04			
05	193 23.7 +00.9	N	13 20.0 +00.6	324 51.3 +02.1	S	22 29.6 +00.0	296 32.4 +02.2	S	21 55.8 +00.0	05			
06	208 24.6 +00.8	N	13 20.6 +00.6	339 53.4 +02.1	S	22 29.6 +00.0	311 34.6 +02.2	S	21 55.8 -00.1	06			
07	223 25.4 +00.9	N	13 21.2 +00.6	354 55.5 +02.1	S	22 29.6 +00.1	326 36.8 +02.3	S	21 55.7 +00.0	07			
08	238 26.3 +00.8	N	13 21.8 +00.6	9 57.6 +02.1	S	22 29.7 +00.0	341 39.1 +02.2	S	21 55.7 +00.0	08			
09	253 27.1 +00.8	N	13 22.4 +00.6	24 59.7 +02.1	S	22 29.7 +00.0	356 41.3 +02.2	S	21 55.7 -00.1	09			
10	268 27.9 +00.9	N	13 23.0 +00.6	40 01.8 +02.1	S	22 29.7 +00.0	11 43.5 +02.2	S	21 55.6 +00.0	10			
11	283 28.8 +00.8	N	13 23.6 +00.6	55 03.9 +02.1	S	22 29.7 +00.0	26 45.7 +02.2	S	21 55.6 +00.0	11			
12	298 29.6 +00.9	N	13 24.2 +00.6	70 06.0 +02.1	S	22 29.7 +00.1	41 47.9 +02.2	S	21 55.6 +00.0	12			
13	313 30.5 +00.8	N	13 24.8 +00.6	85 08.1 +02.1	S	22 29.8 +00.0	56 50.1 +02.2	S	21 55.6 -00.1	13			
14	328 31.3 +00.9	N	13 25.4 +00.6	100 10.2 +02.1	S	22 29.8 +00.0	71 52.3 +02.2	S	21 55.5 +00.0	14			
15	343 32.2 +00.8	N	13 26.0 +00.6	115 12.3 +02.1	S	22 29.8 +00.0	86 54.5 +02.2	S	21 55.5 +00.0	15			
16	358 33.0 +00.8	N	13 26.6 +00.6	130 14.4 +02.1	S	22 29.8 +00.1	101 56.7 +02.2	S	21 55.5 -00.1	16			
17	13 33.8 +00.9	N	13 27.2 +00.6	145 16.5 +02.1	S	22 29.9 +00.0	116 58.9 +02.2	S	21 55.4 +00.0	17			
18	28 34.7 +00.8	N	13 27.8 +00.6	160 18.6 +02.1	S	22 29.9 +00.0	132 01.1 +02.3	S	21 55.4 +00.0	18			
19	43 35.5 +00.9	N	13 28.4 +00.6	175 20.7 +02.1	S	22 29.9 +00.0	147 03.4 +02.2	S	21 55.4 +00.0	19			
20	58 36.4 +00.8	N	13 29.0 +00.6	190 22.8 +02.1	S	22 29.9 +00.1	162 05.6 +02.2	S	21 55.4 -00.1	20			
21	73 37.2 +00.9	N	13 29.6 +00.6	205 24.9 +02.1	S	22 30.0 +00.0	177 07.8 +02.2	S	21 55.3 +00.0	21			
22	88 38.1 +00.8	N	13 30.2 +00.6	220 27.0 +02.1	S	22 30.0 +00.0	192 10.0 +02.2	S	21 55.3 +00.0	22			
23	103 38.9 +00.8	N	13 30.8 +00.6	235 29.1 +02.1	S	22 30.0 +00.0	207 12.2 +02.2	S	21 55.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 329° 329° 328° 328° 328° 328°			SHA 100° 100° 100° 100° 100° 100°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 16:05			Greenwich Culmination Time: 07:20			Greenwich Culmination Time: 09:13						

UT	Sun				Venus				Moon A: 57%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.7 +00.0	S 10	44.5 -00.9	219 27.8 -00.7	S 20	38.3 -00.3	337 09.2 -33.2	N 07	26.6 -13.2	00			
01	191 34.7 +00.1	S 10	43.6 -00.9	234 27.1 -00.6	S 20	38.0 -00.3	351 36.0 -33.1	N 07	13.4 -13.1	01			
02	206 34.8 +00.1	S 10	42.7 -00.9	249 26.5 -00.7	S 20	37.7 -00.2	6 02.9 -33.0	N 07	00.3 -13.2	02			
03	221 34.9 +00.1	S 10	41.8 -00.9	264 25.8 -00.6	S 20	37.5 -00.3	20 29.9 -33.0	N 06	47.1 -13.2	03			
04	236 35.0 +00.0	S 10	40.9 -00.9	279 25.2 -00.7	S 20	37.2 -00.2	34 56.9 -32.9	N 06	33.9 -13.3	04			
05	251 35.0 +00.1	S 10	40.0 -00.9	294 24.5 -00.7	S 20	37.0 -00.3	49 24.0 -32.8	N 06	20.6 -13.3	05			
06	266 35.1 +00.1	S 10	39.1 -00.9	309 23.8 -00.6	S 20	36.7 -00.3	63 51.2 -32.8	N 06	07.3 -13.3	06			
07	281 35.2 +00.0	S 10	38.2 -00.9	324 23.2 -00.7	S 20	36.4 -00.2	78 18.4 -32.7	N 05	54.0 -13.3	07			
08	296 35.2 +00.1	S 10	37.3 -00.9	339 22.5 -00.6	S 20	36.2 -00.3	92 45.7 -32.6	N 05	40.7 -13.4	08			
09	311 35.3 +00.1	S 10	36.4 -00.9	354 21.9 -00.7	S 20	35.9 -00.3	107 13.1 -32.6	N 05	27.3 -13.4	09			
10	326 35.4 +00.1	S 10	35.5 -00.9	9 21.2 -00.7	S 20	35.6 -00.2	121 40.5 -32.6	N 05	13.9 -13.4	10			
11	341 35.5 +00.0	S 10	34.6 -00.9	24 20.5 -00.6	S 20	35.4 -00.3	136 07.9 -32.5	N 05	00.5 -13.4	11			
12	356 35.5 +00.1	S 10	33.7 -00.9	39 19.9 -00.7	S 20	35.1 -00.3	150 35.4 -32.4	N 04	47.1 -13.4	12			
13	11 35.6 +00.1	S 10	32.8 -00.9	54 19.2 -00.6	S 20	34.8 -00.3	165 03.0 -32.4	N 04	33.7 -13.5	13			
14	26 35.7 +00.1	S 10	31.9 -01.0	69 18.6 -00.7	S 20	34.5 -00.2	179 30.6 -32.3	N 04	20.2 -13.5	14			
15	41 35.8 +00.0	S 10	30.9 -00.9	84 17.9 -00.7	S 20	34.3 -00.3	193 58.3 -32.2	N 04	06.7 -13.4	15			
16	56 35.8 +00.1	S 10	30.0 -00.9	99 17.2 -00.6	S 20	34.0 -00.3	208 26.1 -32.3	N 03	53.3 -13.5	16			
17	71 35.9 +00.1	S 10	29.1 -00.9	114 16.6 -00.7	S 20	33.7 -00.3	222 53.8 -32.1	N 03	39.8 -13.5	17			
18	86 36.0 +00.1	S 10	28.2 -00.9	129 15.9 -00.6	S 20	33.4 -00.2	237 21.7 -32.1	N 03	26.3 -13.5	18			
19	101 36.1 +00.0	S 10	27.3 -00.9	144 15.3 -00.7	S 20	33.2 -00.3	251 49.6 -32.0	N 03	12.8 -13.5	19			
20	116 36.1 +00.1	S 10	26.4 -00.9	159 14.6 -00.6	S 20	32.9 -00.3	266 17.6 -32.0	N 02	59.3 -13.6	20			
21	131 36.2 +00.1	S 10	25.5 -00.9	174 14.0 -00.7	S 20	32.6 -00.3	280 45.6 -32.0	N 02	45.7 -13.5	21			
22	146 36.3 +00.1	S 10	24.6 -00.9	189 13.3 -00.7	S 20	32.3 -00.3	295 13.6 -31.9	N 02	32.2 -13.5	22			
23	161 36.4 +00.0	S 10	23.7 -00.9	204 12.6 -00.6	S 20	32.0 -00.2	309 41.7 -31.8	N 02	18.7 -13.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'6 16'6 16'5 16'5 16'5 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'9 60'8 60'7 60'6 60'5 60'4						
	SHA 026° 026° 026° 025° 025° 025°			SHA 069° 069° 068° 068° 068° 068°			SHA 185° 183° 181° 178° 176° 174°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:22			Greenwich Culmination Time: 01:34						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 39.7 +00.9	N 13	31.4 +00.6	250 31.2 +02.1	S 22	30.0 +00.0	222 14.4 +02.2	S 21	55.3 -00.1	00			
01	133 40.6 +00.8	N 13	32.0 +00.6	265 33.3 +02.1	S 22	30.0 +00.1	237 16.6 +02.2	S 21	55.2 +00.0	01			
02	148 41.4 +00.9	N 13	32.6 +00.6	280 35.4 +02.1	S 22	30.1 +00.0	252 18.8 +02.2	S 21	55.2 +00.0	02			
03	163 42.3 +00.8	N 13	33.2 +00.6	295 37.5 +02.1	S 22	30.1 +00.0	267 21.0 +02.3	S 21	55.2 -00.1	03			
04	178 43.1 +00.9	N 13	33.8 +00.6	310 39.6 +02.1	S 22	30.1 +00.0	282 23.3 +02.2	S 21	55.1 +00.0	04			
05	193 44.0 +00.8	N 13	34.4 +00.6	325 41.7 +02.1	S 22	30.1 +00.1	297 25.5 +02.2	S 21	55.1 +00.0	05			
06	208 44.8 +00.8	N 13	35.0 +00.6	340 43.8 +02.1	S 22	30.2 +00.0	312 27.7 +02.2	S 21	55.1 +00.0	06			
07	223 45.6 +00.9	N 13	35.6 +00.6	355 45.9 +02.1	S 22	30.2 +00.0	327 29.9 +02.2	S 21	55.1 -00.1	07			
08	238 46.5 +00.8	N 13	36.2 +00.6	10 48.0 +02.1	S 22	30.2 +00.0	342 32.1 +02.2	S 21	55.0 +00.0	08			
09	253 47.3 +00.9	N 13	36.8 +00.6	25 50.1 +02.1	S 22	30.2 +00.0	357 34.3 +02.2	S 21	55.0 +00.0	09			
10	268 48.2 +00.8	N 13	37.4 +00.6	40 52.2 +02.1	S 22	30.2 +00.1	12 36.5 +02.2	S 21	55.0 -00.1	10			
11	283 49.0 +00.9	N 13	38.0 +00.6	55 54.3 +02.1	S 22	30.3 +00.0	27 38.7 +02.2	S 21	54.9 +00.0	11			
12	298 49.9 +00.8	N 13	38.6 +00.6	70 56.4 +02.1	S 22	30.3 +00.0	42 40.9 +02.3	S 21	54.9 +00.0	12			
13	313 50.7 +00.8	N 13	39.2 +00.5	85 58.5 +02.1	S 22	30.3 +00.0	57 43.2 +02.2	S 21	54.9 +00.0	13			
14	328 51.5 +00.9	N 13	39.7 +00.6	101 00.6 +02.1	S 22	30.3 +00.1	72 45.4 +02.2	S 21	54.9 -00.1	14			
15	343 52.4 +00.8	N 13	40.3 +00.6	116 02.7 +02.1	S 22	30.4 +00.0	87 47.6 +02.2	S 21	54.8 +00.0	15			
16	358 53.2 +00.9	N 13	40.9 +00.6	131 04.8 +02.1	S 22	30.4 +00.0	102 49.8 +02.2	S 21	54.8 +00.0	16			
17	13 54.1 +00.8	N 13	41.5 +00.6	146 06.9 +02.1	S 22	30.4 +00.0	117 52.0 +02.2	S 21	54.8 +00.0	17			
18	28 54.9 +00.8	N 13	42.1 +00.6	161 09.0 +02.1	S 22	30.4 +00.0	132 54.2 +02.2	S 21	54.8 -00.1	18			
19	43 55.7 +00.9	N 13	42.7 +00.6	176 11.1 +02.1	S 22	30.4 +00.1	147 56.4 +02.2	S 21	54.7 +00.0	19			
20	58 56.6 +00.8	N 13	43.3 +00.6	191 13.2 +02.1	S 22	30.5 +00.0	162 58.6 +02.3	S 21	54.7 +00.0	20			
21	73 57.4 +00.9	N 13	43.9 +00.6	206 15.3 +02.1	S 22	30.5 +00.0	178 00.9 +02.2	S 21	54.7 -00.1	21			
22	88 58.3 +00.8	N 13	44.5 +00.6	221 17.4 +02.1	S 22	30.5 +00.0	193 03.1 +02.2	S 21	54.6 +00.0	22			
23	103 59.1 +00.8	N 13	45.1 +00.6	236 19.5 +02.1	S 22	30.5 +00.1	208 05.3 +02.2	S 21	54.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 328° 328° 328° 328° 328° 327°			SHA 100° 100° 100° 100° 100° 100°			SHA 072° 072° 072° 072° 072° 072°						
	Greenwich Culmination Time: 16:04			Greenwich Culmination Time: 07:16			Greenwich Culmination Time: 09:09						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.4 +00.1	S	10 22.8 -00.9	219 12.0 -00.7	S	20 31.8 -00.3	324 09.9 -31.8	N	02 05.2 -13.5	00			
01	191 36.5 +00.1	S	10 21.9 -00.9	234 11.3 -00.6	S	20 31.5 -00.3	338 38.1 -31.8	N	01 51.7 -13.5	01			
02	206 36.6 +00.1	S	10 21.0 -00.9	249 10.7 -00.7	S	20 31.2 -00.3	353 06.3 -31.7	N	01 38.2 -13.5	02			
03	221 36.7 +00.0	S	10 20.1 -00.9	264 10.0 -00.7	S	20 30.9 -00.3	7 34.6 -31.6	N	01 24.7 -13.5	03			
04	236 36.7 +00.1	S	10 19.2 -01.0	279 09.3 -00.6	S	20 30.6 -00.3	22 03.0 -31.6	N	01 11.2 -13.5	04			
05	251 36.8 +00.1	S	10 18.2 -00.9	294 08.7 -00.7	S	20 30.3 -00.3	36 31.4 -31.6	N	00 57.7 -13.5	05			
06	266 36.9 +00.1	S	10 17.3 -00.9	309 08.0 -00.6	S	20 30.0 -00.3	50 59.8 -31.5	N	00 44.2 -13.4	06			
07	281 37.0 +00.1	S	10 16.4 -00.9	324 07.4 -00.7	S	20 29.7 -00.2	65 28.3 -31.5	N	00 30.8 -13.5	07			
08	296 37.1 +00.0	S	10 15.5 -00.9	339 06.7 -00.7	S	20 29.5 -00.3	79 56.8 -31.4	N	00 17.3 -13.4	08			
09	311 37.1 +00.1	S	10 14.6 -00.9	354 06.0 -00.6	S	20 29.2 -00.3	94 25.4 -31.4	N	00 03.9 -13.4	09			
10	326 37.2 +00.1	S	10 13.7 -00.9	9 05.4 -00.7	S	20 28.9 -00.3	108 54.0 -31.3	S	00 09.5 +13.4	10			
11	341 37.3 +00.1	S	10 12.8 -00.9	24 04.7 -00.6	S	20 28.6 -00.3	123 22.7 -31.3	S	00 22.9 +13.4	11			
12	356 37.4 +00.0	S	10 11.9 -00.9	39 04.1 -00.7	S	20 28.3 -00.3	137 51.4 -31.3	S	00 36.3 +13.4	12			
13	11 37.4 +00.1	S	10 11.0 -00.9	54 03.4 -00.6	S	20 28.0 -00.3	152 20.1 -31.2	S	00 49.7 +13.3	13			
14	26 37.5 +00.1	S	10 10.1 -01.0	69 02.8 -00.7	S	20 27.7 -00.3	166 48.9 -31.2	S	01 03.0 +13.3	14			
15	41 37.6 +00.1	S	10 09.1 -00.9	84 02.1 -00.7	S	20 27.4 -00.3	181 17.7 -31.1	S	01 16.3 +13.3	15			
16	56 37.7 +00.1	S	10 08.2 -00.9	99 01.4 -00.6	S	20 27.1 -00.3	195 46.6 -31.1	S	01 29.6 +13.3	16			
17	71 37.8 +00.1	S	10 07.3 -00.9	114 00.8 -00.7	S	20 26.8 -00.3	210 15.5 -31.1	S	01 42.9 +13.2	17			
18	86 37.9 +00.0	S	10 06.4 -00.9	129 00.1 -00.6	S	20 26.5 -00.3	224 44.4 -31.0	S	01 56.1 +13.3	18			
19	101 37.9 +00.1	S	10 05.5 -00.9	143 59.5 -00.7	S	20 26.2 -00.3	239 13.4 -31.0	S	02 09.4 +13.1	19			
20	116 38.0 +00.1	S	10 04.6 -00.9	158 58.8 -00.7	S	20 25.9 -00.3	253 42.4 -31.0	S	02 22.5 +13.2	20			
21	131 38.1 +00.1	S	10 03.7 -00.9	173 58.1 -00.6	S	20 25.6 -00.3	268 11.4 -30.9	S	02 35.7 +13.1	21			
22	146 38.2 +00.1	S	10 02.8 -01.0	188 57.5 -00.7	S	20 25.3 -00.3	282 40.5 -30.9	S	02 48.8 +13.1	22			
23	161 38.3 +00.0	S	10 01.8 -00.9	203 56.8 -00.6	S	20 25.0 -00.3	297 09.6 -30.9	S	03 01.9 +13.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'4 16'4 16'3 16'3 16'3 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'3 60'1 60'0 59'8 59'7 59'5						
	SHA 025° 025° 025° 024° 024° 024°			SHA 067° 067° 067° 067° 067° 066°			SHA 171° 169° 167° 165° 162° 160°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:23			Greenwich Culmination Time: 02:28						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 59.9 +00.9	N	13 45.7 +00.6	251 21.6 +02.1	S	22 30.6 +00.0	223 07.5 +02.2	S	21 54.6 +00.0	00			
01	134 00.8 +00.8	N	13 46.3 +00.6	266 23.7 +02.1	S	22 30.6 +00.0	238 09.7 +02.2	S	21 54.6 -00.1	01			
02	149 01.6 +00.9	N	13 46.9 +00.6	281 25.8 +02.1	S	22 30.6 +00.0	253 11.9 +02.2	S	21 54.5 +00.0	02			
03	164 02.5 +00.8	N	13 47.5 +00.5	296 27.9 +02.1	S	22 30.6 +00.0	268 14.1 +02.3	S	21 54.5 +00.0	03			
04	179 03.3 +00.8	N	13 48.0 +00.6	311 30.0 +02.2	S	22 30.6 +00.1	283 16.4 +02.2	S	21 54.5 -00.1	04			
05	194 04.1 +00.9	N	13 48.6 +00.6	326 32.2 +02.1	S	22 30.7 +00.0	298 18.6 +02.2	S	21 54.4 +00.0	05			
06	209 05.0 +00.8	N	13 49.2 +00.6	341 34.3 +02.1	S	22 30.7 +00.0	313 20.8 +02.2	S	21 54.4 +00.0	06			
07	224 05.8 +00.9	N	13 49.8 +00.6	356 36.4 +02.1	S	22 30.7 +00.0	328 23.0 +02.2	S	21 54.4 +00.0	07			
08	239 06.7 +00.8	N	13 50.4 +00.6	11 38.5 +02.1	S	22 30.7 +00.1	343 25.2 +02.2	S	21 54.4 -00.1	08			
09	254 07.5 +00.8	N	13 51.0 +00.6	26 40.6 +02.1	S	22 30.8 +00.0	358 27.4 +02.2	S	21 54.3 +00.0	09			
10	269 08.3 +00.9	N	13 51.6 +00.6	41 42.7 +02.1	S	22 30.8 +00.0	13 29.6 +02.3	S	21 54.3 +00.0	10			
11	284 09.2 +00.8	N	13 52.2 +00.6	56 44.8 +02.1	S	22 30.8 +00.0	28 31.9 +02.2	S	21 54.3 +00.0	11			
12	299 10.0 +00.9	N	13 52.8 +00.6	71 46.9 +02.1	S	22 30.8 +00.0	43 34.1 +02.2	S	21 54.3 -00.1	12			
13	314 10.9 +00.8	N	13 53.4 +00.5	86 49.0 +02.1	S	22 30.8 +00.1	58 36.3 +02.2	S	21 54.2 +00.0	13			
14	329 11.7 +00.8	N	13 53.9 +00.6	101 51.1 +02.1	S	22 30.9 +00.0	73 38.5 +02.2	S	21 54.2 +00.0	14			
15	344 12.5 +00.9	N	13 54.5 +00.6	116 53.2 +02.1	S	22 30.9 +00.0	88 40.7 +02.2	S	21 54.2 -00.1	15			
16	359 13.4 +00.8	N	13 55.1 +00.6	131 55.3 +02.2	S	22 30.9 +00.0	103 42.9 +02.2	S	21 54.1 +00.0	16			
17	14 14.2 +00.8	N	13 55.7 +00.6	146 57.5 +02.1	S	22 30.9 +00.0	118 45.1 +02.3	S	21 54.1 +00.0	17			
18	29 15.0 +00.9	N	13 56.3 +00.6	161 59.6 +02.1	S	22 30.9 +00.1	133 47.4 +02.2	S	21 54.1 +00.0	18			
19	44 15.9 +00.8	N	13 56.9 +00.6	177 01.7 +02.1	S	22 31.0 +00.0	148 49.6 +02.2	S	21 54.1 -00.1	19			
20	59 16.7 +00.9	N	13 57.5 +00.6	192 03.8 +02.1	S	22 31.0 +00.0	163 51.8 +02.2	S	21 54.0 +00.0	20			
21	74 17.6 +00.8	N	13 58.1 +00.6	207 05.9 +02.1	S	22 31.0 +00.0	178 54.0 +02.2	S	21 54.0 +00.0	21			
22	89 18.4 +00.8	N	13 58.7 +00.5	222 08.0 +02.1	S	22 31.0 +00.0	193 56.2 +02.2	S	21 54.0 -00.1	22			
23	104 19.2 +00.9	N	13 59.2 +00.6	237 10.1 +02.1	S	22 31.0 +00.1	208 58.4 +02.3	S	21 53.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 327° 327° 327° 327° 327° 327°			SHA 100° 100° 100° 100° 100° 100°			SHA 072° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 16:03			Greenwich Culmination Time: 07:13			Greenwich Culmination Time: 09:06						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 38.3 +00.1	S	10 00.9 -00.9	218 56.2 -00.7	S	20 24.7 -00.3	311 38.7 -30.8	S	03 14.9 +13.0	00			
01	191 38.4 +00.1	S	10 00.0 -00.9	233 55.5 -00.6	S	20 24.4 -00.4	326 07.9 -30.8	S	03 27.9 +13.0	01			
02	206 38.5 +00.1	S	09 59.1 -00.9	248 54.9 -00.7	S	20 24.0 -00.3	340 37.1 -30.8	S	03 40.9 +13.0	02			
03	221 38.6 +00.1	S	09 58.2 -00.9	263 54.2 -00.7	S	20 23.7 -00.3	355 06.3 -30.8	S	03 53.9 +12.9	03			
04	236 38.7 +00.1	S	09 57.3 -00.9	278 53.5 -00.6	S	20 23.4 -00.3	9 35.5 -30.7	S	04 06.8 +12.8	04			
05	251 38.8 +00.0	S	09 56.4 -01.0	293 52.9 -00.7	S	20 23.1 -00.3	24 04.8 -30.7	S	04 19.6 +12.8	05			
06	266 38.8 +00.1	S	09 55.4 -00.9	308 52.2 -00.6	S	20 22.8 -00.3	38 34.1 -30.6	S	04 32.4 +12.8	06			
07	281 38.9 +00.1	S	09 54.5 -00.9	323 51.6 -00.7	S	20 22.5 -00.3	53 03.5 -30.7	S	04 45.2 +12.7	07			
08	296 39.0 +00.1	S	09 53.6 -00.9	338 50.9 -00.6	S	20 22.2 -00.3	67 32.8 -30.6	S	04 57.9 +12.7	08			
09	311 39.1 +00.1	S	09 52.7 -00.9	353 50.3 -00.7	S	20 21.9 -00.4	82 02.2 -30.5	S	05 10.6 +12.7	09			
10	326 39.2 +00.1	S	09 51.8 -00.9	8 49.6 -00.7	S	20 21.5 -00.3	96 31.7 -30.6	S	05 23.3 +12.5	10			
11	341 39.3 +00.1	S	09 50.9 -01.0	23 48.9 -00.6	S	20 21.2 -00.3	111 01.1 -30.5	S	05 35.8 +12.6	11			
12	356 39.4 +00.0	S	09 49.9 -00.9	38 48.3 -00.7	S	20 20.9 -00.3	125 30.6 -30.6	S	05 48.4 +12.5	12			
13	11 39.4 +00.1	S	09 49.0 -00.9	53 47.6 -00.6	S	20 20.6 -00.3	140 00.0 -30.4	S	06 00.9 +12.4	13			
14	26 39.5 +00.1	S	09 48.1 -00.9	68 47.0 -00.7	S	20 20.3 -00.4	154 29.6 -30.5	S	06 13.3 +12.4	14			
15	41 39.6 +00.1	S	09 47.2 -00.9	83 46.3 -00.6	S	20 19.9 -00.3	168 59.1 -30.5	S	06 25.7 +12.3	15			
16	56 39.7 +00.1	S	09 46.3 -01.0	98 45.7 -00.7	S	20 19.6 -00.3	183 28.6 -30.4	S	06 38.0 +12.3	16			
17	71 39.8 +00.1	S	09 45.3 -00.9	113 45.0 -00.7	S	20 19.3 -00.3	197 58.2 -30.4	S	06 50.3 +12.3	17			
18	86 39.9 +00.1	S	09 44.4 -00.9	128 44.3 -00.6	S	20 19.0 -00.4	212 27.8 -30.4	S	07 02.6 +12.1	18			
19	101 40.0 +00.1	S	09 43.5 -00.9	143 43.7 -00.7	S	20 18.6 -00.3	226 57.4 -30.3	S	07 14.7 +12.1	19			
20	116 40.1 +00.0	S	09 42.6 -00.9	158 43.0 -00.6	S	20 18.3 -00.3	241 27.1 -30.4	S	07 26.8 +12.1	20			
21	131 40.1 +00.1	S	09 41.7 -00.9	173 42.4 -00.7	S	20 18.0 -00.3	255 56.7 -30.3	S	07 38.9 +12.0	21			
22	146 40.2 +00.1	S	09 40.8 -01.0	188 41.7 -00.6	S	20 17.7 -00.4	270 26.4 -30.3	S	07 50.9 +11.9	22			
23	161 40.3 +00.1	S	09 39.8 -00.9	203 41.1 -00.7	S	20 17.3 -00.3	284 56.1 -30.3	S	08 02.8 +11.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'2 16'1 16'1 16'1 16'0 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'4 59'2 59'1 58'9 58'7 58'6						
	SHA 024° 024° 024° 023° 023° 023°			SHA 066° 066° 066° 066° 065° 065°			SHA 158° 156° 154° 151° 149° 147°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:24			Greenwich Culmination Time: 03:20						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 20.1 +00.8	N	13 59.8 +00.6	252 12.2 +02.1	S	22 31.1 +00.0	224 00.7 +02.2	S	21 53.9 +00.0	00			
01	134 20.9 +00.8	N	14 00.4 +00.6	267 14.3 +02.2	S	22 31.1 +00.0	239 02.9 +02.2	S	21 53.9 +00.0	01			
02	149 21.7 +00.9	N	14 01.0 +00.6	282 16.5 +02.1	S	22 31.1 +00.0	254 05.1 +02.2	S	21 53.9 -00.1	02			
03	164 22.6 +00.8	N	14 01.6 +00.6	297 18.6 +02.1	S	22 31.1 +00.1	269 07.3 +02.2	S	21 53.8 +00.0	03			
04	179 23.4 +00.9	N	14 02.2 +00.6	312 20.7 +02.1	S	22 31.2 +00.0	284 09.5 +02.2	S	21 53.8 +00.0	04			
05	194 24.3 +00.8	N	14 02.8 +00.6	327 22.8 +02.1	S	22 31.2 +00.0	299 11.7 +02.2	S	21 53.8 +00.0	05			
06	209 25.1 +00.8	N	14 03.4 +00.5	342 24.9 +02.1	S	22 31.2 +00.0	314 13.9 +02.3	S	21 53.8 -00.1	06			
07	224 25.9 +00.9	N	14 03.9 +00.6	357 27.0 +02.1	S	22 31.2 +00.0	329 16.2 +02.2	S	21 53.7 +00.0	07			
08	239 26.8 +00.8	N	14 04.5 +00.6	12 29.1 +02.1	S	22 31.2 +00.1	344 18.4 +02.2	S	21 53.7 +00.0	08			
09	254 27.6 +00.8	N	14 05.1 +00.6	27 31.2 +02.2	S	22 31.3 +00.0	359 20.6 +02.2	S	21 53.7 -00.1	09			
10	269 28.4 +00.9	N	14 05.7 +00.6	42 33.4 +02.1	S	22 31.3 +00.0	14 22.8 +02.2	S	21 53.6 +00.0	10			
11	284 29.3 +00.8	N	14 06.3 +00.6	57 35.5 +02.1	S	22 31.3 +00.0	29 25.0 +02.3	S	21 53.6 +00.0	11			
12	299 30.1 +00.8	N	14 06.9 +00.5	72 37.6 +02.1	S	22 31.3 +00.0	44 27.3 +02.2	S	21 53.6 +00.0	12			
13	314 30.9 +00.9	N	14 07.4 +00.6	87 39.7 +02.1	S	22 31.3 +00.1	59 29.5 +02.2	S	21 53.6 -00.1	13			
14	329 31.8 +00.8	N	14 08.0 +00.6	102 41.8 +02.1	S	22 31.4 +00.0	74 31.7 +02.2	S	21 53.5 +00.0	14			
15	344 32.6 +00.9	N	14 08.6 +00.6	117 43.9 +02.2	S	22 31.4 +00.0	89 33.9 +02.2	S	21 53.5 +00.0	15			
16	359 33.5 +00.8	N	14 09.2 +00.6	132 46.1 +02.1	S	22 31.4 +00.0	104 36.1 +02.2	S	21 53.5 +00.0	16			
17	14 34.3 +00.8	N	14 09.8 +00.6	147 48.2 +02.1	S	22 31.4 +00.0	119 38.3 +02.3	S	21 53.5 -00.1	17			
18	29 35.1 +00.9	N	14 10.4 +00.6	162 50.3 +02.1	S	22 31.4 +00.1	134 40.6 +02.2	S	21 53.4 +00.0	18			
19	44 36.0 +00.8	N	14 11.0 +00.5	177 52.4 +02.1	S	22 31.5 +00.0	149 42.8 +02.2	S	21 53.4 +00.0	19			
20	59 36.8 +00.8	N	14 11.5 +00.6	192 54.5 +02.1	S	22 31.5 +00.0	164 45.0 +02.2	S	21 53.4 -00.1	20			
21	74 37.6 +00.9	N	14 12.1 +00.6	207 56.6 +02.2	S	22 31.5 +00.0	179 47.2 +02.2	S	21 53.3 +00.0	21			
22	89 38.5 +00.8	N	14 12.7 +00.6	222 58.8 +02.1	S	22 31.5 +00.0	194 49.4 +02.2	S	21 53.3 +00.0	22			
23	104 39.3 +00.8	N	14 13.3 +00.6	238 00.9 +02.1	S	22 31.5 +00.1	209 51.6 +02.3	S	21 53.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 327° 327° 326° 326° 326° 326°			SHA 100° 100° 100° 100° 100° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 16:01			Greenwich Culmination Time: 07:10			Greenwich Culmination Time: 09:02						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 40.4 +00.1	S	09 38.9 -00.9	218 40.4 -00.7	S	20 17.0 -00.3	299 25.8 -30.3	S	08 14.7 +11.8	00			
01	191 40.5 +00.1	S	09 38.0 -00.9	233 39.7 -00.6	S	20 16.7 -00.4	313 55.5 -30.3	S	08 26.5 +11.8	01			
02	206 40.6 +00.1	S	09 37.1 -00.9	248 39.1 -00.7	S	20 16.3 -00.3	328 25.2 -30.3	S	08 38.3 +11.7	02			
03	221 40.7 +00.1	S	09 36.2 -01.0	263 38.4 -00.6	S	20 16.0 -00.3	342 54.9 -30.2	S	08 50.0 +11.6	03			
04	236 40.8 +00.1	S	09 35.2 -00.9	278 37.8 -00.7	S	20 15.7 -00.4	357 24.7 -30.2	S	09 01.6 +11.6	04			
05	251 40.9 +00.1	S	09 34.3 -00.9	293 37.1 -00.6	S	20 15.3 -00.3	11 54.5 -30.3	S	09 13.2 +11.5	05			
06	266 41.0 +00.0	S	09 33.4 -00.9	308 36.5 -00.7	S	20 15.0 -00.4	26 24.2 -30.2	S	09 24.7 +11.4	06			
07	281 41.0 +00.1	S	09 32.5 -01.0	323 35.8 -00.6	S	20 14.6 -00.3	40 54.0 -30.2	S	09 36.1 +11.3	07			
08	296 41.1 +00.1	S	09 31.5 -00.9	338 35.2 -00.7	S	20 14.3 -00.3	55 23.8 -30.1	S	09 47.4 +11.3	08			
09	311 41.2 +00.1	S	09 30.6 -00.9	353 34.5 -00.7	S	20 14.0 -00.4	69 53.7 -30.2	S	09 58.7 +11.3	09			
10	326 41.3 +00.1	S	09 29.7 -00.9	8 33.8 -00.6	S	20 13.6 -00.3	84 23.5 -30.2	S	10 10.0 +11.1	10			
11	341 41.4 +00.1	S	09 28.8 -00.9	23 33.2 -00.7	S	20 13.3 -00.4	98 53.3 -30.1	S	10 21.1 +11.1	11			
12	356 41.5 +00.1	S	09 27.9 -01.0	38 32.5 -00.6	S	20 12.9 -00.3	113 23.2 -30.2	S	10 32.2 +11.0	12			
13	11 41.6 +00.1	S	09 26.9 -00.9	53 31.9 -00.7	S	20 12.6 -00.3	127 53.0 -30.1	S	10 43.2 +10.9	13			
14	26 41.7 +00.1	S	09 26.0 -00.9	68 31.2 -00.6	S	20 12.3 -00.4	142 22.9 -30.2	S	10 54.1 +10.9	14			
15	41 41.8 +00.1	S	09 25.1 -00.9	83 30.6 -00.7	S	20 11.9 -00.3	156 52.7 -30.1	S	11 05.0 +10.8	15			
16	56 41.9 +00.1	S	09 24.2 -01.0	98 29.9 -00.6	S	20 11.6 -00.4	171 22.6 -30.1	S	11 15.8 +10.7	16			
17	71 42.0 +00.1	S	09 23.2 -00.9	113 29.3 -00.7	S	20 11.2 -00.3	185 52.5 -30.1	S	11 26.5 +10.7	17			
18	86 42.1 +00.0	S	09 22.3 -00.9	128 28.6 -00.7	S	20 10.9 -00.4	200 22.4 -30.1	S	11 37.2 +10.5	18			
19	101 42.1 +00.1	S	09 21.4 -00.9	143 27.9 -00.6	S	20 10.5 -00.3	214 52.3 -30.1	S	11 47.7 +10.5	19			
20	116 42.2 +00.1	S	09 20.5 -01.0	158 27.3 -00.7	S	20 10.2 -00.4	229 22.2 -30.1	S	11 58.2 +10.4	20			
21	131 42.3 +00.1	S	09 19.5 -00.9	173 26.6 -00.6	S	20 09.8 -00.3	243 52.1 -30.1	S	12 08.6 +10.4	21			
22	146 42.4 +00.1	S	09 18.6 -00.9	188 26.0 -00.7	S	20 09.5 -00.4	258 22.0 -30.1	S	12 19.0 +10.2	22			
23	161 42.5 +00.1	S	09 17.7 -00.9	203 25.3 -00.6	S	20 09.1 -00.3	272 51.9 -30.1	S	12 29.2 +10.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'9 15'9 15'8 15'8 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'4 58'3 58'1 57'9 57'8 57'6						
	SHA 023° 023° 023° 023° 022° 022°			SHA 065° 065° 065° 064° 064° 064°			SHA 145° 143° 140° 138° 136° 134°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:25			Greenwich Culmination Time: 04:10						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 40.1 +00.9	N	14 13.9 +00.6	253 03.0 +02.1	S	22 31.6 +00.0	224 53.9 +02.2	S	21 53.3 -00.1	00			
01	134 41.0 +00.8	N	14 14.5 +00.5	268 05.1 +02.1	S	22 31.6 +00.0	239 56.1 +02.2	S	21 53.2 +00.0	01			
02	149 41.8 +00.8	N	14 15.0 +00.6	283 07.2 +02.1	S	22 31.6 +00.0	254 58.3 +02.2	S	21 53.2 +00.0	02			
03	164 42.6 +00.9	N	14 15.6 +00.6	298 09.3 +02.2	S	22 31.6 +00.1	270 00.5 +02.2	S	21 53.2 -00.1	03			
04	179 43.5 +00.8	N	14 16.2 +00.6	313 11.5 +02.1	S	22 31.7 +00.0	285 02.7 +02.3	S	21 53.1 +00.0	04			
05	194 44.3 +00.8	N	14 16.8 +00.6	328 13.6 +02.1	S	22 31.7 +00.0	300 05.0 +02.2	S	21 53.1 +00.0	05			
06	209 45.1 +00.9	N	14 17.4 +00.5	343 15.7 +02.1	S	22 31.7 +00.0	315 07.2 +02.2	S	21 53.1 +00.0	06			
07	224 46.0 +00.8	N	14 17.9 +00.6	358 17.8 +02.1	S	22 31.7 +00.0	330 09.4 +02.2	S	21 53.1 -00.1	07			
08	239 46.8 +00.8	N	14 18.5 +00.6	13 19.9 +02.2	S	22 31.7 +00.1	345 11.6 +02.2	S	21 53.0 +00.0	08			
09	254 47.6 +00.9	N	14 19.1 +00.6	28 22.1 +02.1	S	22 31.8 +00.0	0 13.8 +02.3	S	21 53.0 +00.0	09			
10	269 48.5 +00.8	N	14 19.7 +00.6	43 24.2 +02.1	S	22 31.8 +00.0	15 16.1 +02.2	S	21 53.0 +00.0	10			
11	284 49.3 +00.8	N	14 20.3 +00.5	58 26.3 +02.1	S	22 31.8 +00.0	30 18.3 +02.2	S	21 53.0 -00.1	11			
12	299 50.1 +00.9	N	14 20.8 +00.6	73 28.4 +02.1	S	22 31.8 +00.0	45 20.5 +02.2	S	21 52.9 +00.0	12			
13	314 51.0 +00.8	N	14 21.4 +00.6	88 30.5 +02.2	S	22 31.8 +00.1	60 22.7 +02.2	S	21 52.9 +00.0	13			
14	329 51.8 +00.8	N	14 22.0 +00.6	103 32.7 +02.1	S	22 31.9 +00.0	75 24.9 +02.3	S	21 52.9 -00.1	14			
15	344 52.6 +00.9	N	14 22.6 +00.6	118 34.8 +02.1	S	22 31.9 +00.0	90 27.2 +02.2	S	21 52.8 +00.0	15			
16	359 53.5 +00.8	N	14 23.2 +00.5	133 36.9 +02.1	S	22 31.9 +00.0	105 29.4 +02.2	S	21 52.8 +00.0	16			
17	14 54.3 +00.8	N	14 23.7 +00.6	148 39.0 +02.1	S	22 31.9 +00.0	120 31.6 +02.2	S	21 52.8 +00.0	17			
18	29 55.1 +00.9	N	14 24.3 +00.6	163 41.1 +02.2	S	22 31.9 +00.1	135 33.8 +02.2	S	21 52.8 -00.1	18			
19	44 56.0 +00.8	N	14 24.9 +00.6	178 43.3 +02.1	S	22 32.0 +00.0	150 36.0 +02.3	S	21 52.7 +00.0	19			
20	59 56.8 +00.8	N	14 25.5 +00.6	193 45.4 +02.1	S	22 32.0 +00.0	165 38.3 +02.2	S	21 52.7 +00.0	20			
21	74 57.6 +00.9	N	14 26.1 +00.5	208 47.5 +02.1	S	22 32.0 +00.0	180 40.5 +02.2	S	21 52.7 +00.0	21			
22	89 58.5 +00.8	N	14 26.6 +00.6	223 49.6 +02.2	S	22 32.0 +00.0	195 42.7 +02.2	S	21 52.7 -00.1	22			
23	104 59.3 +00.8	N	14 27.2 +00.6	238 51.8 +02.1	S	22 32.0 +00.1	210 44.9 +02.2	S	21 52.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 326° 326° 326° 326° 326° 325°			SHA 099° 099° 099° 099° 099° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 16:00			Greenwich Culmination Time: 07:06			Greenwich Culmination Time: 08:59						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 42.6 +00.1	S	09 16.8 -01.0	218 24.7 -00.7	S	20 08.8 -00.4	287 21.8 -30.1	S	12 39.4 +10.1				
01	191 42.7 +00.1	S	09 15.8 -00.9	233 24.0 -00.6	S	20 08.4 -00.4	301 51.7 -30.0	S	12 49.5 +10.0				
02	206 42.8 +00.1	S	09 14.9 -00.9	248 23.4 -00.7	S	20 08.0 -00.3	316 21.7 -30.1	S	12 59.5 +09.9				
03	221 42.9 +00.1	S	09 14.0 -01.0	263 22.7 -00.6	S	20 07.7 -00.4	330 51.6 -30.1	S	13 09.4 +09.9				
04	236 43.0 +00.1	S	09 13.0 -00.9	278 22.1 -00.7	S	20 07.3 -00.3	345 21.5 -30.1	S	13 19.3 +09.7				
05	251 43.1 +00.1	S	09 12.1 -00.9	293 21.4 -00.6	S	20 07.0 -00.4	359 51.4 -30.0	S	13 29.0 +09.7				
06	266 43.2 +00.1	S	09 11.2 -00.9	308 20.8 -00.7	S	20 06.6 -00.4	14 21.4 -30.1	S	13 38.7 +09.6				
07	281 43.3 +00.1	S	09 10.3 -01.0	323 20.1 -00.7	S	20 06.2 -00.3	28 51.3 -30.1	S	13 48.3 +09.5				
08	296 43.4 +00.1	S	09 09.3 -00.9	338 19.4 -00.6	S	20 05.9 -00.4	43 21.2 -30.0	S	13 57.8 +09.5				
09	311 43.5 +00.1	S	09 08.4 -00.9	353 18.8 -00.7	S	20 05.5 -00.3	57 51.2 -30.1	S	14 07.3 +09.3				
10	326 43.6 +00.1	S	09 07.5 -01.0	8 18.1 -00.6	S	20 05.2 -00.4	72 21.1 -30.1	S	14 16.6 +09.3				
11	341 43.7 +00.1	S	09 06.5 -00.9	23 17.5 -00.7	S	20 04.8 -00.4	86 51.0 -30.0	S	14 25.9 +09.1				
12	356 43.8 +00.1	S	09 05.6 -00.9	38 16.8 -00.6	S	20 04.4 -00.3	101 21.0 -30.1	S	14 35.0 +09.1				
13	11 43.9 +00.1	S	09 04.7 -00.9	53 16.2 -00.7	S	20 04.1 -00.4	115 50.9 -30.1	S	14 44.1 +09.0				
14	26 44.0 +00.1	S	09 03.8 -01.0	68 15.5 -00.6	S	20 03.7 -00.4	130 20.8 -30.0	S	14 53.1 +08.9				
15	41 44.1 +00.1	S	09 02.8 -00.9	83 14.9 -00.7	S	20 03.3 -00.4	144 50.8 -30.1	S	15 02.0 +08.8				
16	56 44.2 +00.1	S	09 01.9 -00.9	98 14.2 -00.6	S	20 02.9 -00.3	159 20.7 -30.1	S	15 10.8 +08.8				
17	71 44.3 +00.1	S	09 01.0 -01.0	113 13.6 -00.7	S	20 02.6 -00.4	173 50.6 -30.0	S	15 19.6 +08.6				
18	86 44.4 +00.1	S	09 00.0 -00.9	128 12.9 -00.6	S	20 02.2 -00.4	188 20.6 -30.1	S	15 28.2 +08.6				
19	101 44.5 +00.1	S	08 59.1 -00.9	143 12.3 -00.7	S	20 01.8 -00.4	202 50.5 -30.1	S	15 36.8 +08.4				
20	116 44.6 +00.1	S	08 58.2 -01.0	158 11.6 -00.6	S	20 01.4 -00.3	217 20.4 -30.1	S	15 45.2 +08.4				
21	131 44.7 +00.1	S	08 57.2 -00.9	173 11.0 -00.7	S	20 01.1 -00.4	231 50.3 -30.0	S	15 53.6 +08.3				
22	146 44.8 +00.1	S	08 56.3 -00.9	188 10.3 -00.6	S	20 00.7 -00.4	246 20.3 -30.1	S	16 01.9 +08.1				
23	161 44.9 +00.1	S	08 55.4 -01.0	203 09.7 -00.7	S	20 00.3 -00.4	260 50.2 -30.1	S	16 10.0 +08.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'7 15'6 15'6 15'5 15'5 15'4						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'5 57'3 57'1 57'0 56'8 56'7						
	SHA 022° 022° 022° 022° 021° 021°			SHA 064° 064° 063° 063° 063° 063°			SHA 132° 130° 127° 125° 123° 121°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:26			Greenwich Culmination Time: 05:00						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120 00.1 +00.9	N	14 27.8 +00.6	253 53.9 +02.1	S	22 32.1 +00.0	225 47.1 +02.3	S	21 52.6 +00.0				
01	135 01.0 +00.8	N	14 28.4 +00.5	268 56.0 +02.1	S	22 32.1 +00.0	240 49.4 +02.2	S	21 52.6 -00.1				
02	150 01.8 +00.8	N	14 28.9 +00.6	283 58.1 +02.2	S	22 32.1 +00.0	255 51.6 +02.2	S	21 52.5 +00.0				
03	165 02.6 +00.8	N	14 29.5 +00.6	299 00.3 +02.1	S	22 32.1 +00.0	270 53.8 +02.2	S	21 52.5 +00.0				
04	180 03.4 +00.9	N	14 30.1 +00.6	314 02.4 +02.1	S	22 32.1 +00.0	285 56.0 +02.2	S	21 52.5 +00.0				
