

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	179 01.3 +00.1	N 04 33.3 +00.9	194 45.4 +03.4	N 05 39.1 -00.9	145 54.0 -35.1	N 20 54.0 +12.8											
01	194 01.4 +00.2	N 04 34.2 +01.0	209 48.8 +03.3	N 05 38.2 -00.8	160 18.9 -35.1	N 21 06.8 +12.6											
02	209 01.6 +00.2	N 04 35.2 +00.9	224 52.1 +03.3	N 05 37.4 -00.9	174 43.8 -35.2	N 21 19.4 +12.5											
03	224 01.8 +00.2	N 04 36.1 +01.0	239 55.4 +03.4	N 05 36.5 -00.9	189 08.6 -35.3	N 21 31.9 +12.3											
04	239 02.0 +00.2	N 04 37.1 +01.0	254 58.8 +03.3	N 05 35.6 -00.9	203 33.3 -35.4	N 21 44.2 +12.2											
05	254 02.2 +00.2	N 04 38.1 +00.9	270 02.1 +03.3	N 05 34.7 -00.9	217 57.9 -35.5	N 21 56.4 +12.0											
06	269 02.4 +00.2	N 04 39.0 +01.0	285 05.4 +03.4	N 05 33.8 -00.9	232 22.4 -35.5	N 22 08.4 +11.8											
07	284 02.6 +00.1	N 04 40.0 +01.0	300 08.8 +03.3	N 05 32.9 -00.8	246 46.9 -35.6	N 22 20.2 +11.7											
08	299 02.7 +00.2	N 04 41.0 +00.9	315 12.1 +03.3	N 05 32.1 -00.9	261 11.3 -35.6	N 22 31.9 +11.6											
09	314 02.9 +00.2	N 04 41.9 +01.0	330 15.4 +03.3	N 05 31.2 -00.9	275 35.7 -35.8	N 22 43.5 +11.3											
10	329 03.1 +00.2	N 04 42.9 +01.0	345 18.7 +03.3	N 05 30.3 -00.9	289 59.9 -35.8	N 22 54.8 +11.3											
11	344 03.3 +00.2	N 04 43.9 +00.9	0 22.0 +03.3	N 05 29.4 -00.9	304 24.1 -35.9	N 23 06.1 +11.0											
12	359 03.5 +00.2	N 04 44.8 +01.0	15 25.3 +03.3	N 05 28.5 -00.8	318 48.2 -35.9	N 23 17.1 +10.9											
13	14 03.7 +00.1	N 04 45.8 +01.0	30 28.6 +03.4	N 05 27.7 -00.9	333 12.3 -36.1	N 23 28.0 +10.7											
14	29 03.8 +00.2	N 04 46.8 +00.9	45 32.0 +03.2	N 05 26.8 -00.9	347 36.2 -36.1	N 23 38.7 +10.5											
15	44 04.0 +00.2	N 04 47.7 +01.0	60 35.2 +03.3	N 05 25.9 -00.9	2 00.1 -36.1	N 23 49.2 +10.4											
16	59 04.2 +00.2	N 04 48.7 +00.9	75 38.5 +03.3	N 05 25.0 -00.8	16 24.0 -36.2	N 23 59.6 +10.2											
17	74 04.4 +00.2	N 04 49.6 +01.0	90 41.8 +03.3	N 05 24.2 -00.9	30 47.8 -36.3	N 24 09.8 +10.1											
18	89 04.6 +00.2	N 04 50.6 +01.0	105 45.1 +03.3	N 05 23.3 -00.9	45 11.5 -36.4	N 24 19.9 +09.8											
19	104 04.8 +00.2	N 04 51.6 +00.9	120 48.4 +03.3	N 05 22.4 -00.9	59 35.1 -36.4	N 24 29.7 +09.7											
20	119 05.0 +00.1	N 04 52.5 +01.0	135 51.7 +03.3	N 05 21.5 -00.8	73 58.7 -36.5	N 24 39.4 +09.5											