05	195 04.3 +00.8	N	14 30.7 +00.6	329 04.5 +02.1	S	22 32.1 +00.1	300 58.2 +02.3	S	21 52.5 -00.1				
06	210 05.1 +00.8	N	14 31.3 +00.5	344 06.6 +02.2	S	22 32.2 +00.0	316 00.5 +02.2	S	21 52.4 +00.0				
07	225 05.9 +00.9	N	14 31.8 +00.6	359 08.8 +02.1	S	22 32.2 +00.0	331 02.7 +02.2	S	21 52.4 +00.0				
08	240 06.8 +00.8	N	14 32.4 +00.6	14 10.9 +02.1	S	22 32.2 +00.0	346 04.9 +02.2	S	21 52.4 +00.0				
09	255 07.6 +00.8	N	14 33.0 +00.6	29 13.0 +02.1	S	22 32.2 +00.0	1 07.1 +02.3	S	21 52.4 -00.1				
10	270 08.4 +00.9	N	14 33.6 +00.5	44 15.1 +02.2	S	22 32.2 +00.1	16 09.4 +02.2	S	21 52.3 +00.0				
11	285 09.3 +00.8	N	14 34.1 +00.6	59 17.3 +02.1	S	22 32.3 +00.0	31 11.6 +02.2	S	21 52.3 +00.0				
12	300 10.1 +00.8	N	14 34.7 +00.6	74 19.4 +02.1	S	22 32.3 +00.0	46 13.8 +02.2	S	21 52.3 -00.1				
13	315 10.9 +00.9	N	14 35.3 +00.6	89 21.5 +02.1	S	22 32.3 +00.0	61 16.0 +02.2	S	21 52.2 +00.0				
14	330 11.8 +00.8	N	14 35.9 +00.5	104 23.6 +02.2	S	22 32.3 +00.0	76 18.2 +02.3	S	21 52.2 +00.0				
15	345 12.6 +00.8	N	14 36.4 +00.6	119 25.8 +02.1	S	22 32.3 +00.1	91 20.5 +02.2	S	21 52.2 +00.0				
16	0 13.4 +00.8	N	14 37.0 +00.6	134 27.9 +02.1	S	22 32.4 +00.0	106 22.7 +02.2	S	21 52.2 -00.1				
17	15 14.2 +00.9	N	14 37.6 +00.6	149 30.0 +02.2	S	22 32.4 +00.0	121 24.9 +02.2	S	21 52.1 +00.0				
18	30 15.1 +00.8	N	14 38.2 +00.5	164 32.2 +02.1	S	22 32.4 +00.0	136 27.1 +02.3	S	21 52.1 +00.0				
19	45 15.9 +00.8	N	14 38.7 +00.6	179 34.3 +02.1	S	22 32.4 +00.0	151 29.4 +02.2	S	21 52.1 +00.0				
20	60 16.7 +00.9	N	14 39.3 +00.6	194 36.4 +02.1	S	22 32.4 +00.1	166 31.6 +02.2	S	21 52.1 -00.1				
21	75 17.6 +00.8	N	14 39.9 +00.6	209 38.5 +02.2	S	22 32.5 +00.0	181 33.8 +02.2	S	21 52.0 +00.0				
22	90 18.4 +00.8	N	14 40.5 +00.5	224 40.7 +02.1	S	22 32.5 +00.0	196 36.0 +02.3	S	21 52.0 +00.0				
23	105 19.2 +00.8	N	14 41.0 +00.6	239 42.8 +02.1	S	22 32.5 +00.0	211 38.3 +02.2	S	21 52.0 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 325° 325° 325° 325° 325° 325°			SHA 099° 099° 099° 099° 099° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 15:59			Greenwich Culmination Time: 07:03			Greenwich Culmination Time: 08:55						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 45.0 +00.1	S	08 54.4 -00.9	218 09.0 -00.6	S	19 59.9 -00.3	275 20.1 -30.1	S	16 18.1 +08.0				
01	191 45.1 +00.1	S	08 53.5 -00.9	233 08.4 -00.7	S	19 59.6 -00.4	289 50.0 -30.1	S	16 26.1 +07.9				
02	206 45.2 +00.1	S	08 52.6 -00.9	248 07.7 -00.6	S	19 59.2 -00.4	304 19.9 -30.1	S	16 34.0 +07.8				
03	221 45.3 +00.1	S	08 51.7 -01.0	263 07.1 -00.7	S	19 58.8 -00.4	318 49.8 -30.1	S	16 41.8 +07.7				
04	236 45.4 +00.1	S	08 50.7 -00.9	278 06.4 -00.7	S	19 58.4 -00.4	333 19.7 -30.1	S	16 49.5 +07.7				
05	251 45.5 +00.1	S	08 49.8 -00.9	293 05.7 -00.6	S	19 58.0 -00.4	347 49.6 -30.1	S	16 57.2 +07.5				
06	266 45.6 +00.1	S	08 48.9 -01.0	308 05.1 -00.7	S	19 57.6 -00.3	2 19.5 -30.1	S	17 04.7 +07.4				
07	281 45.7 +00.1	S	08 47.9 -00.9	323 04.4 -00.6	S	19 57.3 -00.4	16 49.4 -30.1	S	17 12.1 +07.3				
08	296 45.8 +00.1	S	08 47.0 -01.0	338 03.8 -00.7	S	19 56.9 -00.4	31 19.3 -30.1	S	17 19.4 +07.3				
09	311 45.9 +00.1	S	08 46.0 -00.9	353 03.1 -00.6	S	19 56.5 -00.4	45 49.2 -30.1	S	17 26.7 +07.1				
10	326 46.0 +00.1	S	08 45.1 -00.9	8 02.5 -00.7	S	19 56.1 -00.4	60 19.1 -30.2	S	17 33.8 +07.0				
11	341 46.1 +00.1	S	08 44.2 -01.0	23 01.8 -00.6	S	19 55.7 -00.4	74 48.9 -30.1	S	17 40.8 +07.0				
12	356 46.2 +00.1	S	08 43.2 -00.9	38 01.2 -00.7	S	19 55.3 -00.4	89 18.8 -30.1	S	17 47.8 +06.8				
13	11 46.3 +00.1	S	08 42.3 -00.9	53 00.5 -00.6	S	19 54.9 -00.4	103 48.7 -30.1	S	17 54.6 +06.8				
14	26 46.4 +00.1	S	08 41.4 -01.0	67 59.9 -00.7	S	19 54.5 -00.4	118 18.6 -30.2	S	18 01.4 +06.6				
15	41 46.5 +00.1	S	08 40.4 -00.9	82 59.2 -00.6	S	19 54.1 -00.4	132 48.4 -30.1	S	18 08.0 +06.6				
16	56 46.6 +00.1	S	08 39.5 -00.9	97 58.6 -00.7	S	19 53.7 -00.3	147 18.3 -30.2	S	18 14.6 +06.4				
17	71 46.7 +00.1	S	08 38.6 -01.0	112 57.9 -00.6	S	19 53.4 -00.4	161 48.1 -30.1	S	18 21.0 +06.4				
18	86 46.8 +00.1	S	08 37.6 -00.9	127 57.3 -00.7	S	19 53.0 -00.4	176 18.0 -30.1	S	18 27.4 +06.2				
19	101 46.9 +00.1	S	08 36.7 -00.9	142 56.6 -00.6	S	19 52.6 -00.4	190 47.9 -30.2	S	18 33.6 +06.2				
20	116 47.0 +00.1	S	08 35.8 -01.0	157 56.0 -00.7	S	19 52.2 -00.4	205 17.7 -30.1	S	18 39.8 +06.0				
21	131 47.1 +00.2	S	08 34.8 -00.9	172 55.3 -00.6	S	19 51.8 -00.4	219 47.6 -30.2	S	18 45.8 +05.9				
22	146 47.3 +00.1	S	08 33.9 -01.0	187 54.7 -00.7	S	19 51.4 -00.4	234 17.4 -30.2	S	18 51.7 +05.9				
23	161 47.4 +00.1	S	08 32.9 -00.9	202 54.0 -00.6	S	19 51.0 -00.4	248 47.2 -30.1	S	18 57.6 +05.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'4 15'4 15'3 15'3 15'3 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'6 56'4 56'3 56'1 56'0 55'9						
	SHA 021° 021° 021° 021° 020° 020°			SHA 062° 062° 062° 062° 062° 061°			SHA 119° 117° 114° 112° 110° 108°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:27			Greenwich Culmination Time: 05:50						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	120 20.0 +00.9	N	14 41.6 +00.6	254 44.9 +02.2	S	22 32.5 +00.0	226 40.5 +02.2	S	21 51.9 +00.0				
01	135 20.9 +00.8	N	14 42.2 +00.5	269 47.1 +02.1	S	22 32.5 +00.1	241 42.7 +02.2	S	21 51.9 +00.0				
02	150 21.7 +00.8	N	14 42.7 +00.6	284 49.2 +02.1	S	22 32.6 +00.0	256 44.9 +02.3	S	21 51.9 +00.0				
03	165 22.5 +00.9	N	14 43.3 +00.6	299 51.3 +02.2	S	22 32.6 +00.0	271 47.2 +02.2	S	21 51.9 -00.1				
04	180 23.4 +00.8	N	14 43.9 +00.6	314 53.5 +02.1	S	22 32.6 +00.0	286 49.4 +02.2	S	21 51.8 +00.0				
05	195 24.2 +00.8	N	14 44.5 +00.5	329 55.6 +02.1	S	22 32.6 +00.0	301 51.6 +02.2	S	21 51.8 +00.0				
06	210 25.0 +00.8	N	14 45.0 +00.6	344 57.7 +02.1	S	22 32.6 +00.0	316 53.8 +02.3	S	21 51.8 +00.0				
07	225 25.8 +00.9	N	14 45.6 +00.6	359 59.8 +02.2	S	22 32.6 +00.1	331 56.1 +02.2	S	21 51.8 -00.1				
08	240 26.7 +00.8	N	14 46.2 +00.5	15 02.0 +02.1	S	22 32.7 +00.0	346 58.3 +02.2	S	21 51.7 +00.0				
09	255 27.5 +00.8	N	14 46.7 +00.6	30 04.1 +02.1	S	22 32.7 +00.0	2 00.5 +02.2	S	21 51.7 +00.0				
10	270 28.3 +00.9	N	14 47.3 +00.6	45 06.2 +02.2	S	22 32.7 +00.0	17 02.7 +02.3	S	21 51.7 -00.1				
11	285 29.2 +00.8	N	14 47.9 +00.6	60 08.4 +02.1	S	22 32.7 +00.0	32 05.0 +02.2	S	21 51.6 +00.0				
12	300 30.0 +00.8	N	14 48.5 +00.5	75 10.5 +02.1	S	22 32.7 +00.1	47 07.2 +02.2	S	21 51.6 +00.0				
13	315 30.8 +00.8	N	14 49.0 +00.6	90 12.6 +02.2	S	22 32.8 +00.0	62 09.4 +02.2	S	21 51.6 +00.0				
14	330 31.6 +00.9	N	14 49.6 +00.6	105 14.8 +02.1	S	22 32.8 +00.0	77 11.6 +02.3	S	21 51.6 -00.1				
15	345 32.5 +00.8	N	14 50.2 +00.5	120 16.9 +02.1	S	22 32.8 +00.0	92 13.9 +02.2	S	21 51.5 +00.0				
16	0 33.3 +00.8	N	14 50.7 +00.6	135 19.0 +02.2	S	22 32.8 +00.0	107 16.1 +02.2	S	21 51.5 +00.0				
17	15 34.1 +00.8	N	14 51.3 +00.6	150 21.2 +02.1	S	22 32.8 +00.1	122 18.3 +02.2	S	21 51.5 +00.0				
18	30 34.9 +00.9	N	14 51.9 +00.5	165 23.3 +02.1	S	22 32.9 +00.0	137 20.5 +02.3	S	21 51.5 -00.1				
19	45 35.8 +00.8	N	14 52.4 +00.6	180 25.4 +02.2	S	22 32.9 +00.0	152 22.8 +02.2	S	21 51.4 +00.0				
20	60 36.6 +00.8	N	14 53.0 +00.6	195 27.6 +02.1	S	22 32.9 +00.0	167 25.0 +02.2	S	21 51.4 +00.0				
21	75 37.4 +00.9	N	14 53.6 +00.5	210 29.7 +02.2	S	22 32.9 +00.0	182 27.2 +02.2	S	21 51.4 +00.0				
22	90 38.3 +00.8	N	14 54.1 +00.6	225 31.9 +02.1	S	22 32.9 +00.0	197 29.4 +02.3	S	21 51.4 -00.1				
23	105 39.1 +00.8	N	14 54.7 +00.6	240 34.0 +02.1	S	22 32.9 +00.1	212 31.7 +02.2	S	21 51.3 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 325° 325° 325° 324° 324° 324°			SHA 099° 099° 099° 099° 099° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 15:57			Greenwich Culmination Time: 07:00			Greenwich Culmination Time: 08:51						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 47.5 +00.1	S	08 32.0 -00.9	217 53.4 -00.7	S	19 50.6 -00.4	263 17.1 -30.2	S	19 03.3 +05.7	00										
01	191 47.6 +00.1	S	08 31.1 -01.0	232 52.7 -00.6	S	19 50.2 -00.4	277 46.9 -30.1	S	19 09.0 +05.5	01										
02	206 47.7 +00.1	S	08 30.1 -00.9	247 52.1 -00.6	S	19 49.8 -00.5	292 16.8 -30.2	S	19 14.5 +05.4	02										
03	221 47.8 +00.1	S	08 29.2 -00.9	262 51.5 -00.7	S	19 49.3 -00.4	306 46.6 -30.2	S	19 19.9 +05.4	03										
04	236 47.9 +00.1	S	08 28.3 -01.0	277 50.8 -00.6	S	19 48.9 -00.4	321 16.4 -30.1	S	19 25.3 +05.2	04										
05	251 48.0 +00.1	S	08 27.3 -00.9	292 50.2 -00.7	S	19 48.5 -00.4	335 46.3 -30.2	S	19 30.5 +05.1	05										
06	266 48.1 +00.1	S	08 26.4 -01.0	307 49.5 -00.6	S	19 48.1 -00.4	350 16.1 -30.2	S	19 35.6 +05.1	06										
07	281 48.2 +00.1	S	08 25.4 -00.9	322 48.9 -00.7	S	19 47.7 -00.4	4 45.9 -30.1	S	19 40.7 +04.9	07										
08	296 48.3 +00.1	S	08 24.5 -00.9	337 48.2 -00.6	S	19 47.3 -00.4	19 15.8 -30.2	S	19 45.6 +04.8	08										
09	311 48.4 +00.1	S	08 23.6 -01.0	352 47.6 -00.7	S	19 46.9 -00.4	33 45.6 -30.2	S	19 50.4 +04.7	09										
10	326 48.5 +00.2	S	08 22.6 -00.9	7 46.9 -00.6	S	19 46.5 -00.4	48 15.4 -30.2	S	19 55.1 +04.6	10										
11	341 48.7 +00.1	S	08 21.7 -01.0	22 46.3 -00.7	S	19 46.1 -00.4	62 45.2 -30.1	S	19 59.7 +04.5	11										
12	356 48.8 +00.1	S	08 20.7 -00.9	37 45.6 -00.6	S	19 45.7 -00.5	77 15.1 -30.2	S	20 04.2 +04.4	12										
13	11 48.9 +00.1	S	08 19.8 -00.9	52 45.0 -00.7	S	19 45.2 -00.4	91 44.9 -30.2	S	20 08.6 +04.3	13										
14	26 49.0 +00.1	S	08 18.9 -01.0	67 44.3 -00.6	S	19 44.8 -00.4	106 14.7 -30.1	S	20 12.9 +04.2	14										
15	41 49.1 +00.1	S	08 17.9 -00.9	82 43.7 -00.7	S	19 44.4 -00.4	120 44.6 -30.2	S	20 17.1 +04.1	15										
16	56 49.2 +00.1	S	08 17.0 -01.0	97 43.0 -00.6	S	19 44.0 -00.4	135 14.4 -30.2	S	20 21.2 +04.0	16										
17	71 49.3 +00.1	S	08 16.0 -00.9	112 42.4 -00.7	S	19 43.6 -00.4	149 44.2 -30.1	S	20 25.2 +03.9	17										
18	86 49.4 +00.1	S	08 15.1 -00.9	127 41.7 -00.6	S	19 43.2 -00.5	164 14.1 -30.2	S	20 29.1 +03.8	18										
19	101 49.5 +00.1	S	08 14.2 -01.0	142 41.1 -00.6	S	19 42.7 -00.4	178 43.9 -30.2	S	20 32.9 +03.6	19										
20	116 49.6 +00.2	S	08 13.2 -00.9	157 40.5 -00.7	S	19 42.3 -00.4	193 13.7 -30.1	S	20 36.5 +03.6	20										
21	131 49.8 +00.1	S	08 12.3 -01.0	172 39.8 -00.6	S	19 41.9 -00.4	207 43.6 -30.2	S	20 40.1 +03.5	21										
22	146 49.9 +00.1	S	08 11.3 -00.9	187 39.2 -00.7	S	19 41.5 -00.5	222 13.4 -30.1	S	20 43.6 +03.3	22										
23	161 50.0 +00.1	S	08 10.4 -01.0	202 38.5 -00.6	S	19 41.0 -00.4	236 43.3 -30.2	S	20 46.9 +03.3	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'2	15'2	15'1	15'1	15'1	15'0
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	55'8	55'6	55'5	55'4	55'3	55'2
SHA	020°	020°	020°	020°	020°	019°	SHA	061°	061°	061°	061°	060°	060°	SHA	106°	103°	101°	099°	097°	095°
Greenwich Culmination Time: 12:12							Greenwich Culmination Time: 09:28							Greenwich Culmination Time: 06:40						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	120 39.9 +00.8	N	14 55.3 +00.6	255 36.1 +02.2	S	22 33.0 +00.0	227 33.9 +02.2	S	21 51.3 +00.0	00										
01	135 40.7 +00.9	N	14 55.9 +00.5	270 38.3 +02.1	S	22 33.0 +00.0	242 36.1 +02.2	S	21 51.3 -00.1	01										
02	150 41.6 +00.8	N	14 56.4 +00.6	285 40.4 +02.1	S	22 33.0 +00.0	257 38.3 +02.3	S	21 51.2 +00.0	02										
03	165 42.4 +00.8	N	14 57.0 +00.6	300 42.5 +02.2	S	22 33.0 +00.0	272 40.6 +02.2	S	21 51.2 +00.0	03										
04	180 43.2 +00.8	N	14 57.6 +00.5	315 44.7 +02.1	S	22 33.0 +00.1	287 42.8 +02.2	S	21 51.2 +00.0	04										
05	195 44.0 +00.9	N	14 58.1 +00.6	330 46.8 +02.1	S	22 33.1 +00.0	302 45.0 +02.3	S	21 51.2 -00.1	05										
06	210 44.9 +00.8	N	14 58.7 +00.6	345 48.9 +02.2	S	22 33.1 +00.0	317 47.3 +02.2	S	21 51.1 +00.0	06										
07	225 45.7 +00.8	N	14 59.3 +00.5	0 51.1 +02.1	S	22 33.1 +00.0	332 49.5 +02.2	S	21 51.1 +00.0	07										
08	240 46.5 +00.8	N	14 59.8 +00.6	15 53.2 +02.2	S	22 33.1 +00.0	347 51.7 +02.2	S	21 51.1 +00.0	08										
09	255 47.3 +00.9	N	15 00.4 +00.6	30 55.4 +02.1	S	22 33.1 +00.0	2 53.9 +02.3	S	21 51.1 -00.1	09										
10	270 48.2 +00.8	N	15 01.0 +00.5	45 57.5 +02.1	S	22 33.1 +00.1	17 56.2 +02.2	S	21 51.0 +00.0	10										
11	285 49.0 +00.8	N	15 01.5 +00.6	60 59.6 +02.2	S	22 33.2 +00.0	32 58.4 +02.2	S	21 51.0 +00.0	11										
12	300 49.8 +00.8	N	15 02.1 +00.5	76 01.8 +02.1	S	22 33.2 +00.0	48 00.6 +02.2	S	21 51.0 -00.1	12										
13	315 50.6 +00.9	N	15 02.6 +00.6	91 03.9 +02.2	S	22 33.2 +00.0	63 02.8 +02.3	S	21 50.9 +00.0	13										
14	330 51.5 +00.8	N	15 03.2 +00.6	106 06.1 +02.1	S	22 33.2 +00.0	78 05.1 +02.2	S	21 50.9 +00.0	14										
15	345 52.3 +00.8	N	15 03.8 +00.5	121 08.2 +02.1	S	22 33.2 +00.1	93 07.3 +02.2	S	21 50.9 +00.0	15										
16	0 53.1 +00.8	N	15 04.3 +00.6	136 10.3 +02.2	S	22 33.3 +00.0	108 09.5 +02.3	S	21 50.9 -00.1	16										
17	15 53.9 +00.9	N	15 04.9 +00.6	151 12.5 +02.1	S	22 33.3 +00.0	123 11.8 +02.2	S	21 50.8 +00.0	17										
18	30 54.8 +00.8	N	15 05.5 +00.5	166 14.6 +02.2	S	22 33.3 +00.0	138 14.0 +02.2	S	21 50.8 +00.0	18										
19	45 55.6 +00.8	N	15 06.0 +00.6	181 16.8 +02.1	S	22 33.3 +00.0	153 16.2 +02.2	S	21 50.8 +00.0	19										
20	60 56.4 +00.8	N	15 06.6 +00.6	196 18.9 +02.1	S	22 33.3 +00.0	168 18.4 +02.3	S	21 50.8 -00.1	20										
21	75 57.2 +00.8	N	15 07.2 +00.5	211 21.0 +02.2	S	22 33.3 +00.1	183 20.7 +02.2	S	21 50.7 +00.0	21										
22	90 58.0 +00.9	N	15 07.7 +00.6	226 23.2 +02.1	S	22 33.4 +00.0	198 22.9 +02.2	S	21 50.7 +00.0	22										
23	105 58.9 +00.8	N	15 08.3 +00.6	241 25.3 +02.2	S	22 33.4 +00.0	213 25.1 +02.3	S	21 50.7 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	324°	324°	324°	324°	324°	324°	SHA	099°	099°	099°	099°	099°	099°	SHA	071°	071°	071°	071°	071°	071°
Greenwich Culmination Time: 15:56							Greenwich Culmination Time: 06:56							Greenwich Culmination Time: 08:48						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 50.1 +00.1	S	08 09.4 -00.9	217 37.9 -00.7	S	19 40.6 -00.4	251 13.1 -30.1	S	20 50.2 +03.1	00										
01	191 50.2 +00.1	S	08 08.5 -00.9	232 37.2 -00.6	S	19 40.2 -00.4	265 43.0 -30.1	S	20 53.3 +03.0	01										
02	206 50.3 +00.1	S	08 07.6 -01.0	247 36.6 -00.7	S	19 39.8 -00.5	280 12.9 -30.2	S	20 56.3 +03.0	02										
03	221 50.4 +00.1	S	08 06.6 -00.9	262 35.9 -00.6	S	19 39.3 -00.4	294 42.7 -30.1	S	20 59.3 +02.8	03										
04	236 50.5 +00.2	S	08 05.7 -01.0	277 35.3 -00.7	S	19 38.9 -00.4	309 12.6 -30.1	S	21 02.1 +02.7	04										
05	251 50.7 +00.1	S	08 04.7 -00.9	292 34.6 -00.6	S	19 38.5 -00.5	323 42.5 -30.1	S	21 04.8 +02.6	05										
06	266 50.8 +00.1	S	08 03.8 -01.0	307 34.0 -00.6	S	19 38.0 -00.4	338 12.4 -30.2	S	21 07.4 +02.5	06										
07	281 50.9 +00.1	S	08 02.8 -00.9	322 33.4 -00.7	S	19 37.6 -00.4	352 42.2 -30.1	S	21 09.9 +02.4	07										
08	296 51.0 +00.1	S	08 01.9 -00.9	337 32.7 -00.6	S	19 37.2 -00.5	7 12.1 -30.0	S	21 12.3 +02.3	08										
09	311 51.1 +00.1	S	08 01.0 -01.0	352 32.1 -00.7	S	19 36.7 -00.4	21 42.1 -30.1	S	21 14.6 +02.2	09										
10	326 51.2 +00.1	S	08 00.0 -00.9	7 31.4 -00.6	S	19 36.3 -00.4	36 12.0 -30.1	S	21 16.8 +02.1	10										
11	341 51.3 +00.2	S	07 59.1 -01.0	22 30.8 -00.7	S	19 35.9 -00.5	50 41.9 -30.1	S	21 18.9 +02.0	11										
12	356 51.5 +00.1	S	07 58.1 -00.9	37 30.1 -00.6	S	19 35.4 -00.4	65 11.8 -30.0	S	21 20.9 +01.9	12										
13	11 51.6 +00.1	S	07 57.2 -01.0	52 29.5 -00.6	S	19 35.0 -00.4	79 41.8 -30.1	S	21 22.8 +01.7	13										
14	26 51.7 +00.1	S	07 56.2 -00.9	67 28.9 -00.7	S	19 34.6 -00.5	94 11.7 -30.0	S	21 24.5 +01.7	14										
15	41 51.8 +00.1	S	07 55.3 -01.0	82 28.2 -00.6	S	19 34.1 -00.4	108 41.7 -30.1	S	21 26.2 +01.6	15										
16	56 51.9 +00.1	S	07 54.3 -00.9	97 27.6 -00.7	S	19 33.7 -00.5	123 11.6 -30.0	S	21 27.8 +01.4	16										
17	71 52.0 +00.1	S	07 53.4 -01.0	112 26.9 -00.6	S	19 33.2 -00.4	137 41.6 -30.0	S	21 29.2 +01.3	17										
18	86 52.1 +00.2	S	07 52.4 -00.9	127 26.3 -00.7	S	19 32.8 -00.5	152 11.6 -30.0	S	21 30.5 +01.3	18										
19	101 52.3 +00.1	S	07 51.5 -01.0	142 25.6 -00.6	S	19 32.3 -00.4	166 41.6 -30.0	S	21 31.8 +01.1	19										
20	116 52.4 +00.1	S	07 50.5 -00.9	157 25.0 -00.6	S	19 31.9 -00.4	181 11.6 -29.9	S	21 32.9 +01.0	20										
21	131 52.5 +00.1	S	07 49.6 -00.9	172 24.4 -00.7	S	19 31.5 -00.5	195 41.7 -30.0	S	21 33.9 +01.0	21										
22	146 52.6 +00.1	S	07 48.7 -01.0	187 23.7 -00.6	S	19 31.0 -00.4	210 11.7 -30.0	S	21 34.9 +00.8	22										
23	161 52.7 +00.1	S	07 47.7 -00.9	202 23.1 -00.7	S	19 30.6 -00.5	224 41.7 -29.9	S	21 35.7 +00.7	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP						
SHA	019°	019°	019°	019°	019°	018°	SHA	060°	060°	060°	059°	059°	059°	SHA						
Greenwich Culmination Time: 12:12							Greenwich Culmination Time: 09:29							Greenwich Culmination Time: 07:30						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	120 59.7 +00.8	N	15 08.9 +00.5	256 27.5 +02.1	S	22 33.4 +00.0	228 27.4 +02.2	S	21 50.7 -00.1	00										
01	136 00.5 +00.8	N	15 09.4 +00.6	271 29.6 +02.2	S	22 33.4 +00.0	243 29.6 +02.2	S	21 50.6 +00.0	01										
02	151 01.3 +00.9	N	15 10.0 +00.5	286 31.8 +02.1	S	22 33.4 +00.1	258 31.8 +02.3	S	21 50.6 +00.0	02										
03	166 02.2 +00.8	N	15 10.5 +00.6	301 33.9 +02.1	S	22 33.5 +00.0	273 34.1 +02.2	S	21 50.6 -00.1	03										
04	181 03.0 +00.8	N	15 11.1 +00.6	316 36.0 +02.2	S	22 33.5 +00.0	288 36.3 +02.2	S	21 50.5 +00.0	04										
05	196 03.8 +00.8	N	15 11.7 +00.5	331 38.2 +02.1	S	22 33.5 +00.0	303 38.5 +02.2	S	21 50.5 +00.0	05										
06	211 04.6 +00.8	N	15 12.2 +00.6	346 40.3 +02.2	S	22 33.5 +00.0	318 40.7 +02.3	S	21 50.5 +00.0	06										
07	226 05.4 +00.9	N	15 12.8 +00.5	1 42.5 +02.1	S	22 33.5 +00.0	333 43.0 +02.2	S	21 50.5 -00.1	07										
08	241 06.3 +00.8	N	15 13.3 +00.6	16 44.6 +02.2	S	22 33.5 +00.1	348 45.2 +02.2	S	21 50.4 +00.0	08										
09	256 07.1 +00.8	N	15 13.9 +00.6	31 46.8 +02.1	S	22 33.6 +00.0	3 47.4 +02.3	S	21 50.4 +00.0	09										
10	271 07.9 +00.8	N	15 14.5 +00.5	46 48.9 +02.2	S	22 33.6 +00.0	18 49.7 +02.2	S	21 50.4 +00.0	10										
11	286 08.7 +00.9	N	15 15.0 +00.6	61 51.1 +02.1	S	22 33.6 +00.0	33 51.9 +02.2	S	21 50.4 -00.1	11										
12	301 09.6 +00.8	N	15 15.6 +00.6	76 53.2 +02.1	S	22 33.6 +00.0	48 54.1 +02.3	S	21 50.3 +00.0	12										
13	316 10.4 +00.8	N	15 16.2 +00.5	91 55.3 +02.2	S	22 33.6 +00.0	63 56.4 +02.2	S	21 50.3 +00.0	13										
14	331 11.2 +00.8	N	15 16.7 +00.6	106 57.5 +02.1	S	22 33.6 +00.1	78 58.6 +02.2	S	21 50.3 +00.0	14										
15	346 12.0 +00.8	N	15 17.3 +00.5	121 59.6 +02.2	S	22 33.7 +00.0	94 00.8 +02.2	S	21 50.3 -00.1	15										
16	1 12.8 +00.9	N	15 17.8 +00.6	137 01.8 +02.1	S	22 33.7 +00.0	109 03.0 +02.3	S	21 50.2 +00.0	16										
17	16 13.7 +00.8	N	15 18.4 +00.5	152 03.9 +02.2	S	22 33.7 +00.0	124 05.3 +02.2	S	21 50.2 +00.0	17										
18	31 14.5 +00.8	N	15 18.9 +00.6	167 06.1 +02.1	S	22 33.7 +00.0	139 07.5 +02.2	S	21 50.2 -00.1	18										
19	46 15.3 +00.8	N	15 19.5 +00.6	182 08.2 +02.2	S	22 33.7 +00.1	154 09.7 +02.3	S	21 50.1 +00.0	19										
20	61 16.1 +00.8	N	15 20.1 +00.5	197 10.4 +02.1	S	22 33.8 +00.0	169 12.0 +02.2	S	21 50.1 +00.0	20										
21	76 16.9 +00.9	N	15 20.6 +00.6	212 12.5 +02.2	S	22 33.8 +00.0	184 14.2 +02.2	S	21 50.1 +00.0	21										
22	91 17.8 +00.8	N	15 21.2 +00.5	227 14.7 +02.1	S	22 33.8 +00.0	199 16.4 +02.3	S	21 50.1 -00.1	22										
23	106 18.6 +00.8	N	15 21.7 +00.6	242 16.8 +02.2	S	22 33.8 +00.0	214 18.7 +02.2	S	21 50.0 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP						
SHA	323°	323°	323°	323°	323°	323°	SHA	099°	099°	099°	099°	099°	099°	SHA						
Greenwich Culmination Time: 15:55							Greenwich Culmination Time: 06:53							Greenwich Culmination Time: 08:44						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 52.8 +00.2	S	07 46.8 -01.0	217 22.4 -00.6	S	19 30.1 -00.4	239 11.8 -29.9	S	21 36.4 +00.6	00			
01	191 53.0 +00.1	S	07 45.8 -00.9	232 21.8 -00.7	S	19 29.7 -00.5	253 41.9 -29.9	S	21 37.0 +00.5	01			
02	206 53.1 +00.1	S	07 44.9 -01.0	247 21.1 -00.6	S	19 29.2 -00.4	268 12.0 -29.9	S	21 37.5 +00.4	02			
03	221 53.2 +00.1	S	07 43.9 -00.9	262 20.5 -00.6	S	19 28.8 -00.5	282 42.1 -29.9	S	21 37.9 +00.3	03			
04	236 53.3 +00.1	S	07 43.0 -01.0	277 19.9 -00.7	S	19 28.3 -00.4	297 12.2 -29.8	S	21 38.2 +00.2	04			
05	251 53.4 +00.2	S	07 42.0 -00.9	292 19.2 -00.6	S	19 27.9 -00.5	311 42.4 -29.9	S	21 38.4 +00.1	05			
06	266 53.6 +00.1	S	07 41.1 -01.0	307 18.6 -00.7	S	19 27.4 -00.5	326 12.5 -29.8	S	21 38.5 -00.1	06			
07	281 53.7 +00.1	S	07 40.1 -00.9	322 17.9 -00.6	S	19 26.9 -00.4	340 42.7 -29.8	S	21 38.4 -00.1	07			
08	296 53.8 +00.1	S	07 39.2 -01.0	337 17.3 -00.6	S	19 26.5 -00.5	355 12.9 -29.8	S	21 38.3 -00.2	08			
09	311 53.9 +00.1	S	07 38.2 -00.9	352 16.7 -00.7	S	19 26.0 -00.4	9 43.1 -29.7	S	21 38.1 -00.3	09			
10	326 54.0 +00.1	S	07 37.3 -01.0	7 16.0 -00.6	S	19 25.6 -00.5	24 13.4 -29.8	S	21 37.8 -00.5	10			
11	341 54.1 +00.2	S	07 36.3 -00.9	22 15.4 -00.7	S	19 25.1 -00.5	38 43.6 -29.7	S	21 37.3 -00.5	11			
12	356 54.3 +00.1	S	07 35.4 -01.0	37 14.7 -00.6	S	19 24.6 -00.4	53 13.9 -29.7	S	21 36.8 -00.7	12			
13	11 54.4 +00.1	S	07 34.4 -00.9	52 14.1 -00.6	S	19 24.2 -00.5	67 44.2 -29.7	S	21 36.1 -00.7	13			
14	26 54.5 +00.1	S	07 33.5 -01.0	67 13.5 -00.7	S	19 23.7 -00.4	82 14.5 -29.7	S	21 35.4 -00.9	14			
15	41 54.6 +00.1	S	07 32.5 -00.9	82 12.8 -00.6	S	19 23.3 -00.5	96 44.8 -29.6	S	21 34.5 -00.9	15			
16	56 54.7 +00.2	S	07 31.6 -01.0	97 12.2 -00.6	S	19 22.8 -00.5	111 15.2 -29.7	S	21 33.6 -01.1	16			
17	71 54.9 +00.1	S	07 30.6 -00.9	112 11.6 -00.7	S	19 22.3 -00.4	125 45.5 -29.6	S	21 32.5 -01.1	17			
18	86 55.0 +00.1	S	07 29.7 -01.0	127 10.9 -00.6	S	19 21.9 -00.5	140 15.9 -29.6	S	21 31.4 -01.3	18			
19	101 55.1 +00.1	S	07 28.7 -00.9	142 10.3 -00.7	S	19 21.4 -00.5	154 46.3 -29.5	S	21 30.1 -01.3	19			
20	116 55.2 +00.2	S	07 27.8 -01.0	157 9.6 -00.6	S	19 20.9 -00.4	169 16.8 -29.5	S	21 28.8 -01.5	20			
21	131 55.4 +00.1	S	07 26.8 -00.9	172 9.0 -00.6	S	19 20.5 -00.5	183 47.3 -29.6	S	21 27.3 -01.5	21			
22	146 55.5 +00.1	S	07 25.9 -01.0	187 08.4 -00.7	S	19 20.0 -00.5	198 17.7 -29.5	S	21 25.8 -01.7	22			
23	161 55.6 +00.1	S	07 24.9 -00.9	202 07.7 -00.6	S	19 19.5 -00.5	212 48.2 -29.4	S	21 24.1 -01.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 14'9 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'6 54'5 54'5 54'4 54'4 54'3						
	SHA 018° 018° 018° 018° 018° 018°			SHA 059° 059° 058° 058° 058° 058°			SHA 080° 077° 075° 073° 071° 069°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:30			Greenwich Culmination Time: 08:19						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 19.4 +00.8	N	15 22.3 +00.6	257 19.0 +02.1	S	22 33.8 +00.0	229 20.9 +02.2	S	21 50.0 +00.0	00			
01	136 20.2 +00.8	N	15 22.9 +00.5	272 21.1 +02.2	S	22 33.8 +00.1	244 23.1 +02.3	S	21 50.0 +00.0	01			
02	151 21.0 +00.9	N	15 23.4 +00.6	287 23.3 +02.1	S	22 33.9 +00.0	259 25.4 +02.2	S	21 50.0 -00.1	02			
03	166 21.9 +00.8	N	15 24.0 +00.5	302 25.4 +02.2	S	22 33.9 +00.0	274 27.6 +02.2	S	21 49.9 +00.0	03			
04	181 22.7 +00.8	N	15 24.5 +00.6	317 27.6 +02.1	S	22 33.9 +00.0	289 29.8 +02.3	S	21 49.9 +00.0	04			
05	196 23.5 +00.8	N	15 25.1 +00.5	332 29.7 +02.2	S	22 33.9 +00.0	304 32.1 +02.2	S	21 49.9 +00.0	05			
06	211 24.3 +00.8	N	15 25.6 +00.6	347 31.9 +02.1	S	22 33.9 +00.0	319 34.3 +02.2	S	21 49.9 -00.1	06			
07	226 25.1 +00.9	N	15 26.2 +00.6	2 34.0 +02.2	S	22 33.9 +00.1	334 36.5 +02.3	S	21 49.8 +00.0	07			
08	241 26.0 +00.8	N	15 26.8 +00.5	17 36.2 +02.1	S	22 34.0 +00.0	349 38.8 +02.2	S	21 49.8 +00.0	08			
09	256 26.8 +00.8	N	15 27.3 +00.6	32 38.3 +02.2	S	22 34.0 +00.0	4 41.0 +02.2	S	21 49.8 -00.1	09			
10	271 27.6 +00.8	N	15 27.9 +00.5	47 40.5 +02.1	S	22 34.0 +00.0	19 43.2 +02.3	S	21 49.7 +00.0	10			
11	286 28.4 +00.8	N	15 28.4 +00.6	62 42.6 +02.2	S	22 34.0 +00.0	34 45.5 +02.2	S	21 49.7 +00.0	11			
12	301 29.2 +00.9	N	15 29.0 +00.5	77 44.8 +02.1	S	22 34.0 +00.0	49 47.7 +02.2	S	21 49.7 +00.0	12			
13	316 30.1 +00.8	N	15 29.5 +00.6	92 46.9 +02.2	S	22 34.0 +00.1	64 49.9 +02.3	S	21 49.7 -00.1	13			
14	331 30.9 +00.8	N	15 30.1 +00.5	107 49.1 +02.1	S	22 34.1 +00.0	79 52.2 +02.2	S	21 49.6 +00.0	14			
15	346 31.7 +00.8	N	15 30.6 +00.6	122 51.2 +02.2	S	22 34.1 +00.0	94 54.4 +02.2	S	21 49.6 +00.0	15			
16	1 32.5 +00.8	N	15 31.2 +00.5	137 53.4 +02.1	S	22 34.1 +00.0	109 56.6 +02.3	S	21 49.6 +00.0	16			
17	16 33.3 +00.8	N	15 31.7 +00.6	152 55.5 +02.2	S	22 34.1 +00.0	124 58.9 +02.2	S	21 49.6 -00.1	17			
18	31 34.1 +00.9	N	15 32.3 +00.6	167 57.7 +02.2	S	22 34.1 +00.0	140 01.1 +02.2	S	21 49.5 +00.0	18			
19	46 35.0 +00.8	N	15 32.9 +00.5	182 59.9 +02.1	S	22 34.1 +00.1	155 03.3 +02.3	S	21 49.5 +00.0	19			
20	61 35.8 +00.8	N	15 33.4 +00.6	198 02.0 +02.2	S	22 34.2 +00.0	170 05.6 +02.2	S	21 49.5 +00.0	20			
21	76 36.6 +00.8	N	15 34.0 +00.5	213 04.2 +02.1	S	22 34.2 +00.0	185 07.8 +02.2	S	21 49.5 -00.1	21			
22	91 37.4 +00.8	N	15 34.5 +00.6	228 06.3 +02.2	S	22 34.2 +00.0	200 10.0 +02.3	S	21 49.4 +00.0	22			
23	106 38.2 +00.9	N	15 35.1 +00.5	243 08.5 +02.1	S	22 34.2 +00.0	215 12.3 +02.2	S	21 49.4 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 323° 323° 323° 322° 322° 322°			SHA 099° 099° 099° 099° 099° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 15:53			Greenwich Culmination Time: 06:49			Greenwich Culmination Time: 08:41						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 55.7 +00.1	S	07 24.0 -01.0	217 07.1 -00.6	S	19 19.0 -00.4	227 18.8 -29.5	S	21 22.3 -01.8	00			
01	191 55.8 +00.2	S	07 23.0 -00.9	232 06.5 -00.7	S	19 18.6 -00.5	241 49.3 -29.4	S	21 20.5 -02.0	01			
02	206 56.0 +00.1	S	07 22.1 -01.0	247 05.8 -00.6	S	19 18.1 -00.5	256 19.9 -29.4	S	21 18.5 -02.1	02			
03	221 56.1 +00.1	S	07 21.1 -00.9	262 05.2 -00.7	S	19 17.6 -00.4	270 50.5 -29.3	S	21 16.4 -02.1	03			
04	236 56.2 +00.1	S	07 20.2 -01.0	277 04.5 -00.6	S	19 17.2 -00.5	285 21.2 -29.4	S	21 14.3 -02.3	04			
05	251 56.3 +00.2	S	07 19.2 -01.0	292 03.9 -00.6	S	19 16.7 -00.5	299 51.8 -29.3	S	21 12.0 -02.3	05			
06	266 56.5 +00.1	S	07 18.2 -00.9	307 03.3 -00.7	S	19 16.2 -00.5	314 22.5 -29.2	S	21 09.7 -02.5	06			
07	281 56.6 +00.1	S	07 17.3 -01.0	322 02.6 -00.6	S	19 15.7 -00.5	328 53.3 -29.3	S	21 07.2 -02.5	07			
08	296 56.7 +00.1	S	07 16.3 -00.9	337 02.0 -00.6	S	19 15.2 -00.4	343 24.0 -29.2	S	21 04.7 -02.7	08			
09	311 56.8 +00.2	S	07 15.4 -01.0	352 01.4 -00.7	S	19 14.8 -00.5	357 54.8 -29.2	S	21 02.0 -02.7	09			
10	326 57.0 +00.1	S	07 14.4 -00.9	7 00.7 -00.6	S	19 14.3 -00.5	12 25.6 -29.2	S	20 59.3 -02.9	10			
11	341 57.1 +00.1	S	07 13.5 -01.0	22 00.1 -00.6	S	19 13.8 -00.5	26 56.4 -29.1	S	20 56.4 -02.9	11			
12	356 57.2 +00.1	S	07 12.5 -00.9	36 59.5 -00.7	S	19 13.3 -00.5	41 27.3 -29.2	S	20 53.5 -03.1	12			
13	11 57.3 +00.2	S	07 11.6 -01.0	51 58.8 -00.6	S	19 12.8 -00.5	55 58.1 -29.0	S	20 50.4 -03.1	13			
14	26 57.5 +00.1	S	07 10.6 -00.9	66 58.2 -00.6	S	19 12.3 -00.4	70 29.1 -29.1	S	20 47.3 -03.2	14			
15	41 57.6 +00.1	S	07 09.7 -01.0	81 57.6 -00.7	S	19 11.9 -00.5	85 00.0 -29.0	S	20 44.1 -03.3	15			
16	56 57.7 +00.1	S	07 08.7 -01.0	96 56.9 -00.6	S	19 11.4 -00.5	99 31.0 -29.0	S	20 40.8 -03.5	16			
17	71 57.8 +00.2	S	07 07.7 -00.9	111 56.3 -00.6	S	19 10.9 -00.5	114 02.0 -29.0	S	20 37.3 -03.5	17			
18	86 58.0 +00.1	S	07 06.8 -01.0	126 55.7 -00.7	S	19 10.4 -00.5	128 33.0 -28.9	S	20 33.8 -03.6	18			
19	101 58.1 +00.1	S	07 05.8 -00.9	141 55.0 -00.6	S	19 09.9 -00.5	143 04.1 -28.9	S	20 30.2 -03.7	19			
20	116 58.2 +00.1	S	07 04.9 -01.0	156 54.4 -00.6	S	19 09.4 -00.5	157 35.2 -28.9	S	20 26.5 -03.8	20			
21	131 58.3 +00.2	S	07 03.9 -00.9	171 53.8 -00.7	S	19 08.9 -00.5	172 06.3 -28.8	S	20 22.7 -03.9	21			
22	146 58.5 +00.1	S	07 03.0 -01.0	186 53.1 -00.6	S	19 08.4 -00.5	186 37.5 -28.8	S	20 18.8 -03.9	22			
23	161 58.6 +00.1	S	07 02.0 -00.9	201 52.5 -00.6	S	19 07.9 -00.5	201 08.7 -28.8	S	20 14.9 -04.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'8 14'8 14'8 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'3 54'2 54'2 54'1 54'1 54'1						
	SHA 017° 017° 017° 017° 017° 017°			SHA 058° 057° 057° 057° 057° 056°			SHA 067° 065° 063° 060° 058° 056°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:31			Greenwich Culmination Time: 09:08						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 39.1 +00.8	N	15 35.6 +00.6	258 10.6 +02.2	S	22 34.2 +00.0	230 14.5 +02.3	S	21 49.4 -00.1	00			
01	136 39.9 +00.8	N	15 36.2 +00.5	273 12.8 +02.1	S	22 34.2 +00.1	245 16.8 +02.2	S	21 49.3 +00.0	01			
02	151 40.7 +00.8	N	15 36.7 +00.6	288 14.9 +02.2	S	22 34.3 +00.0	260 19.0 +02.2	S	21 49.3 +00.0	02			
03	166 41.5 +00.8	N	15 37.3 +00.5	303 17.1 +02.2	S	22 34.3 +00.0	275 21.2 +02.3	S	21 49.3 +00.0	03			
04	181 42.3 +00.8	N	15 37.8 +00.6	318 19.3 +02.1	S	22 34.3 +00.0	290 23.5 +02.2	S	21 49.3 -00.1	04			
05	196 43.1 +00.9	N	15 38.4 +00.5	333 21.4 +02.2	S	22 34.3 +00.0	305 25.7 +02.2	S	21 49.2 +00.0	05			
06	211 44.0 +00.8	N	15 38.9 +00.6	348 23.6 +02.1	S	22 34.3 +00.0	320 27.9 +02.3	S	21 49.2 +00.0	06			
07	226 44.8 +00.8	N	15 39.5 +00.5	3 25.7 +02.2	S	22 34.3 +00.1	335 30.2 +02.2	S	21 49.2 +00.0	07			
08	241 45.6 +00.8	N	15 40.0 +00.6	18 27.9 +02.1	S	22 34.4 +00.0	350 32.4 +02.2	S	21 49.2 -00.1	08			
09	256 46.4 +00.8	N	15 40.6 +00.5	33 30.0 +02.2	S	22 34.4 +00.0	5 34.6 +02.3	S	21 49.1 +00.0	09			
10	271 47.2 +00.8	N	15 41.1 +00.6	48 32.2 +02.2	S	22 34.4 +00.0	20 36.9 +02.2	S	21 49.1 +00.0	10			
11	286 48.0 +00.8	N	15 41.7 +00.5	63 34.4 +02.1	S	22 34.4 +00.0	35 39.1 +02.2	S	21 49.1 +00.0	11			
12	301 48.8 +00.9	N	15 42.2 +00.6	78 36.5 +02.2	S	22 34.4 +00.0	50 41.3 +02.3	S	21 49.1 -00.1	12			
13	316 49.7 +00.8	N	15 42.8 +00.5	93 38.7 +02.1	S	22 34.4 +00.1	65 43.6 +02.2	S	21 49.0 +00.0	13			
14	331 50.5 +00.8	N	15 43.3 +00.6	108 40.8 +02.2	S	22 34.5 +00.0	80 45.8 +02.3	S	21 49.0 +00.0	14			
15	346 51.3 +00.8	N	15 43.9 +00.5	123 43.0 +02.2	S	22 34.5 +00.0	95 48.1 +02.2	S	21 49.0 +00.0	15			
16	1 52.1 +00.8	N	15 44.4 +00.6	138 45.2 +02.1	S	22 34.5 +00.0	110 50.3 +02.2	S	21 49.0 -00.1	16			
17	16 52.9 +00.8	N	15 45.0 +00.5	153 47.3 +02.2	S	22 34.5 +00.0	125 52.5 +02.3	S	21 48.9 +00.0	17			
18	31 53.7 +00.9	N	15 45.5 +00.6	168 49.5 +02.1	S	22 34.5 +00.0	140 54.8 +02.2	S	21 48.9 +00.0	18			
19	46 54.6 +00.8	N	15 46.1 +00.5	183 51.6 +02.2	S	22 34.5 +00.0	155 57.0 +02.2	S	21 48.9 -00.1	19			
20	61 55.4 +00.8	N	15 46.6 +00.6	198 53.8 +02.2	S	22 34.5 +00.1	170 59.2 +02.3	S	21 48.8 +00.0	20			
21	76 56.2 +00.8	N	15 47.2 +00.5	213 56.0 +02.1	S	22 34.6 +00.0	186 01.5 +02.2	S	21 48.8 +00.0	21			
22	91 57.0 +00.8	N	15 47.7 +00.6	228 58.1 +02.2	S	22 34.6 +00.0	201 03.7 +02.3	S	21 48.8 +00.0	22			
23	106 57.8 +00.8	N	15 48.3 +00.5	244 00.3 +02.1	S	22 34.6 +00.0	216 06.0 +02.2	S	21 48.8 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 322° 322° 322° 322° 322° 322°			SHA 099° 099° 099° 099° 099° 099°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 15:52			Greenwich Culmination Time: 06:46			Greenwich Culmination Time: 08:37						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 58.7 +00.2	S	07 01.1 -01.0	216 51.9 -00.7	S	19 07.4 -00.5	215 39.9 -28.7	S	20 10.8 -04.2	00			
01	191 58.9 +00.1	S	07 00.1 -01.0	231 51.2 -00.6	S	19 06.9 -00.5	230 11.2 -28.7	S	20 06.6 -04.2	01			
02	206 59.0 +00.1	S	06 59.1 -00.9	246 50.6 -00.6	S	19 06.4 -00.5	244 42.5 -28.7	S	20 02.4 -04.4	02			
03	221 59.1 +00.1	S	06 58.2 -01.0	261 50.0 -00.7	S	19 05.9 -00.5	259 13.8 -28.6	S	19 58.0 -04.4	03			
04	236 59.2 +00.2	S	06 57.2 -00.9	276 49.3 -00.6	S	19 05.4 -00.4	273 45.2 -28.6	S	19 53.6 -04.5	04			
05	251 59.4 +00.1	S	06 56.3 -01.0	291 48.7 -00.6	S	19 05.0 -00.6	288 16.6 -28.6	S	19 49.1 -04.6	05			
06	266 59.5 +00.1	S	06 55.3 -00.9	306 48.1 -00.7	S	19 04.4 -00.5	302 48.0 -28.5	S	19 44.5 -04.7	06			
07	281 59.6 +00.2	S	06 54.4 -01.0	321 47.4 -00.6	S	19 03.9 -00.5	317 19.5 -28.5	S	19 39.8 -04.8	07			
08	296 59.8 +00.1	S	06 53.4 -01.0	336 46.8 -00.6	S	19 03.4 -00.5	331 51.0 -28.5	S	19 35.0 -04.9	08			
09	311 59.9 +00.1	S	06 52.4 -00.9	351 46.2 -00.7	S	19 02.9 -00.5	346 22.5 -28.4	S	19 30.1 -05.0	09			
10	327 00.0 +00.1	S	06 51.5 -01.0	6 45.5 -00.6	S	19 02.4 -00.5	0 54.1 -28.4	S	19 25.1 -05.0	10			
11	342 00.1 +00.2	S	06 50.5 -00.9	21 44.9 -00.6	S	19 01.9 -00.5	15 25.7 -28.4	S	19 20.1 -05.2	11			
12	357 00.3 +00.1	S	06 49.6 -01.0	36 44.3 -00.6	S	19 01.4 -00.5	29 57.3 -28.3	S	19 14.9 -05.2	12			
13	12 00.4 +00.1	S	06 48.6 -01.0	51 43.7 -00.7	S	19 00.9 -00.5	44 29.0 -28.3	S	19 09.7 -05.3	13			
14	27 00.5 +00.2	S	06 47.6 -00.9	66 43.0 -00.6	S	19 00.4 -00.5	59 00.7 -28.3	S	19 04.4 -05.4	14			
15	42 00.7 +00.1	S	06 46.7 -01.0	81 42.4 -00.6	S	18 59.9 -00.5	73 32.4 -28.2	S	18 59.0 -05.5	15			
16	57 00.8 +00.1	S	06 45.7 -00.9	96 41.8 -00.7	S	18 59.4 -00.5	88 04.2 -28.2	S	18 53.5 -05.5	16			
17	72 00.9 +00.2	S	06 44.8 -01.0	111 41.1 -00.6	S	18 58.9 -00.5	102 36.0 -28.2	S	18 48.0 -05.7	17			
18	87 01.1 +00.1	S	06 43.8 -01.0	126 40.5 -00.6	S	18 58.4 -00.5	117 07.8 -28.1	S	18 42.3 -05.7	18			
19	102 01.2 +00.1	S	06 42.8 -00.9	141 39.9 -00.6	S	18 57.9 -00.6	131 39.7 -28.1	S	18 36.6 -05.8	19			
20	117 01.3 +00.1	S	06 41.9 -01.0	156 39.3 -00.7	S	18 57.3 -00.5	146 11.6 -28.0	S	18 30.8 -05.9	20			
21	132 01.4 +00.2	S	06 40.9 -00.9	171 38.6 -00.6	S	18 56.8 -00.5	160 43.6 -28.0	S	18 24.9 -06.0	21			
22	147 01.6 +00.1	S	06 40.0 -01.0	186 38.0 -00.6	S	18 56.3 -00.5	175 15.6 -28.0	S	18 18.9 -06.0	22			
23	162 01.7 +00.1	S	06 39.0 -01.0	201 37.4 -00.6	S	18 55.8 -00.5	189 47.6 -27.9	S	18 12.9 -06.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'0 54'0 54'0 54'0 54'0 53'9						
	SHA 016° 016° 016° 016° 016° 016°			SHA 056° 056° 056° 056° 055° 055°			SHA 054° 052° 050° 048° 046° 044°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:32			Greenwich Culmination Time: 09:56						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	121 58.6 +00.8	N	15 48.8 +00.6	259 02.4 +02.2	S	22 34.6 +00.0	231 08.2 +02.2	S	21 48.7 +00.0	00			
01	136 59.4 +00.9	N	15 49.4 +00.5	274 04.6 +02.2	S	22 34.6 +00.0	246 10.4 +02.3	S	21 48.7 +00.0	01			
02	152 00.3 +00.8	N	15 49.9 +00.6	289 06.8 +02.1	S	22 34.6 +00.1	261 12.7 +02.2	S	21 48.7 +00.0	02			
03	167 01.1 +00.8	N	15 50.5 +00.5	304 08.9 +02.2	S	22 34.7 +00.0	276 14.9 +02.3	S	21 48.7 -00.1	03			
04	182 01.9 +00.8	N	15 51.0 +00.5	319 11.1 +02.2	S	22 34.7 +00.0	291 17.2 +02.2	S	21 48.6 +00.0	04			
05	197 02.7 +00.8	N	15 51.5 +00.6	334 13.3 +02.1	S	22 34.7 +00.0	306 19.4 +02.2	S	21 48.6 +00.0	05			
06	212 03.5 +00.8	N	15 52.1 +00.5	349 15.4 +02.2	S	22 34.7 +00.0	321 21.6 +02.3	S	21 48.6 +00.0	06			
07	227 04.3 +00.8	N	15 52.6 +00.6	4 17.6 +02.1	S	22 34.7 +00.0	336 23.9 +02.2	S	21 48.6 -00.1	07			
08	242 05.1 +00.8	N	15 53.2 +00.5	19 19.7 +02.2	S	22 34.7 +00.1	351 26.1 +02.2	S	21 48.5 +00.0	08			
09	257 05.9 +00.9	N	15 53.7 +00.6	34 21.9 +02.2	S	22 34.8 +00.0	6 28.3 +02.3	S	21 48.5 +00.0	09			
10	272 06.8 +00.8	N	15 54.3 +00.5	49 24.1 +02.1	S	22 34.8 +00.0	21 30.6 +02.2	S	21 48.5 +00.0	10			
11	287 07.6 +00.8	N	15 54.8 +00.6	64 26.2 +02.2	S	22 34.8 +00.0	36 32.8 +02.3	S	21 48.5 -00.1	11			
12	302 08.4 +00.8	N	15 55.4 +00.5	79 28.4 +02.2	S	22 34.8 +00.0	51 35.1 +02.2	S	21 48.4 +00.0	12			
13	317 09.2 +00.8	N	15 55.9 +00.6	94 30.6 +02.1	S	22 34.8 +00.0	66 37.3 +02.2	S	21 48.4 +00.0	13			
14	332 10.0 +00.8	N	15 56.5 +00.5	109 32.7 +02.2	S	22 34.8 +00.0	81 39.5 +02.3	S	21 48.4 +00.0	14			
15	347 10.8 +00.8	N	15 57.0 +00.5	124 34.9 +02.2	S	22 34.8 +00.1	96 41.8 +02.2	S	21 48.4 -00.1	15			
16	2 11.6 +00.8	N	15 57.5 +00.6	139 37.1 +02.1	S	22 34.9 +00.0	111 44.0 +02.3	S	21 48.3 +00.0	16			
17	17 12.4 +00.9	N	15 58.1 +00.5	154 39.2 +02.2	S	22 34.9 +00.0	126 46.3 +02.2	S	21 48.3 +00.0	17			
18	32 13.3 +00.8	N	15 58.6 +00.6	169 41.4 +02.2	S	22 34.9 +00.0	141 48.5 +02.2	S	21 48.3 -00.1	18			
19	47 14.1 +00.8	N	15 59.2 +00.5	184 43.6 +02.1	S	22 34.9 +00.0	156 50.7 +02.3	S	21 48.2 +00.0	19			
20	62 14.9 +00.8	N	15 59.7 +00.6	199 45.7 +02.2	S	22 34.9 +00.0	171 53.0 +02.2	S	21 48.2 +00.0	20			
21	77 15.7 +00.8	N	16 00.3 +00.5	214 47.9 +02.2	S	22 34.9 +00.1	186 55.2 +02.3	S	21 48.2 +00.0	21			
22	92 16.5 +00.8	N	16 00.8 +00.5	229 50.1 +02.1	S	22 35.0 +00.0	201 57.5 +02.2	S	21 48.2 -00.1	22			
23	107 17.3 +00.8	N	16 01.3 +00.6	244 52.2 +02.2	S	22 35.0 +00.0	216 59.7 +02.2	S	21 48.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 321° 321° 321° 321° 321° 321°			SHA 099° 099° 099° 098° 098° 098°			SHA 071° 071° 071° 071° 071° 071°						
	Greenwich Culmination Time: 15:51			Greenwich Culmination Time: 06:42			Greenwich Culmination Time: 08:34						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 01.8 +00.2	S	06 38.0 -00.9	216 36.8 -00.7	S	18 55.3 -00.5	204 19.7 -27.9	S	18 06.7 -06.2	00			
01	192 02.0 +00.1	S	06 37.1 -01.0	231 36.1 -00.6	S	18 54.8 -00.6	218 51.8 -27.9	S	18 00.5 -06.3	01			
02	207 02.1 +00.1	S	06 36.1 -00.9	246 35.5 -00.6	S	18 54.2 -00.5	233 23.9 -27.8	S	17 54.2 -06.3	02			
03	222 02.2 +00.2	S	06 35.2 -01.0	261 34.9 -00.7	S	18 53.7 -00.5	247 56.1 -27.8	S	17 47.9 -06.5	03			
04	237 02.4 +00.1	S	06 34.2 -01.0	276 34.2 -00.6	S	18 53.2 -00.5	262 28.3 -27.8	S	17 41.4 -06.5	04			
05	252 02.5 +00.1	S	06 33.2 -00.9	291 33.6 -00.6	S	18 52.7 -00.5	277 00.5 -27.7	S	17 34.9 -06.6	05			
06	267 02.6 +00.2	S	06 32.3 -01.0	306 33.0 -00.6	S	18 52.2 -00.6	291 32.8 -27.7	S	17 28.3 -06.7	06			
07	282 02.8 +00.1	S	06 31.3 -00.9	321 32.4 -00.7	S	18 51.6 -00.5	306 05.1 -27.7	S	17 21.6 -06.7	07			
08	297 02.9 +00.1	S	06 30.4 -01.0	336 31.7 -00.6	S	18 51.1 -00.5	320 37.4 -27.6	S	17 14.9 -06.9	08			
09	312 03.0 +00.2	S	06 29.4 -01.0	351 31.1 -00.6	S	18 50.6 -00.5	335 09.8 -27.6	S	17 08.0 -06.9	09			
10	327 03.2 +00.1	S	06 28.4 -00.9	6 30.5 -00.6	S	18 50.1 -00.6	349 42.2 -27.5	S	17 01.1 -07.0	10			
11	342 03.3 +00.1	S	06 27.5 -01.0	21 29.9 -00.7	S	18 49.5 -00.5	4 14.7 -27.5	S	16 54.1 -07.0	11			
12	357 03.4 +00.2	S	06 26.5 -01.0	36 29.2 -00.6	S	18 49.0 -00.5	18 47.2 -27.5	S	16 47.1 -07.1	12			
13	12 03.6 +00.1	S	06 25.5 -00.9	51 28.6 -00.6	S	18 48.5 -00.6	33 19.7 -27.4	S	16 40.0 -07.2	13			
14	27 03.7 +00.1	S	06 24.6 -01.0	66 28.0 -00.6	S	18 47.9 -00.5	47 52.3 -27.5	S	16 32.8 -07.3	14			
15	42 03.8 +00.2	S	06 23.6 -00.9	81 27.4 -00.7	S	18 47.4 -00.5	62 24.8 -27.3	S	16 25.5 -07.4	15			
16	57 04.0 +00.1	S	06 22.7 -01.0	96 26.7 -00.6	S	18 46.9 -00.6	76 57.5 -27.4	S	16 18.1 -07.4	16			
17	72 04.1 +00.2	S	06 21.7 -01.0	111 26.1 -00.6	S	18 46.3 -00.5	91 30.1 -27.3	S	16 10.7 -07.4	17			
18	87 04.3 +00.1	S	06 20.7 -00.9	126 25.5 -00.6	S	18 45.8 -00.5	106 02.8 -27.2	S	16 03.3 -07.6	18			
19	102 04.4 +00.1	S	06 19.8 -01.0	141 24.9 -00.6	S	18 45.3 -00.6	120 35.6 -27.3	S	15 55.7 -07.6	19			
20	117 04.5 +00.2	S	06 18.8 -01.0	156 24.3 -00.7	S	18 44.7 -00.5	135 08.3 -27.2	S	15 48.1 -07.7	20			
21	132 04.7 +00.1	S	06 17.8 -00.9	171 23.6 -00.6	S	18 44.2 -00.5	149 41.1 -27.1	S	15 40.4 -07.8	21			
22	147 04.8 +00.1	S	06 16.9 -01.0	186 23.0 -00.6	S	18 43.7 -00.6	164 14.0 -27.2	S	15 32.6 -07.8	22			
23	162 04.9 +00.2	S	06 15.9 -01.0	201 22.4 -00.6	S	18 43.1 -00.5	178 46.8 -27.1	S	15 24.8 -07.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 53'9 53'9 53'9 53'9 53'9 53'9						
	SHA 015° 015° 015° 015° 015° 015°			SHA 055° 055° 055° 054° 054° 054°			SHA 042° 040° 038° 036° 034° 032°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:33			Greenwich Culmination Time: 10:42						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 18.1 +00.8	N	16 01.9 +00.5	259 54.4 +02.2	S	22 35.0 +00.0	232 01.9 +02.3	S	21 48.1 +00.0	00			
01	137 18.9 +00.8	N	16 02.4 +00.6	274 56.6 +02.1	S	22 35.0 +00.0	247 04.2 +02.2	S	21 48.1 +00.0	01			
02	152 19.7 +00.9	N	16 03.0 +00.5	289 58.7 +02.2	S	22 35.0 +00.0	262 06.4 +02.3	S	21 48.1 -00.1	02			
03	167 20.6 +00.8	N	16 03.5 +00.5	305 00.9 +02.2	S	22 35.0 +00.0	277 08.7 +02.2	S	21 48.0 +00.0	03			
04	182 21.4 +00.8	N	16 04.0 +00.6	320 03.1 +02.2	S	22 35.0 +00.1	292 10.9 +02.3	S	21 48.0 +00.0	04			
05	197 22.2 +00.8	N	16 04.6 +00.5	335 05.3 +02.1	S	22 35.1 +00.0	307 13.2 +02.2	S	21 48.0 +00.0	05			
06	212 23.0 +00.8	N	16 05.1 +00.6	350 07.4 +02.2	S	22 35.1 +00.0	322 15.4 +02.2	S	21 48.0 -00.1	06			
07	227 23.8 +00.8	N	16 05.7 +00.5	5 09.6 +02.2	S	22 35.1 +00.0	337 17.6 +02.3	S	21 47.9 +00.0	07			
08	242 24.6 +00.8	N	16 06.2 +00.5	20 11.8 +02.1	S	22 35.1 +00.0	352 19.9 +02.2	S	21 47.9 +00.0	08			
09	257 25.4 +00.8	N	16 06.7 +00.6	35 13.9 +02.2	S	22 35.1 +00.0	7 22.1 +02.3	S	21 47.9 +00.0	09			
10	272 26.2 +00.8	N	16 07.3 +00.5	50 16.1 +02.2	S	22 35.1 +00.1	22 24.4 +02.2	S	21 47.9 -00.1	10			
11	287 27.0 +00.8	N	16 07.8 +00.6	65 18.3 +02.2	S	22 35.2 +00.0	37 26.6 +02.3	S	21 47.8 +00.0	11			
12	302 27.8 +00.9	N	16 08.4 +00.5	80 20.5 +02.1	S	22 35.2 +00.0	52 28.9 +02.2	S	21 47.8 +00.0	12			
13	317 28.7 +00.8	N	16 08.9 +00.5	95 22.6 +02.2	S	22 35.2 +00.0	67 31.1 +02.2	S	21 47.8 +00.0	13			
14	332 29.5 +00.8	N	16 09.4 +00.6	110 24.8 +02.2	S	22 35.2 +00.0	82 33.3 +02.3	S	21 47.8 -00.1	14			
15	347 30.3 +00.8	N	16 10.0 +00.5	125 27.0 +02.1	S	22 35.2 +00.0	97 35.6 +02.2	S	21 47.7 +00.0	15			
16	2 31.1 +00.8	N	16 10.5 +00.6	140 29.1 +02.2	S	22 35.2 +00.0	112 37.8 +02.3	S	21 47.7 +00.0	16			
17	17 31.9 +00.8	N	16 11.1 +00.5	155 31.3 +02.2	S	22 35.2 +00.1	127 40.1 +02.2	S	21 47.7 +00.0	17			
18	32 32.7 +00.8	N	16 11.6 +00.5	170 33.5 +02.2	S	22 35.3 +00.0	142 42.3 +02.3	S	21 47.7 -00.1	18			
19	47 33.5 +00.8	N	16 12.1 +00.6	185 35.7 +02.1	S	22 35.3 +00.0	157 44.6 +02.2	S	21 47.6 +00.0	19			
20	62 34.3 +00.8	N	16 12.7 +00.5	200 37.8 +02.2	S	22 35.3 +00.0	172 46.8 +02.2	S	21 47.6 +00.0	20			
21	77 35.1 +00.8	N	16 13.2 +00.5	215 40.0 +02.2	S	22 35.3 +00.0	187 49.0 +02.3	S	21 47.6 +00.0	21			
22	92 35.9 +00.8	N	16 13.7 +00.6	230 42.2 +02.2	S	22 35.3 +00.0	202 51.3 +02.2	S	21 47.6 -00.1	22			
23	107 36.7 +00.9	N	16 14.3 +00.5	245 44.4 +02.1	S	22 35.3 +00.0	217 53.5 +02.3	S	21 47.5 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 321° 321° 321° 320° 320° 320°			SHA 098° 098° 098° 098° 098° 098°			SHA 071° 071° 071° 071° 070° 070°						
	Greenwich Culmination Time: 15:49			Greenwich Culmination Time: 06:39			Greenwich Culmination Time: 08:30						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 05.1 +00.1	S	06 14.9 -00.9	216 21.8 -00.7	S	18 42.6 -00.6	193 19.7 -27.0	S	15 16.9 -07.9	00			
01	192 05.2 +00.1	S	06 14.0 -01.0	231 21.1 -00.6	S	18 42.0 -00.5	207 52.7 -27.1	S	15 09.0 -08.1	01			
02	207 05.3 +00.2	S	06 13.0 -00.9	246 20.5 -00.6	S	18 41.5 -00.5	222 25.6 -27.0	S	15 00.9 -08.1	02			
03	222 05.5 +00.1	S	06 12.1 -01.0	261 19.9 -00.6	S	18 41.0 -00.6	236 58.6 -26.9	S	14 52.8 -08.1	03			
04	237 05.6 +00.2	S	06 11.1 -01.0	276 19.3 -00.6	S	18 40.4 -00.5	251 31.7 -27.0	S	14 44.7 -08.2	04			
05	252 05.8 +00.1	S	06 10.1 -00.9	291 18.7 -00.7	S	18 39.9 -00.6	266 04.7 -26.9	S	14 36.5 -08.3	05			
06	267 05.9 +00.1	S	06 09.2 -01.0	306 18.0 -00.6	S	18 39.3 -00.5	280 37.8 -26.8	S	14 28.2 -08.3	06			
07	282 06.0 +00.2	S	06 08.2 -01.0	321 17.4 -00.6	S	18 38.8 -00.6	295 11.0 -26.9	S	14 19.9 -08.4	07			
08	297 06.2 +00.1	S	06 07.2 -00.9	336 16.8 -00.6	S	18 38.2 -00.5	309 44.1 -26.8	S	14 11.5 -08.5	08			
09	312 06.3 +00.2	S	06 06.3 -01.0	351 16.2 -00.6	S	18 37.7 -00.6	324 17.3 -26.7	S	14 03.0 -08.5	09			
10	327 06.5 +00.1	S	06 05.3 -01.0	6 15.6 -00.7	S	18 37.1 -00.5	338 50.6 -26.8	S	13 54.5 -08.6	10			
11	342 06.6 +00.1	S	06 04.3 -00.9	21 14.9 -00.6	S	18 36.6 -00.6	353 23.8 -26.7	S	13 45.9 -08.6	11			
12	357 06.7 +00.2	S	06 03.4 -01.0	36 14.3 -00.6	S	18 36.0 -00.5	7 57.1 -26.7	S	13 37.3 -08.7	12			
13	12 06.9 +00.1	S	06 02.4 -01.0	51 13.7 -00.6	S	18 35.5 -00.6	22 30.4 -26.6	S	13 28.6 -08.8	13			
14	27 07.0 +00.1	S	06 01.4 -00.9	66 13.1 -00.6	S	18 34.9 -00.5	37 03.8 -26.7	S	13 19.8 -08.8	14			
15	42 07.1 +00.2	S	06 00.5 -01.0	81 12.5 -00.6	S	18 34.4 -00.6	51 37.1 -26.6	S	13 11.0 -08.9	15			
16	57 07.3 +00.1	S	05 59.5 -01.0	96 11.9 -00.7	S	18 33.8 -00.5	66 10.5 -26.5	S	13 02.1 -08.9	16			
17	72 07.4 +00.2	S	05 58.5 -00.9	111 11.2 -00.6	S	18 33.3 -00.6	80 44.0 -26.6	S	12 53.2 -09.0	17			
18	87 07.6 +00.1	S	05 57.6 -01.0	126 10.6 -00.6	S	18 32.7 -00.5	95 17.4 -26.5	S	12 44.2 -09.0	18			
19	102 07.7 +00.2	S	05 56.6 -01.0	141 10.0 -00.6	S	18 32.2 -00.6	109 50.9 -26.5	S	12 35.2 -09.1	19			
20	117 07.9 +00.1	S	05 55.6 -00.9	156 09.4 -00.6	S	18 31.6 -00.6	124 24.4 -26.4	S	12 26.1 -09.2	20			
21	132 08.0 +00.1	S	05 54.7 -01.0	171 08.8 -00.6	S	18 31.0 -00.5	138 58.0 -26.4	S	12 16.9 -09.2	21			
22	147 08.1 +00.2	S	05 53.7 -01.0	186 08.2 -00.7	S	18 30.5 -00.6	153 31.6 -26.4	S	12 07.7 -09.2	22			
23	162 08.3 +00.1	S	05 52.7 -00.9	201 07.5 -00.6	S	18 29.9 -00.5	168 05.2 -26.4	S	11 58.5 -09.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 53'9 54'0 54'0 54'0 54'0 54'0						
	SHA 015° 014° 014° 014° 014° 014°			SHA 054° 054° 053° 053° 053° 053°			SHA 030° 028° 026° 024° 022° 020°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:34			Greenwich Culmination Time: 11:27						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 37.6 +00.8	N	16 14.8 +00.6	260 46.5 +02.2	S	22 35.3 +00.1	232 55.8 +02.2	S	21 47.5 +00.0	00			
01	137 38.4 +00.8	N	16 15.4 +00.5	275 48.7 +02.2	S	22 35.4 +00.0	247 58.0 +02.3	S	21 47.5 +00.0	01			
02	152 39.2 +00.8	N	16 15.9 +00.5	290 50.9 +02.2	S	22 35.4 +00.0	263 00.3 +02.2	S	21 47.5 -00.1	02			
03	167 40.0 +00.8	N	16 16.4 +00.6	305 53.1 +02.1	S	22 35.4 +00.0	278 02.5 +02.3	S	21 47.4 +00.0	03			
04	182 40.8 +00.8	N	16 17.0 +00.5	320 55.2 +02.2	S	22 35.4 +00.0	293 04.8 +02.2	S	21 47.4 +00.0	04			
05	197 41.6 +00.8	N	16 17.5 +00.5	335 57.4 +02.2	S	22 35.4 +00.0	308 07.0 +02.2	S	21 47.4 -00.1	05			
06	212 42.4 +00.8	N	16 18.0 +00.6	350 59.6 +02.2	S	22 35.4 +00.1	323 09.2 +02.3	S	21 47.3 +00.0	06			
07	227 43.2 +00.8	N	16 18.6 +00.5	6 01.8 +02.2	S	22 35.5 +00.0	338 11.5 +02.2	S	21 47.3 +00.0	07			
08	242 44.0 +00.8	N	16 19.1 +00.5	21 04.0 +02.1	S	22 35.5 +00.0	353 13.7 +02.3	S	21 47.3 +00.0	08			
09	257 44.8 +00.8	N	16 19.6 +00.6	36 06.1 +02.2	S	22 35.5 +00.0	8 16.0 +02.2	S	21 47.3 -00.1	09			
10	272 45.6 +00.8	N	16 20.2 +00.5	51 08.3 +02.2	S	22 35.5 +00.0	23 18.2 +02.3	S	21 47.2 +00.0	10			
11	287 46.4 +00.8	N	16 20.7 +00.5	66 10.5 +02.2	S	22 35.5 +00.0	38 20.5 +02.2	S	21 47.2 +00.0	11			
12	302 47.2 +00.8	N	16 21.2 +00.6	81 12.7 +02.2	S	22 35.5 +00.0	53 22.7 +02.3	S	21 47.2 +00.0	12			
13	317 48.0 +00.9	N	16 21.8 +00.5	96 14.9 +02.1	S	22 35.5 +00.1	68 25.0 +02.2	S	21 47.2 -00.1	13			
14	332 48.9 +00.8	N	16 22.3 +00.5	111 17.0 +02.2	S	22 35.6 +00.0	83 27.2 +02.3	S	21 47.1 +00.0	14			
15	347 49.7 +00.8	N	16 22.8 +00.6	126 19.2 +02.2	S	22 35.6 +00.0	98 29.5 +02.2	S	21 47.1 +00.0	15			
16	2 50.5 +00.8	N	16 23.4 +00.5	141 21.4 +02.2	S	22 35.6 +00.0	113 31.7 +02.2	S	21 47.1 +00.0	16			
17	17 51.3 +00.8	N	16 23.9 +00.5	156 23.6 +02.2	S	22 35.6 +00.0	128 33.9 +02.3	S	21 47.1 -00.1	17			
18	32 52.1 +00.8	N	16 24.4 +00.6	171 25.8 +02.1	S	22 35.6 +00.0	143 36.2 +02.2	S	21 47.0 +00.0	18			
19	47 52.9 +00.8	N	16 25.0 +00.5	186 27.9 +02.2	S	22 35.6 +00.0	158 38.4 +02.3	S	21 47.0 +00.0	19			
20	62 53.7 +00.8	N	16 25.5 +00.5	201 30.1 +02.2	S	22 35.6 +00.1	173 40.7 +02.2	S	21 47.0 +00.0	20			
21	77 54.5 +00.8	N	16 26.0 +00.6	216 32.3 +02.2	S	22 35.7 +00.0	188 42.9 +02.3	S	21 47.0 -00.1	21			
22	92 55.3 +00.8	N	16 26.6 +00.5	231 34.5 +02.2	S	22 35.7 +00.0	203 45.2 +02.2	S	21 46.9 +00.0	22			
23	107 56.1 +00.8	N	16 27.1 +00.5	246 36.7 +02.1	S	22 35.7 +00.0	218 47.4 +02.3	S	21 46.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 320° 320° 320° 320° 320° 320°			SHA 098° 098° 098° 098° 098° 098°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:48			Greenwich Culmination Time: 06:35			Greenwich Culmination Time: 08:27						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 08.4 +00.2	S	05 51.8 -01.0	216 06.9 -00.6	S	18 29.4 -00.6	182 38.8 -26.4	S	11 49.2 -09.4	00			
01	192 08.6 +00.1	S	05 50.8 -01.0	231 06.3 -00.6	S	18 28.8 -00.6	197 12.4 -26.3	S	11 39.8 -09.4	01			
02	207 08.7 +00.1	S	05 49.8 -00.9	246 05.7 -00.6	S	18 28.2 -00.5	211 46.1 -26.3	S	11 30.4 -09.5	02			
03	222 08.8 +00.2	S	05 48.9 -01.0	261 05.1 -00.6	S	18 27.7 -00.6	226 19.8 -26.2	S	11 20.9 -09.5	03			
04	237 09.0 +00.1	S	05 47.9 -01.0	276 04.5 -00.6	S	18 27.1 -00.6	240 53.6 -26.3	S	11 11.4 -09.5	04			
05	252 09.1 +00.2	S	05 46.9 -01.0	291 03.9 -00.7	S	18 26.5 -00.5	255 27.3 -26.2	S	11 01.9 -09.6	05			
06	267 09.3 +00.1	S	05 45.9 -00.9	306 03.2 -00.6	S	18 26.0 -00.6	270 01.1 -26.2	S	10 52.3 -09.7	06			
07	282 09.4 +00.2	S	05 45.0 -01.0	321 02.6 -00.6	S	18 25.4 -00.6	284 34.9 -26.2	S	10 42.6 -09.7	07			
08	297 09.6 +00.1	S	05 44.0 -01.0	336 02.0 -00.6	S	18 24.8 -00.5	299 08.7 -26.1	S	10 32.9 -09.7	08			
09	312 09.7 +00.1	S	05 43.0 -00.9	351 01.4 -00.6	S	18 24.3 -00.6	313 42.6 -26.2	S	10 23.2 -09.8	09			
10	327 09.8 +00.2	S	05 42.1 -01.0	6 00.8 -00.6	S	18 23.7 -00.6	328 16.4 -26.1	S	10 13.4 -09.8	10			
11	342 10.0 +00.1	S	05 41.1 -01.0	21 00.2 -00.6	S	18 23.1 -00.6	342 50.3 -26.1	S	10 03.6 -09.9	11			
12	357 10.1 +00.2	S	05 40.1 -00.9	35 59.6 -00.7	S	18 22.5 -00.5	357 24.2 -26.0	S	09 53.7 -09.9	12			
13	12 10.3 +00.1	S	05 39.2 -01.0	50 58.9 -00.6	S	18 22.0 -00.6	11 58.2 -26.1	S	09 43.8 -10.0	13			
14	27 10.4 +00.2	S	05 38.2 -01.0	65 58.3 -00.6	S	18 21.4 -00.6	26 32.1 -26.0	S	09 33.8 -10.0	14			
15	42 10.6 +00.1	S	05 37.2 -00.9	80 57.7 -00.6	S	18 20.8 -00.6	41 06.1 -26.0	S	09 23.8 -10.0	15			
16	57 10.7 +00.1	S	05 36.3 -01.0	95 57.1 -00.6	S	18 20.2 -00.5	55 40.1 -26.0	S	09 13.8 -10.1	16			
17	72 10.8 +00.2	S	05 35.3 -01.0	110 56.5 -00.6	S	18 19.7 -00.6	70 14.1 -26.0	S	09 03.7 -10.1	17			
18	87 11.0 +00.1	S	05 34.3 -01.0	125 55.9 -00.6	S	18 19.1 -00.6	84 48.1 -25.9	S	08 53.6 -10.2	18			
19	102 11.1 +00.2	S	05 33.3 -00.9	140 55.3 -00.6	S	18 18.5 -00.6	99 22.2 -26.0	S	08 43.4 -10.2	19			
20	117 11.3 +00.1	S	05 32.4 -01.0	155 54.7 -00.6	S	18 17.9 -00.6	113 56.2 -25.9	S	08 33.2 -10.2	20			
21	132 11.4 +00.2	S	05 31.4 -01.0	170 54.1 -00.7	S	18 17.3 -00.5	128 30.3 -25.9	S	08 23.0 -10.3	21			
22	147 11.6 +00.1	S	05 30.4 -00.9	185 53.4 -00.6	S	18 16.8 -00.6	143 04.4 -25.9	S	08 12.7 -10.3	22			
23	162 11.7 +00.2	S	05 29.5 -01.0	200 52.8 -00.6	S	18 16.2 -00.6	157 38.5 -25.9	S	08 02.4 -10.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'1 54'1 54'1 54'1 54'2 54'2						
	SHA 014° 013° 013° 013° 013° 013°			SHA 053° 052° 052° 052° 052° 052°			SHA 018° 016° 014° 013° 011° 009°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:35			Greenwich Culmination Time: 12:10						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	122 56.9 +00.8	N	16 27.6 +00.6	261 38.8 +02.2	S	22 35.7 +00.0	233 49.7 +02.2	S	21 46.9 +00.0	00			
01	137 57.7 +00.8	N	16 28.2 +00.5	276 41.0 +02.2	S	22 35.7 +00.0	248 51.9 +02.3	S	21 46.9 -00.1	01			
02	152 58.5 +00.8	N	16 28.7 +00.5	291 43.2 +02.2	S	22 35.7 +00.0	263 54.2 +02.2	S	21 46.8 +00.0	02			
03	167 59.3 +00.8	N	16 29.2 +00.5	306 45.4 +02.2	S	22 35.7 +00.1	278 56.4 +02.3	S	21 46.8 +00.0	03			
04	183 00.1 +00.8	N	16 29.7 +00.6	321 47.6 +02.2	S	22 35.8 +00.0	293 58.7 +02.2	S	21 46.8 +00.0	04			
05	198 00.9 +00.8	N	16 30.3 +00.5	336 49.8 +02.1	S	22 35.8 +00.0	309 00.9 +02.3	S	21 46.8 -00.1	05			
06	213 01.7 +00.8	N	16 30.8 +00.5	351 51.9 +02.2	S	22 35.8 +00.0	324 03.2 +02.2	S	21 46.7 +00.0	06			
07	228 02.5 +00.8	N	16 31.3 +00.6	6 54.1 +02.2	S	22 35.8 +00.0	339 05.4 +02.3	S	21 46.7 +00.0	07			
08	243 03.3 +00.9	N	16 31.9 +00.5	21 56.3 +02.2	S	22 35.8 +00.0	354 07.7 +02.2	S	21 46.7 +00.0	08			
09	258 04.2 +00.8	N	16 32.4 +00.5	36 58.5 +02.2	S	22 35.8 +00.0	9 09.9 +02.3	S	21 46.7 -00.1	09			
10	273 05.0 +00.8	N	16 32.9 +00.6	52 00.7 +02.2	S	22 35.8 +00.0	24 12.2 +02.2	S	21 46.6 +00.0	10			
11	288 05.8 +00.8	N	16 33.5 +00.5	67 02.9 +02.2	S	22 35.8 +00.1	39 14.4 +02.3	S	21 46.6 +00.0	11			
12	303 06.6 +00.8	N	16 34.0 +00.5	82 05.1 +02.1	S	22 35.9 +00.0	54 16.7 +02.2	S	21 46.6 +00.0	12			
13	318 07.4 +00.8	N	16 34.5 +00.5	97 07.2 +02.2	S	22 35.9 +00.0	69 18.9 +02.3	S	21 46.6 -00.1	13			
14	333 08.2 +00.8	N	16 35.0 +00.6	112 09.4 +02.2	S	22 35.9 +00.0	84 21.2 +02.2	S	21 46.5 +00.0	14			
15	348 09.0 +00.8	N	16 35.6 +00.5	127 11.6 +02.2	S	22 35.9 +00.0	99 23.4 +02.2	S	21 46.5 +00.0	15			
16	3 09.8 +00.8	N	16 36.1 +00.5	142 13.8 +02.2	S	22 35.9 +00.0	114 25.6 +02.3	S	21 46.5 +00.0	16			
17	18 10.6 +00.8	N	16 36.6 +00.5	157 16.0 +02.2	S	22 35.9 +00.0	129 27.9 +02.2	S	21 46.5 -00.1	17			
18	33 11.4 +00.8	N	16 37.1 +00.6	172 18.2 +02.2	S	22 35.9 +00.1	144 30.1 +02.3	S	21 46.4 +00.0	18			
19	48 12.2 +00.8	N	16 37.7 +00.5	187 20.4 +02.1	S	22 36.0 +00.0	159 32.4 +02.2	S	21 46.4 +00.0	19			
20	63 13.0 +00.8	N	16 38.2 +00.5	202 22.5 +02.2	S	22 36.0 +00.0	174 34.6 +02.3	S	21 46.4 +00.0	20			
21	78 13.8 +00.8	N	16 38.7 +00.5	217 24.7 +02.2	S	22 36.0 +00.0	189 36.9 +02.2	S	21 46.4 -00.1	21			
22	93 14.6 +00.8	N	16 39.2 +00.6	232 26.9 +02.2	S	22 36.0 +00.0	204 39.1 +02.3	S	21 46.3 +00.0	22			
23	108 15.4 +00.8	N	16 39.8 +00.5	247 29.1 +02.2	S	22 36.0 +00.0	219 41.4 +02.2	S	21 46.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 319° 319° 319° 319° 319° 319°			SHA 098° 098° 098° 098° 098° 098°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:47			Greenwich Culmination Time: 06:32			Greenwich Culmination Time: 08:23						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 11.9 +00.1	S	05 28.5 -01.0	215 52.2 -00.6	S	18 15.6 -00.6	172 12.6 -25.8	S	07 52.0 -10.3				
01	192 12.0 +00.2	S	05 27.5 -01.0	230 51.6 -00.6	S	18 15.0 -00.6	186 46.8 -25.9	S	07 41.7 -10.5				
02	207 12.2 +00.1	S	05 26.5 -00.9	245 51.0 -00.6	S	18 14.4 -00.6	201 20.9 -25.8	S	07 31.2 -10.4				
03	222 12.3 +00.1	S	05 25.6 -01.0	260 50.4 -00.6	S	18 13.8 -00.6	215 55.1 -25.8	S	07 20.8 -10.5				
04	237 12.4 +00.2	S	05 24.6 -01.0	275 49.8 -00.6	S	18 13.2 -00.5	230 29.3 -25.8	S	07 10.3 -10.5				
05	252 12.6 +00.1	S	05 23.6 -00.9	290 49.2 -00.6	S	18 12.7 -00.6	245 03.5 -25.8	S	06 59.8 -10.6				
06	267 12.7 +00.2	S	05 22.7 -01.0	305 48.6 -00.6	S	18 12.1 -00.6	259 37.7 -25.8	S	06 49.2 -10.6				
07	282 12.9 +00.1	S	05 21.7 -01.0	320 48.0 -00.6	S	18 11.5 -00.6	274 11.9 -25.8	S	06 38.6 -10.6				
08	297 13.0 +00.2	S	05 20.7 -01.0	335 47.4 -00.6	S	18 10.9 -00.6	288 46.1 -25.7	S	06 28.0 -10.6				
09	312 13.2 +00.1	S	05 19.7 -00.9	350 46.8 -00.7	S	18 10.3 -00.6	303 20.4 -25.8	S	06 17.4 -10.7				
10	327 13.3 +00.2	S	05 18.8 -01.0	5 46.1 -00.6	S	18 09.7 -00.6	317 54.6 -25.7	S	06 06.7 -10.7				
11	342 13.5 +00.1	S	05 17.8 -01.0	20 45.5 -00.6	S	18 09.1 -00.6	332 28.9 -25.8	S	05 56.0 -10.7				
12	357 13.6 +00.2	S	05 16.8 -00.9	35 44.9 -00.6	S	18 08.5 -00.6	347 03.1 -25.7	S	05 45.3 -10.8				
13	12 13.8 +00.1	S	05 15.9 -01.0	50 44.3 -00.6	S	18 07.9 -00.6	1 37.4 -25.7	S	05 34.5 -10.8				
14	27 13.9 +00.2	S	05 14.9 -01.0	65 43.7 -00.6	S	18 07.3 -00.6	16 11.7 -25.7	S	05 23.7 -10.8				
15	42 14.1 +00.1	S	05 13.9 -01.0	80 43.1 -00.6	S	18 06.7 -00.6	30 46.0 -25.7	S	05 12.9 -10.8				
16	57 14.2 +00.2	S	05 12.9 -00.9	95 42.5 -00.6	S	18 06.1 -00.6	45 20.3 -25.7	S	05 02.1 -10.9				
17	72 14.4 +00.1	S	05 12.0 -01.0	110 41.9 -00.6	S	18 05.5 -00.6	59 54.6 -25.7	S	04 51.2 -10.8				
18	87 14.5 +00.2	S	05 11.0 -01.0	125 41.3 -00.6	S	18 04.9 -00.6	74 28.9 -25.7	S	04 40.4 -11.0				
19	102 14.7 +00.1	S	05 10.0 -01.0	140 40.7 -00.6	S	18 04.3 -00.6	89 03.2 -25.7	S	04 29.4 -10.9				
20	117 14.8 +00.2	S	05 09.0 -00.9	155 40.1 -00.6	S	18 03.7 -00.6	103 37.5 -25.7	S	04 18.5 -10.9				
21	132 15.0 +00.1	S	05 08.1 -01.0	170 39.5 -00.6	S	18 03.1 -00.6	118 11.8 -25.7	S	04 07.6 -11.0				
22	147 15.1 +00.2	S	05 07.1 -01.0	185 38.9 -00.6	S	18 02.5 -00.6	132 46.1 -25.7	S	03 56.6 -11.0				
23	162 15.3 +00.1	S	05 06.1 -01.0	200 38.3 -00.6	S	18 01.9 -00.6	147 20.4 -25.7	S	03 45.6 -11.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'2 54'3 54'3 54'4 54'4 54'5					
	SHA 013° 013° 012° 012° 012° 012°			SHA 051° 051° 051° 051° 051° 050°				SHA 007° 005° 003° 001° 359° 357°					
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:36				Greenwich Culmination Time: 12:53					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 16.2 +00.8	N	16 40.3 +00.5	262 31.3 +02.2	S	22 36.0 +00.0	234 43.6 +02.3	S	21 46.3 +00.0				
01	138 17.0 +00.8	N	16 40.8 +00.5	277 33.5 +02.2	S	22 36.0 +00.1	249 45.9 +02.3	S	21 46.3 -00.1				
02	153 17.8 +00.8	N	16 41.3 +00.6	292 35.7 +02.2	S	22 36.1 +00.0	264 48.2 +02.2	S	21 46.2 +00.0				
03	168 18.6 +00.8	N	16 41.9 +00.5	307 37.9 +02.2	S	22 36.1 +00.0	279 50.4 +02.3	S	21 46.2 +00.0				
04	183 19.4 +00.8	N	16 42.4 +00.5	322 40.1 +02.2	S	22 36.1 +00.0	294 52.7 +02.2	S	21 46.2 +00.0				
05	198 20.2 +00.8	N	16 42.9 +00.5	337 42.3 +02.1	S	22 36.1 +00.0	309 54.9 +02.3	S	21 46.2 -00.1				