21	134 05.1 +00.2	N 04 53.5 +01.0	150 55.0 +03.2	N 05 20.7 -00.9	88 22.2 -36.5	N 24 48.9 +09.3											
22	149 05.3 +00.2	N 04 54.5 +00.9	165 58.2 +03.3	N 05 19.8 -00.9	102 45.7 -36.6	N 24 58.2 +09.2											
23	164 05.5 +00.2	N 04 55.4 +01.0	181 01.5 +03.3	N 05 18.9 -00.8	117 09.1 -36.6	N 25 07.4 +09.0											
	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 349° 349° 349° 349° 349° 349°	Greenwich Culmination Time: 12:03		UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	HP 00'5 00'5 00'5 00'5 00'5 00'5	SHA 005° 005° 005° 005° 005° 005°	Greenwich Culmination Time: 10:58		UT 02 06 10 14 18 22	SD 16'5 16'5 16'5 16'4 16'4 16'4	HP 60'7 60'6 60'5 60'4 60'3 60'2	SHA 315° 313° 310° 307° 305° 302°	Greenwich Culmination Time: 14:51
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	73 38.7 +01.6	N 24 00.1 -00.2	114 48.0 +02.1	N 22 23.7 +00.0	193 53.8 +02.2	S 03 58.0 -00.1											
01	88 40.3 +01.6	N 23 59.9 -00.2	129 50.1 +02.0	N 22 23.7 +00.1	208 56.0 +02.2	S 03 57.9 -00.2											
02	103 41.9 +01.6	N 23 59.7 -00.2	144 52.1 +02.0	N 22 23.8 +00.0	223 58.2 +02.2	S 03 57.7 -00.1											
03	118 43.5 +01.6	N 23 59.5 -00.2	159 54.1 +02.1	N 22 23.8 +00.1	239 00.4 +02.2	S 03 57.6 -00.1											
04	133 45.1 +01.6	N 23 59.3 -00.2	174 56.2 +02.0	N 22 23.9 +00.0	254 02.6 +02.2	S 03 57.5 -00.1											
05	148 46.7 +01.6	N 23 59.1 -00.3	189 58.2 +02.1	N 22 23.9 +00.1	269 04.8 +02.2	S 03 57.4 -00.1											
06	163 48.3 +01.6	N 23 58.8 -00.2	205 00.3 +02.0	N 22 24.0 +00.0	284 07.0 +02.1	S 03 57.3 -00.1											
07	178 49.9 +01.6	N 23 58.6 -00.2	220 02.3 +02.1	N 22 24.0 +00.1	299 09.1 +02.2	S 03 57.2 -00.1											
08	193 51.5 +01.6	N 23 58.4 -00.2	235 04.4 +02.0	N 22 24.1 +00.0	314 11.3 +02.2	S 03 57.1 -00.2											
09	208 53.1 +01.6	N 23 58.2 -00.2	250 06.4 +02.1	N 22 24.1 +00.1	329 13.5 +02.2	S 03 56.9 -00.1											
10	223 54.7 +01.6	N 23 58.0 -00.2	265 08.5 +02.0	N 22 24.2 +00.0	344 15.7 +02.2	S 03 56.8 -00.1											
11	238 56.3 +01.5	N 23 57.8 -00.2	280 10.5 +02.1	N 22 24.2 +00.1	359 17.9 +02.2	S 03 56.7 -00.1											
12	253 57.8 +01.6	N 23 57.6 -00.2	295 12.6 +02.0	N 22 24.3 +00.0	14 20.1 +02.2	S 03 56.6 -00.1											
13	268 59.4 +01.6	N 23 57.4 -00.2	310 14.6 +02.1	N 22 24.3 +00.1	29 22.3 +02.2	S 03 56.5 -00.1											