06	213 21.0 +00.8	N	16 43.4 +00.6	352 44.4 +02.2	S	22 36.1 +00.0	324 57.2 +02.2	S	21 46.1 +00.0				
07	228 21.8 +00.8	N	16 44.0 +00.5	7 46.6 +02.2	S	22 36.1 +00.0	339 59.4 +02.3	S	21 46.1 +00.0				
08	243 22.6 +00.8	N	16 44.5 +00.5	22 48.8 +02.2	S	22 36.1 +00.0	355 01.7 +02.2	S	21 46.1 +00.0				
09	258 23.4 +00.8	N	16 45.0 +00.5	37 51.0 +02.2	S	22 36.1 +00.1	10 03.9 +02.3	S	21 46.1 -00.1				
10	273 24.2 +00.8	N	16 45.5 +00.6	52 53.2 +02.2	S	22 36.2 +00.0	25 06.2 +02.2	S	21 46.0 +00.0				
11	288 25.0 +00.8	N	16 46.1 +00.5	67 55.4 +02.2	S	22 36.2 +00.0	40 08.4 +02.3	S	21 46.0 +00.0				
12	303 25.8 +00.8	N	16 46.6 +00.5	82 57.6 +02.2	S	22 36.2 +00.0	55 10.7 +02.2	S	21 46.0 +00.0				
13	318 26.6 +00.8	N	16 47.1 +00.5	97 59.8 +02.2	S	22 36.2 +00.0	70 12.9 +02.3	S	21 46.0 -00.1				
14	333 27.4 +00.8	N	16 47.6 +00.6	113 02.0 +02.2	S	22 36.2 +00.0	85 15.2 +02.2	S	21 45.9 +00.0				
15	348 28.2 +00.8	N	16 48.2 +00.5	128 04.2 +02.2	S	22 36.2 +00.0	100 17.4 +02.3	S	21 45.9 +00.0				
16	3 29.0 +00.8	N	16 48.7 +00.5	143 06.4 +02.2	S	22 36.2 +00.1	115 19.7 +02.2	S	21 45.9 +00.0				
17	18 29.8 +00.8	N	16 49.2 +00.5	158 08.6 +02.2	S	22 36.3 +00.0	130 21.9 +02.3	S	21 45.9 -00.1				
18	33 30.6 +00.8	N	16 49.7 +00.5	173 10.8 +02.2	S	22 36.3 +00.0	145 24.2 +02.2	S	21 45.8 +00.0				
19	48 31.4 +00.8	N	16 50.2 +00.6	188 13.0 +02.2	S	22 36.3 +00.0	160 26.4 +02.3	S	21 45.8 +00.0				
20	63 32.2 +00.8	N	16 50.8 +00.5	203 15.2 +02.1	S	22 36.3 +00.0	175 28.7 +02.2	S	21 45.8 +00.0				
21	78 33.0 +00.8	N	16 51.3 +00.5	218 17.3 +02.2	S	22 36.3 +00.0	190 30.9 +02.3	S	21 45.8 -00.1				
22	93 33.8 +00.8	N	16 51.8 +00.5	233 19.5 +02.2	S	22 36.3 +00.0	205 33.2 +02.2	S	21 45.7 +00.0				
23	108 34.6 +00.8	N	16 52.3 +00.5	248 21.7 +02.2	S	22 36.3 +00.0	220 35.4 +02.3	S	21 45.7 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 00'1 00'1 00'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 319° 319° 319° 318° 318° 318°			SHA 098° 098° 098° 098° 098° 098°				SHA 070° 070° 070° 070° 070° 070°					
	Greenwich Culmination Time: 15:46			Greenwich Culmination Time: 06:28				Greenwich Culmination Time: 08:19					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 15.4 +00.2	S	05 05.1 -00.9	215 37.7 -00.6	S	18 01.3 -00.6	161 54.7 -25.7	S	03 34.6 -11.0	00			
01	192 15.6 +00.1	S	05 04.2 -01.0	230 37.1 -00.6	S	18 00.7 -00.6	176 29.0 -25.7	S	03 23.6 -11.1	01			
02	207 15.7 +00.2	S	05 03.2 -01.0	245 36.5 -00.6	S	18 00.1 -00.6	191 03.3 -25.6	S	03 12.5 -11.1	02			
03	222 15.9 +00.1	S	05 02.2 -00.9	260 35.9 -00.6	S	17 59.5 -00.6	205 37.7 -25.7	S	03 01.4 -11.1	03			
04	237 16.0 +00.2	S	05 01.3 -01.0	275 35.3 -00.6	S	17 58.9 -00.6	220 12.0 -25.7	S	02 50.3 -11.1	04			
05	252 16.2 +00.1	S	05 00.3 -01.0	290 34.7 -00.6	S	17 58.3 -00.6	234 46.3 -25.7	S	02 39.2 -11.1	05			
06	267 16.3 +00.2	S	04 59.3 -01.0	305 34.1 -00.6	S	17 57.7 -00.6	249 20.6 -25.7	S	02 28.1 -11.1	06			
07	282 16.5 +00.1	S	04 58.3 -00.9	320 33.5 -00.6	S	17 57.1 -00.7	263 54.9 -25.7	S	02 17.0 -11.2	07			
08	297 16.6 +00.2	S	04 57.4 -01.0	335 32.9 -00.6	S	17 56.4 -00.6	278 29.2 -25.7	S	02 05.8 -11.1	08			
09	312 16.8 +00.1	S	04 56.4 -01.0	350 32.3 -00.6	S	17 55.8 -00.6	293 03.5 -25.8	S	01 54.7 -11.2	09			
10	327 16.9 +00.2	S	04 55.4 -01.0	5 31.7 -00.6	S	17 55.2 -00.6	307 37.7 -25.7	S	01 43.5 -11.2	10			
11	342 17.1 +00.1	S	04 54.4 -00.9	20 31.1 -00.6	S	17 54.6 -00.6	322 12.0 -25.7	S	01 32.3 -11.2	11			
12	357 17.2 +00.2	S	04 53.5 -01.0	35 30.5 -00.6	S	17 54.0 -00.6	336 46.3 -25.7	S	01 21.1 -11.2	12			
13	12 17.4 +00.1	S	04 52.5 -01.0	50 29.9 -00.6	S	17 53.4 -00.7	351 20.6 -25.8	S	01 09.9 -11.2	13			
14	27 17.5 +00.2	S	04 51.5 -01.0	65 29.3 -00.6	S	17 52.7 -00.6	5 54.8 -25.8	S	00 58.7 -11.2	14			
15	42 17.7 +00.1	S	04 50.5 -00.9	80 28.7 -00.6	S	17 52.1 -00.6	20 29.0 -25.7	S	00 47.5 -11.3	15			
16	57 17.8 +00.2	S	04 49.6 -01.0	95 28.1 -00.6	S	17 51.5 -00.6	35 03.3 -25.8	S	00 36.2 -11.2	16			
17	72 18.0 +00.1	S	04 48.6 -01.0	110 27.5 -00.6	S	17 50.9 -00.6	49 37.5 -25.8	S	00 25.0 -11.3	17			
18	87 18.1 +00.2	S	04 47.6 -01.0	125 26.9 -00.6	S	17 50.3 -00.7	64 11.7 -25.8	S	00 13.7 -11.2	18			
19	102 18.3 +00.1	S	04 46.6 -01.0	140 26.3 -00.6	S	17 49.6 -00.6	78 45.9 -25.8	S	00 02.5 -11.3	19			
20	117 18.4 +00.2	S	04 45.6 -00.9	155 25.7 -00.6	S	17 49.0 -00.6	93 20.1 -25.8	N	00 08.8 +11.2	20			
21	132 18.6 +00.1	S	04 44.7 -01.0	170 25.1 -00.6	S	17 48.4 -00.6	107 54.3 -25.9	N	00 20.0 +11.3	21			
22	147 18.7 +00.2	S	04 43.7 -01.0	185 24.5 -00.6	S	17 47.8 -00.7	122 28.4 -25.8	N	00 31.3 +11.3	22			
23	162 18.9 +00.2	S	04 42.7 -01.0	200 23.9 -00.6	S	17 47.1 -00.6	137 02.6 -25.9	N	00 42.6 +11.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'8 14'9 14'9 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'5 54'6 54'6 54'7 54'7 54'8						
	SHA 012° 012° 011° 011° 011° 011°			SHA 050° 050° 050° 050° 049° 049°			SHA 356° 354° 352° 350° 348° 346°						
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 09:37			Greenwich Culmination Time: 13:35						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 35.4 +00.8	N	16 52.8 +00.6	263 23.9 +02.2	S	22 36.3 +00.1	235 37.7 +02.3	S	21 45.7 +00.0	00			
01	138 36.2 +00.8	N	16 53.4 +00.5	278 26.1 +02.2	S	22 36.4 +00.0	250 40.0 +02.2	S	21 45.7 -00.1	01			
02	153 37.0 +00.8	N	16 53.9 +00.5	293 28.3 +02.2	S	22 36.4 +00.0	265 42.2 +02.3	S	21 45.6 +00.0	02			
03	168 37.8 +00.8	N	16 54.4 +00.5	308 30.5 +02.2	S	22 36.4 +00.0	280 44.5 +02.2	S	21 45.6 +00.0	03			
04	183 38.6 +00.8	N	16 54.9 +00.5	323 32.7 +02.2	S	22 36.4 +00.0	295 46.7 +02.3	S	21 45.6 +00.0	04			
05	198 39.4 +00.8	N	16 55.4 +00.6	338 34.9 +02.2	S	22 36.4 +00.0	310 49.0 +02.2	S	21 45.6 -00.1	05			
06	213 40.2 +00.8	N	16 56.0 +00.5	353 37.1 +02.2	S	22 36.4 +00.0	325 51.2 +02.3	S	21 45.5 +00.0	06			
07	228 41.0 +00.8	N	16 56.5 +00.5	8 39.3 +02.2	S	22 36.4 +00.0	340 53.5 +02.2	S	21 45.5 +00.0	07			
08	243 41.8 +00.8	N	16 57.0 +00.5	23 41.5 +02.2	S	22 36.4 +00.1	355 55.7 +02.3	S	21 45.5 +00.0	08			
09	258 42.6 +00.8	N	16 57.5 +00.5	38 43.7 +02.2	S	22 36.5 +00.0	10 58.0 +02.2	S	21 45.5 -00.1	09			
10	273 43.4 +00.8	N	16 58.0 +00.5	53 45.9 +02.2	S	22 36.5 +00.0	26 00.2 +02.3	S	21 45.4 +00.0	10			
11	288 44.2 +00.8	N	16 58.5 +00.6	68 48.1 +02.2	S	22 36.5 +00.0	41 02.5 +02.3	S	21 45.4 +00.0	11			
12	303 45.0 +00.8	N	16 59.1 +00.5	83 50.3 +02.2	S	22 36.5 +00.0	56 04.8 +02.2	S	21 45.4 +00.0	12			
13	318 45.8 +00.8	N	16 59.6 +00.5	98 52.5 +02.2	S	22 36.5 +00.0	71 07.0 +02.3	S	21 45.4 -00.1	13			
14	333 46.6 +00.8	N	17 00.1 +00.5	113 54.7 +02.2	S	22 36.5 +00.0	86 09.3 +02.2	S	21 45.3 +00.0	14			
15	348 47.4 +00.8	N	17 00.6 +00.5	128 56.9 +02.2	S	22 36.5 +00.1	101 11.5 +02.3	S	21 45.3 +00.0	15			
16	3 48.2 +00.8	N	17 01.1 +00.5	143 59.1 +02.2	S	22 36.6 +00.0	116 13.8 +02.2	S	21 45.3 +00.0	16			
17	18 49.0 +00.8	N	17 01.6 +00.6	159 01.3 +02.2	S	22 36.6 +00.0	131 16.0 +02.3	S	21 45.3 -00.1	17			
18	33 49.8 +00.8	N	17 02.2 +00.5	174 03.5 +02.2	S	22 36.6 +00.0	146 18.3 +02.2	S	21 45.2 +00.0	18			
19	48 50.6 +00.8	N	17 02.7 +00.5	189 05.7 +02.2	S	22 36.6 +00.0	161 20.5 +02.3	S	21 45.2 +00.0	19			
20	63 51.4 +00.8	N	17 03.2 +00.5	204 07.9 +02.2	S	22 36.6 +00.0	176 22.8 +02.3	S	21 45.2 +00.0	20			
21	78 52.2 +00.8	N	17 03.7 +00.5	219 10.1 +02.2	S	22 36.6 +00.0	191 25.1 +02.2	S	21 45.2 -00.1	21			
22	93 53.0 +00.8	N	17 04.2 +00.5	234 12.3 +02.2	S	22 36.6 +00.0	206 27.3 +02.3	S	21 45.1 +00.0	22			
23	108 53.8 +00.8	N	17 04.7 +00.5	249 14.5 +02.2	S	22 36.6 +00.1	221 29.6 +02.2	S	21 45.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 318° 318° 318° 318° 318° 318°			SHA 098° 098° 098° 098° 098° 098°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:44			Greenwich Culmination Time: 06:25			Greenwich Culmination Time: 08:16						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 19.1 +00.1	S	04 41.7 -00.9	215 23.3 -00.6	S	17 46.5 -00.6	151 36.7 -25.9	N	00 53.9 +11.3				
01	192 19.2 +00.2	S	04 40.8 -01.0	230 22.7 -00.6	S	17 45.9 -00.6	166 10.8 -25.9	N	01 05.2 +11.2				
02	207 19.4 +00.1	S	04 39.8 -01.0	245 22.1 -00.6	S	17 45.3 -00.7	180 44.9 -26.0	N	01 16.4 +11.3				
03	222 19.5 +00.2	S	04 38.8 -01.0	260 21.5 -00.6	S	17 44.6 -00.6	195 18.9 -25.9	N	01 27.7 +11.3				
04	237 19.7 +00.1	S	04 37.8 -00.9	275 20.9 -00.6	S	17 44.0 -00.6	209 53.0 -26.0	N	01 39.0 +11.3				
05	252 19.8 +00.2	S	04 36.9 -01.0	290 20.3 -00.6	S	17 43.4 -00.7	224 27.0 -26.0	N	01 50.3 +11.3				
06	267 20.0 +00.1	S	04 35.9 -01.0	305 19.7 -00.6	S	17 42.7 -00.6	239 01.0 -26.0	N	02 01.6 +11.3				
07	282 20.1 +00.2	S	04 34.9 -01.0	320 19.1 -00.6	S	17 42.1 -00.6	253 35.0 -26.0	N	02 12.9 +11.2				
08	297 20.3 +00.1	S	04 33.9 -01.0	335 18.5 -00.6	S	17 41.5 -00.7	268 09.0 -26.0	N	02 24.1 +11.3				
09	312 20.4 +00.2	S	04 32.9 -00.9	350 17.9 -00.5	S	17 40.8 -00.6	282 43.0 -26.1	N	02 35.4 +11.3				
10	327 20.6 +00.2	S	04 32.0 -01.0	5 17.4 -00.6	S	17 40.2 -00.6	297 16.9 -26.1	N	02 46.7 +11.2				
11	342 20.8 +00.1	S	04 31.0 -01.0	20 16.8 -00.6	S	17 39.6 -00.7	311 50.8 -26.1	N	02 57.9 +11.3				
12	357 20.9 +00.2	S	04 30.0 -01.0	35 16.2 -00.6	S	17 38.9 -00.6	326 24.7 -26.2	N	03 09.2 +11.3				
13	12 21.1 +00.1	S	04 29.0 -00.9	50 15.6 -00.6	S	17 38.3 -00.6	340 58.5 -26.2	N	03 20.5 +11.2				
14	27 21.2 +00.2	S	04 28.1 -01.0	65 15.0 -00.6	S	17 37.7 -00.7	355 32.3 -26.2	N	03 31.7 +11.2				
15	42 21.4 +00.1	S	04 27.1 -01.0	80 14.4 -00.6	S	17 37.0 -00.6	10 06.1 -26.2	N	03 42.9 +11.3				
16	57 21.5 +00.2	S	04 26.1 -01.0	95 13.8 -00.6	S	17 36.4 -00.7	24 39.9 -26.3	N	03 54.2 +11.2				
17	72 21.7 +00.1	S	04 25.1 -01.0	110 13.2 -00.6	S	17 35.7 -00.6	39 13.6 -26.3	N	04 05.4 +11.2				
18	87 21.8 +00.2	S	04 24.1 -00.9	125 12.6 -00.6	S	17 35.1 -00.7	53 47.3 -26.3	N	04 16.6 +11.2				
19	102 22.0 +00.2	S	04 23.2 -01.0	140 12.0 -00.6	S	17 34.4 -00.6	68 21.0 -26.3	N	04 27.8 +11.2				
20	117 22.2 +00.1	S	04 22.2 -01.0	155 11.4 -00.6	S	17 33.8 -00.6	82 54.7 -26.4	N	04 39.0 +11.1				
21	132 22.3 +00.2	S	04 21.2 -01.0	170 10.8 -00.5	S	17 33.2 -00.7	97 28.3 -26.4	N	04 50.1 +11.2				
22	147 22.5 +00.1	S	04 20.2 -00.9	185 10.3 -00.6	S	17 32.5 -00.6	112 01.9 -26.5	N	05 01.3 +11.1				
23	162 22.6 +00.2	S	04 19.3 -01.0	200 09.7 -00.6	S	17 31.9 -00.7	126 35.4 -26.5	N	05 12.4 +11.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 15'0 15'0 15'0 15'0 15'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'8 54'9 55'0 55'0 55'1 55'2						
	SHA 011° 011° 011° 010° 010° 010°			SHA 049° 049° 048° 048° 048° 048°			SHA 344° 342° 340° 339° 337° 335°						
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 09:38			Greenwich Culmination Time: 14:18						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	123 54.6 +00.8	N	17 05.2 +00.6	264 16.7 +02.2	S	22 36.7 +00.0	236 31.8 +02.3	S	21 45.1 +00.0				
01	138 55.4 +00.7	N	17 05.8 +00.5	279 18.9 +02.2	S	22 36.7 +00.0	251 34.1 +02.2	S	21 45.1 -00.1				
02	153 56.1 +00.8	N	17 06.3 +00.5	294 21.1 +02.2	S	22 36.7 +00.0	266 36.3 +02.3	S	21 45.0 +00.0				
03	168 56.9 +00.8	N	17 06.8 +00.5	309 23.3 +02.2	S	22 36.7 +00.0	281 38.6 +02.3	S	21 45.0 +00.0				
04	183 57.7 +00.8	N	17 07.3 +00.5	324 25.5 +02.3	S	22 36.7 +00.0	296 40.9 +02.2	S	21 45.0 +00.0				
05	198 58.5 +00.8	N	17 07.8 +00.5	339 27.8 +02.2	S	22 36.7 +00.0	311 43.1 +02.3	S	21 45.0 -00.1				
06	213 59.3 +00.8	N	17 08.3 +00.5	354 30.0 +02.2	S	22 36.7 +00.0	326 45.4 +02.2	S	21 44.9 +00.0				
07	229 00.1 +00.8	N	17 08.8 +00.5	9 32.2 +02.2	S	22 36.7 +00.0	341 47.6 +02.3	S	21 44.9 +00.0				
08	244 00.9 +00.8	N	17 09.3 +00.6	24 34.4 +02.2	S	22 36.7 +00.1	356 49.9 +02.2	S	21 44.9 +00.0				
09	259 01.7 +00.8	N	17 09.9 +00.5	39 36.6 +02.2	S	22 36.8 +00.0	11 52.1 +02.3	S	21 44.9 -00.1				
10	274 02.5 +00.8	N	17 10.4 +00.5	54 38.8 +02.2	S	22 36.8 +00.0	26 54.4 +02.3	S	21 44.8 +00.0				
11	289 03.3 +00.8	N	17 10.9 +00.5	69 41.0 +02.2	S	22 36.8 +00.0	41 56.7 +02.2	S	21 44.8 +00.0				
12	304 04.1 +00.8	N	17 11.4 +00.5	84 43.2 +02.2	S	22 36.8 +00.0	56 58.9 +02.3	S	21 44.8 +00.0				
13	319 04.9 +00.8	N	17 11.9 +00.5	99 45.4 +02.2	S	22 36.8 +00.0	72 01.2 +02.2	S	21 44.8 -00.1				
14	334 05.7 +00.8	N	17 12.4 +00.5	114 47.6 +02.2	S	22 36.8 +00.0	87 03.4 +02.3	S	21 44.7 +00.0				
15	349 06.5 +00.8	N	17 12.9 +00.5	129 49.8 +02.2	S	22 36.8 +00.0	102 05.7 +02.3	S	21 44.7 +00.0				
16	4 07.3 +00.8	N	17 13.4 +00.5	144 52.0 +02.2	S	22 36.8 +00.1	117 08.0 +02.2	S	21 44.7 +00.0				
17	19 08.1 +00.8	N	17 13.9 +00.6	159 54.2 +02.2	S	22 36.9 +00.0	132 10.2 +02.3	S	21 44.7 -00.1				
18	34 08.9 +00.8	N	17 14.5 +00.5	174 56.4 +02.3	S	22 36.9 +00.0	147 12.5 +02.2	S	21 44.6 +00.0				
19	49 09.7 +00.8	N	17 15.0 +00.5	189 58.7 +02.2	S	22 36.9 +00.0	162 14.7 +02.3	S	21 44.6 +00.0				
20	64 10.5 +00.7	N	17 15.5 +00.5	205 00.9 +02.2	S	22 36.9 +00.0	177 17.0 +02.3	S	21 44.6 +00.0				
21	79 11.2 +00.8	N	17 16.0 +00.5	220 03.1 +02.2	S	22 36.9 +00.0	192 19.3 +02.2	S	21 44.6 +00.0				
22	94 12.0 +00.8	N	17 16.5 +00.5	235 05.3 +02.2	S	22 36.9 +00.0	207 21.5 +02.3	S	21 44.6 -00.1				
23	109 12.8 +00.8	N	17 17.0 +00.5	250 07.5 +02.2	S	22 36.9 +00.0	222 23.8 +02.2	S	21 44.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 317° 317° 317° 317° 317° 317°			SHA 098° 098° 098° 098° 098° 098°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:43			Greenwich Culmination Time: 06:21			Greenwich Culmination Time: 08:12						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 22.8 +00.2	S 04 18.3 -01.0	215 09.1 -00.6	S 17 31.2 -00.6	141 08.9 -26.5	N 05 23.6 +11.1	00						
01	192 23.0 +00.1	S 04 17.3 -01.0	230 08.5 -00.6	S 17 30.6 -00.7	155 42.4 -26.6	N 05 34.7 +11.1	01						
02	207 23.1 +00.2	S 04 16.3 -01.0	245 07.9 -00.6	S 17 29.9 -00.6	170 15.8 -26.5	N 05 45.8 +11.0	02						
03	222 23.3 +00.1	S 04 15.3 -00.9	260 07.3 -00.6	S 17 29.3 -00.7	184 49.3 -26.7	N 05 56.8 +11.1	03						
04	237 23.4 +00.2	S 04 14.4 -01.0	275 06.7 -00.6	S 17 28.6 -00.6	199 22.6 -26.6	N 06 07.9 +11.0	04						
05	252 23.6 +00.1	S 04 13.4 -01.0	290 06.1 -00.5	S 17 28.0 -00.7	213 56.0 -26.7	N 06 18.9 +11.1	05						
06	267 23.7 +00.2	S 04 12.4 -01.0	305 05.6 -00.6	S 17 27.3 -00.6	228 29.3 -26.8	N 06 30.0 +11.0	06						
07	282 23.9 +00.2	S 04 11.4 -01.0	320 05.0 -00.6	S 17 26.7 -00.7	243 02.5 -26.8	N 06 41.0 +10.9	07						
08	297 24.1 +00.1	S 04 10.4 -00.9	335 04.4 -00.6	S 17 26.0 -00.6	257 35.7 -26.8	N 06 51.9 +11.0	08						
09	312 24.2 +00.2	S 04 09.5 -01.0	350 03.8 -00.6	S 17 25.4 -00.7	272 08.9 -26.9	N 07 02.9 +10.9	09						
10	327 24.4 +00.1	S 04 08.5 -01.0	5 03.2 -00.6	S 17 24.7 -00.7	286 42.0 -26.9	N 07 13.8 +10.9	10						
11	342 24.5 +00.2	S 04 07.5 -01.0	20 02.6 -00.6	S 17 24.0 -00.6	301 15.1 -26.9	N 07 24.7 +10.9	11						
12	357 24.7 +00.2	S 04 06.5 -01.0	35 02.0 -00.5	S 17 23.4 -00.7	315 48.2 -27.0	N 07 35.6 +10.9	12						
13	12 24.9 +00.1	S 04 05.5 -00.9	50 01.5 -00.6	S 17 22.7 -00.6	330 21.2 -27.1	N 07 46.5 +10.8	13						
14	27 25.0 +00.2	S 04 04.6 -01.0	65 00.9 -00.6	S 17 22.1 -00.7	344 54.1 -27.0	N 07 57.3 +10.8	14						
15	42 25.2 +00.1	S 04 03.6 -01.0	80 00.3 -00.6	S 17 21.4 -00.7	359 27.1 -27.2	N 08 08.1 +10.8	15						
16	57 25.3 +00.2	S 04 02.6 -01.0	94 59.7 -00.6	S 17 20.7 -00.6	13 59.9 -27.2	N 08 18.9 +10.7	16						
17	72 25.5 +00.2	S 04 01.6 -01.0	109 59.1 -00.6	S 17 20.1 -00.7	28 32.7 -27.2	N 08 29.6 +10.8	17						
18	87 25.7 +00.1	S 04 00.6 -00.9	124 58.5 -00.6	S 17 19.4 -00.6	43 05.5 -27.3	N 08 40.4 +10.6	18						
19	102 25.8 +00.2	S 03 59.7 -01.0	139 57.9 -00.5	S 17 18.8 -00.7	57 38.2 -27.3	N 08 51.0 +10.7	19						
20	117 26.0 +00.1	S 03 58.7 -01.0	154 57.4 -00.6	S 17 18.1 -00.7	72 10.9 -27.4	N 09 01.7 +10.6	20						
21	132 26.1 +00.2	S 03 57.7 -01.0	169 56.8 -00.6	S 17 17.4 -00.6	86 43.5 -27.4	N 09 12.3 +10.6	21						
22	147 26.3 +00.2	S 03 56.7 -01.0	184 56.2 -00.6	S 17 16.8 -00.7	101 16.1 -27.5	N 09 22.9 +10.6	22						
23	162 26.5 +00.1	S 03 55.7 -01.0	199 55.6 -00.6	S 17 16.1 -00.7	115 48.6 -27.5	N 09 33.5 +10.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'1 15'1 15'1 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'3 55'3 55'4 55'5 55'6 55'7								
	SHA 010° 010° 010° 009° 009° 009°		SHA 048° 047° 047° 047° 047° 047°		SHA 333° 331° 329° 327° 325° 323°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 09:39		Greenwich Culmination Time: 15:02								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	124 13.6 +00.8	N 17 17.5 +00.5	265 09.7 +02.2	S 22 36.9 +00.1	237 26.0 +02.3	S 21 44.5 +00.0	00						
01	139 14.4 +00.8	N 17 18.0 +00.5	280 11.9 +02.2	S 22 37.0 +00.0	252 28.3 +02.3	S 21 44.5 +00.0	01						
02	154 15.2 +00.8	N 17 18.5 +00.5	295 14.1 +02.2	S 22 37.0 +00.0	267 30.6 +02.2	S 21 44.5 -00.1	02						
03	169 16.0 +00.8	N 17 19.0 +00.5	310 16.3 +02.2	S 22 37.0 +00.0	282 32.8 +02.3	S 21 44.4 +00.0	03						
04	184 16.8 +00.8	N 17 19.5 +00.5	325 18.5 +02.3	S 22 37.0 +00.0	297 35.1 +02.2	S 21 44.4 +00.0	04						
05	199 17.6 +00.8	N 17 20.0 +00.6	340 20.8 +02.2	S 22 37.0 +00.0	312 37.3 +02.3	S 21 44.4 +00.0	05						
06	214 18.4 +00.8	N 17 20.6 +00.5	355 23.0 +02.2	S 22 37.0 +00.0	327 39.6 +02.3	S 21 44.4 -00.1	06						
07	229 19.2 +00.8	N 17 21.1 +00.5	10 25.2 +02.2	S 22 37.0 +00.0	342 41.9 +02.2	S 21 44.3 +00.0	07						
08	244 20.0 +00.8	N 17 21.6 +00.5	25 27.4 +02.2	S 22 37.0 +00.0	357 44.1 +02.3	S 21 44.3 +00.0	08						
09	259 20.8 +00.8	N 17 22.1 +00.5	40 29.6 +02.2	S 22 37.0 +00.1	12 46.4 +02.2	S 21 44.3 +00.0	09						
10	274 21.6 +00.7	N 17 22.6 +00.5	55 31.8 +02.2	S 22 37.1 +00.0	27 48.6 +02.3	S 21 44.3 -00.1	10						
11	289 22.3 +00.8	N 17 23.1 +00.5	70 34.0 +02.2	S 22 37.1 +00.0	42 50.9 +02.3	S 21 44.2 +00.0	11						
12	304 23.1 +00.8	N 17 23.6 +00.5	85 36.2 +02.3	S 22 37.1 +00.0	57 53.2 +02.2	S 21 44.2 +00.0	12						
13	319 23.9 +00.8	N 17 24.1 +00.5	100 38.5 +02.2	S 22 37.1 +00.0	72 55.4 +02.3	S 21 44.2 +00.0	13						
14	334 24.7 +00.8	N 17 24.6 +00.5	115 40.7 +02.2	S 22 37.1 +00.0	87 57.7 +02.3	S 21 44.2 -00.1	14						
15	349 25.5 +00.8	N 17 25.1 +00.5	130 42.9 +02.2	S 22 37.1 +00.0	102 60.0 +02.2	S 21 44.1 +00.0	15						
16	4 26.3 +00.8	N 17 25.6 +00.5	145 45.1 +02.2	S 22 37.1 +00.0	118 02.2 +02.3	S 21 44.1 +00.0	16						
17	19 27.1 +00.8	N 17 26.1 +00.5	160 47.3 +02.2	S 22 37.1 +00.1	133 04.5 +02.2	S 21 44.1 +00.0	17						
18	34 27.9 +00.8	N 17 26.6 +00.5	175 49.5 +02.3	S 22 37.2 +00.0	148 06.7 +02.3	S 21 44.1 -00.1	18						
19	49 28.7 +00.8	N 17 27.1 +00.5	190 51.8 +02.2	S 22 37.2 +00.0	163 09.0 +02.3	S 21 44.0 +00.0	19						
20	64 29.5 +00.8	N 17 27.6 +00.5	205 54.0 +02.2	S 22 37.2 +00.0	178 11.3 +02.2	S 21 44.0 +00.0	20						
21	79 30.3 +00.7	N 17 28.1 +00.5	220 56.2 +02.2	S 22 37.2 +00.0	193 13.5 +02.3	S 21 44.0 +00.0	21						
22	94 31.0 +00.8	N 17 28.6 +00.5	235 58.4 +02.2	S 22 37.2 +00.0	208 15.8 +02.3	S 21 44.0 -00.1	22						
23	109 31.8 +00.8	N 17 29.1 +00.5	251 00.6 +02.2	S 22 37.2 +00.0	223 18.1 +02.2	S 21 43.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 317° 317° 317° 316° 316° 316°		SHA 098° 098° 098° 098° 098° 098°		SHA 070° 070° 070° 070° 070° 070°								
	Greenwich Culmination Time: 15:42		Greenwich Culmination Time: 06:18		Greenwich Culmination Time: 08:09								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 26.6 +00.2	S 03	54.7 -00.9	214 55.0 -00.5	S 17	15.4 -00.6	130 21.1 -27.6	N 09	44.0 +10.5	00										
01	192 26.8 +00.1	S 03	53.8 -01.0	229 54.5 -00.6	S 17	14.8 -00.7	144 53.5 -27.6	N 09	54.5 +10.4	01										
02	207 26.9 +00.2	S 03	52.8 -01.0	244 53.9 -00.6	S 17	14.1 -00.7	159 25.9 -27.7	N 10	04.9 +10.4	02										
03	222 27.1 +00.2	S 03	51.8 -01.0	259 53.3 -00.6	S 17	13.4 -00.7	173 58.2 -27.7	N 10	15.3 +10.4	03										
04	237 27.3 +00.1	S 03	50.8 -01.0	274 52.7 -00.6	S 17	12.7 -00.6	188 30.5 -27.8	N 10	25.7 +10.3	04										
05	252 27.4 +00.2	S 03	49.8 -00.9	289 52.1 -00.5	S 17	12.1 -00.7	203 02.7 -27.9	N 10	36.0 +10.3	05										
06	267 27.6 +00.2	S 03	48.9 -01.0	304 51.6 -00.6	S 17	11.4 -00.7	217 34.8 -27.9	N 10	46.3 +10.3	06										
07	282 27.8 +00.1	S 03	47.9 -01.0	319 51.0 -00.6	S 17	10.7 -00.7	232 06.9 -28.0	N 10	56.6 +10.2	07										
08	297 27.9 +00.2	S 03	46.9 -01.0	334 50.4 -00.6	S 17	10.0 -00.6	246 38.9 -28.0	N 11	06.8 +10.1	08										
09	312 28.1 +00.1	S 03	45.9 -01.0	349 49.8 -00.6	S 17	09.4 -00.7	261 10.9 -28.1	N 11	16.9 +10.2	09										
10	327 28.2 +00.2	S 03	44.9 -00.9	4 49.2 -00.5	S 17	08.7 -00.7	275 42.8 -28.1	N 11	27.1 +10.0	10										
11	342 28.4 +00.2	S 03	44.0 -01.0	19 48.7 -00.6	S 17	08.0 -00.7	290 14.7 -28.2	N 11	37.1 +10.1	11										
12	357 28.6 +00.1	S 03	43.0 -01.0	34 48.1 -00.6	S 17	07.3 -00.6	304 46.5 -28.3	N 11	47.2 +09.9	12										
13	12 28.7 +00.2	S 03	42.0 -01.0	49 47.5 -00.6	S 17	06.7 -00.7	319 18.2 -28.3	N 11	57.1 +10.0	13										
14	27 28.9 +00.2	S 03	41.0 -01.0	64 46.9 -00.6	S 17	06.0 -00.7	333 49.9 -28.4	N 12	07.1 +09.9	14										
15	42 29.1 +00.1	S 03	40.0 -01.0	79 46.3 -00.5	S 17	05.3 -00.7	348 21.5 -28.5	N 12	17.0 +09.8	15										
16	57 29.2 +00.2	S 03	39.0 -00.9	94 45.8 -00.6	S 17	04.6 -00.7	2 53.0 -28.5	N 12	26.8 +09.8	16										
17	72 29.4 +00.1	S 03	38.1 -01.0	109 45.2 -00.6	S 17	03.9 -00.7	17 24.5 -28.6	N 12	36.6 +09.7	17										
18	87 29.5 +00.2	S 03	37.1 -01.0	124 44.6 -00.6	S 17	03.2 -00.6	31 55.9 -28.6	N 12	46.3 +09.7	18										
19	102 29.7 +00.2	S 03	36.1 -01.0	139 44.0 -00.5	S 17	02.6 -00.7	46 27.3 -28.8	N 12	56.0 +09.6	19										
20	117 29.9 +00.1	S 03	35.1 -01.0	154 43.5 -00.6	S 17	01.9 -00.7	60 58.5 -28.7	N 13	05.6 +09.6	20										
21	132 30.0 +00.2	S 03	34.1 -01.0	169 42.9 -00.6	S 17	01.2 -00.7	75 29.8 -28.9	N 13	15.2 +09.5	21										
22	147 30.2 +00.2	S 03	33.1 -00.9	184 42.3 -00.6	S 17	00.5 -00.7	90 00.9 -28.9	N 13	24.7 +09.5	22										
23	162 30.4 +00.1	S 03	32.2 -01.0	199 41.7 -00.5	S 16	59.8 -00.7	104 32.0 -29.0	N 13	34.2 +09.4	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'2	15'2	15'2	15'3	15'3	15'3
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	55'8	55'8	55'9	56'0	56'1	56'2
SHA	009°	009°	009°	009°	008°	008°	SHA	046°	046°	046°	046°	046°	045°	SHA	321°	319°	317°	315°	313°	311°
Greenwich Culmination Time: 12:10							Greenwich Culmination Time: 09:40							Greenwich Culmination Time: 15:48						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	124 32.6 +00.8	N 17	29.6 +00.5	266 02.8 +02.3	S 22	37.2 +00.0	238 20.3 +02.3	S 21	43.9 +00.0	00										
01	139 33.4 +00.8	N 17	30.1 +00.5	281 05.1 +02.2	S 22	37.2 +00.0	253 22.6 +02.2	S 21	43.9 +00.0	01										
02	154 34.2 +00.8	N 17	30.6 +00.5	296 07.3 +02.2	S 22	37.2 +00.1	268 24.8 +02.3	S 21	43.9 -00.1	02										
03	169 35.0 +00.8	N 17	31.1 +00.5	311 09.5 +02.2	S 22	37.3 +00.0	283 27.1 +02.3	S 21	43.8 +00.0	03										
04	184 35.8 +00.8	N 17	31.6 +00.5	326 11.7 +02.2	S 22	37.3 +00.0	298 29.4 +02.2	S 21	43.8 +00.0	04										
05	199 36.6 +00.8	N 17	32.1 +00.5	341 13.9 +02.3	S 22	37.3 +00.0	313 31.6 +02.3	S 21	43.8 +00.0	05										
06	214 37.4 +00.8	N 17	32.6 +00.5	356 16.2 +02.2	S 22	37.3 +00.0	328 33.9 +02.3	S 21	43.8 +00.0	06										
07	229 38.2 +00.7	N 17	33.1 +00.5	11 18.4 +02.2	S 22	37.3 +00.0	343 36.2 +02.2	S 21	43.8 -00.1	07										
08	244 38.9 +00.8	N 17	33.6 +00.5	26 20.6 +02.2	S 22	37.3 +00.0	358 38.4 +02.3	S 21	43.7 +00.0	08										
09	259 39.7 +00.8	N 17	34.1 +00.5	41 22.8 +02.2	S 22	37.3 +00.0	13 40.7 +02.3	S 21	43.7 +00.0	09										
10	274 40.5 +00.8	N 17	34.6 +00.5	56 25.0 +02.3	S 22	37.3 +00.0	28 43.0 +02.2	S 21	43.7 +00.0	10										
11	289 41.3 +00.8	N 17	35.1 +00.5	71 27.3 +02.2	S 22	37.3 +00.1	43 45.2 +02.3	S 21	43.7 -00.1	11										
12	304 42.1 +00.8	N 17	35.6 +00.5	86 29.5 +02.2	S 22	37.4 +00.0	58 47.5 +02.3	S 21	43.6 +00.0	12										
13	319 42.9 +00.8	N 17	36.1 +00.5	101 31.7 +02.2	S 22	37.4 +00.0	73 49.8 +02.2	S 21	43.6 +00.0	13										
14	334 43.7 +00.8	N 17	36.6 +00.5	116 33.9 +02.2	S 22	37.4 +00.0	88 52.0 +02.3	S 21	43.6 +00.0	14										
15	349 44.5 +00.8	N 17	37.1 +00.5	131 36.1 +02.3	S 22	37.4 +00.0	103 54.3 +02.3	S 21	43.6 -00.1	15										
16	4 45.3 +00.7	N 17	37.6 +00.5	146 38.4 +02.2	S 22	37.4 +00.0	118 56.6 +02.2	S 21	43.5 +00.0	16										
17	19 46.0 +00.8	N 17	38.1 +00.5	161 40.6 +02.2	S 22	37.4 +00.0	133 58.8 +02.3	S 21	43.5 +00.0	17										
18	34 46.8 +00.8	N 17	38.6 +00.5	176 42.8 +02.2	S 22	37.4 +00.0	149 01.1 +02.2	S 21	43.5 +00.0	18										
19	49 47.6 +00.8	N 17	39.1 +00.5	191 45.0 +02.3	S 22	37.4 +00.0	164 03.3 +02.3	S 21	43.5 -00.1	19										
20	64 48.4 +00.8	N 17	39.6 +00.5	206 47.3 +02.2	S 22	37.4 +00.1	179 05.6 +02.3	S 21	43.4 +00.0	20										
21	79 49.2 +00.8	N 17	40.1 +00.5	221 49.5 +02.2	S 22	37.5 +00.0	194 07.9 +02.2	S 21	43.4 +00.0	21										
22	94 50.0 +00.8	N 17	40.6 +00.5	236 51.7 +02.2	S 22	37.5 +00.0	209 10.1 +02.3	S 21	43.4 +00.0	22										
23	109 50.8 +00.8	N 17	41.1 +00.5	251 53.9 +02.3	S 22	37.5 +00.0	224 12.4 +02.3	S 21	43.4 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	316°	316°	316°	316°	316°	316°	SHA	098°	098°	098°	098°	098°	098°	SHA	070°	070°	070°	070°	070°	070°
Greenwich Culmination Time: 15:40							Greenwich Culmination Time: 06:14							Greenwich Culmination Time: 08:05						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 30.5 +00.2	S	03 31.2 -01.0	214 41.2 -00.6	S	16 59.1 -00.7	119 03.0 -29.0	N	13 43.6 +09.3	00			
01	192 30.7 +00.2	S	03 30.2 -01.0	229 40.6 -00.6	S	16 58.4 -00.6	133 34.0 -29.2	N	13 52.9 +09.3	01			
02	207 30.9 +00.1	S	03 29.2 -01.0	244 40.0 -00.6	S	16 57.8 -00.7	148 04.8 -29.1	N	14 02.2 +09.2	02			
03	222 31.0 +00.2	S	03 28.2 -01.0	259 39.4 -00.5	S	16 57.1 -00.7	162 35.7 -29.3	N	14 11.4 +09.2	03			
04	237 31.2 +00.2	S	03 27.2 -00.9	274 38.9 -00.6	S	16 56.4 -00.7	177 06.4 -29.3	N	14 20.6 +09.1	04			
05	252 31.4 +00.1	S	03 26.3 -01.0	289 38.3 -00.6	S	16 55.7 -00.7	191 37.1 -29.4	N	14 29.7 +09.0	05			
06	267 31.5 +00.2	S	03 25.3 -01.0	304 37.7 -00.5	S	16 55.0 -00.7	206 07.7 -29.5	N	14 38.7 +09.0	06			
07	282 31.7 +00.2	S	03 24.3 -01.0	319 37.2 -00.6	S	16 54.3 -00.7	220 38.2 -29.5	N	14 47.7 +08.9	07			
08	297 31.9 +00.1	S	03 23.3 -01.0	334 36.6 -00.6	S	16 53.6 -00.7	235 08.7 -29.7	N	14 56.6 +08.9	08			
09	312 32.0 +00.2	S	03 22.3 -01.0	349 36.0 -00.6	S	16 52.9 -00.7	249 39.0 -29.7	N	15 05.5 +08.7	09			
10	327 32.2 +00.2	S	03 21.3 -00.9	4 35.4 -00.5	S	16 52.2 -00.7	264 09.3 -29.7	N	15 14.2 +08.8	10			
11	342 32.4 +00.1	S	03 20.4 -01.0	19 34.9 -00.6	S	16 51.5 -00.7	278 39.6 -29.9	N	15 23.0 +08.6	11			
12	357 32.5 +00.2	S	03 19.4 -01.0	34 34.3 -00.6	S	16 50.8 -00.7	293 09.7 -29.9	N	15 31.6 +08.6	12			
13	12 32.7 +00.2	S	03 18.4 -01.0	49 33.7 -00.5	S	16 50.1 -00.7	307 39.8 -30.0	N	15 40.2 +08.5	13			
14	27 32.9 +00.1	S	03 17.4 -01.0	64 33.2 -00.6	S	16 49.4 -00.7	322 09.8 -30.0	N	15 48.7 +08.4	14			
15	42 33.0 +00.2	S	03 16.4 -01.0	79 32.6 -00.6	S	16 48.7 -00.7	336 39.8 -30.2	N	15 57.1 +08.3	15			
16	57 33.2 +00.2	S	03 15.4 -00.9	94 32.0 -00.5	S	16 48.0 -00.7	351 09.6 -30.2	N	16 05.4 +08.3	16			
17	72 33.4 +00.1	S	03 14.5 -01.0	109 31.5 -00.6	S	16 47.3 -00.7	5 39.4 -30.3	N	16 13.7 +08.2	17			
18	87 33.5 +00.2	S	03 13.5 -01.0	124 30.9 -00.6	S	16 46.6 -00.7	20 09.1 -30.3	N	16 21.9 +08.1	18			
19	102 33.7 +00.2	S	03 12.5 -01.0	139 30.3 -00.6	S	16 45.9 -00.7	34 38.8 -30.5	N	16 30.0 +08.1	19			
20	117 33.9 +00.1	S	03 11.5 -01.0	154 29.7 -00.5	S	16 45.2 -00.7	49 08.3 -30.5	N	16 38.1 +07.9	20			
21	132 34.0 +00.2	S	03 10.5 -01.0	169 29.2 -00.6	S	16 44.5 -00.7	63 37.8 -30.6	N	16 46.0 +07.9	21			
22	147 34.2 +00.2	S	03 09.5 -00.9	184 28.6 -00.6	S	16 43.8 -00.7	78 07.2 -30.7	N	16 53.9 +07.8	22			
23	162 34.4 +00.1	S	03 08.6 -01.0	199 28.0 -00.5	S	16 43.1 -00.7	92 36.5 -30.7	N	17 01.7 +07.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'3 15'4 15'4 15'4 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 56'3 56'4 56'6 56'7 56'8 56'9						
	SHA 008° 008° 008° 008° 007° 007°			SHA 045° 045° 045° 045° 044° 044°			SHA 309° 307° 304° 302° 300° 298°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 09:41			Greenwich Culmination Time: 16:36						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	124 51.6 +00.7	N	17 41.6 +00.5	266 56.2 +02.2	S	22 37.5 +00.0	239 14.7 +02.2	S	21 43.3 +00.0	00			
01	139 52.3 +00.8	N	17 42.1 +00.5	281 58.4 +02.2	S	22 37.5 +00.0	254 16.9 +02.3	S	21 43.3 +00.0	01			
02	154 53.1 +00.8	N	17 42.6 +00.5	297 00.6 +02.2	S	22 37.5 +00.0	269 19.2 +02.3	S	21 43.3 +00.0	02			
03	169 53.9 +00.8	N	17 43.1 +00.5	312 02.8 +02.3	S	22 37.5 +00.0	284 21.5 +02.2	S	21 43.3 +00.0	03			
04	184 54.7 +00.8	N	17 43.6 +00.5	327 05.1 +02.2	S	22 37.5 +00.0	299 23.7 +02.3	S	21 43.3 -00.1	04			
05	199 55.5 +00.8	N	17 44.1 +00.5	342 07.3 +02.2	S	22 37.5 +00.1	314 26.0 +02.3	S	21 43.2 +00.0	05			
06	214 56.3 +00.8	N	17 44.6 +00.5	357 09.5 +02.2	S	22 37.6 +00.0	329 28.3 +02.3	S	21 43.2 +00.0	06			
07	229 57.1 +00.8	N	17 45.1 +00.5	12 11.7 +02.3	S	22 37.6 +00.0	344 30.6 +02.2	S	21 43.2 +00.0	07			
08	244 57.9 +00.7	N	17 45.6 +00.5	27 14.0 +02.2	S	22 37.6 +00.0	359 32.8 +02.3	S	21 43.2 -00.1	08			
09	259 58.6 +00.8	N	17 46.1 +00.5	42 16.2 +02.2	S	22 37.6 +00.0	14 35.1 +02.3	S	21 43.1 +00.0	09			
10	274 59.4 +00.8	N	17 46.6 +00.5	57 18.4 +02.2	S	22 37.6 +00.0	29 37.4 +02.2	S	21 43.1 +00.0	10			
11	290 00.2 +00.8	N	17 47.1 +00.5	72 20.6 +02.3	S	22 37.6 +00.0	44 39.6 +02.3	S	21 43.1 +00.0	11			
12	305 01.0 +00.8	N	17 47.6 +00.4	87 22.9 +02.2	S	22 37.6 +00.0	59 41.9 +02.3	S	21 43.1 -00.1	12			
13	320 01.8 +00.8	N	17 48.0 +00.5	102 25.1 +02.2	S	22 37.6 +00.0	74 44.2 +02.2	S	21 43.0 +00.0	13			
14	335 02.6 +00.8	N	17 48.5 +00.5	117 27.3 +02.3	S	22 37.6 +00.0	89 46.4 +02.3	S	21 43.0 +00.0	14			
15	350 03.4 +00.7	N	17 49.0 +00.5	132 29.6 +02.2	S	22 37.6 +00.1	104 48.7 +02.3	S	21 43.0 +00.0	15			
16	5 04.1 +00.8	N	17 49.5 +00.5	147 31.8 +02.2	S	22 37.7 +00.0	119 51.0 +02.2	S	21 43.0 -00.1	16			
17	20 04.9 +00.8	N	17 50.0 +00.5	162 34.0 +02.3	S	22 37.7 +00.0	134 53.2 +02.3	S	21 42.9 +00.0	17			
18	35 05.7 +00.8	N	17 50.5 +00.5	177 36.3 +02.2	S	22 37.7 +00.0	149 55.5 +02.3	S	21 42.9 +00.0	18			
19	50 06.5 +00.8	N	17 51.0 +00.5	192 38.5 +02.2	S	22 37.7 +00.0	164 57.8 +02.2	S	21 42.9 +00.0	19			
20	65 07.3 +00.8	N	17 51.5 +00.5	207 40.7 +02.2	S	22 37.7 +00.0	180 00.0 +02.3	S	21 42.9 +00.0	20			
21	80 08.1 +00.8	N	17 52.0 +00.5	222 42.9 +02.3	S	22 37.7 +00.0	195 02.3 +02.3	S	21 42.9 -00.1	21			
22	95 08.9 +00.7	N	17 52.5 +00.5	237 45.2 +02.2	S	22 37.7 +00.0	210 04.6 +02.3	S	21 42.8 +00.0	22			
23	110 09.6 +00.8	N	17 53.0 +00.5	252 47.4 +02.2	S	22 37.7 +00.0	225 06.9 +02.2	S	21 42.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 315° 315° 315° 315° 315° 315°			SHA 098° 098° 098° 098° 098° 097°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:39			Greenwich Culmination Time: 06:11			Greenwich Culmination Time: 08:01						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 34.5 +00.2	S	03 07.6 -01.0	214 27.5 -00.6	S	16 42.4 -00.8	107 05.8 -30.8	N	17 09.5 +07.6				
01	192 34.7 +00.2	S	03 06.6 -01.0	229 26.9 -00.6	S	16 41.6 -00.7	121 35.0 -31.0	N	17 17.1 +07.5				
02	207 34.9 +00.1	S	03 05.6 -01.0	244 26.3 -00.5	S	16 40.9 -00.7	136 04.0 -30.9	N	17 24.6 +07.5				
03	222 35.0 +00.2	S	03 04.6 -01.0	259 25.8 -00.6	S	16 40.2 -00.7	150 33.1 -31.1	N	17 32.1 +07.4				
04	237 35.2 +00.2	S	03 03.6 -01.0	274 25.2 -00.5	S	16 39.5 -00.7	165 02.0 -31.2	N	17 39.5 +07.3				
05	252 35.4 +00.1	S	03 02.6 -00.9	289 24.7 -00.6	S	16 38.8 -00.7	179 30.8 -31.2	N	17 46.8 +07.2				
06	267 35.5 +00.2	S	03 01.7 -01.0	304 24.1 -00.6	S	16 38.1 -00.7	193 59.6 -31.3	N	17 54.0 +07.1				
07	282 35.7 +00.2	S	03 00.7 -01.0	319 23.5 -00.5	S	16 37.4 -00.7	208 28.3 -31.4	N	18 01.1 +07.1				
08	297 35.9 +00.1	S	02 59.7 -01.0	334 23.0 -00.6	S	16 36.7 -00.8	222 56.9 -31.4	N	18 08.2 +06.9				
09	312 36.0 +00.2	S	02 58.7 -01.0	349 22.4 -00.6	S	16 35.9 -00.7	237 25.5 -31.6	N	18 15.1 +06.8				
10	327 36.2 +00.2	S	02 57.7 -01.0	4 21.8 -00.5	S	16 35.2 -00.7	251 53.9 -31.6	N	18 21.9 +06.8				
11	342 36.4 +00.1	S	02 56.7 -01.0	19 21.3 -00.6	S	16 34.5 -00.7	266 22.3 -31.7	N	18 28.7 +06.6				
12	357 36.5 +00.2	S	02 55.7 -00.9	34 20.7 -00.6	S	16 33.8 -00.7	280 50.6 -31.8	N	18 35.3 +06.6				
13	12 36.7 +00.2	S	02 54.8 -01.0	49 20.1 -00.5	S	16 33.1 -00.7	295 18.8 -31.8	N	18 41.9 +06.5				
14	27 36.9 +00.2	S	02 53.8 -01.0	64 19.6 -00.6	S	16 32.4 -00.8	309 47.0 -32.0	N	18 48.4 +06.3				
15	42 37.1 +00.1	S	02 52.8 -01.0	79 19.0 -00.5	S	16 31.6 -00.7	324 15.0 -32.0	N	18 54.7 +06.3				
16	57 37.2 +00.2	S	02 51.8 -01.0	94 18.5 -00.6	S	16 30.9 -00.7	338 43.0 -32.1	N	19 01.0 +06.2				
17	72 37.4 +00.2	S	02 50.8 -01.0	109 17.9 -00.6	S	16 30.2 -00.7	353 10.9 -32.2	N	19 07.2 +06.0				
18	87 37.6 +00.1	S	02 49.8 -00.9	124 17.3 -00.5	S	16 29.5 -00.8	7 38.7 -32.2	N	19 13.2 +06.0				
19	102 37.7 +00.2	S	02 48.9 -01.0	139 16.8 -00.6	S	16 28.7 -00.7	22 06.5 -32.4	N	19 19.2 +05.8				
20	117 37.9 +00.2	S	02 47.9 -01.0	154 16.2 -00.5	S	16 28.0 -00.7	36 34.1 -32.4	N	19 25.0 +05.8				
21	132 38.1 +00.2	S	02 46.9 -01.0	169 15.7 -00.6	S	16 27.3 -00.7	51 01.7 -32.5	N	19 30.8 +05.6				
22	147 38.3 +00.1	S	02 45.9 -01.0	184 15.1 -00.6	S	16 26.6 -00.8	65 29.2 -32.5	N	19 36.4 +05.6				
23	162 38.4 +00.2	S	02 44.9 -01.0	199 14.5 -00.5	S	16 25.8 -00.7	79 56.7 -32.7	N	19 42.0 +05.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'5 15'6 15'6 15'6 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 57'0 57'1 57'2 57'4 57'5 57'6						
	SHA 007° 007° 007° 007° 007° 006°			SHA 044° 044° 044° 043° 043° 043°			SHA 296° 293° 291° 289° 287° 284°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 09:42			Greenwich Culmination Time: 17:28						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 10.4 +00.8	N	17 53.5 +00.4	267 49.6 +02.3	S	22 37.7 +00.1	240 09.1 +02.3	S	21 42.8 +00.0				
01	140 11.2 +00.8	N	17 53.9 +00.5	282 51.9 +02.2	S	22 37.8 +00.0	255 11.4 +02.3	S	21 42.8 -00.1				
02	155 12.0 +00.8	N	17 54.4 +00.5	297 54.1 +02.2	S	22 37.8 +00.0	270 13.7 +02.2	S	21 42.7 +00.0				
03	170 12.8 +00.8	N	17 54.9 +00.5	312 56.3 +02.3	S	22 37.8 +00.0	285 15.9 +02.3	S	21 42.7 +00.0				
04	185 13.6 +00.7	N	17 55.4 +00.5	327 58.6 +02.2	S	22 37.8 +00.0	300 18.2 +02.3	S	21 42.7 +00.0				
05	200 14.3 +00.8	N	17 55.9 +00.5	343 00.8 +02.2	S	22 37.8 +00.0	315 20.5 +02.2	S	21 42.7 -00.1				
06	215 15.1 +00.8	N	17 56.4 +00.5	358 03.0 +02.3	S	22 37.8 +00.0	330 22.7 +02.3	S	21 42.6 +00.0				
07	230 15.9 +00.8	N	17 56.9 +00.5	13 05.3 +02.2	S	22 37.8 +00.0	345 25.0 +02.3	S	21 42.6 +00.0				
08	245 16.7 +00.8	N	17 57.4 +00.5	28 07.5 +02.2	S	22 37.8 +00.0	0 27.3 +02.3	S	21 42.6 +00.0				
09	260 17.5 +00.8	N	17 57.9 +00.4	43 09.7 +02.3	S	22 37.8 +00.0	15 29.6 +02.2	S	21 42.6 +00.0				
10	275 18.3 +00.7	N	17 58.3 +00.5	58 12.0 +02.2	S	22 37.8 +00.1	30 31.8 +02.3	S	21 42.6 -00.1				
11	290 19.0 +00.8	N	17 58.8 +00.5	73 14.2 +02.3	S	22 37.9 +00.0	45 34.1 +02.3	S	21 42.5 +00.0				
12	305 19.8 +00.8	N	17 59.3 +00.5	88 16.5 +02.2	S	22 37.9 +00.0	60 36.4 +02.2	S	21 42.5 +00.0				
13	320 20.6 +00.8	N	17 59.8 +00.5	103 18.7 +02.2	S	22 37.9 +00.0	75 38.6 +02.3	S	21 42.5 +00.0				
14	335 21.4 +00.8	N	18 00.3 +00.5	118 20.9 +02.3	S	22 37.9 +00.0	90 40.9 +02.3	S	21 42.5 -00.1				
15	350 22.2 +00.8	N	18 00.8 +00.5	133 23.2 +02.2	S	22 37.9 +00.0	105 43.2 +02.3	S	21 42.4 +00.0				
16	5 23.0 +00.7	N	18 01.3 +00.5	148 25.4 +02.2	S	22 37.9 +00.0	120 45.5 +02.2	S	21 42.4 +00.0				
17	20 23.7 +00.8	N	18 01.8 +00.4	163 27.6 +02.3	S	22 37.9 +00.0	135 47.7 +02.3	S	21 42.4 +00.0				
18	35 24.5 +00.8	N	18 02.2 +00.5	178 29.9 +02.2	S	22 37.9 +00.0	150 50.0 +02.3	S	21 42.4 -00.1				
19	50 25.3 +00.8	N	18 02.7 +00.5	193 32.1 +02.3	S	22 37.9 +00.0	165 52.3 +02.3	S	21 42.3 +00.0				
20	65 26.1 +00.8	N	18 03.2 +00.5	208 34.4 +02.2	S	22 37.9 +00.1	180 54.6 +02.2	S	21 42.3 +00.0				
21	80 26.9 +00.8	N	18 03.7 +00.5	223 36.6 +02.2	S	22 38.0 +00.0	195 56.8 +02.3	S	21 42.3 +00.0				
22	95 27.7 +00.7	N	18 04.2 +00.5	238 38.8 +02.3	S	22 38.0 +00.0	210 59.1 +02.3	S	21 42.3 -00.1				
23	110 28.4 +00.8	N	18 04.7 +00.4	253 41.1 +02.2	S	22 38.0 +00.0	226 01.4 +02.3	S	21 42.2 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 315° 315° 315° 314° 314° 314°			SHA 097° 097° 097° 097° 097° 097°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:38			Greenwich Culmination Time: 06:07			Greenwich Culmination Time: 07:58						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 38.6 +00.2	S	02 43.9 -01.0	214 14.0 -00.6	S	16 25.1 -00.7	94 24.0 -32.7	N	19 47.4 +05.3	00			
01	192 38.8 +00.1	S	02 42.9 -00.9	229 13.4 -00.5	S	16 24.4 -00.8	108 51.3 -32.8	N	19 52.7 +05.3	01			
02	207 38.9 +00.2	S	02 42.0 -01.0	244 12.9 -00.6	S	16 23.6 -00.7	123 18.5 -32.9	N	19 58.0 +05.1	02			
03	222 39.1 +00.2	S	02 41.0 -01.0	259 12.3 -00.6	S	16 22.9 -00.7	137 45.6 -32.9	N	20 03.1 +05.0	03			
04	237 39.3 +00.1	S	02 40.0 -01.0	274 11.7 -00.5	S	16 22.2 -00.7	152 12.7 -33.1	N	20 08.1 +04.8	04			
05	252 39.4 +00.2	S	02 39.0 -01.0	289 11.2 -00.6	S	16 21.5 -00.8	166 39.6 -33.1	N	20 12.9 +04.8	05			
06	267 39.6 +00.2	S	02 38.0 -01.0	304 10.6 -00.5	S	16 20.7 -00.7	181 06.5 -33.2	N	20 17.7 +04.7	06			
07	282 39.8 +00.2	S	02 37.0 -01.0	319 10.1 -00.6	S	16 20.0 -00.7	195 33.3 -33.2	N	20 22.4 +04.5	07			
08	297 40.0 +00.1	S	02 36.0 -01.0	334 09.5 -00.5	S	16 19.3 -00.8	210 00.1 -33.3	N	20 26.9 +04.4	08			
09	312 40.1 +00.2	S	02 35.0 -00.9	349 09.0 -00.6	S	16 18.5 -00.7	224 26.8 -33.5	N	20 31.3 +04.3	09			
10	327 40.3 +00.2	S	02 34.1 -01.0	4 08.4 -00.5	S	16 17.8 -00.8	238 53.3 -33.4	N	20 35.6 +04.2	10			
11	342 40.5 +00.2	S	02 33.1 -01.0	19 07.9 -00.6	S	16 17.0 -00.7	253 19.9 -33.6	N	20 39.8 +04.1	11			
12	357 40.7 +00.1	S	02 32.1 -01.0	34 07.3 -00.6	S	16 16.3 -00.7	267 46.3 -33.6	N	20 43.9 +03.9	12			
13	12 40.8 +00.2	S	02 31.1 -01.0	49 06.7 -00.5	S	16 15.6 -00.8	282 12.7 -33.7	N	20 47.8 +03.8	13			
14	27 41.0 +00.2	S	02 30.1 -01.0	64 06.2 -00.6	S	16 14.8 -00.7	296 39.0 -33.8	N	20 51.6 +03.7	14			
15	42 41.2 +00.1	S	02 29.1 -01.0	79 05.6 -00.5	S	16 14.1 -00.7	311 05.2 -33.8	N	20 55.3 +03.6	15			
16	57 41.3 +00.2	S	02 28.1 -00.9	94 05.1 -00.6	S	16 13.4 -00.8	325 31.4 -33.9	N	20 58.9 +03.4	16			
17	72 41.5 +00.2	S	02 27.2 -01.0	109 04.5 -00.5	S	16 12.6 -00.7	339 57.5 -34.0	N	21 02.3 +03.4	17			
18	87 41.7 +00.2	S	02 26.2 -01.0	124 04.0 -00.6	S	16 11.9 -00.8	354 23.5 -34.0	N	21 05.7 +03.2	18			
19	102 41.9 +00.1	S	02 25.2 -01.0	139 03.4 -00.5	S	16 11.1 -00.7	8 49.5 -34.1	N	21 08.9 +03.0	19			
20	117 42.0 +00.2	S	02 24.2 -01.0	154 02.9 -00.6	S	16 10.4 -00.8	23 15.4 -34.2	N	21 11.9 +03.0	20			
21	132 42.2 +00.2	S	02 23.2 -01.0	169 02.3 -00.5	S	16 09.6 -00.7	37 41.2 -34.2	N	21 14.9 +02.8	21			
22	147 42.4 +00.2	S	02 22.2 -01.0	184 01.8 -00.6	S	16 08.9 -00.8	52 07.0 -34.3	N	21 17.7 +02.7	22			
23	162 42.6 +00.1	S	02 21.2 -01.0	199 01.2 -00.5	S	16 08.1 -00.7	66 32.7 -34.4	N	21 20.4 +02.5	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'1 16'1 16'1 16'1 16'1 16'1			SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	15'7 15'8 15'8 15'8 15'9 15'9				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	57'7 57'9 58'0 58'1 58'3 58'4				
SHA	006° 006° 006° 006° 006° 005°			SHA	043° 043° 042° 042° 042° 042°			SHA	282° 280° 277° 275° 272° 270°				
Greenwich Culmination Time: 12:09				Greenwich Culmination Time: 09:43				Greenwich Culmination Time: 18:23					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 29.2 +00.8	N	18 05.1 +00.5	268 43.3 +02.2	S	22 38.0 +00.0	241 03.7 +02.2	S	21 42.2 +00.0	00			
01	140 30.0 +00.8	N	18 05.6 +00.5	283 45.5 +02.3	S	22 38.0 +00.0	256 05.9 +02.3	S	21 42.2 +00.0	01			
02	155 30.8 +00.8	N	18 06.1 +00.5	298 47.8 +02.2	S	22 38.0 +00.0	271 08.2 +02.3	S	21 42.2 +00.0	02			
03	170 31.6 +00.7	N	18 06.6 +00.5	313 50.0 +02.3	S	22 38.0 +00.0	286 10.5 +02.2	S	21 42.2 -00.1	03			
04	185 32.3 +00.8	N	18 07.1 +00.5	328 52.3 +02.2	S	22 38.0 +00.0	301 12.7 +02.3	S	21 42.1 +00.0	04			
05	200 33.1 +00.8	N	18 07.6 +00.4	343 54.5 +02.3	S	22 38.0 +00.0	316 15.0 +02.3	S	21 42.1 +00.0	05			
06	215 33.9 +00.8	N	18 08.0 +00.5	358 56.8 +02.2	S	22 38.0 +00.1	331 17.3 +02.3	S	21 42.1 +00.0	06			
07	230 34.7 +00.8	N	18 08.5 +00.5	13 59.0 +02.2	S	22 38.1 +00.0	346 19.6 +02.2	S	21 42.1 -00.1	07			
08	245 35.5 +00.7	N	18 09.0 +00.5	29 01.2 +02.3	S	22 38.1 +00.0	1 21.8 +02.3	S	21 42.0 +00.0	08			
09	260 36.2 +00.8	N	18 09.5 +00.5	44 03.5 +02.2	S	22 38.1 +00.0	16 24.1 +02.3	S	21 42.0 +00.0	09			
10	275 37.0 +00.8	N	18 10.0 +00.5	59 05.7 +02.3	S	22 38.1 +00.0	31 26.4 +02.3	S	21 42.0 +00.0	10			
11	290 37.8 +00.8	N	18 10.5 +00.4	74 08.0 +02.2	S	22 38.1 +00.0	46 28.7 +02.2	S	21 42.0 +00.0	11			
12	305 38.6 +00.8	N	18 10.9 +00.5	89 10.2 +02.3	S	22 38.1 +00.0	61 30.9 +02.3	S	21 42.0 -00.1	12			
13	320 39.4 +00.8	N	18 11.4 +00.5	104 12.5 +02.2	S	22 38.1 +00.0	76 33.2 +02.3	S	21 41.9 +00.0	13			
14	335 40.2 +00.7	N	18 11.9 +00.5	119 14.7 +02.2	S	22 38.1 +00.0	91 35.5 +02.3	S	21 41.9 +00.0	14			
15	350 40.9 +00.8	N	18 12.4 +00.5	134 16.9 +02.3	S	22 38.1 +00.0	106 37.8 +02.2	S	21 41.9 +00.0	15			
16	5 41.7 +00.8	N	18 12.9 +00.4	149 19.2 +02.2	S	22 38.1 +00.0	121 40.0 +02.3	S	21 41.9 -00.1	16			
17	20 42.5 +00.8	N	18 13.3 +00.5	164 21.4 +02.3	S	22 38.1 +00.1	136 42.3 +02.3	S	21 41.8 +00.0	17			
18	35 43.3 +00.7	N	18 13.8 +00.5	179 23.7 +02.2	S	22 38.2 +00.0	151 44.6 +02.3	S	21 41.8 +00.0	18			
19	50 44.0 +00.8	N	18 14.3 +00.5	194 25.9 +02.3	S	22 38.2 +00.0	166 46.9 +02.3	S	21 41.8 +00.0	19			
20	65 44.8 +00.8	N	18 14.8 +00.5	209 28.2 +02.2	S	22 38.2 +00.0	181 49.2 +02.2	S	21 41.8 -00.1	20			
21	80 45.6 +00.8	N	18 15.3 +00.4	224 30.4 +02.3	S	22 38.2 +00.0	196 51.4 +02.3	S	21 41.7 +00.0	21			
22	95 46.4 +00.8	N	18 15.7 +00.5	239 32.7 +02.2	S	22 38.2 +00.0	211 53.7 +02.3	S	21 41.7 +00.0	22			
23	110 47.2 +00.7	N	18 16.2 +00.5	254 34.9 +02.3	S	22 38.2 +00.0	226 56.0 +02.3	S	21 41.7 +00.0	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	00'0 00'0 00'0 00'0 00'0 00'0			SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	00'1 00'1 00'1 00'1 00'1 00'1				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'0 00'0 00'0 00'0 00'0 00'0			HP	00'0 00'0 00'0 00'0 00'0 00'0				
SHA	314° 314° 314° 314° 314° 314°			SHA	097° 097° 097° 097° 097° 097°			SHA	070° 070° 070° 070° 070° 070°				
Greenwich Culmination Time: 15:37				Greenwich Culmination Time: 06:04				Greenwich Culmination Time: 07:54					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 42.7 +00.2	S	02 20.2 -00.9	214 00.7 -00.6	S	16 07.4 -00.8	80 58.3 -34.4	N	21 22.9 +02.4	00			
01	192 42.9 +00.2	S	02 19.3 -01.0	229 00.1 -00.5	S	16 06.6 -00.7	95 23.9 -34.5	N	21 25.3 +02.3	01			
02	207 43.1 +00.2	S	02 18.3 -01.0	243 59.6 -00.6	S	16 05.9 -00.8	109 49.4 -34.6	N	21 27.6 +02.2	02			
03	222 43.3 +00.1	S	02 17.3 -01.0	258 59.0 -00.5	S	16 05.1 -00.7	124 14.8 -34.6	N	21 29.8 +02.0	03			
04	237 43.4 +00.2	S	02 16.3 -01.0	273 58.5 -00.6	S	16 04.4 -00.8	138 40.2 -34.7	N	21 31.8 +01.9	04			
05	252 43.6 +00.2	S	02 15.3 -01.0	288 57.9 -00.5	S	16 03.6 -00.7	153 05.5 -34.7	N	21 33.7 +01.8	05			
06	267 43.8 +00.2	S	02 14.3 -01.0	303 57.4 -00.6	S	16 02.9 -00.8	167 30.8 -34.8	N	21 35.5 +01.6	06			
07	282 44.0 +00.1	S	02 13.3 -00.9	318 56.8 -00.5	S	16 02.1 -00.7	181 56.0 -34.8	N	21 37.1 +01.5	07			
08	297 44.1 +00.2	S	02 12.4 -01.0	333 56.3 -00.6	S	16 01.4 -00.8	196 21.2 -34.9	N	21 38.6 +01.3	08			
09	312 44.3 +00.2	S	02 11.4 -01.0	348 55.7 -00.5	S	16 00.6 -00.7	210 46.3 -35.0	N	21 39.9 +01.2	09			
10	327 44.5 +00.1	S	02 10.4 -01.0	3 55.2 -00.6	S	15 59.9 -00.8	225 11.3 -35.0	N	21 41.1 +01.1	10			
11	342 44.6 +00.2	S	02 09.4 -01.0	18 54.6 -00.5	S	15 59.1 -00.7	239 36.3 -35.0	N	21 42.2 +00.9	11			
12	357 44.8 +00.2	S	02 08.4 -01.0	33 54.1 -00.6	S	15 58.4 -00.8	254 01.3 -35.1	N	21 43.1 +00.8	12			
13	12 45.0 +00.2	S	02 07.4 -01.0	48 53.5 -00.5	S	15 57.6 -00.7	268 26.2 -35.2	N	21 43.9 +00.6	13			
14	27 45.2 +00.2	S	02 06.4 -01.0	63 53.0 -00.6	S	15 56.9 -00.8	282 51.0 -35.2	N	21 44.5 +00.5	14			
15	42 45.4 +00.1	S	02 05.4 -00.9	78 52.4 -00.5	S	15 56.1 -00.8	297 15.8 -35.2	N	21 45.0 +00.4	15			
16	57 45.5 +00.2	S	02 04.5 -01.0	93 51.9 -00.5	S	15 55.3 -00.7	311 40.6 -35.3	N	21 45.4 +00.2	16			
17	72 45.7 +00.2	S	02 03.5 -01.0	108 51.4 -00.6	S	15 54.6 -00.8	326 05.3 -35.4	N	21 45.6 +00.1	17			
18	87 45.9 +00.2	S	02 02.5 -01.0	123 50.8 -00.5	S	15 53.8 -00.8	340 29.9 -35.4	N	21 45.7 -00.1	18			
19	102 46.1 +00.1	S	02 01.5 -01.0	138 50.3 -00.6	S	15 53.0 -00.7	354 54.5 -35.4	N	21 45.6 -00.2	19			
20	117 46.2 +00.2	S	02 00.5 -01.0	153 49.7 -00.5	S	15 52.3 -00.8	9 19.1 -35.4	N	21 45.4 -00.3	20			
21	132 46.4 +00.2	S	01 59.5 -01.0	168 49.2 -00.6	S	15 51.5 -00.7	23 43.7 -35.5	N	21 45.1 -00.5	21			
22	147 46.6 +00.2	S	01 58.5 -01.0	183 48.6 -00.5	S	15 50.8 -00.8	38 08.2 -35.6	N	21 44.6 -00.7	22			
23	162 46.8 +00.1	S	01 57.5 -00.9	198 48.1 -00.6	S	15 50.0 -00.8	52 32.6 -35.6	N	21 43.9 -00.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'9 16'0 16'0 16'0 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 58'5 58'6 58'8 58'9 59'0 59'2						
	SHA 005° 005° 005° 005° 005° 005°			SHA 042° 041° 041° 041° 041° 041°			SHA 267° 265° 262° 260° 257° 255°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 09:44			Greenwich Culmination Time: 19:21						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	125 47.9 +00.8	N	18 16.7 +00.5	269 37.2 +02.2	S	22 38.2 +00.0	241 58.3 +02.2	S	21 41.7 +00.0	00			
01	140 48.7 +00.8	N	18 17.2 +00.5	284 39.4 +02.2	S	22 38.2 +00.0	257 00.5 +02.3	S	21 41.7 -00.1	01			
02	155 49.5 +00.8	N	18 17.7 +00.4	299 41.6 +02.3	S	22 38.2 +00.0	272 02.8 +02.3	S	21 41.6 +00.0	02			
03	170 50.3 +00.8	N	18 18.1 +00.5	314 43.9 +02.2	S	22 38.2 +00.1	287 05.1 +02.3	S	21 41.6 +00.0	03			
04	185 51.1 +00.7	N	18 18.6 +00.5	329 46.1 +02.3	S	22 38.3 +00.0	302 07.4 +02.2	S	21 41.6 +00.0	04			
05	200 51.8 +00.8	N	18 19.1 +00.5	344 48.4 +02.2	S	22 38.3 +00.0	317 09.6 +02.3	S	21 41.6 -00.1	05			
06	215 52.6 +00.8	N	18 19.6 +00.4	359 50.6 +02.3	S	22 38.3 +00.0	332 11.9 +02.3	S	21 41.5 +00.0	06			
07	230 53.4 +00.8	N	18 20.0 +00.5	14 52.9 +02.2	S	22 38.3 +00.0	347 14.2 +02.3	S	21 41.5 +00.0	07			
08	245 54.2 +00.8	N	18 20.5 +00.5	29 55.1 +02.3	S	22 38.3 +00.0	2 16.5 +02.3	S	21 41.5 +00.0	08			
09	260 55.0 +00.7	N	18 21.0 +00.5	44 57.4 +02.2	S	22 38.3 +00.0	17 18.8 +02.2	S	21 41.5 +00.0	09			
10	275 55.7 +00.8	N	18 21.5 +00.4	59 59.6 +02.3	S	22 38.3 +00.0	32 21.0 +02.3	S	21 41.5 -00.1	10			
11	290 56.5 +00.8	N	18 21.9 +00.5	75 01.9 +02.2	S	22 38.3 +00.0	47 23.3 +02.3	S	21 41.4 +00.0	11			
12	305 57.3 +00.8	N	18 22.4 +00.5	90 04.1 +02.3	S	22 38.3 +00.0	62 25.6 +02.3	S	21 41.4 +00.0	12			
13	320 58.1 +00.7	N	18 22.9 +00.5	105 06.4 +02.2	S	22 38.3 +00.0	77 27.9 +02.3	S	21 41.4 +00.0	13			
14	335 58.8 +00.8	N	18 23.4 +00.4	120 08.6 +02.3	S	22 38.3 +00.1	92 30.2 +02.2	S	21 41.4 -00.1	14			
15	350 59.6 +00.8	N	18 23.8 +00.5	135 10.9 +02.2	S	22 38.4 +00.0	107 32.4 +02.3	S	21 41.3 +00.0	15			
16	6 00.4 +00.8	N	18 24.3 +00.5	150 13.1 +02.3	S	22 38.4 +00.0	122 34.7 +02.3	S	21 41.3 +00.0	16			
17	21 01.2 +00.7	N	18 24.8 +00.5	165 15.4 +02.3	S	22 38.4 +00.0	137 37.0 +02.3	S	21 41.3 +00.0	17			
18	36 01.9 +00.8	N	18 25.3 +00.4	180 17.7 +02.2	S	22 38.4 +00.0	152 39.3 +02.2	S	21 41.3 -00.1	18			
19	51 02.7 +00.8	N	18 25.7 +00.5	195 19.9 +02.3	S	22 38.4 +00.0	167 41.5 +02.3	S	21 41.2 +00.0	19			
20	66 03.5 +00.8	N	18 26.2 +00.5	210 22.2 +02.2	S	22 38.4 +00.0	182 43.8 +02.3	S	21 41.2 +00.0	20			
21	81 04.3 +00.8	N	18 26.7 +00.5	225 24.4 +02.3	S	22 38.4 +00.0	197 46.1 +02.3	S	21 41.2 +00.0	21			
22	96 05.1 +00.7	N	18 27.2 +00.4	240 26.7 +02.2	S	22 38.4 +00.0	212 48.4 +02.3	S	21 41.2 +00.0	22			
23	111 05.8 +00.8	N	18 27.6 +00.5	255 28.9 +02.3	S	22 38.4 +00.0	227 50.7 +02.3	S	21 41.2 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 313° 313° 313° 313° 313° 313°			SHA 097° 097° 097° 097° 097° 097°			SHA 070° 070° 070° 070° 070° 070°						
	Greenwich Culmination Time: 15:35			Greenwich Culmination Time: 06:00			Greenwich Culmination Time: 07:50						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 46.9 +00.2	S 01	56.6 -01.0	213 47.5 -00.5	S 15	49.2 -00.7	66 57.0 -35.6	N 21	43.1 -00.9	00										
01	192 47.1 +00.2	S 01	55.6 -01.0	228 47.0 -00.5	S 15	48.5 -00.8	81 21.4 -35.6	N 21	42.2 -01.1	01										
02	207 47.3 +00.2	S 01	54.6 -01.0	243 46.5 -00.6	S 15	47.7 -00.8	95 45.8 -35.7	N 21	41.1 -01.2	02										
03	222 47.5 +00.1	S 01	53.6 -01.0	258 45.9 -00.5	S 15	46.9 -00.7	110 10.1 -35.7	N 21	39.9 -01.4	03										
04	237 47.6 +00.2	S 01	52.6 -01.0	273 45.4 -00.6	S 15	46.2 -00.8	124 34.4 -35.7	N 21	38.5 -01.5	04										
05	252 47.8 +00.2	S 01	51.6 -01.0	288 44.8 -00.5	S 15	45.4 -00.8	138 58.7 -35.8	N 21	37.0 -01.7	05										
06	267 48.0 +00.2	S 01	50.6 -01.0	303 44.3 -00.5	S 15	44.6 -00.8	153 22.9 -35.8	N 21	35.3 -01.8	06										
07	282 48.2 +00.1	S 01	49.6 -00.9	318 43.8 -00.6	S 15	43.8 -00.7	167 47.1 -35.8	N 21	33.5 -02.0	07										
08	297 48.3 +00.2	S 01	48.7 -01.0	333 43.2 -00.5	S 15	43.1 -00.8	182 11.3 -35.8	N 21	31.5 -02.1	08										
09	312 48.5 +00.2	S 01	47.7 -01.0	348 42.7 -00.6	S 15	42.3 -00.8	196 35.5 -35.9	N 21	29.4 -02.2	09										
10	327 48.7 +00.2	S 01	46.7 -01.0	3 42.1 -00.5	S 15	41.5 -00.8	210 59.6 -35.9	N 21	27.2 -02.5	10										
11	342 48.9 +00.2	S 01	45.7 -01.0	18 41.6 -00.5	S 15	40.7 -00.7	225 23.7 -35.9	N 21	24.7 -02.5	11										
12	357 49.1 +00.1	S 01	44.7 -01.0	33 41.1 -00.6	S 15	40.0 -00.8	239 47.8 -35.9	N 21	22.2 -02.7	12										
13	12 49.2 +00.2	S 01	43.7 -01.0	48 40.5 -00.5	S 15	39.2 -00.8	254 11.9 -35.9	N 21	19.5 -02.9	13										
14	27 49.4 +00.2	S 01	42.7 -01.0	63 40.0 -00.6	S 15	38.4 -00.8	268 36.0 -36.0	N 21	16.6 -03.0	14										
15	42 49.6 +00.2	S 01	41.7 -00.9	78 39.4 -00.5	S 15	37.6 -00.7	283 00.0 -35.9	N 21	13.6 -03.1	15										
16	57 49.8 +00.1	S 01	40.8 -01.0	93 38.9 -00.5	S 15	36.9 -00.8	297 24.1 -36.0	N 21	10.5 -03.3	16										
17	72 49.9 +00.2	S 01	39.8 -01.0	108 38.4 -00.6	S 15	36.1 -00.8	311 48.1 -36.0	N 21	07.2 -03.5	17										
18	87 50.1 +00.2	S 01	38.8 -01.0	123 37.8 -00.5	S 15	35.3 -00.8	326 12.1 -36.0	N 21	03.7 -03.6	18										
19	102 50.3 +00.2	S 01	37.8 -01.0	138 37.3 -00.5	S 15	34.5 -00.8	340 36.1 -36.0	N 21	00.1 -03.7	19										
20	117 50.5 +00.2	S 01	36.8 -01.0	153 36.8 -00.6	S 15	33.7 -00.7	355 00.1 -36.0	N 20	56.4 -03.9	20										
21	132 50.7 +00.1	S 01	35.8 -01.0	168 36.2 -00.5	S 15	33.0 -00.8	9 24.1 -36.0	N 20	52.5 -04.0	21										
22	147 50.8 +00.2	S 01	34.8 -01.0	183 35.7 -00.6	S 15	32.2 -00.8	23 48.1 -36.0	N 20	48.5 -04.2	22										
23	162 51.0 +00.2	S 01	33.8 -01.0	198 35.1 -00.5	S 15	31.4 -00.8	38 12.1 -36.0	N 20	44.3 -04.4	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP						
SHA	004°	004°	004°	004°	004°	004°	SHA	040°	040°	040°	040°	040°	039°	SHA						
Greenwich Culmination Time: 12:08							Greenwich Culmination Time: 09:45							Greenwich Culmination Time: 20:20						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	126 06.6 +00.8	N 18	28.1 +00.5	270 31.2 +02.2	S 22	38.4 +00.0	242 53.0 +02.2	S 21	41.1 +00.0	00										
01	141 07.4 +00.8	N 18	28.6 +00.4	285 33.4 +02.3	S 22	38.4 +00.1	257 55.2 +02.3	S 21	41.1 +00.0	01										
02	156 08.2 +00.7	N 18	29.0 +00.5	300 35.7 +02.2	S 22	38.5 +00.0	272 57.5 +02.3	S 21	41.1 +00.0	02										
03	171 08.9 +00.8	N 18	29.5 +00.5	315 37.9 +02.3	S 22	38.5 +00.0	287 59.8 +02.3	S 21	41.1 -00.1	03										
04	186 09.7 +00.8	N 18	30.0 +00.5	330 40.2 +02.3	S 22	38.5 +00.0	303 02.1 +02.3	S 21	41.0 +00.0	04										
05	201 10.5 +00.8	N 18	30.5 +00.4	345 42.5 +02.2	S 22	38.5 +00.0	318 04.4 +02.2	S 21	41.0 +00.0	05										
06	216 11.3 +00.7	N 18	30.9 +00.5	0 44.7 +02.3	S 22	38.5 +00.0	333 06.6 +02.3	S 21	41.0 +00.0	06										
07	231 12.0 +00.8	N 18	31.4 +00.5	15 47.0 +02.2	S 22	38.5 +00.0	348 08.9 +02.3	S 21	41.0 +00.0	07										
08	246 12.8 +00.8	N 18	31.9 +00.4	30 49.2 +02.3	S 22	38.5 +00.0	3 11.2 +02.3	S 21	41.0 -00.1	08										
09	261 13.6 +00.8	N 18	32.3 +00.5	45 51.5 +02.2	S 22	38.5 +00.0	18 13.5 +02.3	S 21	40.9 +00.0	09										
10	276 14.4 +00.7	N 18	32.8 +00.5	60 53.7 +02.3	S 22	38.5 +00.0	33 15.8 +02.2	S 21	40.9 +00.0	10										
11	291 15.1 +00.8	N 18	33.3 +00.4	75 56.0 +02.3	S 22	38.5 +00.0	48 18.0 +02.3	S 21	40.9 +00.0	11										
12	306 15.9 +00.8	N 18	33.7 +00.5	90 58.3 +02.2	S 22	38.5 +00.0	63 20.3 +02.3	S 21	40.9 -00.1	12										
13	321 16.7 +00.8	N 18	34.2 +00.5	106 00.5 +02.3	S 22	38.5 +00.1	78 22.6 +02.3	S 21	40.8 +00.0	13										
14	336 17.5 +00.7	N 18	34.7 +00.4	121 02.8 +02.2	S 22	38.6 +00.0	93 24.9 +02.3	S 21	40.8 +00.0	14										
15	351 18.2 +00.8	N 18	35.1 +00.5	136 05.0 +02.3	S 22	38.6 +00.0	108 27.2 +02.3	S 21	40.8 +00.0	15										
16	6 19.0 +00.8	N 18	35.6 +00.5	151 07.3 +02.2	S 22	38.6 +00.0	123 29.5 +02.2	S 21	40.8 +00.0	16										
17	21 19.8 +00.8	N 18	36.1 +00.4	166 09.5 +02.3	S 22	38.6 +00.0	138 31.7 +02.3	S 21	40.8 -00.1	17										
18	36 20.6 +00.7	N 18	36.5 +00.5	181 11.8 +02.3	S 22	38.6 +00.0	153 34.0 +02.3	S 21	40.7 +00.0	18										
19	51 21.3 +00.8	N 18	37.0 +00.5	196 14.1 +02.2	S 22	38.6 +00.0	168 36.3 +02.3	S 21	40.7 +00.0	19										
20	66 22.1 +00.8	N 18	37.5 +00.4	211 16.3 +02.3	S 22	38.6 +00.0	183 38.6 +02.3	S 21	40.7 +00.0	20										
21	81 22.9 +00.8	N 18	37.9 +00.5	226 18.6 +02.3	S 22	38.6 +00.0	198 40.9 +02.3	S 21	40.7 +00.0	21										
22	96 23.7 +00.7	N 18	38.4 +00.5	241 20.9 +02.2	S 22	38.6 +00.0	213 43.2 +02.2	S 21	40.7 -00.1	22										
23	111 24.4 +00.8	N 18	38.9 +00.4	256 23.1 +02.3	S 22	38.6 +00.0	228 45.4 +02.3	S 21	40.6 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP						
SHA	313°	313°	313°	312°	312°	312°	SHA	097°	097°	097°	097°	097°	097°	SHA						
Greenwich Culmination Time: 15:34							Greenwich Culmination Time: 05:57							Greenwich Culmination Time: 07:47						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 51.2 +00.2	S	01 32.8 -00.9	213 34.6 -00.5	S	15 30.6 -00.8	52 36.1 -36.0	N	20 39.9 -04.4				
01	192 51.4 +00.2	S	01 31.9 -01.0	228 34.1 -00.6	S	15 29.8 -00.8	67 00.1 -36.1	N	20 35.5 -04.7				
02	207 51.6 +00.1	S	01 30.9 -01.0	243 33.5 -00.5	S	15 29.0 -00.8	81 24.0 -36.0	N	20 30.8 -04.7				
03	222 51.7 +00.2	S	01 29.9 -01.0	258 33.0 -00.5	S	15 28.2 -00.7	95 48.0 -36.0	N	20 26.1 -05.0				
04	237 51.9 +00.2	S	01 28.9 -01.0	273 32.5 -00.6	S	15 27.5 -00.8	110 12.0 -36.0	N	20 21.1 -05.0				
05	252 52.1 +00.2	S	01 27.9 -01.0	288 31.9 -00.5	S	15 26.7 -00.8	124 36.0 -36.0	N	20 16.1 -05.2				
06	267 52.3 +00.2	S	01 26.9 -01.0	303 31.4 -00.5	S	15 25.9 -00.8	139 00.0 -36.0	N	20 10.9 -05.4				
07	282 52.5 +00.1	S	01 25.9 -01.0	318 30.9 -00.6	S	15 25.1 -00.8	153 24.0 -36.0	N	20 05.5 -05.5				
08	297 52.6 +00.2	S	01 24.9 -00.9	333 30.3 -00.5	S	15 24.3 -00.8	167 48.0 -35.9	N	20 00.0 -05.6				
09	312 52.8 +00.2	S	01 24.0 -01.0	348 29.8 -00.5	S	15 23.5 -00.8	182 12.1 -36.0	N	19 54.4 -05.8				
10	327 53.0 +00.2	S	01 23.0 -01.0	3 29.3 -00.5	S	15 22.7 -00.8	196 36.1 -36.0	N	19 48.6 -05.9				
11	342 53.2 +00.2	S	01 22.0 -01.0	18 28.8 -00.6	S	15 21.9 -00.8	211 00.1 -35.9	N	19 42.7 -06.1				
12	357 53.4 +00.1	S	01 21.0 -01.0	33 28.2 -00.5	S	15 21.1 -00.8	225 24.2 -35.9	N	19 36.6 -06.2				
13	12 53.5 +00.2	S	01 20.0 -01.0	48 27.7 -00.5	S	15 20.3 -00.8	239 48.3 -35.9	N	19 30.4 -06.4				
14	27 53.7 +00.2	S	01 19.0 -01.0	63 27.2 -00.6	S	15 19.5 -00.8	254 12.4 -35.9	N	19 24.0 -06.5				
15	42 53.9 +00.2	S	01 18.0 -01.0	78 26.6 -00.5	S	15 18.7 -00.8	268 36.5 -35.9	N	19 17.5 -06.6				
16	57 54.1 +00.2	S	01 17.0 -01.0	93 26.1 -00.5	S	15 17.9 -00.7	283 00.6 -35.8	N	19 10.9 -06.8				
17	72 54.3 +00.1	S	01 16.0 -00.9	108 25.6 -00.6	S	15 17.2 -00.8	297 24.8 -35.9	N	19 04.1 -06.9				
18	87 54.4 +00.2	S	01 15.1 -01.0	123 25.0 -00.5	S	15 16.4 -00.8	311 48.9 -35.8	N	18 57.2 -07.0				
19	102 54.6 +00.2	S	01 14.1 -01.0	138 24.5 -00.5	S	15 15.6 -00.8	326 13.1 -35.7	N	18 50.2 -07.2				
20	117 54.8 +00.2	S	01 13.1 -01.0	153 24.0 -00.5	S	15 14.8 -00.8	340 37.4 -35.8	N	18 43.0 -07.3				
21	132 55.0 +00.2	S	01 12.1 -01.0	168 23.5 -00.6	S	15 14.0 -00.8	355 01.6 -35.7	N	18 35.7 -07.4				
22	147 55.2 +00.1	S	01 11.1 -01.0	183 22.9 -00.5	S	15 13.2 -00.8	9 25.9 -35.7	N	18 28.3 -07.6				
23	162 55.3 +00.2	S	01 10.1 -01.0	198 22.4 -00.5	S	15 12.4 -00.9	23 50.2 -35.7	N	18 20.7 -07.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'3 16'4 16'4 16'4 16'5 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'0 60'1 60'2 60'3 60'4 60'5						