14	284 01.0 +01.6	N 23 57.2 -00.2	325 16.7 +02.0	N 22 24.4 +00.0	44 24.5 +02.1	S 03 56.4 -00.2											
15	299 02.6 +01.6	N 23 57.0 -00.2	340 18.7 +02.0	N 22 24.4 +00.0	59 26.6 +02.2	S 03 56.2 -00.1											
16	314 04.2 +01.6	N 23 56.8 -00.2	355 20.7 +02.1	N 22 24.4 +00.1	74 28.8 +02.2	S 03 56.1 -00.1											
17	329 05.8 +01.6	N 23 56.6 -00.2	10 22.8 +02.0	N 22 24.5 +00.0	89 31.0 +02.2	S 03 56.0 -00.1											
18	344 07.4 +01.6	N 23 56.4 -00.2	25 24.8 +02.1	N 22 24.5 +00.1	104 33.2 +02.2	S 03 55.9 -00.1											
19	359 09.0 +01.5	N 23 56.2 -00.3	40 26.9 +02.0	N 22 24.6 +00.0	119 35.4 +02.2	S 03 55.8 -00.1											
20	14 10.5 +01.6	N 23 55.9 -00.2	55 28.9 +02.1	N 22 24.6 +00.1	134 37.6 +02.2	S 03 55.7 -00.1											
21	29 12.1 +01.6	N 23 55.7 -00.2	70 31.0 +02.0	N 22 24.7 +00.0	149 39.8 +02.2	S 03 55.6 -00.2											
22	44 13.7 +01.6	N 23 55.5 -00.2	85 33.0 +02.1	N 22 24.7 +00.1	164 42.0 +02.1	S 03 55.4 -00.1											
23	59 15.3 +01.6	N 23 55.3 -00.2	100 35.1 +02.0	N 22 24.8 +00.0	179 44.1 +02.2	S 03 55.3 -00.1											
	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 244° 244° 244° 244° 244° 244°	Greenwich Culmination Time: 19:03		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 285° 285° 285° 285° 285° 285°	Greenwich Culmination Time: 16:18		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 004° 004° 004° 004° 004° 004°	Greenwich Culmination Time: 11:02

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 15%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 05.7 +00.2	N 04	56.4 +00.9	196 04.8 +03.2	N 05	18.1 -00.9	131 32.5 -36.7	N 25	16.4 +08.7	00			
01	194 05.9 +00.2	N 04	57.3 +01.0	211 08.0 +03.3	N 05	17.2 -00.9	145 55.8 -36.8	N 25	25.1 +08.6	01			
02	209 06.1 +00.1	N 04	58.3 +01.0	226 11.3 +03.3	N 05	16.3 -00.8	160 19.0 -36.8	N 25	33.7 +08.5	02			
03	224 06.2 +00.2	N 04	59.3 +00.9	241 14.6 +03.2	N 05	15.5 -00.9	174 42.2 -36.8	N 25	42.2 +08.2	03			
04	239 06.4 +00.2	N 05	00.2 +01.0	256 17.8 +03.3	N 05	14.6 -00.9	189 05.4 -36.9	N 25	50.4 +08.1	04			
05	254 06.6 +00.2	N 05	01.2 +00.9	271 21.1 +03.2	N 05	13.7 -00.9	203 28.5 -36.9	N 25	58.5 +07.8	05			
06	269 06.8 +00.2	N 05	02.1 +01.0	286 24.3 +03.2	N 05	12.8 -00.8	217 51.6 -37.0	N 26	06.3 +07.7	06			
07	284 07.0 +00.2	N 05	03.1 +01.0	301 27.5 +03.3	N 05	12.0 -00.9	232 14.6 -37.0	N 26	14.0 +07.5	07			