	SHA 003° 003° 003° 003° 003° 003°			SHA 039° 039° 039° 039° 038° 038°			SHA 237° 234° 232° 229° 227° 224°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 09:46			Greenwich Culmination Time: 21:20						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 25.2 +00.8	N	18 39.3 +00.5	271 25.4 +02.2	S	22 38.6 +00.1	243 47.7 +02.3	S	21 40.6 +00.0				
01	141 26.0 +00.7	N	18 39.8 +00.5	286 27.6 +02.3	S	22 38.7 +00.0	258 50.0 +02.3	S	21 40.6 +00.0				
02	156 26.7 +00.8	N	18 40.3 +00.4	301 29.9 +02.3	S	22 38.7 +00.0	273 52.3 +02.3	S	21 40.6 -00.1				
03	171 27.5 +00.8	N	18 40.7 +00.5	316 32.2 +02.2	S	22 38.7 +00.0	288 54.6 +02.3	S	21 40.5 +00.0				
04	186 28.3 +00.8	N	18 41.2 +00.5	331 34.4 +02.3	S	22 38.7 +00.0	303 56.9 +02.2	S	21 40.5 +00.0				
05	201 29.1 +00.7	N	18 41.7 +00.4	346 36.7 +02.3	S	22 38.7 +00.0	318 59.1 +02.3	S	21 40.5 +00.0				
06	216 29.8 +00.8	N	18 42.1 +00.5	1 39.0 +02.2	S	22 38.7 +00.0	334 01.4 +02.3	S	21 40.5 +00.0				
07	231 30.6 +00.8	N	18 42.6 +00.5	16 41.2 +02.3	S	22 38.7 +00.0	349 03.7 +02.3	S	21 40.5 -00.1				
08	246 31.4 +00.8	N	18 43.1 +00.4	31 43.5 +02.2	S	22 38.7 +00.0	4 06.0 +02.3	S	21 40.4 +00.0				
09	261 32.2 +00.7	N	18 43.5 +00.5	46 45.7 +02.3	S	22 38.7 +00.0	19 08.3 +02.3	S	21 40.4 +00.0				
10	276 32.9 +00.8	N	18 44.0 +00.4	61 48.0 +02.3	S	22 38.7 +00.0	34 10.6 +02.3	S	21 40.4 +00.0				
11	291 33.7 +00.8	N	18 44.4 +00.5	76 50.3 +02.2	S	22 38.7 +00.0	49 12.9 +02.2	S	21 40.4 -00.1				
12	306 34.5 +00.7	N	18 44.9 +00.5	91 52.5 +02.3	S	22 38.7 +00.1	64 15.1 +02.3	S	21 40.3 +00.0				
13	321 35.2 +00.8	N	18 45.4 +00.4	106 54.8 +02.3	S	22 38.8 +00.0	79 17.4 +02.3	S	21 40.3 +00.0				
14	336 36.0 +00.8	N	18 45.8 +00.5	121 57.1 +02.2	S	22 38.8 +00.0	94 19.7 +02.3	S	21 40.3 +00.0				
15	351 36.8 +00.8	N	18 46.3 +00.5	136 59.3 +02.3	S	22 38.8 +00.0	109 22.0 +02.3	S	21 40.3 +00.0				
16	6 37.6 +00.7	N	18 46.8 +00.4	152 01.6 +02.3	S	22 38.8 +00.0	124 24.3 +02.3	S	21 40.3 -00.1				
17	21 38.3 +00.8	N	18 47.2 +00.5	167 03.9 +02.2	S	22 38.8 +00.0	139 26.6 +02.3	S	21 40.2 +00.0				
18	36 39.1 +00.8	N	18 47.7 +00.4	182 06.1 +02.3	S	22 38.8 +00.0	154 28.9 +02.2	S	21 40.2 +00.0				
19	51 39.9 +00.7	N	18 48.1 +00.5	197 08.4 +02.3	S	22 38.8 +00.0	169 31.1 +02.3	S	21 40.2 +00.0				
20	66 40.6 +00.8	N	18 48.6 +00.5	212 10.7 +02.3	S	22 38.8 +00.0	184 33.4 +02.3	S	21 40.2 +00.0				
21	81 41.4 +00.8	N	18 49.1 +00.4	227 13.0 +02.2	S	22 38.8 +00.0	199 35.7 +02.3	S	21 40.2 -00.1				
22	96 42.2 +00.8	N	18 49.5 +00.5	242 15.2 +02.3	S	22 38.8 +00.0	214 38.0 +02.3	S	21 40.1 +00.0				
23	111 43.0 +00.7	N	18 50.0 +00.4	257 17.5 +02.3	S	22 38.8 +00.0	229 40.3 +02.3	S	21 40.1 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 312° 312° 312° 312° 312° 312°			SHA 097° 097° 097° 097° 097° 097°			SHA 070° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 15:33			Greenwich Culmination Time: 05:53			Greenwich Culmination Time: 07:43						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 55.5 +00.2	S	01 09.1 -01.0	213 21.9 -00.5	S	15 11.5 -00.8	38 14.5 -35.7	N	18 13.0 -07.9	00			
01	192 55.7 +00.2	S	01 08.1 -00.9	228 21.4 -00.6	S	15 10.7 -00.8	52 38.8 -35.6	N	18 05.1 -08.0	01			
02	207 55.9 +00.2	S	01 07.2 -01.0	243 20.8 -00.5	S	15 09.9 -00.8	67 03.2 -35.6	N	17 57.1 -08.1	02			
03	222 56.1 +00.1	S	01 06.2 -01.0	258 20.3 -00.5	S	15 09.1 -00.8	81 27.6 -35.5	N	17 49.0 -08.2	03			
04	237 56.2 +00.2	S	01 05.2 -01.0	273 19.8 -00.6	S	15 08.3 -00.8	95 52.1 -35.5	N	17 40.8 -08.4	04			
05	252 56.4 +00.2	S	01 04.2 -01.0	288 19.2 -00.5	S	15 07.5 -00.8	110 16.6 -35.5	N	17 32.4 -08.4	05			
06	267 56.6 +00.2	S	01 03.2 -01.0	303 18.7 -00.5	S	15 06.7 -00.8	124 41.1 -35.5	N	17 24.0 -08.7	06			
07	282 56.8 +00.2	S	01 02.2 -01.0	318 18.2 -00.5	S	15 05.9 -00.8	139 05.6 -35.4	N	17 15.3 -08.7	07			
08	297 57.0 +00.2	S	01 01.2 -01.0	333 17.7 -00.5	S	15 05.1 -00.8	153 30.2 -35.4	N	17 06.6 -08.9	08			
09	312 57.2 +00.1	S	01 00.2 -01.0	348 17.2 -00.6	S	15 04.3 -00.8	167 54.8 -35.4	N	16 57.7 -08.9	09			
10	327 57.3 +00.2	S	00 59.2 -00.9	3 16.6 -00.5	S	15 03.5 -00.8	182 19.4 -35.3	N	16 48.8 -09.1	10			
11	342 57.5 +00.2	S	00 58.3 -01.0	18 16.1 -00.5	S	15 02.7 -00.8	196 44.1 -35.2	N	16 39.7 -09.3	11			
12	357 57.7 +00.2	S	00 57.3 -01.0	33 15.6 -00.5	S	15 01.9 -00.9	211 08.9 -35.3	N	16 30.4 -09.3	12			
13	12 57.9 +00.2	S	00 56.3 -01.0	48 15.1 -00.6	S	15 01.0 -00.8	225 33.6 -35.2	N	16 21.1 -09.5	13			
14	27 58.1 +00.1	S	00 55.3 -01.0	63 14.5 -00.5	S	15 00.2 -00.8	239 58.4 -35.1	N	16 11.6 -09.6	14			
15	42 58.2 +00.2	S	00 54.3 -01.0	78 14.0 -00.5	S	14 59.4 -00.8	254 23.3 -35.1	N	16 02.0 -09.6	15			
16	57 58.4 +00.2	S	00 53.3 -01.0	93 13.5 -00.5	S	14 58.6 -00.8	268 48.2 -35.1	N	15 52.4 -09.8	16			
17	72 58.6 +00.2	S	00 52.3 -01.0	108 13.0 -00.5	S	14 57.8 -00.8	283 13.1 -35.1	N	15 42.6 -10.0	17			
18	87 58.8 +00.2	S	00 51.3 -00.9	123 12.5 -00.6	S	14 57.0 -00.8	297 38.0 -34.9	N	15 32.6 -10.0	18			
19	102 59.0 +00.2	S	00 50.4 -01.0	138 11.9 -00.5	S	14 56.2 -00.9	312 03.1 -35.0	N	15 22.6 -10.1	19			
20	117 59.2 +00.1	S	00 49.4 -01.0	153 11.4 -00.5	S	14 55.3 -00.8	326 28.1 -34.9	N	15 12.5 -10.3	20			
21	132 59.3 +00.2	S	00 48.4 -01.0	168 10.9 -00.5	S	14 54.5 -00.8	340 53.2 -34.9	N	15 02.2 -10.3	21			
22	147 59.5 +00.2	S	00 47.4 -01.0	183 10.4 -00.5	S	14 53.7 -00.8	355 18.3 -34.8	N	14 51.9 -10.5	22			
23	162 59.7 +00.2	S	00 46.4 -01.0	198 09.9 -00.6	S	14 52.9 -00.8	9 43.5 -34.7	N	14 41.4 -10.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'5 16'5 16'5 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'6 60'6 60'7 60'8 60'8 60'9						
	SHA 003° 002° 002° 002° 002° 002°			SHA 038° 038° 038° 037° 037° 037°			SHA 222° 219° 217° 214° 212° 209°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 09:46			Greenwich Culmination Time: 22:19						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	126 43.7 +00.8	N	18 50.4 +00.5	272 19.8 +02.2	S	22 38.8 +00.1	244 42.6 +02.3	S	21 40.1 +00.0	00			
01	141 44.5 +00.8	N	18 50.9 +00.5	287 22.0 +02.3	S	22 38.9 +00.0	259 44.9 +02.3	S	21 40.1 -00.1	01			
02	156 45.3 +00.7	N	18 51.4 +00.4	302 24.3 +02.3	S	22 38.9 +00.0	274 47.2 +02.2	S	21 40.0 +00.0	02			
03	171 46.0 +00.8	N	18 51.8 +00.5	317 26.6 +02.2	S	22 38.9 +00.0	289 49.4 +02.3	S	21 40.0 +00.0	03			
04	186 46.8 +00.8	N	18 52.3 +00.4	332 28.8 +02.3	S	22 38.9 +00.0	304 51.7 +02.3	S	21 40.0 +00.0	04			
05	201 47.6 +00.7	N	18 52.7 +00.5	347 31.1 +02.3	S	22 38.9 +00.0	319 54.0 +02.3	S	21 40.0 +00.0	05			
06	216 48.3 +00.8	N	18 53.2 +00.4	2 33.4 +02.3	S	22 38.9 +00.0	334 56.3 +02.3	S	21 40.0 -00.1	06			
07	231 49.1 +00.8	N	18 53.6 +00.5	17 35.7 +02.2	S	22 38.9 +00.0	349 58.6 +02.3	S	21 39.9 +00.0	07			
08	246 49.9 +00.8	N	18 54.1 +00.5	32 37.9 +02.3	S	22 38.9 +00.0	5 00.9 +02.3	S	21 39.9 +00.0	08			
09	261 50.7 +00.7	N	18 54.6 +00.4	47 40.2 +02.3	S	22 38.9 +00.0	20 03.2 +02.3	S	21 39.9 +00.0	09			
10	276 51.4 +00.8	N	18 55.0 +00.5	62 42.5 +02.2	S	22 38.9 +00.0	35 05.5 +02.3	S	21 39.9 +00.0	10			
11	291 52.2 +00.8	N	18 55.5 +00.4	77 44.7 +02.3	S	22 38.9 +00.0	50 07.8 +02.2	S	21 39.9 -00.1	11			
12	306 53.0 +00.7	N	18 55.9 +00.5	92 47.0 +02.3	S	22 38.9 +00.0	65 10.0 +02.3	S	21 39.8 +00.0	12			
13	321 53.7 +00.8	N	18 56.4 +00.4	107 49.3 +02.3	S	22 38.9 +00.1	80 12.3 +02.3	S	21 39.8 +00.0	13			
14	336 54.5 +00.8	N	18 56.8 +00.5	122 51.6 +02.2	S	22 39.0 +00.0	95 14.6 +02.3	S	21 39.8 +00.0	14			
15	351 55.3 +00.7	N	18 57.3 +00.5	137 53.8 +02.3	S	22 39.0 +00.0	110 16.9 +02.3	S	21 39.8 -00.1	15			
16	6 56.0 +00.8	N	18 57.8 +00.4	152 56.1 +02.3	S	22 39.0 +00.0	125 19.2 +02.3	S	21 39.7 +00.0	16			
17	21 56.8 +00.8	N	18 58.2 +00.5	167 58.4 +02.3	S	22 39.0 +00.0	140 21.5 +02.3	S	21 39.7 +00.0	17			
18	36 57.6 +00.7	N	18 58.7 +00.4	183 00.7 +02.2	S	22 39.0 +00.0	155 23.8 +02.3	S	21 39.7 +00.0	18			
19	51 58.3 +00.8	N	18 59.1 +00.5	198 02.9 +02.3	S	22 39.0 +00.0	170 26.1 +02.3	S	21 39.7 +00.0	19			
20	66 59.1 +00.8	N	18 59.6 +00.4	213 05.2 +02.3	S	22 39.0 +00.0	185 28.4 +02.3	S	21 39.7 -00.1	20			
21	81 59.9 +00.8	N	19 00.0 +00.5	228 07.5 +02.3	S	22 39.0 +00.0	200 30.7 +02.2	S	21 39.6 +00.0	21			
22	97 00.7 +00.7	N	19 00.5 +00.4	243 09.8 +02.3	S	22 39.0 +00.0	215 32.9 +02.3	S	21 39.6 +00.0	22			
23	112 01.4 +00.8	N	19 00.9 +00.5	258 12.1 +02.2	S	22 39.0 +00.0	230 35.2 +02.3	S	21 39.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 311° 311° 311° 311° 311° 311°			SHA 097° 097° 097° 097° 097° 097°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 15:32			Greenwich Culmination Time: 05:49			Greenwich Culmination Time: 07:39						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 59.9 +00.2	S	00 45.4 -01.0	213 09.3 -00.5	S	14 52.1 -00.9	24 08.8 -34.8	N	14 30.9 -10.7	00			
01	193 00.1 +00.2	S	00 44.4 -01.0	228 08.8 -00.5	S	14 51.2 -00.8	38 34.0 -34.7	N	14 20.2 -10.8	01			
02	208 00.3 +00.1	S	00 43.4 -01.0	243 08.3 -00.5	S	14 50.4 -00.8	52 59.3 -34.6	N	14 09.4 -10.8	02			
03	223 00.4 +00.2	S	00 42.4 -00.9	258 07.8 -00.5	S	14 49.6 -00.8	67 24.7 -34.6	N	13 58.6 -11.0	03			
04	238 00.6 +00.2	S	00 41.5 -01.0	273 07.3 -00.6	S	14 48.8 -00.9	81 50.1 -34.5	N	13 47.6 -11.0	04			
05	253 00.8 +00.2	S	00 40.5 -01.0	288 06.7 -00.5	S	14 47.9 -00.8	96 15.6 -34.5	N	13 36.6 -11.2	05			
06	268 01.0 +00.2	S	00 39.5 -01.0	303 06.2 -00.5	S	14 47.1 -00.8	110 41.1 -34.5	N	13 25.4 -11.2	06			
07	283 01.2 +00.2	S	00 38.5 -01.0	318 05.7 -00.5	S	14 46.3 -00.8	125 06.6 -34.4	N	13 14.2 -11.4	07			
08	298 01.4 +00.1	S	00 37.5 -01.0	333 05.2 -00.5	S	14 45.5 -00.9	139 32.2 -34.3	N	13 02.8 -11.4	08			
09	313 01.5 +00.2	S	00 36.5 -01.0	348 04.7 -00.5	S	14 44.6 -00.8	153 57.9 -34.3	N	12 51.4 -11.5	09			
10	328 01.7 +00.2	S	00 35.5 -01.0	3 04.2 -00.5	S	14 43.8 -00.8	168 23.6 -34.3	N	12 39.9 -11.6	10			
11	343 01.9 +00.2	S	00 34.5 -00.9	18 03.7 -00.6	S	14 43.0 -00.8	182 49.3 -34.2	N	12 28.3 -11.7	11			
12	358 02.1 +00.2	S	00 33.6 -01.0	33 03.1 -00.5	S	14 42.2 -00.9	197 15.1 -34.2	N	12 16.6 -11.7	12			
13	13 02.3 +00.2	S	00 32.6 -01.0	48 02.6 -00.5	S	14 41.3 -00.8	211 40.9 -34.1	N	12 04.9 -11.9	13			
14	28 02.5 +00.1	S	00 31.6 -01.0	63 02.1 -00.5	S	14 40.5 -00.8	226 06.8 -34.0	N	11 53.0 -11.9	14			
15	43 02.6 +00.2	S	00 30.6 -01.0	78 01.6 -00.5	S	14 39.7 -00.9	240 32.8 -34.1	N	11 41.1 -12.0	15			
16	58 02.8 +00.2	S	00 29.6 -01.0	93 01.1 -00.5	S	14 38.8 -00.8	254 58.7 -33.9	N	11 29.1 -12.1	16			
17	73 03.0 +00.2	S	00 28.6 -01.0	108 00.6 -00.5	S	14 38.0 -00.8	269 24.8 -33.9	N	11 17.0 -12.2	17			
18	88 03.2 +00.2	S	00 27.6 -01.0	123 00.1 -00.6	S	14 37.2 -00.9	283 50.9 -33.9	N	11 04.8 -12.2	18			
19	103 03.4 +00.2	S	00 26.6 -01.0	137 59.5 -00.5	S	14 36.3 -00.8	298 17.0 -33.8	N	10 52.6 -12.3	19			
20	118 03.6 +00.1	S	00 25.6 -00.9	152 59.0 -00.5	S	14 35.5 -00.8	312 43.2 -33.8	N	10 40.3 -12.4	20			
21	133 03.7 +00.2	S	00 24.7 -01.0	167 58.5 -00.5	S	14 34.7 -00.9	327 09.4 -33.8	N	10 27.9 -12.5	21			
22	148 03.9 +00.2	S	00 23.7 -01.0	182 58.0 -00.5	S	14 33.8 -00.8	341 35.6 -33.6	N	10 15.4 -12.5	22			
23	163 04.1 +00.2	S	00 22.7 -01.0	197 57.5 -00.5	S	14 33.0 -00.8	356 02.0 -33.7	N	10 02.9 -12.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'6 16'6 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'9 60'9 61'0 61'0 61'0 61'0						
	SHA 002° 002° 001° 001° 001° 001°			SHA 037° 037° 036° 036° 036° 036°			SHA 207° 204° 202° 199° 197° 194°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 09:47			Greenwich Culmination Time: 23:16						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 02.2 +00.8	N	19 01.4 +00.4	273 14.3 +02.3	S	22 39.0 +00.0	245 37.5 +02.3	S	21 39.6 +00.0	00			
01	142 03.0 +00.7	N	19 01.8 +00.5	288 16.6 +02.3	S	22 39.0 +00.0	260 39.8 +02.3	S	21 39.6 -00.1	01			
02	157 03.7 +00.8	N	19 02.3 +00.4	303 18.9 +02.3	S	22 39.0 +00.1	275 42.1 +02.3	S	21 39.5 +00.0	02			
03	172 04.5 +00.8	N	19 02.7 +00.5	318 21.2 +02.2	S	22 39.1 +00.0	290 44.4 +02.3	S	21 39.5 +00.0	03			
04	187 05.3 +00.7	N	19 03.2 +00.4	333 23.4 +02.3	S	22 39.1 +00.0	305 46.7 +02.3	S	21 39.5 +00.0	04			
05	202 06.0 +00.8	N	19 03.6 +00.5	348 25.7 +02.3	S	22 39.1 +00.0	320 49.0 +02.3	S	21 39.5 -00.1	05			
06	217 06.8 +00.8	N	19 04.1 +00.4	3 28.0 +02.3	S	22 39.1 +00.0	335 51.3 +02.3	S	21 39.4 +00.0	06			
07	232 07.6 +00.7	N	19 04.5 +00.5	18 30.3 +02.3	S	22 39.1 +00.0	350 53.6 +02.3	S	21 39.4 +00.0	07			
08	247 08.3 +00.8	N	19 05.0 +00.4	33 32.6 +02.2	S	22 39.1 +00.0	5 55.9 +02.3	S	21 39.4 +00.0	08			
09	262 09.1 +00.8	N	19 05.4 +00.5	48 34.8 +02.3	S	22 39.1 +00.0	20 58.2 +02.2	S	21 39.4 +00.0	09			
10	277 09.9 +00.7	N	19 05.9 +00.4	63 37.1 +02.3	S	22 39.1 +00.0	36 00.4 +02.3	S	21 39.4 -00.1	10			
11	292 10.6 +00.8	N	19 06.3 +00.5	78 39.4 +02.3	S	22 39.1 +00.0	51 02.7 +02.3	S	21 39.3 +00.0	11			
12	307 11.4 +00.8	N	19 06.8 +00.4	93 41.7 +02.3	S	22 39.1 +00.0	66 05.0 +02.3	S	21 39.3 +00.0	12			
13	322 12.2 +00.7	N	19 07.2 +00.5	108 44.0 +02.2	S	22 39.1 +00.0	81 07.3 +02.3	S	21 39.3 +00.0	13			
14	337 12.9 +00.8	N	19 07.7 +00.4	123 46.2 +02.3	S	22 39.1 +00.0	96 09.6 +02.3	S	21 39.3 +00.0	14			
15	352 13.7 +00.8	N	19 08.1 +00.5	138 48.5 +02.3	S	22 39.1 +00.1	111 11.9 +02.3	S	21 39.3 -00.1	15			
16	7 14.5 +00.7	N	19 08.6 +00.4	153 50.8 +02.3	S	22 39.2 +00.0	126 14.2 +02.3	S	21 39.2 +00.0	16			
17	22 15.2 +00.8	N	19 09.0 +00.5	168 53.1 +02.3	S	22 39.2 +00.0	141 16.5 +02.3	S	21 39.2 +00.0	17			
18	37 16.0 +00.8	N	19 09.5 +00.4	183 55.4 +02.3	S	22 39.2 +00.0	156 18.8 +02.3	S	21 39.2 +00.0	18			
19	52 16.8 +00.7	N	19 09.9 +00.5	198 57.7 +02.2	S	22 39.2 +00.0	171 21.1 +02.3	S	21 39.2 +00.0	19			
20	67 17.5 +00.8	N	19 10.4 +00.4	213 59.9 +02.3	S	22 39.2 +00.0	186 23.4 +02.3	S	21 39.2 -00.1	20			
21	82 18.3 +00.8	N	19 10.8 +00.5	229 02.2 +02.3	S	22 39.2 +00.0	201 25.7 +02.3	S	21 39.1 +00.0	21			
22	97 19.1 +00.7	N	19 11.3 +00.4	244 04.5 +02.3	S	22 39.2 +00.0	216 28.0 +02.3	S	21 39.1 +00.0	22			
23	112 19.8 +00.8	N	19 11.7 +00.5	259 06.8 +02.3	S	22 39.2 +00.0	231 30.3 +02.3	S	21 39.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 311° 311° 311° 310° 310° 310°			SHA 097° 097° 097° 097° 097° 097°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 15:31			Greenwich Culmination Time: 05:46			Greenwich Culmination Time: 07:36						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 04.3 +00.2	S 00	21.7 -01.0	212 57.0 -00.5	S 14	32.2 -00.9	10 28.3 -33.6	N 09	50.3 -12.6	00			
01	193 04.5 +00.2	S 00	20.7 -01.0	227 56.5 -00.5	S 14	31.3 -00.8	24 54.7 -33.5	N 09	37.7 -12.7	01			
02	208 04.7 +00.2	S 00	19.7 -01.0	242 56.0 -00.5	S 14	30.5 -00.9	39 21.2 -33.5	N 09	25.0 -12.8	02			
03	223 04.9 +00.1	S 00	18.7 -01.0	257 55.5 -00.6	S 14	29.6 -00.8	53 47.7 -33.4	N 09	12.2 -12.8	03			
04	238 05.0 +00.2	S 00	17.7 -00.9	272 54.9 -00.5	S 14	28.8 -00.8	68 14.3 -33.4	N 08	59.4 -12.9	04			
05	253 05.2 +00.2	S 00	16.8 -01.0	287 54.4 -00.5	S 14	28.0 -00.9	82 40.9 -33.4	N 08	46.5 -12.9	05			
06	268 05.4 +00.2	S 00	15.8 -01.0	302 53.9 -00.5	S 14	27.1 -00.8	97 07.5 -33.3	N 08	33.6 -13.0	06			
07	283 05.6 +00.2	S 00	14.8 -01.0	317 53.4 -00.5	S 14	26.3 -00.9	111 34.2 -33.3	N 08	20.6 -13.0	07			
08	298 05.8 +00.2	S 00	13.8 -01.0	332 52.9 -00.5	S 14	25.4 -00.8	126 00.9 -33.2	N 08	07.6 -13.1	08			
09	313 06.0 +00.1	S 00	12.8 -01.0	347 52.4 -00.5	S 14	24.6 -00.9	140 27.7 -33.2	N 07	54.5 -13.2	09			
10	328 06.1 +00.2	S 00	11.8 -01.0	2 51.9 -00.5	S 14	23.7 -00.8	154 54.5 -33.1	N 07	41.3 -13.2	10			
11	343 06.3 +00.2	S 00	10.8 -01.0	17 51.4 -00.5	S 14	22.9 -00.9	169 21.4 -33.1	N 07	28.1 -13.2	11			
12	358 06.5 +00.2	S 00	09.8 -00.9	32 50.9 -00.5	S 14	22.0 -00.8	183 48.3 -33.0	N 07	14.9 -13.3	12			
13	13 06.7 +00.2	S 00	08.9 -01.0	47 50.4 -00.5	S 14	21.2 -00.8	198 15.3 -33.0	N 07	01.6 -13.3	13			
14	28 06.9 +00.2	S 00	07.9 -01.0	62 49.9 -00.5	S 14	20.4 -00.9	212 42.3 -33.0	N 06	48.3 -13.3	14			
15	43 07.1 +00.2	S 00	06.9 -01.0	77 49.4 -00.5	S 14	19.5 -00.8	227 09.3 -32.9	N 06	35.0 -13.4	15			
16	58 07.3 +00.1	S 00	05.9 -01.0	92 48.9 -00.5	S 14	18.7 -00.9	241 36.4 -32.8	N 06	21.6 -13.5	16			
17	73 07.4 +00.2	S 00	04.9 -01.0	107 48.4 -00.5	S 14	17.8 -00.8	256 03.6 -32.8	N 06	08.1 -13.4	17			
18	88 07.6 +00.2	S 00	03.9 -01.0	122 47.9 -00.6	S 14	17.0 -00.9	270 30.8 -32.8	N 05	54.7 -13.5	18			
19	103 07.8 +00.2	S 00	02.9 -01.0	137 47.3 -00.5	S 14	16.1 -00.8	284 58.0 -32.8	N 05	41.2 -13.5	19			
20	118 08.0 +00.2	S 00	01.9 -00.9	152 46.8 -00.5	S 14	15.3 -00.9	299 25.2 -32.7	N 05	27.7 -13.6	20			
21	133 08.2 +00.2	S 00	01.0 -01.0	167 46.3 -00.5	S 14	14.4 -00.9	313 52.5 -32.6	N 05	14.1 -13.6	21			
22	148 08.4 +00.2	N 00	00.0 +01.0	182 45.8 -00.5	S 14	13.5 -00.8	328 19.9 -32.6	N 05	00.5 -13.6	22			
23	163 08.6 +00.1	N 00	01.0 +01.0	197 45.3 -00.5	S 14	12.7 -00.9	342 47.3 -32.6	N 04	46.9 -13.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'6 16'6 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 61'0 61'0 60'9 60'9 60'9 60'8						
	SHA 001° 001° 000° 000° 000° 360°			SHA 036° 035° 035° 035° 035° 035°			SHA 192° 190° 187° 185° 183° 180°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 09:48			Greenwich Culmination Time: -1:00						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 20.6 +00.8	N 19	12.2 +00.4	274 09.1 +02.3	S 22	39.2 +00.0	246 32.6 +02.3	S 21	39.1 +00.0	00			
01	142 21.4 +00.7	N 19	12.6 +00.5	289 11.4 +02.3	S 22	39.2 +00.0	261 34.9 +02.3	S 21	39.1 -00.1	01			
02	157 22.1 +00.8	N 19	13.1 +00.4	304 13.7 +02.2	S 22	39.2 +00.0	276 37.2 +02.2	S 21	39.0 +00.0	02			
03	172 22.9 +00.7	N 19	13.5 +00.4	319 15.9 +02.3	S 22	39.2 +00.0	291 39.4 +02.3	S 21	39.0 +00.0	03			
04	187 23.6 +00.8	N 19	13.9 +00.5	334 18.2 +02.3	S 22	39.2 +00.0	306 41.7 +02.3	S 21	39.0 +00.0	04			
05	202 24.4 +00.8	N 19	14.4 +00.4	349 20.5 +02.3	S 22	39.2 +00.1	321 44.0 +02.3	S 21	39.0 -00.1	05			
06	217 25.2 +00.7	N 19	14.8 +00.5	4 22.8 +02.3	S 22	39.3 +00.0	336 46.3 +02.3	S 21	38.9 +00.0	06			
07	232 25.9 +00.8	N 19	15.3 +00.4	19 25.1 +02.3	S 22	39.3 +00.0	351 48.6 +02.3	S 21	38.9 +00.0	07			
08	247 26.7 +00.8	N 19	15.7 +00.5	34 27.4 +02.3	S 22	39.3 +00.0	6 50.9 +02.3	S 21	38.9 +00.0	08			
09	262 27.5 +00.7	N 19	16.2 +00.4	49 29.7 +02.2	S 22	39.3 +00.0	21 53.2 +02.3	S 21	38.9 +00.0	09			
10	277 28.2 +00.8	N 19	16.6 +00.5	64 31.9 +02.3	S 22	39.3 +00.0	36 55.5 +02.3	S 21	38.9 -00.1	10			
11	292 29.0 +00.8	N 19	17.1 +00.4	79 34.2 +02.3	S 22	39.3 +00.0	51 57.8 +02.3	S 21	38.8 +00.0	11			
12	307 29.8 +00.7	N 19	17.5 +00.4	94 36.5 +02.3	S 22	39.3 +00.0	67 00.1 +02.3	S 21	38.8 +00.0	12			
13	322 30.5 +00.8	N 19	17.9 +00.5	109 38.8 +02.3	S 22	39.3 +00.0	82 02.4 +02.3	S 21	38.8 +00.0	13			
14	337 31.3 +00.8	N 19	18.4 +00.4	124 41.1 +02.3	S 22	39.3 +00.0	97 04.7 +02.3	S 21	38.8 +00.0	14			
15	352 32.1 +00.7	N 19	18.8 +00.5	139 43.4 +02.3	S 22	39.3 +00.0	112 07.0 +02.3	S 21	38.8 -00.1	15			
16	7 32.8 +00.8	N 19	19.3 +00.4	154 45.7 +02.3	S 22	39.3 +00.0	127 09.3 +02.3	S 21	38.7 +00.0	16			
17	22 33.6 +00.7	N 19	19.7 +00.5	169 48.0 +02.3	S 22	39.3 +00.0	142 11.6 +02.3	S 21	38.7 +00.0	17			
18	37 34.3 +00.8	N 19	20.2 +00.4	184 50.3 +02.3	S 22	39.3 +00.0	157 13.9 +02.3	S 21	38.7 +00.0	18			
19	52 35.1 +00.8	N 19	20.6 +00.4	199 52.6 +02.2	S 22	39.3 +00.1	172 16.2 +02.3	S 21	38.7 +00.0	19			
20	67 35.9 +00.7	N 19	21.0 +00.5	214 54.8 +02.3	S 22	39.4 +00.0	187 18.5 +02.3	S 21	38.7 -00.1	20			
21	82 36.6 +00.8	N 19	21.5 +00.4	229 57.1 +02.3	S 22	39.4 +00.0	202 20.8 +02.3	S 21	38.6 +00.0	21			
22	97 37.4 +00.8	N 19	21.9 +00.5	244 59.4 +02.3	S 22	39.4 +00.0	217 23.1 +02.3	S 21	38.6 +00.0	22			
23	112 38.2 +00.7	N 19	22.4 +00.4	260 01.7 +02.3	S 22	39.4 +00.0	232 25.4 +02.3	S 21	38.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 310° 310° 310° 310° 310° 309°			SHA 097° 097° 097° 097° 097° 097°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 15:29			Greenwich Culmination Time: 05:42			Greenwich Culmination Time: 07:32						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 08.7 +00.2	N 00 02.0 +01.0	212 44.8 -00.5	S 14 11.8 -00.8	357 14.7 -32.5	N 04 33.3 -13.7	00													
01	193 08.9 +00.2	N 00 03.0 +01.0	227 44.3 -00.5	S 14 11.0 -00.9	11 42.2 -32.5	N 04 19.6 -13.6	01													
02	208 09.1 +00.2	N 00 04.0 +01.0	242 43.8 -00.5	S 14 10.1 -00.8	26 09.7 -32.5	N 04 06.0 -13.7	02													
03	223 09.3 +00.2	N 00 05.0 +01.0	257 43.3 -00.5	S 14 09.3 -00.9	40 37.2 -32.4	N 03 52.3 -13.7	03													
04	238 09.5 +00.2	N 00 06.0 +00.9	272 42.8 -00.5	S 14 08.4 -00.8	55 04.8 -32.4	N 03 38.6 -13.8	04													
05	253 09.7 +00.2	N 00 06.9 +01.0	287 42.3 -00.5	S 14 07.6 -00.9	69 32.4 -32.4	N 03 24.8 -13.7	05													
06	268 09.9 +00.2	N 00 07.9 +01.0	302 41.8 -00.5	S 14 06.7 -00.9	84 00.0 -32.3	N 03 11.1 -13.7	06													
07	283 10.1 +00.1	N 00 08.9 +01.0	317 41.3 -00.5	S 14 05.8 -00.8	98 27.7 -32.3	N 02 57.4 -13.8	07													
08	298 10.2 +00.2	N 00 09.9 +01.0	332 40.8 -00.5	S 14 05.0 -00.9	112 55.4 -32.2	N 02 43.6 -13.8	08													
09	313 10.4 +00.2	N 00 10.9 +01.0	347 40.3 -00.5	S 14 04.1 -00.8	127 23.2 -32.2	N 02 29.8 -13.7	09													
10	328 10.6 +00.2	N 00 11.9 +01.0	2 39.8 -00.5	S 14 03.3 -00.9	141 51.0 -32.2	N 02 16.1 -13.8	10													
11	343 10.8 +00.2	N 00 12.9 +01.0	17 39.3 -00.5	S 14 02.4 -00.9	156 18.8 -32.1	N 02 02.3 -13.8	11													
12	358 11.0 +00.2	N 00 13.9 +00.9	32 38.8 -00.5	S 14 01.5 -00.8	170 46.7 -32.1	N 01 48.5 -13.8	12													
13	13 11.2 +00.2	N 00 14.8 +01.0	47 38.3 -00.5	S 14 00.7 -00.9	185 14.6 -32.1	N 01 34.7 -13.8	13													
14	28 11.4 +00.1	N 00 15.8 +01.0	62 37.8 -00.5	S 13 59.8 -00.9	199 42.5 -32.0	N 01 20.9 -13.7	14													
15	43 11.5 +00.2	N 00 16.8 +01.0	77 37.3 -00.5	S 13 58.9 -00.8	214 10.5 -32.1	N 01 07.2 -13.8	15													
16	58 11.7 +00.2	N 00 17.8 +01.0	92 36.8 -00.5	S 13 58.1 -00.9	228 38.4 -31.9	N 00 53.4 -13.8	16													
17	73 11.9 +00.2	N 00 18.8 +01.0	107 36.3 -00.5	S 13 57.2 -00.9	243 06.5 -32.0	N 00 39.6 -13.8	17													
18	88 12.1 +00.2	N 00 19.8 +01.0	122 35.8 -00.5	S 13 56.3 -00.8	257 34.5 -31.9	N 00 25.8 -13.7	18													
19	103 12.3 +00.2	N 00 20.8 +01.0	137 35.3 -00.4	S 13 55.5 -00.9	272 02.6 -31.9	N 00 12.1 -13.8	19													
20	118 12.5 +00.2	N 00 21.8 +00.9	152 34.9 -00.5	S 13 54.6 -00.9	286 30.7 -31.9	S 00 01.7 +13.7	20													
21	133 12.7 +00.2	N 00 22.7 +01.0	167 34.4 -00.5	S 13 53.7 -00.8	300 58.8 -31.8	S 00 15.4 +13.8	21													
22	148 12.9 +00.1	N 00 23.7 +01.0	182 33.9 -00.5	S 13 52.9 -00.9	315 27.0 -31.8	S 00 29.2 +13.7	22													
23	163 13.0 +00.2	N 00 24.7 +01.0	197 33.4 -00.5	S 13 52.0 -00.9	329 55.2 -31.8	S 00 42.9 +13.7	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	16'6	16'5	16'5	16'5	16'5	16'4
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	60'7	60'7	60'6	60'5	60'4	60'3
SHA	360°	360°	360°	359°	359°	359°	SHA	034°	034°	034°	034°	034°	033°	SHA	178°	176°	173°	171°	169°	166°
Greenwich Culmination Time: 12:07							Greenwich Culmination Time: 09:49							Greenwich Culmination Time: 00:11						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	127 38.9 +00.8	N 19 22.8 +00.4	275 04.0 +02.3	S 22 39.4 +00.0	247 27.7 +02.3	S 21 38.6 +00.0	00													
01	142 39.7 +00.7	N 19 23.2 +00.5	290 06.3 +02.3	S 22 39.4 +00.0	262 30.0 +02.3	S 21 38.6 -00.1	01													
02	157 40.4 +00.8	N 19 23.7 +00.4	305 08.6 +02.3	S 22 39.4 +00.0	277 32.3 +02.3	S 21 38.5 +00.0	02													
03	172 41.2 +00.8	N 19 24.1 +00.4	320 10.9 +02.3	S 22 39.4 +00.0	292 34.6 +02.3	S 21 38.5 +00.0	03													
04	187 42.0 +00.7	N 19 24.5 +00.5	335 13.2 +02.3	S 22 39.4 +00.0	307 36.9 +02.3	S 21 38.5 +00.0	04													
05	202 42.7 +00.8	N 19 25.0 +00.4	350 15.5 +02.3	S 22 39.4 +00.0	322 39.2 +02.3	S 21 38.5 +00.0	05													
06	217 43.5 +00.8	N 19 25.4 +00.5	5 17.8 +02.3	S 22 39.4 +00.0	337 41.5 +02.3	S 21 38.5 -00.1	06													
07	232 44.3 +00.7	N 19 25.9 +00.4	20 20.1 +02.3	S 22 39.4 +00.0	352 43.8 +02.3	S 21 38.4 +00.0	07													
08	247 45.0 +00.8	N 19 26.3 +00.4	35 22.4 +02.3	S 22 39.4 +00.0	7 46.1 +02.3	S 21 38.4 +00.0	08													
09	262 45.8 +00.7	N 19 26.7 +00.5	50 24.7 +02.3	S 22 39.4 +00.0	22 48.4 +02.3	S 21 38.4 +00.0	09													
10	277 46.5 +00.8	N 19 27.2 +00.4	65 27.0 +02.3	S 22 39.4 +00.1	37 50.7 +02.3	S 21 38.4 +00.0	10													
11	292 47.3 +00.8	N 19 27.6 +00.4	80 29.3 +02.3	S 22 39.5 +00.0	52 53.0 +02.3	S 21 38.4 -00.1	11													
12	307 48.1 +00.7	N 19 28.0 +00.5	95 31.6 +02.3	S 22 39.5 +00.0	67 55.3 +02.3	S 21 38.3 +00.0	12													
13	322 48.8 +00.8	N 19 28.5 +00.4	110 33.9 +02.2	S 22 39.5 +00.0	82 57.6 +02.3	S 21 38.3 +00.0	13													
14	337 49.6 +00.8	N 19 28.9 +00.5	125 36.1 +02.3	S 22 39.5 +00.0	97 59.9 +02.3	S 21 38.3 +00.0	14													
15	352 50.4 +00.7	N 19 29.4 +00.4	140 38.4 +02.3	S 22 39.5 +00.0	113 02.2 +02.3	S 21 38.3 +00.0	15													
16	7 51.1 +00.8	N 19 29.8 +00.4	155 40.7 +02.3	S 22 39.5 +00.0	128 04.5 +02.3	S 21 38.3 -00.1	16													
17	22 51.9 +00.7	N 19 30.2 +00.5	170 43.0 +02.3	S 22 39.5 +00.0	143 06.8 +02.3	S 21 38.2 +00.0	17													
18	37 52.6 +00.8	N 19 30.7 +00.4	185 45.3 +02.3	S 22 39.5 +00.0	158 09.1 +02.3	S 21 38.2 +00.0	18													
19	52 53.4 +00.8	N 19 31.1 +00.4	200 47.6 +02.3	S 22 39.5 +00.0	173 11.4 +02.3	S 21 38.2 +00.0	19													
20	67 54.2 +00.7	N 19 31.5 +00.5	215 49.9 +02.3	S 22 39.5 +00.0	188 13.7 +02.3	S 21 38.2 +00.0	20													
21	82 54.9 +00.8	N 19 32.0 +00.4	230 52.2 +02.3	S 22 39.5 +00.0	203 16.0 +02.3	S 21 38.2 -00.1	21													
22	97 55.7 +00.7	N 19 32.4 +00.4	245 54.5 +02.3	S 22 39.5 +00.0	218 18.3 +02.3	S 21 38.1 +00.0	22													
23	112 56.4 +00.8	N 19 32.8 +00.5	260 56.8 +02.3	S 22 39.5 +00.0	233 20.6 +02.3	S 21 38.1 +00.0	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	309°	309°	309°	309°	309°	309°	SHA	097°	097°	097°	097°	097°	097°	SHA	069°	069°	069°	069°	069°	069°
Greenwich Culmination Time: 15:28							Greenwich Culmination Time: 05:38							Greenwich Culmination Time: 07:29						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 13.2 +00.2	N 00	25.7 +01.0	212 32.9 -00.5	S 13	51.1 -00.9	344 23.4 -31.8	S 00	56.6 +13.6	00			
01	193 13.4 +00.2	N 00	26.7 +01.0	227 32.4 -00.5	S 13	50.2 -00.8	358 51.6 -31.7	S 01	10.2 +13.7	01			
02	208 13.6 +00.2	N 00	27.7 +01.0	242 31.9 -00.5	S 13	49.4 -00.9	13 19.9 -31.7	S 01	23.9 +13.6	02			
03	223 13.8 +00.2	N 00	28.7 +01.0	257 31.4 -00.5	S 13	48.5 -00.9	27 48.2 -31.7	S 01	37.5 +13.7	03			
04	238 14.0 +00.2	N 00	29.7 +00.9	272 30.9 -00.5	S 13	47.6 -00.9	42 16.5 -31.6	S 01	51.2 +13.6	04			
05	253 14.2 +00.2	N 00	30.6 +01.0	287 30.4 -00.5	S 13	46.7 -00.8	56 44.9 -31.7	S 02	04.8 +13.5	05			
06	268 14.4 +00.1	N 00	31.6 +01.0	302 29.9 -00.5	S 13	45.9 -00.9	71 13.2 -31.6	S 02	18.3 +13.6	06			
07	283 14.5 +00.2	N 00	32.6 +01.0	317 29.4 -00.5	S 13	45.0 -00.9	85 41.6 -31.6	S 02	31.9 +13.5	07			
08	298 14.7 +00.2	N 00	33.6 +01.0	332 28.9 -00.5	S 13	44.1 -00.9	100 10.0 -31.6	S 02	45.4 +13.5	08			
09	313 14.9 +00.2	N 00	34.6 +01.0	347 28.4 -00.5	S 13	43.2 -00.8	114 38.4 -31.5	S 02	58.9 +13.4	09			
10	328 15.1 +00.2	N 00	35.6 +01.0	2 27.9 -00.4	S 13	42.4 -00.9	129 06.9 -31.5	S 03	12.3 +13.5	10			
11	343 15.3 +00.2	N 00	36.6 +00.9	17 27.5 -00.5	S 13	41.5 -00.9	143 35.4 -31.5	S 03	25.8 +13.4	11			
12	358 15.5 +00.2	N 00	37.5 +01.0	32 27.0 -00.5	S 13	40.6 -00.9	158 03.9 -31.5	S 03	39.2 +13.3	12			
13	13 15.7 +00.2	N 00	38.5 +01.0	47 26.5 -00.5	S 13	39.7 -00.9	172 32.4 -31.5	S 03	52.5 +13.3	13			
14	28 15.9 +00.1	N 00	39.5 +01.0	62 26.0 -00.5	S 13	38.8 -00.8	187 00.9 -31.5	S 04	05.8 +13.3	14			
15	43 16.0 +00.2	N 00	40.5 +01.0	77 25.5 -00.5	S 13	38.0 -00.9	201 29.4 -31.4	S 04	19.1 +13.3	15			
16	58 16.2 +00.2	N 00	41.5 +01.0	92 25.0 -00.5	S 13	37.1 -00.9	215 58.0 -31.4	S 04	32.4 +13.2	16			
17	73 16.4 +00.2	N 00	42.5 +01.0	107 24.5 -00.5	S 13	36.2 -00.9	230 26.6 -31.4	S 04	45.6 +13.1	17			
18	88 16.6 +00.2	N 00	43.5 +00.9	122 24.0 -00.5	S 13	35.3 -00.9	244 55.2 -31.4	S 04	58.7 +13.1	18			
19	103 16.8 +00.2	N 00	44.4 +01.0	137 23.5 -00.5	S 13	34.4 -00.9	259 23.8 -31.4	S 05	11.8 +13.1	19			
20	118 17.0 +00.2	N 00	45.4 +01.0	152 23.0 -00.4	S 13	33.5 -00.8	273 52.4 -31.3	S 05	24.9 +13.0	20			
21	133 17.2 +00.2	N 00	46.4 +01.0	167 22.6 -00.5	S 13	32.7 -00.9	288 21.1 -31.4	S 05	37.9 +13.0	21			
22	148 17.4 +00.1	N 00	47.4 +01.0	182 22.1 -00.5	S 13	31.8 -00.9	302 49.7 -31.3	S 05	50.9 +12.9	22			
23	163 17.5 +00.2	N 00	48.4 +01.0	197 21.6 -00.5	S 13	30.9 -00.9	317 18.4 -31.3	S 06	03.8 +12.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'4 16'4 16'3 16'3 16'3 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'2 60'1 60'0 59'9 59'8 59'6						
	SHA 359° 359° 359° 358° 358° 358°			SHA 033° 033° 033° 033° 032° 032°			SHA 164° 162° 159° 157° 155° 153°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 09:50			Greenwich Culmination Time: 01:04						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	127 57.2 +00.8	N 19	33.3 +00.4	275 59.1 +02.3	S 22	39.5 +00.0	248 22.9 +02.3	S 21	38.1 +00.0	00			
01	142 58.0 +00.7	N 19	33.7 +00.4	291 01.4 +02.3	S 22	39.5 +00.0	263 25.2 +02.3	S 21	38.1 +00.0	01			
02	157 58.7 +00.8	N 19	34.1 +00.5	306 03.7 +02.3	S 22	39.5 +00.1	278 27.5 +02.3	S 21	38.1 -00.1	02			
03	172 59.5 +00.7	N 19	34.6 +00.4	321 06.0 +02.3	S 22	39.6 +00.0	293 29.8 +02.3	S 21	38.0 +00.0	03			
04	188 00.2 +00.8	N 19	35.0 +00.4	336 08.3 +02.3	S 22	39.6 +00.0	308 32.1 +02.3	S 21	38.0 +00.0	04			
05	203 01.0 +00.8	N 19	35.4 +00.5	351 10.6 +02.4	S 22	39.6 +00.0	323 34.4 +02.3	S 21	38.0 +00.0	05			
06	218 01.8 +00.7	N 19	35.9 +00.4	6 13.0 +02.3	S 22	39.6 +00.0	338 36.7 +02.3	S 21	38.0 +00.0	06			
07	233 02.5 +00.8	N 19	36.3 +00.4	21 15.3 +02.3	S 22	39.6 +00.0	353 39.0 +02.3	S 21	38.0 -00.1	07			
08	248 03.3 +00.7	N 19	36.7 +00.4	36 17.6 +02.3	S 22	39.6 +00.0	8 41.3 +02.3	S 21	37.9 +00.0	08			
09	263 04.0 +00.8	N 19	37.1 +00.5	51 19.9 +02.3	S 22	39.6 +00.0	23 43.6 +02.3	S 21	37.9 +00.0	09			
10	278 04.8 +00.7	N 19	37.6 +00.4	66 22.2 +02.3	S 22	39.6 +00.0	38 45.9 +02.3	S 21	37.9 +00.0	10			
11	293 05.5 +00.8	N 19	38.0 +00.4	81 24.5 +02.3	S 22	39.6 +00.0	53 48.2 +02.3	S 21	37.9 +00.0	11			
12	308 06.3 +00.8	N 19	38.4 +00.5	96 26.8 +02.3	S 22	39.6 +00.0	68 50.5 +02.3	S 21	37.9 -00.1	12			
13	323 07.1 +00.7	N 19	38.9 +00.4	111 29.1 +02.3	S 22	39.6 +00.0	83 52.8 +02.3	S 21	37.8 +00.0	13			
14	338 07.8 +00.8	N 19	39.3 +00.4	126 31.4 +02.3	S 22	39.6 +00.0	98 55.1 +02.3	S 21	37.8 +00.0	14			
15	353 08.6 +00.7	N 19	39.7 +00.5	141 33.7 +02.3	S 22	39.6 +00.0	113 57.4 +02.3	S 21	37.8 +00.0	15			
16	8 09.3 +00.8	N 19	40.2 +00.4	156 36.0 +02.3	S 22	39.6 +00.0	128 59.7 +02.3	S 21	37.8 +00.0	16			
17	23 10.1 +00.8	N 19	40.6 +00.4	171 38.3 +02.3	S 22	39.6 +00.0	144 02.0 +02.3	S 21	37.8 -00.1	17			
18	38 10.9 +00.7	N 19	41.0 +00.4	186 40.6 +02.3	S 22	39.6 +00.1	159 04.3 +02.4	S 21	37.7 +00.0	18			
19	53 11.6 +00.8	N 19	41.4 +00.5	201 42.9 +02.3	S 22	39.7 +00.0	174 06.7 +02.3	S 21	37.7 +00.0	19			
20	68 12.4 +00.7	N 19	41.9 +00.4	216 45.2 +02.3	S 22	39.7 +00.0	189 09.0 +02.3	S 21	37.7 +00.0	20			
21	83 13.1 +00.8	N 19	42.3 +00.4	231 47.5 +02.3	S 22	39.7 +00.0	204 11.3 +02.3	S 21	37.7 +00.0	21			
22	98 13.9 +00.7	N 19	42.7 +00.4	246 49.8 +02.3	S 22	39.7 +00.0	219 13.6 +02.3	S 21	37.7 -00.1	22			
23	113 14.6 +00.8	N 19	43.1 +00.5	261 52.1 +02.4	S 22	39.7 +00.0	234 15.9 +02.3	S 21	37.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 309° 309° 308° 308° 308° 308°			SHA 097° 097° 097° 097° 097° 097°			SHA 069° 069° 069° 069° 069° 069°						
	Greenwich Culmination Time: 15:27			Greenwich Culmination Time: 05:35			Greenwich Culmination Time: 07:25						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 17.7 +00.2	N 00	49.4 +01.0	212 21.1 -00.5	S 13	30.0 -00.9	331 47.1 -31.3	S 06	16.7 +12.8	00			
01	193 17.9 +00.2	N 00	50.4 +00.9	227 20.6 -00.5	S 13	29.1 -00.9	346 15.8 -31.3	S 06	29.5 +12.8	01			
02	208 18.1 +00.2	N 00	51.3 +01.0	242 20.1 -00.5	S 13	28.2 -00.9	0 44.5 -31.3	S 06	42.3 +12.7	02			
03	223 18.3 +00.2	N 00	52.3 +01.0	257 19.6 -00.4	S 13	27.3 -00.9	15 13.2 -31.3	S 06	55.0 +12.7	03			
04	238 18.5 +00.2	N 00	53.3 +01.0	272 19.2 -00.5	S 13	26.4 -00.8	29 41.9 -31.2	S 07	07.7 +12.6	04			
05	253 18.7 +00.2	N 00	54.3 +01.0	287 18.7 -00.5	S 13	25.6 -00.9	44 10.7 -31.3	S 07	20.3 +12.6	05			
06	268 18.9 +00.1	N 00	55.3 +01.0	302 18.2 -00.5	S 13	24.7 -00.9	58 39.4 -31.2	S 07	32.9 +12.5	06			
07	283 19.0 +00.2	N 00	56.3 +01.0	317 17.7 -00.5	S 13	23.8 -00.9	73 08.2 -31.2	S 07	45.4 +12.4	07			
08	298 19.2 +00.2	N 00	57.3 +00.9	332 17.2 -00.5	S 13	22.9 -00.9	87 37.0 -31.2	S 07	57.8 +12.4	08			
09	313 19.4 +00.2	N 00	58.2 +01.0	347 16.7 -00.4	S 13	22.0 -00.9	102 05.8 -31.2	S 08	10.2 +12.3	09			
10	328 19.6 +00.2	N 00	59.2 +01.0	2 16.3 -00.5	S 13	21.1 -00.9	116 34.6 -31.2	S 08	22.5 +12.2	10			
11	343 19.8 +00.2	N 01	00.2 +01.0	17 15.8 -00.5	S 13	20.2 -00.9	131 03.4 -31.2	S 08	34.7 +12.2	11			
12	358 20.0 +00.2	N 01	01.2 +01.0	32 15.3 -00.5	S 13	19.3 -00.9	145 32.2 -31.2	S 08	46.9 +12.2	12			
13	13 20.2 +00.2	N 01	02.2 +01.0	47 14.8 -00.5	S 13	18.4 -00.9	160 01.0 -31.2	S 08	59.1 +12.0	13			
14	28 20.4 +00.2	N 01	03.2 +01.0	62 14.3 -00.5	S 13	17.5 -00.9	174 29.8 -31.2	S 09	11.1 +12.0	14			
15	43 20.6 +00.1	N 01	04.2 +00.9	77 13.8 -00.4	S 13	16.6 -00.9	188 58.6 -31.1	S 09	23.1 +11.9	15			
16	58 20.7 +00.2	N 01	05.1 +01.0	92 13.4 -00.5	S 13	15.7 -00.9	203 27.5 -31.2	S 09	35.0 +11.9	16			
17	73 20.9 +00.2	N 01	06.1 +01.0	107 12.9 -00.5	S 13	14.8 -00.9	217 56.3 -31.2	S 09	46.9 +11.7	17			
18	88 21.1 +00.2	N 01	07.1 +01.0	122 12.4 -00.5	S 13	13.9 -00.9	232 25.1 -31.1	S 09	58.6 +11.8	18			
19	103 21.3 +00.2	N 01	08.1 +01.0	137 11.9 -00.5	S 13	13.0 -00.9	246 54.0 -31.2	S 10	10.4 +11.6	19			
20	118 21.5 +00.2	N 01	09.1 +01.0	152 11.4 -00.4	S 13	12.1 -00.9	261 22.8 -31.1	S 10	22.0 +11.6	20			
21	133 21.7 +00.2	N 01	10.1 +01.0	167 11.0 -00.5	S 13	11.2 -00.9	275 51.7 -31.1	S 10	33.6 +11.4	21			
22	148 21.9 +00.2	N 01	11.1 +00.9	182 10.5 -00.5	S 13	10.3 -00.9	290 20.6 -31.2	S 10	45.0 +11.5	22			
23	163 22.1 +00.1	N 01	12.0 +01.0	197 10.0 -00.5	S 13	09.4 -00.9	304 49.4 -31.1	S 10	56.5 +11.3	23			
	UT 02 06 10 14 18 22												
	SD 16'1 16'0 16'0 16'0 16'0 16'0												
	HP 00'1 00'1 00'1 00'1 00'1 00'1												
	SHA 358° 358° 358° 358° 357° 357°												
	Greenwich Culmination Time: 12:06												
	UT 02 06 10 14 18 22												
	SD 00'1 00'1 00'1 00'1 00'1 00'1												
	HP 00'1 00'1 00'1 00'1 00'1 00'1												
	SHA 032° 032° 032° 031° 031° 031°												
	Greenwich Culmination Time: 09:50												
	UT 02 06 10 14 18 22												
	SD 16'2 16'2 16'1 16'1 16'1 16'0												
	HP 59'5 59'4 59'2 59'1 58'9 58'8												
	SHA 150° 148° 146° 144° 141° 139°												
	Greenwich Culmination Time: 01:56												
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 15.4 +00.8	N 19	43.6 +00.4	276 54.5 +02.3	S 22	39.7 +00.0	249 18.2 +02.3	S 21	37.6 +00.0	00			
01	143 16.2 +00.7	N 19	44.0 +00.4	291 56.8 +02.3	S 22	39.7 +00.0	264 20.5 +02.3	S 21	37.6 +00.0	01			
02	158 16.9 +00.8	N 19	44.4 +00.4	306 59.1 +02.3	S 22	39.7 +00.0	279 22.8 +02.3	S 21	37.6 +00.0	02			
03	173 17.7 +00.7	N 19	44.8 +00.5	322 01.4 +02.3	S 22	39.7 +00.0	294 25.1 +02.3	S 21	37.6 -00.1	03			
04	188 18.4 +00.8	N 19	45.3 +00.4	337 03.7 +02.3	S 22	39.7 +00.0	309 27.4 +02.3	S 21	37.5 +00.0	04			
05	203 19.2 +00.7	N 19	45.7 +00.4	352 06.0 +02.3	S 22	39.7 +00.0	324 29.7 +02.3	S 21	37.5 +00.0	05			
06	218 19.9 +00.8	N 19	46.1 +00.4	7 08.3 +02.3	S 22	39.7 +00.0	339 32.0 +02.3	S 21	37.5 +00.0	06			
07	233 20.7 +00.8	N 19	46.5 +00.5	22 10.6 +02.3	S 22	39.7 +00.0	354 34.3 +02.3	S 21	37.5 +00.0	07			
08	248 21.5 +00.7	N 19	47.0 +00.4	37 12.9 +02.3	S 22	39.7 +00.0	9 36.6 +02.3	S 21	37.5 -00.1	08			
09	263 22.2 +00.8	N 19	47.4 +00.4	52 15.2 +02.4	S 22	39.7 +00.0	24 38.9 +02.3	S 21	37.4 +00.0	09			
10	278 23.0 +00.7	N 19	47.8 +00.4	67 17.6 +02.3	S 22	39.7 +00.0	39 41.2 +02.4	S 21	37.4 +00.0	10			
11	293 23.7 +00.8	N 19	48.2 +00.5	82 19.9 +02.3	S 22	39.7 +00.1	54 43.6 +02.3	S 21	37.4 +00.0	11			
12	308 24.5 +00.7	N 19	48.7 +00.4	97 22.2 +02.3	S 22	39.8 +00.0	69 45.9 +02.3	S 21	37.4 +00.0	12			
13	323 25.2 +00.8	N 19	49.1 +00.4	112 24.5 +02.3	S 22	39.8 +00.0	84 48.2 +02.3	S 21	37.4 -00.1	13			
14	338 26.0 +00.7	N 19	49.5 +00.4	127 26.8 +02.3	S 22	39.8 +00.0	99 50.5 +02.3	S 21	37.3 +00.0	14			
15	353 26.7 +00.8	N 19	49.9 +00.5	142 29.1 +02.3	S 22	39.8 +00.0	114 52.8 +02.3	S 21	37.3 +00.0	15			
16	8 27.5 +00.8	N 19	50.4 +00.4	157 31.4 +02.3	S 22	39.8 +00.0	129 55.1 +02.3	S 21	37.3 +00.0	16			
17	23 28.3 +00.7	N 19	50.8 +00.4	172 33.7 +02.4	S 22	39.8 +00.0	144 57.4 +02.3	S 21	37.3 +00.0	17			
18	38 29.0 +00.8	N 19	51.2 +00.4	187 36.1 +02.3	S 22	39.8 +00.0	159 59.7 +02.3	S 21	37.3 +00.0	18			
19	53 29.8 +00.7	N 19	51.6 +00.4	202 38.4 +02.3	S 22	39.8 +00.0	175 02.0 +02.3	S 21	37.3 -00.1	19			
20	68 30.5 +00.8	N 19	52.0 +00.5	217 40.7 +02.3	S 22	39.8 +00.0	190 04.3 +02.3	S 21	37.2 +00.0	20			
21	83 31.3 +00.7	N 19	52.5 +00.4	232 43.0 +02.3	S 22	39.8 +00.0	205 06.6 +02.3	S 21	37.2 +00.0	21			
22	98 32.0 +00.8	N 19	52.9 +00.4	247 45.3 +02.3	S 22	39.8 +00.0	220 08.9 +02.4	S 21	37.2 +00.0	22			
23	113 32.8 +00.7	N 19	53.3 +00.4	262 47.6 +02.4	S 22	39.8 +00.0	235 11.3 +02.3	S 21	37.2 +00.0	23			
	UT 02 06 10 14 18 22												
	SD 00'0 00'0 00'0 00'0 00'0 00'0												
	HP 00'1 00'1 00'1 00'1 00'1 00'1												
	SHA 308° 308° 308° 308° 308° 307°												
	Greenwich Culmination Time: 15:26												
	UT 02 06 10 14 18 22												
	SD 00'3 00'3 00'3 00'3 00'3 00'3												
	HP 00'0 00'0 00'0 00'0 00'0 00'0												
	SHA 097° 097° 097° 097° 097° 097°												
	Greenwich Culmination Time: 05:31												
	UT 02 06 10 14 18 22												
	SD 00'1 00'1 00'1 00'1 00'1 00'1												
	HP 00'0 00'0 00'0 00'0 00'0 00'0												
	SHA 069° 069° 069° 069° 069° 069°												
	Greenwich Culmination Time: 07:21												

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 22.2 +00.2	N 01 13.0 +01.0	212 09.5 -00.5	S 13 08.5 -00.9	319 18.3 -31.1	S 11 07.8 +11.2	00						
01	193 22.4 +00.2	N 01 14.0 +01.0	227 09.0 -00.4	S 13 07.6 -00.9	333 47.2 -31.2	S 11 19.0 +11.2	01						
02	208 22.6 +00.2	N 01 15.0 +01.0	242 08.6 -00.5	S 13 06.7 -00.9	348 16.0 -31.1	S 11 30.2 +11.1	02						
03	223 22.8 +00.2	N 01 16.0 +01.0	257 08.1 -00.5	S 13 05.8 -00.9	2 44.9 -31.1	S 11 41.3 +11.0	03						
04	238 23.0 +00.2	N 01 17.0 +00.9	272 07.6 -00.5	S 13 04.9 -00.9	17 13.8 -31.1	S 11 52.3 +11.0	04						
05	253 23.2 +00.2	N 01 17.9 +01.0	287 07.1 -00.4	S 13 04.0 -00.9	31 42.7 -31.1	S 12 03.3 +10.8	05						
06	268 23.4 +00.2	N 01 18.9 +01.0	302 06.7 -00.5	S 13 03.1 -00.9	46 11.6 -31.1	S 12 14.1 +10.8	06						
07	283 23.6 +00.2	N 01 19.9 +01.0	317 06.2 -00.5	S 13 02.2 -00.9	60 40.5 -31.2	S 12 24.9 +10.7	07						
08	298 23.8 +00.1	N 01 20.9 +01.0	332 05.7 -00.5	S 13 01.3 -01.0	75 09.3 -31.1	S 12 35.6 +10.6	08						
09	313 23.9 +00.2	N 01 21.9 +01.0	347 05.2 -00.4	S 13 00.3 -00.9	89 38.2 -31.1	S 12 46.2 +10.5	09						
10	328 24.1 +00.2	N 01 22.9 +01.0	2 04.8 -00.5	S 12 59.4 -00.9	104 07.1 -31.1	S 12 56.7 +10.5	10						
11	343 24.3 +00.2	N 01 23.9 +00.9	17 04.3 -00.5	S 12 58.5 -00.9	118 36.0 -31.1	S 13 07.2 +10.3	11						
12	358 24.5 +00.2	N 01 24.8 +01.0	32 03.8 -00.5	S 12 57.6 -00.9	133 04.9 -31.1	S 13 17.5 +10.3	12						
13	13 24.7 +00.2	N 01 25.8 +01.0	47 03.3 -00.4	S 12 56.7 -00.9	147 33.8 -31.1	S 13 27.8 +10.1	13						
14	28 24.9 +00.2	N 01 26.8 +01.0	62 02.9 -00.5	S 12 55.8 -00.9	162 02.7 -31.1	S 13 37.9 +10.1	14						
15	43 25.1 +00.2	N 01 27.8 +01.0	77 02.4 -00.5	S 12 54.9 -00.9	176 31.6 -31.1	S 13 48.0 +10.0	15						
16	58 25.3 +00.2	N 01 28.8 +01.0	92 01.9 -00.5	S 12 54.0 -00.9	191 00.5 -31.1	S 13 58.0 +09.9	16						
17	73 25.5 +00.1	N 01 29.8 +00.9	107 01.4 -00.4	S 12 53.1 -01.0	205 29.4 -31.2	S 14 07.9 +09.8	17						
18	88 25.6 +00.2	N 01 30.7 +01.0	122 01.0 -00.5	S 12 52.1 -00.9	219 58.2 -31.1	S 14 17.7 +09.7	18						
19	103 25.8 +00.2	N 01 31.7 +01.0	137 00.5 -00.5	S 12 51.2 -00.9	234 27.1 -31.1	S 14 27.4 +09.7	19						
20	118 26.0 +00.2	N 01 32.7 +01.0	152 00.0 -00.5	S 12 50.3 -00.9	248 56.0 -31.1	S 14 37.1 +09.5	20						
21	133 26.2 +00.2	N 01 33.7 +01.0	166 59.5 -00.4	S 12 49.4 -00.9	263 24.9 -31.1	S 14 46.6 +09.4	21						
22	148 26.4 +00.2	N 01 34.7 +01.0	181 59.1 -00.5	S 12 48.5 -00.9	277 53.8 -31.1	S 14 56.0 +09.4	22						
23	163 26.6 +00.2	N 01 35.7 +00.9	196 58.6 -00.5	S 12 47.6 -01.0	292 22.7 -31.1	S 15 05.4 +09.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 15'9 15'9 15'8 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'6 58'5 58'3 58'1 58'0 57'8								
	SHA 357° 357° 357° 357° 357° 356°		SHA 031° 031° 030° 030° 030° 030°		SHA 137° 135° 133° 130° 128° 126°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 09:51		Greenwich Culmination Time: 02:48								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	128 33.5 +00.8	N 19 53.7 +00.4	277 50.0 +02.3	S 22 39.8 +00.0	250 13.6 +02.3	S 21 37.2 -00.1	00						
01	143 34.3 +00.8	N 19 54.1 +00.5	292 52.3 +02.3	S 22 39.8 +00.0	265 15.9 +02.3	S 21 37.1 +00.0	01						
02	158 35.1 +00.7	N 19 54.6 +00.4	307 54.6 +02.3	S 22 39.8 +00.0	280 18.2 +02.3	S 21 37.1 +00.0	02						
03	173 35.8 +00.8	N 19 55.0 +00.4	322 56.9 +02.3	S 22 39.8 +00.0	295 20.5 +02.3	S 21 37.1 +00.0	03						
04	188 36.6 +00.7	N 19 55.4 +00.4	337 59.2 +02.3	S 22 39.8 +00.0	310 22.8 +02.3	S 21 37.1 +00.0	04						
05	203 37.3 +00.8	N 19 55.8 +00.4	353 01.5 +02.4	S 22 39.8 +00.1	325 25.1 +02.3	S 21 37.1 -00.1	05						
06	218 38.1 +00.7	N 19 56.2 +00.4	8 03.9 +02.3	S 22 39.9 +00.0	340 27.4 +02.3	S 21 37.0 +00.0	06						
07	233 38.8 +00.8	N 19 56.6 +00.5	23 06.2 +02.3	S 22 39.9 +00.0	355 29.7 +02.3	S 21 37.0 +00.0	07						
08	248 39.6 +00.7	N 19 57.1 +00.4	38 08.5 +02.3	S 22 39.9 +00.0	10 32.0 +02.4	S 21 37.0 +00.0	08						
09	263 40.3 +00.8	N 19 57.5 +00.4	53 10.8 +02.3	S 22 39.9 +00.0	25 34.4 +02.3	S 21 37.0 +00.0	09						
10	278 41.1 +00.7	N 19 57.9 +00.4	68 13.1 +02.4	S 22 39.9 +00.0	40 36.7 +02.3	S 21 37.0 -00.1	10						
11	293 41.8 +00.8	N 19 58.3 +00.4	83 15.5 +02.3	S 22 39.9 +00.0	55 39.0 +02.3	S 21 36.9 +00.0	11						
12	308 42.6 +00.7	N 19 58.7 +00.4	98 17.8 +02.3	S 22 39.9 +00.0	70 41.3 +02.3	S 21 36.9 +00.0	12						
13	323 43.3 +00.8	N 19 59.1 +00.5	113 20.1 +02.3	S 22 39.9 +00.0	85 43.6 +02.3	S 21 36.9 +00.0	13						
14	338 44.1 +00.7	N 19 59.6 +00.4	128 22.4 +02.3	S 22 39.9 +00.0	100 45.9 +02.3	S 21 36.9 +00.0	14						
15	353 44.8 +00.8	N 19 60.0 +00.4	143 24.7 +02.4	S 22 39.9 +00.0	115 48.2 +02.3	S 21 36.9 +00.0	15						
16	8 45.6 +00.8	N 20 00.4 +00.4	158 27.1 +02.3	S 22 39.9 +00.0	130 50.5 +02.3	S 21 36.9 -00.1	16						
17	23 46.4 +00.7	N 20 00.8 +00.4	173 29.4 +02.3	S 22 39.9 +00.0	145 52.8 +02.4	S 21 36.8 +00.0	17						
18	38 47.1 +00.8	N 20 01.2 +00.4	188 31.7 +02.3	S 22 39.9 +00.0	160 55.2 +02.3	S 21 36.8 +00.0	18						
19	53 47.9 +00.7	N 20 01.6 +00.5	203 34.0 +02.3	S 22 39.9 +00.0	175 57.5 +02.3	S 21 36.8 +00.0	19						
20	68 48.6 +00.8	N 20 02.1 +00.4	218 36.3 +02.4	S 22 39.9 +00.0	190 59.8 +02.3	S 21 36.8 +00.0	20						
21	83 49.4 +00.7	N 20 02.5 +00.4	233 38.7 +02.3	S 22 39.9 +00.0	206 02.1 +02.3	S 21 36.8 -00.1	21						
22	98 50.1 +00.8	N 20 02.9 +00.4	248 41.0 +02.3	S 22 39.9 +00.0	221 04.4 +02.3	S 21 36.7 +00.0	22						
23	113 50.9 +00.7	N 20 03.3 +00.4	263 43.3 +02.3	S 22 39.9 +00.1	236 06.7 +02.3	S 21 36.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 307° 307° 307° 307° 307° 307°		SHA 097° 097° 097° 097° 097° 097°		SHA 069° 069° 069° 069° 069° 069°								
	Greenwich Culmination Time: 15:24		Greenwich Culmination Time: 05:27		Greenwich Culmination Time: 07:17								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 26.8 +00.2	N 01	36.6 +01.0	211 58.1 -00.4	S 12	46.6 -00.9	306 51.6 -31.1	S 15	14.6 +09.2	00										
01	193 27.0 +00.2	N 01	37.6 +01.0	226 57.7 -00.5	S 12	45.7 -00.9	321 20.5 -31.2	S 15	23.8 +09.0	01										
02	208 27.2 +00.1	N 01	38.6 +01.0	241 57.2 -00.5	S 12	44.8 -00.9	335 49.3 -31.1	S 15	32.8 +09.0	02										
03	223 27.3 +00.2	N 01	39.6 +01.0	256 56.7 -00.5	S 12	43.9 -00.9	350 18.2 -31.1	S 15	41.8 +08.8	03										
04	238 27.5 +00.2	N 01	40.6 +01.0	271 56.2 -00.4	S 12	43.0 -01.0	4 47.1 -31.1	S 15	50.6 +08.8	04										
05	253 27.7 +00.2	N 01	41.6 +00.9	286 55.8 -00.5	S 12	42.0 -00.9	19 16.0 -31.1	S 15	59.4 +08.7	05										
06	268 27.9 +00.2	N 01	42.5 +01.0	301 55.3 -00.5	S 12	41.1 -00.9	33 44.9 -31.1	S 16	08.1 +08.5	06										
07	283 28.1 +00.2	N 01	43.5 +01.0	316 54.8 -00.4	S 12	40.2 -00.9	48 13.8 -31.2	S 16	16.6 +08.5	07										
08	298 28.3 +00.2	N 01	44.5 +01.0	331 54.4 -00.5	S 12	39.3 -01.0	62 42.6 -31.1	S 16	25.1 +08.3	08										
09	313 28.5 +00.2	N 01	45.5 +01.0	346 53.9 -00.5	S 12	38.3 -00.9	77 11.5 -31.1	S 16	33.4 +08.3	09										
10	328 28.7 +00.2	N 01	46.5 +01.0	1 53.4 -00.4	S 12	37.4 -00.9	91 40.4 -31.1	S 16	41.7 +08.2	10										
11	343 28.9 +00.1	N 01	47.5 +00.9	16 53.0 -00.5	S 12	36.5 -00.9	106 09.3 -31.1	S 16	49.9 +08.0	11										
12	358 29.0 +00.2	N 01	48.4 +01.0	31 52.5 -00.5	S 12	35.6 -01.0	120 38.2 -31.2	S 16	57.9 +08.0	12										
13	13 29.2 +00.2	N 01	49.4 +01.0	46 52.0 -00.4	S 12	34.6 -00.9	135 07.0 -31.1	S 17	05.9 +07.8	13										
14	28 29.4 +00.2	N 01	50.4 +01.0	61 51.6 -00.5	S 12	33.7 -00.9	149 35.9 -31.1	S 17	13.7 +07.8	14										
15	43 29.6 +00.2	N 01	51.4 +01.0	76 51.1 -00.5	S 12	32.8 -00.9	164 04.8 -31.1	S 17	21.5 +07.6	15										
16	58 29.8 +00.2	N 01	52.4 +00.9	91 50.6 -00.4	S 12	31.9 -01.0	178 33.7 -31.1	S 17	29.1 +07.5	16										
17	73 30.0 +00.2	N 01	53.3 +01.0	106 50.2 -00.5	S 12	30.9 -00.9	193 02.6 -31.2	S 17	36.6 +07.5	17										
18	88 30.2 +00.2	N 01	54.3 +01.0	121 49.7 -00.5	S 12	30.0 -00.9	207 31.4 -31.1	S 17	44.1 +07.3	18										
19	103 30.4 +00.2	N 01	55.3 +01.0	136 49.2 -00.4	S 12	29.1 -01.0	222 00.3 -31.1	S 17	51.4 +07.2	19										
20	118 30.6 +00.2	N 01	56.3 +01.0	151 48.8 -00.5	S 12	28.1 -00.9	236 29.2 -31.1	S 17	58.6 +07.1	20										
21	133 30.8 +00.1	N 01	57.3 +01.0	166 48.3 -00.5	S 12	27.2 -00.9	250 58.1 -31.1	S 18	05.7 +07.0	21										
22	148 30.9 +00.2	N 01	58.3 +00.9	181 47.8 -00.4	S 12	26.3 -01.0	265 27.0 -31.2	S 18	12.7 +06.9	22										
23	163 31.1 +00.2	N 01	59.2 +01.0	196 47.4 -00.5	S 12	25.3 -00.9	279 55.8 -31.1	S 18	19.6 +06.8	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP						
SHA	356°	356°	356°	356°	356°	355°	SHA	030°	030°	029°	029°	029°	029°	SHA						
Greenwich Culmination Time: 12:06							Greenwich Culmination Time: 09:52							Greenwich Culmination Time: 03:40						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	128 51.6 +00.8	N 20	03.7 +00.4	278 45.6 +02.4	S 22	40.0 +00.0	251 09.0 +02.3	S 21	36.7 +00.0	00										
01	143 52.4 +00.7	N 20	04.1 +00.4	293 48.0 +02.3	S 22	40.0 +00.0	266 11.3 +02.4	S 21	36.7 +00.0	01										
02	158 53.1 +00.8	N 20	04.5 +00.4	308 50.3 +02.3	S 22	40.0 +00.0	281 13.7 +02.3	S 21	36.7 -00.1	02										
03	173 53.9 +00.7	N 20	04.9 +00.5	323 52.6 +02.3	S 22	40.0 +00.0	296 16.0 +02.3	S 21	36.6 +00.0	03										
04	188 54.6 +00.8	N 20	05.4 +00.4	338 54.9 +02.4	S 22	40.0 +00.0	311 18.3 +02.3	S 21	36.6 +00.0	04										
05	203 55.4 +00.7	N 20	05.8 +00.4	353 57.3 +02.3	S 22	40.0 +00.0	326 20.6 +02.3	S 21	36.6 +00.0	05										
06	218 56.1 +00.8	N 20	06.2 +00.4	8 59.6 +02.3	S 22	40.0 +00.0	341 22.9 +02.3	S 21	36.6 +00.0	06										
07	233 56.9 +00.7	N 20	06.6 +00.4	24 01.9 +02.4	S 22	40.0 +00.0	356 25.2 +02.3	S 21	36.6 +00.0	07										
08	248 57.6 +00.8	N 20	07.0 +00.4	39 04.3 +02.3	S 22	40.0 +00.0	11 27.5 +02.4	S 21	36.6 -00.1	08										
09	263 58.4 +00.7	N 20	07.4 +00.4	54 06.6 +02.3	S 22	40.0 +00.0	26 29.9 +02.3	S 21	36.5 +00.0	09										
10	278 59.1 +00.8	N 20	07.8 +00.4	69 08.9 +02.3	S 22	40.0 +00.0	41 32.2 +02.3	S 21	36.5 +00.0	10										
11	293 59.9 +00.7	N 20	08.2 +00.4	84 11.2 +02.4	S 22	40.0 +00.0	56 34.5 +02.3	S 21	36.5 +00.0	11										
12	309 00.6 +00.8	N 20	08.6 +00.4	99 13.6 +02.3	S 22	40.0 +00.0	71 36.8 +02.3	S 21	36.5 +00.0	12										
13	324 01.4 +00.7	N 20	09.0 +00.5	114 15.9 +02.3	S 22	40.0 +00.0	86 39.1 +02.3	S 21	36.5 -00.1	13										
14	339 02.1 +00.8	N 20	09.5 +00.4	129 18.2 +02.3	S 22	40.0 +00.0	101 41.4 +02.3	S 21	36.4 +00.0	14										
15	354 02.9 +00.7	N 20	09.9 +00.4	144 20.5 +02.4	S 22	40.0 +00.0	116 43.7 +02.4	S 21	36.4 +00.0	15										
16	9 03.6 +00.8	N 20	10.3 +00.4	159 22.9 +02.3	S 22	40.0 +00.0	131 46.1 +02.3	S 21	36.4 +00.0	16										
17	24 04.4 +00.7	N 20	10.7 +00.4	174 25.2 +02.3	S 22	40.0 +00.0	146 48.4 +02.3	S 21	36.4 +00.0	17										
18	39 05.1 +00.8	N 20	11.1 +00.4	189 27.5 +02.4	S 22	40.0 +00.0	161 50.7 +02.3	S 21	36.4 +00.0	18										
19	54 05.9 +00.7	N 20	11.5 +00.4	204 29.9 +02.3	S 22	40.0 +00.1	176 53.0 +02.3	S 21	36.4 -00.1	19										
20	69 06.6 +00.8	N 20	11.9 +00.4	219 32.2 +02.3	S 22	40.1 +00.0	191 55.3 +02.3	S 21	36.3 +00.0	20										
21	84 07.4 +00.7	N 20	12.3 +00.4	234 34.5 +02.4	S 22	40.1 +00.0	206 57.6 +02.4	S 21	36.3 +00.0	21										
22	99 08.1 +00.8	N 20	12.7 +00.4	249 36.9 +02.3	S 22	40.1 +00.0	221 60.0 +02.3	S 21	36.3 +00.0	22										
23	114 08.9 +00.7	N 20	13.1 +00.4	264 39.2 +02.3	S 22	40.1 +00.0	237 02.3 +02.3	S 21	36.3 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP						
SHA	307°	307°	306°	306°	306°	306°	SHA	097°	097°	097°	097°	097°	097°	SHA						
Greenwich Culmination Time: 15:23							Greenwich Culmination Time: 05:24							Greenwich Culmination Time: 07:14						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	178 31.3 +00.2	N 02 00.2 +01.0	211 46.9 -00.4	S 12 24.4 -00.9	294 24.7 -31.1	S 18 26.4 +06.7	00							
01	193 31.5 +00.2	N 02 01.2 +01.0	226 46.5 -00.5	S 12 23.5 -01.0	308 53.6 -31.1	S 18 33.1 +06.6	01							
02	208 31.7 +00.2	N 02 02.2 +01.0	241 46.0 -00.5	S 12 22.5 -00.9	323 22.5 -31.1	S 18 39.7 +06.5	02							
03	223 31.9 +00.2	N 02 03.2 +00.9	256 45.5 -00.4	S 12 21.6 -00.9	337 51.4 -31.1	S 18 46.2 +06.3	03							
04	238 32.1 +00.2	N 02 04.1 +01.0	271 45.1 -00.5	S 12 20.7 -01.0	352 20.3 -31.1	S 18 52.5 +06.3	04							
05	253 32.3 +00.2	N 02 05.1 +01.0	286 44.6 -00.4	S 12 19.7 -00.9	6 49.2 -31.1	S 18 58.8 +06.1	05							
06	268 32.5 +00.1	N 02 06.1 +01.0	301 44.2 -00.5	S 12 18.8 -00.9	21 18.1 -31.1	S 19 04.9 +06.1	06							
07	283 32.6 +00.2	N 02 07.1 +01.0	316 43.7 -00.5	S 12 17.9 -01.0	35 47.0 -31.1	S 19 11.0 +05.9	07							
08	298 32.8 +00.2	N 02 08.1 +01.0	331 43.2 -00.4	S 12 16.9 -00.9	50 15.9 -31.1	S 19 16.9 +05.8	08							
09	313 33.0 +00.2	N 02 09.1 +00.9	346 42.8 -00.5	S 12 16.0 -01.0	64 44.8 -31.0	S 19 22.7 +05.7	09							
10	328 33.2 +00.2	N 02 10.0 +01.0	1 42.3 -00.5	S 12 15.0 -00.9	79 13.8 -31.1	S 19 28.4 +05.6	10							
11	343 33.4 +00.2	N 02 11.0 +01.0	16 41.8 -00.4	S 12 14.1 -00.9	93 42.7 -31.1	S 19 34.0 +05.5	11							
12	358 33.6 +00.2	N 02 12.0 +01.0	31 41.4 -00.5	S 12 13.2 -01.0	108 11.6 -31.1	S 19 39.5 +05.4	12							
13	13 33.8 +00.2	N 02 13.0 +01.0	46 40.9 -00.4	S 12 12.2 -00.9	122 40.5 -31.0	S 19 44.9 +05.3	13							
14	28 34.0 +00.2	N 02 14.0 +00.9	61 40.5 -00.5	S 12 11.3 -01.0	137 09.5 -31.1	S 19 50.2 +05.1	14							
15	43 34.2 +00.1	N 02 14.9 +01.0	76 40.0 -00.4	S 12 10.3 -00.9	151 38.4 -31.0	S 19 55.3 +05.1	15							
16	58 34.3 +00.2	N 02 15.9 +01.0	91 39.6 -00.5	S 12 09.4 -01.0	166 07.4 -31.1	S 20 00.4 +04.9	16							
17	73 34.5 +00.2	N 02 16.9 +01.0	106 39.1 -00.5	S 12 08.4 -00.9	180 36.3 -31.0	S 20 05.3 +04.8	17							
18	88 34.7 +00.2	N 02 17.9 +01.0	121 38.6 -00.4	S 12 07.5 -00.9	195 05.3 -31.0	S 20 10.1 +04.7	18							
19	103 34.9 +00.2	N 02 18.9 +00.9	136 38.2 -00.5	S 12 06.6 -01.0	209 34.3 -31.0	S 20 14.8 +04.6	19							
20	118 35.1 +00.2	N 02 19.8 +01.0	151 37.7 -00.4	S 12 05.6 -00.9	224 03.3 -31.0	S 20 19.4 +04.5	20							
21	133 35.3 +00.2	N 02 20.8 +01.0	166 37.3 -00.5	S 12 04.7 -01.0	238 32.3 -31.0	S 20 23.9 +04.4	21							
22	148 35.5 +00.2	N 02 21.8 +01.0	181 36.8 -00.4	S 12 03.7 -00.9	253 01.3 -31.0	S 20 28.3 +04.2	22							
23	163 35.7 +00.2	N 02 22.8 +01.0	196 36.4 -00.5	S 12 02.8 -01.0	267 30.3 -31.0	S 20 32.5 +04.2	23							
UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 355° 355° 355° 355° 355° 355°	Greenwich Culmination Time: 12:05	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 029° 028° 028° 028° 028° 028°	Greenwich Culmination Time: 09:53	UT 02 06 10 14 18 22	SD 15'5 15'4 15'4 15'3 15'3 15'3	HP 56'8 56'6 56'5 56'3 56'2 56'1	SHA 110° 108° 106° 103° 101° 099°	Greenwich Culmination Time: 04:31

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	129 09.6 +00.8	N 20 13.5 +00.4	279 41.5 +02.4	S 22 40.1 +00.0	252 04.6 +02.3	S 21 36.3 -00.1	00							
01	144 10.4 +00.7	N 20 13.9 +00.4	294 43.9 +02.3	S 22 40.1 +00.0	267 06.9 +02.3	S 21 36.2 +00.0	01							
02	159 11.1 +00.8	N 20 14.3 +00.4	309 46.2 +02.3	S 22 40.1 +00.0	282 09.2 +02.3	S 21 36.2 +00.0	02							
03	174 11.9 +00.7	N 20 14.7 +00.4	324 48.5 +02.4	S 22 40.1 +00.0	297 11.5 +02.4	S 21 36.2 +00.0	03							
04	189 12.6 +00.8	N 20 15.1 +00.5	339 50.9 +02.3	S 22 40.1 +00.0	312 13.9 +02.3	S 21 36.2 +00.0	04							
05	204 13.4 +00.7	N 20 15.6 +00.4	354 53.2 +02.3	S 22 40.1 +00.0	327 16.2 +02.3	S 21 36.2 +00.0	05							
06	219 14.1 +00.8	N 20 16.0 +00.4	9 55.5 +02.4	S 22 40.1 +00.0	342 18.5 +02.3	S 21 36.2 -00.1	06							
07	234 14.9 +00.7	N 20 16.4 +00.4	24 57.9 +02.3	S 22 40.1 +00.0	357 20.8 +02.3	S 21 36.1 +00.0	07							
08	249 15.6 +00.8	N 20 16.8 +00.4	40 00.2 +02.3	S 22 40.1 +00.0	12 23.1 +02.4	S 21 36.1 +00.0	08							
09	264 16.4 +00.7	N 20 17.2 +00.4	55 02.5 +02.4	S 22 40.1 +00.0	27 25.5 +02.3	S 21 36.1 +00.0	09							
10	279 17.1 +00.8	N 20 17.6 +00.4	70 04.9 +02.3	S 22 40.1 +00.0	42 27.8 +02.3	S 21 36.1 +00.0	10							
11	294 17.9 +00.7	N 20 18.0 +00.4	85 07.2 +02.3	S 22 40.1 +00.0	57 30.1 +02.3	S 21 36.1 -00.1	11							
12	309 18.6 +00.8	N 20 18.4 +00.4	100 09.5 +02.4	S 22 40.1 +00.0	72 32.4 +02.3	S 21 36.0 +00.0	12							
13	324 19.4 +00.7	N 20 18.8 +00.4	115 11.9 +02.3	S 22 40.1 +00.0	87 34.7 +02.3	S 21 36.0 +00.0	13							
14	339 20.1 +00.8	N 20 19.2 +00.4	130 14.2 +02.4	S 22 40.1 +00.0	102 37.0 +02.4	S 21 36.0 +00.0	14							
15	354 20.9 +00.7	N 20 19.6 +00.4	145 16.6 +02.3	S 22 40.1 +00.0	117 39.4 +02.3	S 21 36.0 +00.0	15							
16	9 21.6 +00.8	N 20 20.0 +00.4	160 18.9 +02.3	S 22 40.1 +00.1	132 41.7 +02.3	S 21 36.0 +00.0	16							
17	24 22.4 +00.7	N 20 20.4 +00.4	175 21.2 +02.4	S 22 40.2 +00.0	147 44.0 +02.3	S 21 36.0 -00.1	17							
18	39 23.1 +00.7	N 20 20.8 +00.4	190 23.6 +02.3	S 22 40.2 +00.0	162 46.3 +02.3	S 21 35.9 +00.0	18							
19	54 23.8 +00.8	N 20 21.2 +00.4	205 25.9 +02.3	S 22 40.2 +00.0	177 48.6 +02.4	S 21 35.9 +00.0	19							
20	69 24.6 +00.7	N 20 21.6 +00.4	220 28.2 +02.4	S 22 40.2 +00.0	192 51.0 +02.3	S 21 35.9 +00.0	20							
21	84 25.3 +00.8	N 20 22.0 +00.4	235 30.6 +02.3	S 22 40.2 +00.0	207 53.3 +02.3	S 21 35.9 +00.0	21							
22	99 26.1 +00.7	N 20 22.4 +00.4	250 32.9 +02.4	S 22 40.2 +00.0	222 55.6 +02.3	S 21 35.9 -00.1	22							
23	114 26.8 +00.8	N 20 22.8 +00.4	265 35.3 +02.3	S 22 40.2 +00.0	237 57.9 +02.4	S 21 35.8 +00.0	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 306° 306° 306° 306° 305° 305°	Greenwich Culmination Time: 15:22	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 097° 097° 097° 097° 097° 096°	Greenwich Culmination Time: 05:20	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 069° 069° 069° 069° 069° 069°	Greenwich Culmination Time: 07:10

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 35.9 +00.1	N 02 23.8 +00.9	211 35.9 -00.5	S 12 01.8 -00.9	281 59.3 -31.0	S 20 36.7 +04.0	00						
01	193 36.0 +00.2	N 02 24.7 +01.0	226 35.4 -00.4	S 12 00.9 -01.0	296 28.3 -30.9	S 20 40.7 +04.0	01						
02	208 36.2 +00.2	N 02 25.7 +01.0	241 35.0 -00.5	S 11 59.9 -00.9	310 57.4 -31.0	S 20 44.7 +03.8	02						
03	223 36.4 +00.2	N 02 26.7 +01.0	256 34.5 -00.4	S 11 59.0 -01.0	325 26.4 -30.9	S 20 48.5 +03.7	03						
04	238 36.6 +00.2	N 02 27.7 +01.0	271 34.1 -00.5	S 11 58.0 -00.9	339 55.5 -31.0	S 20 52.2 +03.6	04						
05	253 36.8 +00.2	N 02 28.7 +00.9	286 33.6 -00.4	S 11 57.1 -01.0	354 24.5 -30.9	S 20 55.8 +03.5	05						
06	268 37.0 +00.2	N 02 29.6 +01.0	301 33.2 -00.5	S 11 56.1 -00.9	8 53.6 -30.9	S 20 59.3 +03.3	06						