08	299 07.2 +00.1	N 05	04.1 +00.9	316 30.8 +03.2	N 05	11.1 -00.8	246 37.6 -37.1	N 26	21.5 +07.3	08			
09	314 07.3 +00.2	N 05	05.0 +01.0	331 34.0 +03.2	N 05	10.3 -00.9	261 00.5 -37.1	N 26	28.8 +07.1	09			
10	329 07.5 +00.2	N 05	06.0 +00.9	346 37.2 +03.3	N 05	09.4 -00.9	275 23.4 -37.1	N 26	35.9 +06.9	10			
11	344 07.7 +00.2	N 05	06.9 +01.0	1 40.5 +03.2	N 05	08.5 -00.8	289 46.3 -37.2	N 26	42.8 +06.7	11			
12	359 07.9 +00.2	N 05	07.9 +01.0	16 43.7 +03.2	N 05	07.7 -00.9	304 09.1 -37.2	N 26	49.5 +06.6	12			
13	14 08.1 +00.2	N 05	08.9 +00.9	31 46.9 +03.2	N 05	06.8 -00.9	318 31.9 -37.2	N 26	56.1 +06.3	13			
14	29 08.3 +00.1	N 05	09.8 +01.0	46 50.1 +03.2	N 05	05.9 -00.8	332 54.7 -37.3	N 27	02.4 +06.2	14			
15	44 08.4 +00.2	N 05	10.8 +00.9	61 53.3 +03.3	N 05	05.1 -00.9	347 17.4 -37.3	N 27	08.6 +05.9	15			
16	59 08.6 +00.2	N 05	11.7 +01.0	76 56.6 +03.2	N 05	04.2 -00.8	1 40.1 -37.3	N 27	14.5 +05.8	16			
17	74 08.8 +00.2	N 05	12.7 +01.0	91 59.8 +03.2	N 05	03.4 -00.9	16 02.8 -37.3	N 27	20.3 +05.6	17			
18	89 09.0 +00.2	N 05	13.7 +00.9	107 03.0 +03.2	N 05	02.5 -00.8	30 25.5 -37.3	N 27	25.9 +05.3	18			
19	104 09.2 +00.2	N 05	14.6 +01.0	122 06.2 +03.2	N 05	01.7 -00.9	44 48.2 -37.4	N 27	31.2 +05.2	19			
20	119 09.4 +00.1	N 05	15.6 +00.9	137 09.4 +03.1	N 05	00.8 -00.9	59 10.8 -37.4	N 27	36.4 +05.0	20			
21	134 09.5 +00.2	N 05	16.5 +01.0	152 12.5 +03.2	N 04	59.9 -00.8	73 33.4 -37.4	N 27	41.4 +04.8	21			
22	149 09.7 +00.2	N 05	17.5 +01.0	167 15.7 +03.2	N 04	59.1 -00.9	87 56.0 -37.4	N 27	46.2 +04.6	22			
23	164 09.9 +00.2	N 05	18.5 +00.9	182 18.9 +03.2	N 04	58.2 -00.8	102 18.6 -37.4	N 27	50.8 +04.4	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 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'4 16'3 16'3 16'3 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 60'0 59'9 59'8 59'7 59'5 59'4						
	SHA 348° 348° 348° 348° 348° 348°			SHA 006° 006° 006° 006° 006° 006°			SHA 300° 297° 294° 292° 289° 286°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 10:53			Greenwich Culmination Time: 15:53						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	74 16.9 +01.5	N 23	55.1 -00.2	115 37.1 +02.0	N 22	24.8 +00.1	194 46.3 +02.2	S 03	55.2 -00.1	00			
01	89 18.4 +01.6	N 23	54.9 -00.2	130 39.1 +02.1	N 22	24.9 +00.0	209 48.5 +02.2	S 03	55.1 -00.1	01			
02	104 20.0 +01.6	N 23	54.7 -00.2	145 41.2 +02.0	N 22	24.9 +00.1	224 50.7 +02.2	S 03	55.0 -00.1	02			