07	283 37.2 +00.2	N 02 30.6 +01.0	316 32.7 -00.4	S 11 55.2 -01.0	23 22.7 -30.9	S 21 02.6 +03.3	07						
08	298 37.4 +00.2	N 02 31.6 +01.0	331 32.3 -00.5	S 11 54.2 -00.9	37 51.8 -30.8	S 21 05.9 +03.1	08						
09	313 37.6 +00.1	N 02 32.6 +01.0	346 31.8 -00.4	S 11 53.3 -01.0	52 21.0 -30.9	S 21 09.0 +03.1	09						
10	328 37.7 +00.2	N 02 33.6 +00.9	1 31.4 -00.5	S 11 52.3 -00.9	66 50.1 -30.8	S 21 12.1 +02.9	10						
11	343 37.9 +00.2	N 02 34.5 +01.0	16 30.9 -00.4	S 11 51.4 -01.0	81 19.3 -30.9	S 21 15.0 +02.8	11						
12	358 38.1 +00.2	N 02 35.5 +01.0	31 30.5 -00.5	S 11 50.4 -01.0	95 48.4 -30.8	S 21 17.8 +02.7	12						
13	13 38.3 +00.2	N 02 36.5 +01.0	46 30.0 -00.4	S 11 49.4 -00.9	110 17.6 -30.8	S 21 20.5 +02.6	13						
14	28 38.5 +00.2	N 02 37.5 +00.9	61 29.6 -00.5	S 11 48.5 -01.0	124 46.8 -30.8	S 21 23.1 +02.4	14						
15	43 38.7 +00.2	N 02 38.4 +01.0	76 29.1 -00.4	S 11 47.5 -00.9	139 16.0 -30.7	S 21 25.5 +02.4	15						
16	58 38.9 +00.2	N 02 39.4 +01.0	91 28.7 -00.5	S 11 46.6 -01.0	153 45.3 -30.8	S 21 27.9 +02.2	16						
17	73 39.1 +00.2	N 02 40.4 +01.0	106 28.2 -00.4	S 11 45.6 -00.9	168 14.5 -30.7	S 21 30.1 +02.2	17						
18	88 39.3 +00.1	N 02 41.4 +01.0	121 27.8 -00.5	S 11 44.7 -01.0	182 43.8 -30.7	S 21 32.3 +02.0	18						
19	103 39.4 +00.2	N 02 42.4 +00.9	136 27.3 -00.4	S 11 43.7 -01.0	197 13.1 -30.7	S 21 34.3 +01.9	19						
20	118 39.6 +00.2	N 02 43.3 +01.0	151 26.9 -00.5	S 11 42.7 -00.9	211 42.4 -30.7	S 21 36.2 +01.8	20						
21	133 39.8 +00.2	N 02 44.3 +01.0	166 26.4 -00.4	S 11 41.8 -01.0	226 11.7 -30.7	S 21 38.0 +01.7	21						
22	148 40.0 +00.2	N 02 45.3 +01.0	181 26.0 -00.5	S 11 40.8 -00.9	240 41.0 -30.6	S 21 39.7 +01.6	22						
23	163 40.2 +00.2	N 02 46.3 +00.9	196 25.5 -00.4	S 11 39.9 -01.0	255 10.4 -30.6	S 21 41.3 +01.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'2 15'2 15'2 15'1 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'9 55'8 55'7 55'6 55'4 55'3								
	SHA 354° 354° 354° 354° 354° 354°		SHA 027° 027° 027° 027° 027° 026°		SHA 097° 095° 092° 090° 088° 086°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 09:53		Greenwich Culmination Time: 05:23								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 27.6 +00.7	N 20 23.2 +00.4	280 37.6 +02.3	S 22 40.2 +00.0	253 00.3 +02.3	S 21 35.8 +00.0	00						
01	144 28.3 +00.8	N 20 23.6 +00.4	295 39.9 +02.4	S 22 40.2 +00.0	268 02.6 +02.3	S 21 35.8 +00.0	01						
02	159 29.1 +00.7	N 20 24.0 +00.4	310 42.3 +02.3	S 22 40.2 +00.0	283 04.9 +02.3	S 21 35.8 +00.0	02						
03	174 29.8 +00.8	N 20 24.4 +00.4	325 44.6 +02.4	S 22 40.2 +00.0	298 07.2 +02.3	S 21 35.8 +00.0	03						
04	189 30.6 +00.7	N 20 24.8 +00.4	340 47.0 +02.3	S 22 40.2 +00.0	313 09.5 +02.4	S 21 35.8 -00.1	04						
05	204 31.3 +00.8	N 20 25.2 +00.4	355 49.3 +02.4	S 22 40.2 +00.0	328 11.9 +02.3	S 21 35.7 +00.0	05						
06	219 32.1 +00.7	N 20 25.6 +00.4	10 51.7 +02.3	S 22 40.2 +00.0	343 14.2 +02.3	S 21 35.7 +00.0	06						
07	234 32.8 +00.8	N 20 26.0 +00.4	25 54.0 +02.3	S 22 40.2 +00.0	358 16.5 +02.3	S 21 35.7 +00.0	07						
08	249 33.6 +00.7	N 20 26.4 +00.4	40 56.3 +02.4	S 22 40.2 +00.0	13 18.8 +02.3	S 21 35.7 +00.0	08						
09	264 34.3 +00.7	N 20 26.8 +00.4	55 58.7 +02.3	S 22 40.2 +00.0	28 21.1 +02.4	S 21 35.7 +00.0	09						
10	279 35.0 +00.8	N 20 27.2 +00.4	71 01.0 +02.4	S 22 40.2 +00.0	43 23.5 +02.3	S 21 35.7 -00.1	10						
11	294 35.8 +00.7	N 20 27.6 +00.3	86 03.4 +02.3	S 22 40.2 +00.0	58 25.8 +02.3	S 21 35.6 +00.0	11						
12	309 36.5 +00.8	N 20 27.9 +00.4	101 05.7 +02.4	S 22 40.2 +00.0	73 28.1 +02.3	S 21 35.6 +00.0	12						
13	324 37.3 +00.7	N 20 28.3 +00.4	116 08.1 +02.3	S 22 40.2 +00.0	88 30.4 +02.4	S 21 35.6 +00.0	13						
14	339 38.0 +00.8	N 20 28.7 +00.4	131 10.4 +02.4	S 22 40.2 +00.0	103 32.8 +02.3	S 21 35.6 +00.0	14						
15	354 38.8 +00.7	N 20 29.1 +00.4	146 12.8 +02.3	S 22 40.2 +00.1	118 35.1 +02.3	S 21 35.6 -00.1	15						
16	9 39.5 +00.8	N 20 29.5 +00.4	161 15.1 +02.3	S 22 40.3 +00.0	133 37.4 +02.3	S 21 35.5 +00.0	16						
17	24 40.3 +00.7	N 20 29.9 +00.4	176 17.4 +02.4	S 22 40.3 +00.0	148 39.7 +02.4	S 21 35.5 +00.0	17						
18	39 41.0 +00.7	N 20 30.3 +00.4	191 19.8 +02.3	S 22 40.3 +00.0	163 42.1 +02.3	S 21 35.5 +00.0	18						
19	54 41.7 +00.8	N 20 30.7 +00.4	206 22.1 +02.4	S 22 40.3 +00.0	178 44.4 +02.3	S 21 35.5 +00.0	19						
20	69 42.5 +00.7	N 20 31.1 +00.4	221 24.5 +02.3	S 22 40.3 +00.0	193 46.7 +02.3	S 21 35.5 +00.0	20						
21	84 43.2 +00.8	N 20 31.5 +00.4	236 26.8 +02.4	S 22 40.3 +00.0	208 49.0 +02.3	S 21 35.5 -00.1	21						
22	99 44.0 +00.7	N 20 31.9 +00.4	251 29.2 +02.3	S 22 40.3 +00.0	223 51.3 +02.4	S 21 35.4 +00.0	22						
23	114 44.7 +00.8	N 20 32.3 +00.4	266 31.5 +02.4	S 22 40.3 +00.0	238 53.7 +02.3	S 21 35.4 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 305° 305° 305° 305° 305° 305°		SHA 096° 096° 096° 096° 096° 096°		SHA 069° 069° 069° 069° 069° 069°								
	Greenwich Culmination Time: 15:21		Greenwich Culmination Time: 05:16		Greenwich Culmination Time: 07:06								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 40.4 +00.2	N 02 47.2 +01.0	211 25.1 -00.5	S 11 38.9 -01.0	269 39.8 -30.6	S 21 42.7 +01.4	00						
01	193 40.6 +00.2	N 02 48.2 +01.0	226 24.6 -00.4	S 11 37.9 -00.9	284 09.2 -30.6	S 21 44.1 +01.2	01						
02	208 40.8 +00.2	N 02 49.2 +01.0	241 24.2 -00.5	S 11 37.0 -01.0	298 38.6 -30.5	S 21 45.3 +01.2	02						
03	223 41.0 +00.1	N 02 50.2 +01.0	256 23.7 -00.4	S 11 36.0 -01.0	313 08.1 -30.6	S 21 46.5 +01.0	03						
04	238 41.1 +00.2	N 02 51.2 +00.9	271 23.3 -00.5	S 11 35.0 -00.9	327 37.5 -30.5	S 21 47.5 +00.9	04						
05	253 41.3 +00.2	N 02 52.1 +01.0	286 22.8 -00.4	S 11 34.1 -01.0	342 07.0 -30.4	S 21 48.4 +00.8	05						
06	268 41.5 +00.2	N 02 53.1 +01.0	301 22.4 -00.5	S 11 33.1 -00.9	356 36.6 -30.5	S 21 49.2 +00.7	06						
07	283 41.7 +00.2	N 02 54.1 +01.0	316 21.9 -00.4	S 11 32.2 -01.0	11 06.1 -30.4	S 21 49.9 +00.6	07						
08	298 41.9 +00.2	N 02 55.1 +00.9	331 21.5 -00.5	S 11 31.2 -01.0	25 35.7 -30.4	S 21 50.5 +00.5	08						
09	313 42.1 +00.2	N 02 56.0 +01.0	346 21.0 -00.4	S 11 30.2 -00.9	40 05.3 -30.4	S 21 51.0 +00.4	09						
10	328 42.3 +00.2	N 02 57.0 +01.0	1 20.6 -00.4	S 11 29.3 -01.0	54 34.9 -30.4	S 21 51.4 +00.2	10						
11	343 42.5 +00.2	N 02 58.0 +01.0	16 20.2 -00.5	S 11 28.3 -01.0	69 04.5 -30.3	S 21 51.6 +00.2	11						
12	358 42.7 +00.1	N 02 59.0 +01.0	31 19.7 -00.4	S 11 27.3 -01.0	83 34.2 -30.3	S 21 51.8 +00.0	12						
13	13 42.8 +00.2	N 02 60.0 +00.9	46 19.3 -00.5	S 11 26.3 -00.9	98 03.9 -30.3	S 21 51.8 +00.0	13						
14	28 43.0 +00.2	N 03 00.9 +01.0	61 18.8 -00.4	S 11 25.4 -01.0	112 33.6 -30.3	S 21 51.8 -00.2	14						
15	43 43.2 +00.2	N 03 01.9 +01.0	76 18.4 -00.5	S 11 24.4 -01.0	127 03.3 -30.2	S 21 51.6 -00.3	15						
16	58 43.4 +00.2	N 03 02.9 +01.0	91 17.9 -00.4	S 11 23.4 -00.9	141 33.1 -30.2	S 21 51.3 -00.4	16						
17	73 43.6 +00.2	N 03 03.9 +00.9	106 17.5 -00.4	S 11 22.5 -01.0	156 02.9 -30.1	S 21 50.9 -00.5	17						
18	88 43.8 +00.2	N 03 04.8 +01.0	121 17.1 -00.5	S 11 21.5 -01.0	170 32.8 -30.2	S 21 50.4 -00.6	18						
19	103 44.0 +00.2	N 03 05.8 +01.0	136 16.6 -00.4	S 11 20.5 -01.0	185 02.6 -30.1	S 21 49.8 -00.7	19						
20	118 44.2 +00.2	N 03 06.8 +01.0	151 16.2 -00.5	S 11 19.5 -00.9	199 32.5 -30.1	S 21 49.1 -00.8	20						
21	133 44.4 +00.1	N 03 07.8 +00.9	166 15.7 -00.4	S 11 18.6 -01.0	214 02.4 -30.0	S 21 48.3 -00.9	21						
22	148 44.5 +00.2	N 03 08.7 +01.0	181 15.3 -00.5	S 11 17.6 -01.0	228 32.4 -30.0	S 21 47.4 -01.0	22						
23	163 44.7 +00.2	N 03 09.7 +01.0	196 14.8 -00.4	S 11 16.6 -01.0	243 02.4 -30.0	S 21 46.4 -01.1	23						
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 15'0 15'0 15'0 15'0 14'9 14'9							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 55'2 55'1 55'0 54'9 54'9 54'8		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 353° 353° 353° 353° 353° 353°	SHA 026° 026° 026° 026° 025° 025°	SHA 026° 026° 026° 026° 025° 025°	SHA 083° 081° 079° 077° 075° 073°		SHA 069° 069° 069° 069° 069° 069°							
	Greenwich Culmination Time: 12:05	Greenwich Culmination Time: 09:54	Greenwich Culmination Time: 06:14			Greenwich Culmination Time: 07:03							

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	129 45.5 +00.7	N 20 32.7 +00.4	281 33.9 +02.3	S 22 40.3 +00.0	253 56.0 +02.3	S 21 35.4 +00.0	00						
01	144 46.2 +00.8	N 20 33.1 +00.4	296 36.2 +02.4	S 22 40.3 +00.0	268 58.3 +02.3	S 21 35.4 +00.0	01						
02	159 47.0 +00.7	N 20 33.5 +00.3	311 38.6 +02.3	S 22 40.3 +00.0	284 00.6 +02.4	S 21 35.4 +00.0	02						
03	174 47.7 +00.7	N 20 33.8 +00.4	326 40.9 +02.4	S 22 40.3 +00.0	299 03.0 +02.3	S 21 35.4 -00.1	03						
04	189 48.4 +00.8	N 20 34.2 +00.4	341 43.3 +02.3	S 22 40.3 +00.0	314 05.3 +02.3	S 21 35.3 +00.0	04						
05	204 49.2 +00.7	N 20 34.6 +00.4	356 45.6 +02.4	S 22 40.3 +00.0	329 07.6 +02.3	S 21 35.3 +00.0	05						
06	219 49.9 +00.8	N 20 35.0 +00.4	11 48.0 +02.3	S 22 40.3 +00.0	344 09.9 +02.4	S 21 35.3 +00.0	06						
07	234 50.7 +00.7	N 20 35.4 +00.4	26 50.3 +02.4	S 22 40.3 +00.0	359 12.3 +02.3	S 21 35.3 +00.0	07						
08	249 51.4 +00.8	N 20 35.8 +00.4	41 52.7 +02.3	S 22 40.3 +00.0	14 14.6 +02.3	S 21 35.3 +00.0	08						
09	264 52.2 +00.7	N 20 36.2 +00.4	56 55.0 +02.4	S 22 40.3 +00.0	29 16.9 +02.4	S 21 35.3 -00.1	09						
10	279 52.9 +00.7	N 20 36.6 +00.4	71 57.4 +02.3	S 22 40.3 +00.0	44 19.3 +02.3	S 21 35.2 +00.0	10						
11	294 53.6 +00.8	N 20 37.0 +00.4	86 59.7 +02.4	S 22 40.3 +00.0	59 21.6 +02.3	S 21 35.2 +00.0	11						
12	309 54.4 +00.7	N 20 37.4 +00.3	102 02.1 +02.3	S 22 40.3 +00.0	74 23.9 +02.3	S 21 35.2 +00.0	12						
13	324 55.1 +00.8	N 20 37.7 +00.4	117 04.4 +02.4	S 22 40.3 +00.0	89 26.2 +02.4	S 21 35.2 +00.0	13						
14	339 55.9 +00.7	N 20 38.1 +00.4	132 06.8 +02.3	S 22 40.3 +00.0	104 28.6 +02.3	S 21 35.2 -00.1	14						
15	354 56.6 +00.8	N 20 38.5 +00.4	147 09.1 +02.4	S 22 40.3 +00.1	119 30.9 +02.3	S 21 35.1 +00.0	15						
16	9 57.4 +00.7	N 20 38.9 +00.4	162 11.5 +02.4	S 22 40.4 +00.0	134 33.2 +02.3	S 21 35.1 +00.0	16						
17	24 58.1 +00.7	N 20 39.3 +00.4	177 13.9 +02.3	S 22 40.4 +00.0	149 35.5 +02.4	S 21 35.1 +00.0	17						
18	39 58.8 +00.8	N 20 39.7 +00.4	192 16.2 +02.4	S 22 40.4 +00.0	164 37.9 +02.3	S 21 35.1 +00.0	18						
19	54 59.6 +00.7	N 20 40.1 +00.4	207 18.6 +02.3	S 22 40.4 +00.0	179 40.2 +02.3	S 21 35.1 +00.0	19						
20	70 00.3 +00.8	N 20 40.5 +00.3	222 20.9 +02.4	S 22 40.4 +00.0	194 42.5 +02.4	S 21 35.1 -00.1	20						
21	85 01.1 +00.7	N 20 40.8 +00.4	237 23.3 +02.3	S 22 40.4 +00.0	209 44.9 +02.3	S 21 35.0 +00.0	21						
22	100 01.8 +00.7	N 20 41.2 +00.4	252 25.6 +02.4	S 22 40.4 +00.0	224 47.2 +02.3	S 21 35.0 +00.0	22						
23	115 02.5 +00.8	N 20 41.6 +00.4	267 28.0 +02.3	S 22 40.4 +00.0	239 49.5 +02.3	S 21 35.0 +00.0	23						
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 305° 304° 304° 304° 304° 304°	SHA 096° 096° 096° 096° 096° 096°	SHA 096° 096° 096° 096° 096° 096°	SHA 069° 069° 069° 069° 069° 069°		SHA 069° 069° 069° 069° 069° 069°							
	Greenwich Culmination Time: 15:20	Greenwich Culmination Time: 05:12	Greenwich Culmination Time: 07:03			Greenwich Culmination Time: 07:03							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 44.9 +00.2	N 03 10.7 +01.0	211 14.4 -00.4	S 11 15.6 -00.9	257 32.4 -30.0	S 21 45.3 -01.3	00						
01	193 45.1 +00.2	N 03 11.7 +00.9	226 14.0 -00.5	S 11 14.7 -01.0	272 02.4 -29.9	S 21 44.0 -01.3	01						
02	208 45.3 +00.2	N 03 12.6 +01.0	241 13.5 -00.4	S 11 13.7 -01.0	286 32.5 -29.9	S 21 42.7 -01.4	02						
03	223 45.5 +00.2	N 03 13.6 +01.0	256 13.1 -00.5	S 11 12.7 -01.0	301 02.6 -29.8	S 21 41.3 -01.6	03						
04	238 45.7 +00.2	N 03 14.6 +01.0	271 12.6 -00.4	S 11 11.7 -00.9	315 32.8 -29.9	S 21 39.7 -01.6	04						
05	253 45.9 +00.1	N 03 15.6 +00.9	286 12.2 -00.4	S 11 10.8 -01.0	330 02.9 -29.8	S 21 38.1 -01.8	05						
06	268 46.0 +00.2	N 03 16.5 +01.0	301 11.8 -00.5	S 11 09.8 -01.0	344 33.1 -29.7	S 21 36.3 -01.8	06						
07	283 46.2 +00.2	N 03 17.5 +01.0	316 11.3 -00.4	S 11 08.8 -01.0	359 03.4 -29.7	S 21 34.5 -02.0	07						
08	298 46.4 +00.2	N 03 18.5 +01.0	331 10.9 -00.4	S 11 07.8 -01.0	13 33.7 -29.7	S 21 32.5 -02.0	08						
09	313 46.6 +00.2	N 03 19.5 +00.9	346 10.5 -00.5	S 11 06.8 -00.9	28 04.0 -29.7	S 21 30.5 -02.2	09						
10	328 46.8 +00.2	N 03 20.4 +01.0	1 10.0 -00.4	S 11 05.9 -01.0	42 34.3 -29.6	S 21 28.3 -02.2	10						
11	343 47.0 +00.2	N 03 21.4 +01.0	16 09.6 -00.5	S 11 04.9 -01.0	57 04.7 -29.6	S 21 26.1 -02.4	11						
12	358 47.2 +00.2	N 03 22.4 +01.0	31 09.1 -00.4	S 11 03.9 -01.0	71 35.1 -29.5	S 21 23.7 -02.5	12						
13	13 47.4 +00.2	N 03 23.4 +00.9	46 08.7 -00.4	S 11 02.9 -01.0	86 05.6 -29.6	S 21 21.2 -02.5	13						
14	28 47.6 +00.1	N 03 24.3 +01.0	61 08.3 -00.5	S 11 01.9 -00.9	100 36.0 -29.4	S 21 18.7 -02.7	14						
15	43 47.7 +00.2	N 03 25.3 +01.0	76 07.8 -00.4	S 11 01.0 -01.0	115 06.6 -29.5	S 21 16.0 -02.7	15						
16	58 47.9 +00.2	N 03 26.3 +01.0	91 07.4 -00.4	S 10 60.0 -01.0	129 37.1 -29.4	S 21 13.3 -02.9	16						
17	73 48.1 +00.2	N 03 27.3 +00.9	106 07.0 -00.5	S 10 59.0 -01.0	144 07.7 -29.4	S 21 10.4 -02.9	17						
18	88 48.3 +00.2	N 03 28.2 +01.0	121 06.5 -00.4	S 10 58.0 -01.0	158 38.3 -29.3	S 21 07.5 -03.1	18						
19	103 48.5 +00.2	N 03 29.2 +01.0	136 06.1 -00.4	S 10 57.0 -01.0	173 09.0 -29.3	S 21 04.4 -03.1	19						
20	118 48.7 +00.2	N 03 30.2 +00.9	151 05.7 -00.5	S 10 56.0 -01.0	187 39.7 -29.3	S 21 01.3 -03.3	20						
21	133 48.9 +00.2	N 03 31.1 +01.0	166 05.2 -00.4	S 10 55.0 -00.9	202 10.4 -29.2	S 20 58.0 -03.3	21						
22	148 49.1 +00.1	N 03 32.1 +01.0	181 04.8 -00.4	S 10 54.1 -01.0	216 41.2 -29.2	S 20 54.7 -03.5	22						
23	163 49.2 +00.2	N 03 33.1 +01.0	196 04.4 -00.5	S 10 53.1 -01.0	231 12.0 -29.1	S 20 51.2 -03.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'9 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'7 54'6 54'5 54'5 54'4 54'4								
	SHA 353° 352° 352° 352° 352° 352°		SHA 025° 025° 025° 024° 024° 024°		SHA 070° 068° 066° 064° 062° 060°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 09:55		Greenwich Culmination Time: 07:03								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 03.3 +00.7	N 20 42.0 +00.4	282 30.3 +02.4	S 22 40.4 +00.0	254 51.8 +02.4	S 21 35.0 +00.0	00						
01	145 04.0 +00.8	N 20 42.4 +00.4	297 32.7 +02.4	S 22 40.4 +00.0	269 54.2 +02.3	S 21 35.0 +00.0	01						
02	160 04.8 +00.7	N 20 42.8 +00.4	312 35.1 +02.3	S 22 40.4 +00.0	284 56.5 +02.3	S 21 35.0 -00.1	02						
03	175 05.5 +00.8	N 20 43.2 +00.3	327 37.4 +02.4	S 22 40.4 +00.0	299 58.8 +02.4	S 21 34.9 +00.0	03						
04	190 06.3 +00.7	N 20 43.5 +00.4	342 39.8 +02.3	S 22 40.4 +00.0	315 01.2 +02.3	S 21 34.9 +00.0	04						
05	205 07.0 +00.7	N 20 43.9 +00.4	357 42.1 +02.4	S 22 40.4 +00.0	330 03.5 +02.3	S 21 34.9 +00.0	05						
06	220 07.7 +00.8	N 20 44.3 +00.4	12 44.5 +02.4	S 22 40.4 +00.0	345 05.8 +02.3	S 21 34.9 +00.0	06						
07	235 08.5 +00.7	N 20 44.7 +00.4	27 46.9 +02.3	S 22 40.4 +00.0	0 08.1 +02.4	S 21 34.9 +00.0	07						
08	250 09.2 +00.8	N 20 45.1 +00.4	42 49.2 +02.4	S 22 40.4 +00.0	15 10.5 +02.3	S 21 34.9 -00.1	08						
09	265 10.0 +00.7	N 20 45.5 +00.3	57 51.6 +02.3	S 22 40.4 +00.0	30 12.8 +02.3	S 21 34.8 +00.0	09						
10	280 10.7 +00.7	N 20 45.8 +00.4	72 53.9 +02.4	S 22 40.4 +00.0	45 15.1 +02.4	S 21 34.8 +00.0	10						
11	295 11.4 +00.8	N 20 46.2 +00.4	87 56.3 +02.4	S 22 40.4 +00.0	60 17.5 +02.3	S 21 34.8 +00.0	11						
12	310 12.2 +00.7	N 20 46.6 +00.4	102 58.7 +02.3	S 22 40.4 +00.0	75 19.8 +02.3	S 21 34.8 +00.0	12						
13	325 12.9 +00.8	N 20 47.0 +00.4	118 01.0 +02.4	S 22 40.4 +00.0	90 22.1 +02.4	S 21 34.8 +00.0	13						
14	340 13.7 +00.7	N 20 47.4 +00.3	133 03.4 +02.3	S 22 40.4 +00.0	105 24.5 +02.3	S 21 34.8 -00.1	14						
15	355 14.4 +00.7	N 20 47.7 +00.4	148 05.7 +02.4	S 22 40.4 +00.0	120 26.8 +02.3	S 21 34.7 +00.0	15						
16	10 15.1 +00.8	N 20 48.1 +00.4	163 08.1 +02.4	S 22 40.4 +00.0	135 29.1 +02.3	S 21 34.7 +00.0	16						
17	25 15.9 +00.7	N 20 48.5 +00.4	178 10.5 +02.3	S 22 40.4 +00.0	150 31.4 +02.4	S 21 34.7 +00.0	17						
18	40 16.6 +00.8	N 20 48.9 +00.4	193 12.8 +02.4	S 22 40.4 +00.1	165 33.8 +02.3	S 21 34.7 +00.0	18						
19	55 17.4 +00.7	N 20 49.3 +00.3	208 15.2 +02.4	S 22 40.5 +00.0	180 36.1 +02.3	S 21 34.7 +00.0	19						
20	70 18.1 +00.7	N 20 49.6 +00.4	223 17.6 +02.3	S 22 40.5 +00.0	195 38.4 +02.4	S 21 34.7 -00.1	20						
21	85 18.8 +00.8	N 20 50.0 +00.4	238 19.9 +02.4	S 22 40.5 +00.0	210 40.8 +02.3	S 21 34.6 +00.0	21						
22	100 19.6 +00.7	N 20 50.4 +00.4	253 22.3 +02.4	S 22 40.5 +00.0	225 43.1 +02.3	S 21 34.6 +00.0	22						
23	115 20.3 +00.7	N 20 50.8 +00.4	268 24.7 +02.3	S 22 40.5 +00.0	240 45.4 +02.4	S 21 34.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 304° 304° 304° 304° 303° 303°		SHA 096° 096° 096° 096° 096° 096°		SHA 069° 069° 069° 069° 069° 069°								
	Greenwich Culmination Time: 15:19		Greenwich Culmination Time: 05:09		Greenwich Culmination Time: 06:59								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 49.4 +00.2	N 03 34.1 +00.9	211 03.9 -00.4	S 10 52.1 -01.0	245 42.9 -29.1	S 20 47.7 -03.6	00						
01	193 49.6 +00.2	N 03 35.0 +01.0	226 03.5 -00.4	S 10 51.1 -01.0	260 13.8 -29.1	S 20 44.1 -03.7	01						
02	208 49.8 +00.2	N 03 36.0 +01.0	241 03.1 -00.5	S 10 50.1 -01.0	274 44.7 -29.0	S 20 40.4 -03.8	02						
03	223 50.0 +00.2	N 03 37.0 +01.0	256 02.6 -00.4	S 10 49.1 -01.0	289 15.7 -29.0	S 20 36.6 -04.0	03						
04	238 50.2 +00.2	N 03 38.0 +00.9	271 02.2 -00.4	S 10 48.1 -01.0	303 46.7 -29.0	S 20 32.6 -04.0	04						
05	253 50.4 +00.2	N 03 38.9 +01.0	286 01.8 -00.5	S 10 47.1 -01.0	318 17.7 -28.9	S 20 28.6 -04.1	05						
06	268 50.6 +00.1	N 03 39.9 +01.0	301 01.3 -00.4	S 10 46.1 -01.0	332 48.8 -28.9	S 20 24.5 -04.1	06						
07	283 50.7 +00.2	N 03 40.9 +00.9	316 00.9 -00.4	S 10 45.1 -01.0	347 19.9 -28.8	S 20 20.4 -04.3	07						
08	298 50.9 +00.2	N 03 41.8 +01.0	331 00.5 -00.5	S 10 44.1 -00.9	1 51.1 -28.8	S 20 16.1 -04.4	08						
09	313 51.1 +00.2	N 03 42.8 +01.0	346 00.0 -00.4	S 10 43.2 -01.0	16 22.3 -28.7	S 20 11.7 -04.5	09						
10	328 51.3 +00.2	N 03 43.8 +01.0	0 59.6 -00.4	S 10 42.2 -01.0	30 53.6 -28.8	S 20 07.2 -04.5	10						
11	343 51.5 +00.2	N 03 44.8 +00.9	15 59.2 -00.4	S 10 41.2 -01.0	45 24.8 -28.6	S 20 02.7 -04.6	11						
12	358 51.7 +00.2	N 03 45.7 +01.0	30 58.8 -00.5	S 10 40.2 -01.0	59 56.2 -28.7	S 19 58.1 -04.8	12						
13	13 51.9 +00.2	N 03 46.7 +01.0	45 58.3 -00.4	S 10 39.2 -01.0	74 27.5 -28.6	S 19 53.3 -04.8	13						
14	28 52.1 +00.1	N 03 47.7 +00.9	60 57.9 -00.4	S 10 38.2 -01.0	88 58.9 -28.5	S 19 48.5 -04.9	14						
15	43 52.2 +00.2	N 03 48.6 +01.0	75 57.5 -00.5	S 10 37.2 -01.0	103 30.4 -28.6	S 19 43.6 -05.0	15						
16	58 52.4 +00.2	N 03 49.6 +01.0	90 57.0 -00.4	S 10 36.2 -01.0	118 01.8 -28.4	S 19 38.6 -05.1	16						
17	73 52.6 +00.2	N 03 50.6 +01.0	105 56.6 -00.4	S 10 35.2 -01.0	132 33.4 -28.5	S 19 33.5 -05.1	17						
18	88 52.8 +00.2	N 03 51.6 +00.9	120 56.2 -00.4	S 10 34.2 -01.0	147 04.9 -28.4	S 19 28.4 -05.3	18						
19	103 53.0 +00.2	N 03 52.5 +01.0	135 55.8 -00.5	S 10 33.2 -01.0	161 36.5 -28.4	S 19 23.1 -05.3	19						
20	118 53.2 +00.2	N 03 53.5 +01.0	150 55.3 -00.4	S 10 32.2 -01.0	176 08.1 -28.3	S 19 17.8 -05.5	20						
21	133 53.4 +00.1	N 03 54.5 +00.9	165 54.9 -00.4	S 10 31.2 -01.0	190 39.8 -28.3	S 19 12.3 -05.5	21						
22	148 53.5 +00.2	N 03 55.4 +01.0	180 54.5 -00.5	S 10 30.2 -01.0	205 11.5 -28.2	S 19 06.8 -05.6	22						
23	163 53.7 +00.2	N 03 56.4 +01.0	195 54.0 -00.4	S 10 29.2 -01.0	219 43.3 -28.2	S 19 01.2 -05.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'3 54'2 54'2 54'2 54'1								
	SHA 352° 352° 351° 351° 351° 351°		SHA 024° 024° 023° 023° 023° 023°		SHA 058° 055° 053° 051° 049° 047°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 07:52								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 21.0 +00.8	N 20 51.2 +00.3	283 27.0 +02.4	S 22 40.5 +00.0	255 47.8 +02.3	S 21 34.6 +00.0	00						
01	145 21.8 +00.7	N 20 51.5 +00.4	298 29.4 +02.3	S 22 40.5 +00.0	270 50.1 +02.3	S 21 34.6 +00.0	01						
02	160 22.5 +00.8	N 20 51.9 +00.4	313 31.7 +02.4	S 22 40.5 +00.0	285 52.4 +02.4	S 21 34.6 +00.0	02						
03	175 23.3 +00.7	N 20 52.3 +00.4	328 34.1 +02.4	S 22 40.5 +00.0	300 54.8 +02.3	S 21 34.6 -00.1	03						
04	190 24.0 +00.7	N 20 52.7 +00.3	343 36.5 +02.3	S 22 40.5 +00.0	315 57.1 +02.3	S 21 34.5 +00.0	04						
05	205 24.7 +00.8	N 20 53.0 +00.4	358 38.8 +02.4	S 22 40.5 +00.0	330 59.4 +02.4	S 21 34.5 +00.0	05						
06	220 25.5 +00.7	N 20 53.4 +00.4	13 41.2 +02.4	S 22 40.5 +00.0	346 01.8 +02.3	S 21 34.5 +00.0	06						
07	235 26.2 +00.8	N 20 53.8 +00.4	28 43.6 +02.3	S 22 40.5 +00.0	1 04.1 +02.3	S 21 34.5 +00.0	07						
08	250 27.0 +00.7	N 20 54.2 +00.3	43 45.9 +02.4	S 22 40.5 +00.0	16 06.4 +02.4	S 21 34.5 +00.0	08						
09	265 27.7 +00.7	N 20 54.5 +00.4	58 48.3 +02.4	S 22 40.5 +00.0	31 08.8 +02.3	S 21 34.5 -00.1	09						
10	280 28.4 +00.8	N 20 54.9 +00.4	73 50.7 +02.4	S 22 40.5 +00.0	46 11.1 +02.3	S 21 34.4 +00.0	10						
11	295 29.2 +00.7	N 20 55.3 +00.4	88 53.1 +02.3	S 22 40.5 +00.0	61 13.4 +02.4	S 21 34.4 +00.0	11						
12	310 29.9 +00.7	N 20 55.7 +00.3	103 55.4 +02.4	S 22 40.5 +00.0	76 15.8 +02.3	S 21 34.4 +00.0	12						
13	325 30.6 +00.8	N 20 56.0 +00.4	118 57.8 +02.4	S 22 40.5 +00.0	91 18.1 +02.3	S 21 34.4 +00.0	13						
14	340 31.4 +00.7	N 20 56.4 +00.4	134 00.2 +02.3	S 22 40.5 +00.0	106 20.4 +02.4	S 21 34.4 +00.0	14						
15	355 32.1 +00.8	N 20 56.8 +00.4	149 02.5 +02.4	S 22 40.5 +00.0	121 22.8 +02.3	S 21 34.4 -00.1	15						
16	10 32.9 +00.7	N 20 57.2 +00.3	164 04.9 +02.4	S 22 40.5 +00.0	136 25.1 +02.3	S 21 34.3 +00.0	16						
17	25 33.6 +00.7	N 20 57.5 +00.4	179 07.3 +02.3	S 22 40.5 +00.0	151 27.4 +02.4	S 21 34.3 +00.0	17						
18	40 34.3 +00.8	N 20 57.9 +00.4	194 09.6 +02.4	S 22 40.5 +00.0	166 29.8 +02.3	S 21 34.3 +00.0	18						
19	55 35.1 +00.7	N 20 58.3 +00.4	209 12.0 +02.4	S 22 40.5 +00.0	181 32.1 +02.4	S 21 34.3 +00.0	19						
20	70 35.8 +00.7	N 20 58.7 +00.3	224 14.4 +02.4	S 22 40.5 +00.0	196 34.5 +02.3	S 21 34.3 +00.0	20						
21	85 36.5 +00.8	N 20 59.0 +00.4	239 16.8 +02.3	S 22 40.5 +00.0	211 36.8 +02.3	S 21 34.3 -00.1	21						
22	100 37.3 +00.7	N 20 59.4 +00.4	254 19.1 +02.4	S 22 40.5 +00.0	226 39.1 +02.4	S 21 34.2 +00.0	22						
23	115 38.0 +00.7	N 20 59.8 +00.3	269 21.5 +02.4	S 22 40.5 +00.0	241 41.5 +02.3	S 21 34.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 303° 303° 303° 303° 303° 303°		SHA 096° 096° 096° 096° 096° 096°		SHA 069° 069° 069° 069° 069° 069°								
	Greenwich Culmination Time: 15:17		Greenwich Culmination Time: 05:05		Greenwich Culmination Time: 06:55								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 53.9 +00.2	N 03 57.4 +00.9	210 53.6 -00.4	S 10 28.2 -01.0	234 15.1 -28.2	S 18 55.5 -05.7	00						
01	193 54.1 +00.2	N 03 58.3 +01.0	225 53.2 -00.4	S 10 27.2 -01.0	248 46.9 -28.1	S 18 49.8 -05.9	01						
02	208 54.3 +00.2	N 03 59.3 +01.0	240 52.8 -00.5	S 10 26.2 -01.0	263 18.8 -28.1	S 18 43.9 -05.9	02						
03	223 54.5 +00.2	N 04 00.3 +01.0	255 52.3 -00.4	S 10 25.2 -01.0	277 50.7 -28.0	S 18 38.0 -06.0	03						
04	238 54.7 +00.2	N 04 01.3 +00.9	270 51.9 -00.4	S 10 24.2 -01.0	292 22.7 -28.0	S 18 32.0 -06.1	04						
05	253 54.9 +00.1	N 04 02.2 +01.0	285 51.5 -00.4	S 10 23.2 -01.0	306 54.7 -28.0	S 18 25.9 -06.2	05						
06	268 55.0 +00.2	N 04 03.2 +01.0	300 51.1 -00.5	S 10 22.2 -01.0	321 26.7 -27.9	S 18 19.7 -06.2	06						
07	283 55.2 +00.2	N 04 04.2 +00.9	315 50.6 -00.4	S 10 21.2 -01.0	335 58.8 -27.9	S 18 13.5 -06.4	07						
08	298 55.4 +00.2	N 04 05.1 +01.0	330 50.2 -00.4	S 10 20.2 -01.0	350 30.9 -27.9	S 18 07.1 -06.4	08						
09	313 55.6 +00.2	N 04 06.1 +01.0	345 49.8 -00.4	S 10 19.2 -01.0	5 03.0 -27.8	S 18 00.7 -06.5	09						
10	328 55.8 +00.2	N 04 07.1 +00.9	0 49.4 -00.4	S 10 18.2 -01.1	19 35.2 -27.7	S 17 54.2 -06.5	10						
11	343 56.0 +00.2	N 04 08.0 +01.0	15 49.0 -00.5	S 10 17.1 -01.0	34 07.5 -27.8	S 17 47.7 -06.7	11						
12	358 56.2 +00.1	N 04 09.0 +01.0	30 48.5 -00.4	S 10 16.1 -01.0	48 39.7 -27.7	S 17 41.0 -06.7	12						
13	13 56.3 +00.2	N 04 10.0 +00.9	45 48.1 -00.4	S 10 15.1 -01.0	63 12.0 -27.6	S 17 34.3 -06.8	13						
14	28 56.5 +00.2	N 04 10.9 +01.0	60 47.7 -00.4	S 10 14.1 -01.0	77 44.4 -27.7	S 17 27.5 -06.8	14						
15	43 56.7 +00.2	N 04 11.9 +01.0	75 47.3 -00.5	S 10 13.1 -01.0	92 16.7 -27.5	S 17 20.7 -07.0	15						
16	58 56.9 +00.2	N 04 12.9 +00.9	90 46.8 -00.4	S 10 12.1 -01.0	106 49.2 -27.6	S 17 13.7 -07.0	16						
17	73 57.1 +00.2	N 04 13.8 +01.0	105 46.4 -00.4	S 10 11.1 -01.0	121 21.6 -27.5	S 17 06.7 -07.1	17						
18	88 57.3 +00.2	N 04 14.8 +01.0	120 46.0 -00.4	S 10 10.1 -01.0	135 54.1 -27.5	S 16 59.6 -07.2	18						
19	103 57.5 +00.1	N 04 15.8 +00.9	135 45.6 -00.4	S 10 09.1 -01.0	150 26.6 -27.4	S 16 52.4 -07.2	19						
20	118 57.6 +00.2	N 04 16.7 +01.0	150 45.2 -00.5	S 10 08.1 -01.1	164 59.2 -27.4	S 16 45.2 -07.3	20						
21	133 57.8 +00.2	N 04 17.7 +01.0	165 44.7 -00.4	S 10 07.0 -01.0	179 31.8 -27.4	S 16 37.9 -07.4	21						
22	148 58.0 +00.2	N 04 18.7 +00.9	180 44.3 -00.4	S 10 06.0 -01.0	194 04.4 -27.3	S 16 30.5 -07.5	22						
23	163 58.2 +00.2	N 04 19.6 +01.0	195 43.9 -00.4	S 10 05.0 -01.0	208 37.1 -27.3	S 16 23.0 -07.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'1 54'1 54'1 54'0 54'0								
	SHA 351° 351° 350° 350° 350° 350°		SHA 023° 023° 022° 022° 022° 022°		SHA 045° 043° 041° 039° 037° 035°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 08:39								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	130 38.7 +00.8	N 21 00.1 +00.4	284 23.9 +02.4	S 22 40.5 +00.1	256 43.8 +02.3	S 21 34.2 +00.0	00						
01	145 39.5 +00.7	N 21 00.5 +00.4	299 26.3 +02.3	S 22 40.6 +00.0	271 46.1 +02.4	S 21 34.2 +00.0	01						
02	160 40.2 +00.8	N 21 00.9 +00.4	314 28.6 +02.4	S 22 40.6 +00.0	286 48.5 +02.3	S 21 34.2 +00.0	02						
03	175 41.0 +00.7	N 21 01.3 +00.3	329 31.0 +02.4	S 22 40.6 +00.0	301 50.8 +02.3	S 21 34.2 +00.0	03						
04	190 41.7 +00.7	N 21 01.6 +00.4	344 33.4 +02.4	S 22 40.6 +00.0	316 53.1 +02.4	S 21 34.2 -00.1	04						
05	205 42.4 +00.8	N 21 02.0 +00.4	359 35.8 +02.3	S 22 40.6 +00.0	331 55.5 +02.3	S 21 34.1 +00.0	05						
06	220 43.2 +00.7	N 21 02.4 +00.3	14 38.1 +02.4	S 22 40.6 +00.0	346 57.8 +02.4	S 21 34.1 +00.0	06						
07	235 43.9 +00.7	N 21 02.7 +00.4	29 40.5 +02.4	S 22 40.6 +00.0	2 00.2 +02.3	S 21 34.1 +00.0	07						
08	250 44.6 +00.8	N 21 03.1 +00.4	44 42.9 +02.4	S 22 40.6 +00.0	17 02.5 +02.3	S 21 34.1 +00.0	08						
09	265 45.4 +00.7	N 21 03.5 +00.3	59 45.3 +02.3	S 22 40.6 +00.0	32 04.8 +02.4	S 21 34.1 +00.0	09						
10	280 46.1 +00.7	N 21 03.8 +00.4	74 47.6 +02.4	S 22 40.6 +00.0	47 07.2 +02.3	S 21 34.1 -00.1	10						
11	295 46.8 +00.8	N 21 04.2 +00.4	89 50.0 +02.4	S 22 40.6 +00.0	62 09.5 +02.3	S 21 34.0 +00.0	11						
12	310 47.6 +00.7	N 21 04.6 +00.3	104 52.4 +02.4	S 22 40.6 +00.0	77 11.8 +02.4	S 21 34.0 +00.0	12						
13	325 48.3 +00.7	N 21 04.9 +00.4	119 54.8 +02.3	S 22 40.6 +00.0	92 14.2 +02.3	S 21 34.0 +00.0	13						
14	340 49.0 +00.8	N 21 05.3 +00.4	134 57.1 +02.4	S 22 40.6 +00.0	107 16.5 +02.4	S 21 34.0 +00.0	14						
15	355 49.8 +00.7	N 21 05.7 +00.3	149 59.5 +02.4	S 22 40.6 +00.0	122 18.9 +02.3	S 21 34.0 +00.0	15						
16	10 50.5 +00.7	N 21 06.0 +00.4	165 01.9 +02.4	S 22 40.6 +00.0	137 21.2 +02.3	S 21 34.0 +00.0	16						
17	25 51.2 +00.8	N 21 06.4 +00.4	180 04.3 +02.4	S 22 40.6 +00.0	152 23.5 +02.4	S 21 34.0 -00.1	17						
18	40 52.0 +00.7	N 21 06.8 +00.3	195 06.7 +02.3	S 22 40.6 +00.0	167 25.9 +02.3	S 21 33.9 +00.0	18						
19	55 52.7 +00.7	N 21 07.1 +00.4	210 09.0 +02.4	S 22 40.6 +00.0	182 28.2 +02.4	S 21 33.9 +00.0	19						
20	70 53.4 +00.8	N 21 07.5 +00.4	225 11.4 +02.4	S 22 40.6 +00.0	197 30.6 +02.3	S 21 33.9 +00.0	20						
21	85 54.2 +00.7	N 21 07.9 +00.3	240 13.8 +02.4	S 22 40.6 +00.0	212 32.9 +02.3	S 21 33.9 +00.0	21						
22	100 54.9 +00.7	N 21 08.2 +00.4	255 16.2 +02.4	S 22 40.6 +00.0	227 35.2 +02.4	S 21 33.9 +00.0	22						
23	115 55.6 +00.8	N 21 08.6 +00.4	270 18.6 +02.3	S 22 40.6 +00.0	242 37.6 +02.3	S 21 33.9 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 303° 302° 302° 302° 302° 302°		SHA 096° 096° 096° 096° 096° 096°		SHA 069° 069° 069° 069° 069° 069°								
	Greenwich Culmination Time: 15:16		Greenwich Culmination Time: 05:01		Greenwich Culmination Time: 06:52								