03	119 21.6 +01.6	N 23	54.5 -00.2	160 43.2 +02.1	N 22	25.0 +00.0	239 52.9 +02.2	S 03	54.9 -00.1	03			
04	134 23.2 +01.6	N 23	54.3 -00.2	175 45.3 +02.0	N 22	25.0 +00.1	254 55.1 +02.2	S 03	54.8 -00.2	04			
05	149 24.8 +01.5	N 23	54.1 -00.2	190 47.3 +02.0	N 22	25.1 +00.0	269 57.3 +02.2	S 03	54.6 -00.1	05			
06	164 26.3 +01.6	N 23	53.9 -00.2	205 49.3 +02.1	N 22	25.1 +00.0	284 59.5 +02.1	S 03	54.5 -00.1	06			
07	179 27.9 +01.6	N 23	53.7 -00.3	220 51.4 +02.0	N 22	25.1 +00.1	300 01.6 +02.2	S 03	54.4 -00.1	07			
08	194 29.5 +01.6	N 23	53.4 -00.2	235 53.4 +02.1	N 22	25.2 +00.0	315 03.8 +02.2	S 03	54.3 -00.1	08			
09	209 31.1 +01.5	N 23	53.2 -00.2	250 55.5 +02.0	N 22	25.2 +00.1	330 06.0 +02.2	S 03	54.2 -00.1	09			
10	224 32.6 +01.6	N 23	53.0 -00.2	265 57.5 +02.1	N 22	25.3 +00.0	345 08.2 +02.2	S 03	54.1 -00.2	10			
11	239 34.2 +01.6	N 23	52.8 -00.2	280 59.6 +02.0	N 22	25.3 +00.1	0 10.4 +02.2	S 03	53.9 -00.1	11			
12	254 35.8 +01.6	N 23	52.6 -00.2	296 01.6 +02.0	N 22	25.4 +00.0	15 12.6 +02.2	S 03	53.8 -00.1	12			
13	269 37.4 +01.5	N 23	52.4 -00.2	311 03.6 +02.1	N 22	25.4 +00.1	30 14.8 +02.2	S 03	53.7 -00.1	13			
14	284 38.9 +01.6	N 23	52.2 -00.2	326 05.7 +02.0	N 22	25.5 +00.0	45 17.0 +02.1	S 03	53.6 -00.1	14			
15	299 40.5 +01.6	N 23	52.0 -00.2	341 07.7 +02.1	N 22	25.5 +00.1	60 19.1 +02.2	S 03	53.5 -00.1	15			
16	314 42.1 +01.6	N 23	51.8 -00.3	356 09.8 +02.0	N 22	25.6 +00.0	75 21.3 +02.2	S 03	53.4 -00.1	16			
17	329 43.7 +01.5	N 23	51.5 -00.2	11 11.8 +02.0	N 22	25.6 +00.1	90 23.5 +02.2	S 03	53.3 -00.2	17			
18	344 45.2 +01.6	N 23	51.3 -00.2	26 13.8 +02.1	N 22	25.7 +00.0	105 25.7 +02.2	S 03	53.1 -00.1	18			
19	359 46.8 +01.6	N 23	51.1 -00.2	41 15.9 +02.0	N 22	25.7 +00.1	120 27.9 +02.2	S 03	53.0 -00.1	19			
20	14 48.4 +01.5	N 23	50.9 -00.2	56 17.9 +02.0	N 22	25.8 +00.0	135 30.1 +02.2	S 03	52.9 -00.1	20			
21	29 49.9 +01.6	N 23	50.7 -00.2	71 19.9 +02.1	N 22	25.8 +00.0	150 32.3 +02.2	S 03	52.8 -00.1	21			
22	44 51.5 +01.6	N 23	50.5 -00.2	86 22.0 +02.0	N 22	25.8 +00.1	165 34.5 +02.2	S 03	52.7 -00.1	22			
23	59 53.1 +01.5	N 23	50.3 -00.2	101 24.0 +02.1	N 22	25.9 +00.0	180 36.7 +02.1	S 03	52.6 -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 244° 244° 244° 243° 243° 243°			SHA 285° 285° 285° 285° 285° 285°			SHA 004° 004° 004° 004° 004° 004°						
	Greenwich Culmination Time: 19:00			Greenwich Culmination Time: 16:15			Greenwich Culmination Time: 10:59						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	179 10.1 +00.2	N 05 19.4 +01.0	197 22.1 +03.2	N 04 57.4 -00.9	116 41.2 -37.4	N 27 55.2 +04.1	00								
01	194 10.3 +00.1	N 05 20.4 +00.9	212 25.3 +03.1	N 04 56.5 -00.8	131 03.8 -37.4	N 27 59.3 +04.0	01								
02	209 10.4 +00.2	N 05 21.3 +01.0	227 28.4 +03.2	N 04 55.7 -00.9	145 26.4 -37.4	N 28 03.3 +03.8	02								
03	224 10.6 +00.2	N 05 22.3 +00.9	242 31.6 +03.2	N 04 54.8 -00.8	159 49.0 -37.4	N 28 07.1 +03.7	03								
04	239 10.8 +00.2	N 05 23.2 +01.0	257 34.8 +03.1	N 04 54.0 -00.9	174 11.6 -37.4	N 28 10.8 +03.4	04								
05	254 11.0 +00.2	N 05 24.2 +01.0	272 37.9 +03.2	N 04 53.1 -00.8	188 34.2 -37.4	N 28 14.2 +03.2	05								
06	269 11.2 +00.2	N 05 25.2 +00.9	287 41.1 +03.1	N 04 52.3 -00.9	202 56.8 -37.3	N 28 17.4 +03.0	06								
07	284 11.4 +00.1	N 05 26.1 +01.0	302 44.2 +03.2	N 04 51.4 -00.8	217 19.5 -37.4	N 28 20.4 +02.8	07								
08	299 11.5 +00.2	N 05 27.1 +00.9	317 47.4 +03.1	N 04 50.6 -00.9	231 42.1 -37.3	N 28 23.2 +02.6	08								
09	314 11.7 +00.2	N 05 28.0 +01.0	332 50.5 +03.2	N 04 49.7 -00.8	246 04.8 -37.4	N 28 25.8 +02.5	09								
10	329 11.9 +00.2	N 05 29.0 +00.9	347 53.7 +03.1	N 04 48.9 -00.8	260 27.4 -37.3	N 28 28.3 +02.2	10								
11	344 12.1 +00.2	N 05 29.9 +01.0	2 56.8 +03.2	N 04 48.1 -00.9	274 50.1 -37.3	N 28 30.5 +02.0	11								
12	359 12.3 +00.2	N 05 30.9 +00.9	17 60.0 +03.1	N 04 47.2 -00.8	289 12.8 -37.2	N 28 32.5 +01.9	12								
13	14 12.5 +00.1	N 05 31.8 +01.0	33 03.1 +03.1	N 04 46.4 -00.9	303 35.6 -37.3	N 28 34.4 +01.6	13								
14	29 12.6 +00.2	N 05 32.8 +01.0	48 06.2 +03.1	N 04 45.5 -00.8	317 58.3 -37.2	N 28 36.0 +01.5	14								
15	44 12.8 +00.2	N 05 33.8 +00.9	63 09.3 +03.2	N 04 44.7 -00.8	332 21.1 -37.1	N 28 37.5 +01.2	15								
16	59 13.0 +00.2	N 05 34.7 +01.0	78 12.5 +03.1	N 04 43.9 -00.9	346 44.0 -37.2	N 28 38.7 +01.1	16								
17	74 13.2 +00.2	N 05 35.7 +00.9	93 15.6 +03.1	N 04 43.0 -00.8	1 06.8 -37.1	N 28 39.8 +00.9	17								
18	89 13.4 +00.1	N 05 36.6 +01.0	108 18.7 +03.1	N 04 42.2 -00.9	15 29.7 -37.0	N 28 40.7 +00.6	18								
19	104 13.5 +00.2	N 05 37.6 +00.9	123 21.8 +03.1	N 04 41.3 -00.8	29 52.7 -37.0	N 28 41.3 +00.5	19								
20	119 13.7 +00.2	N 05 38.5 +01.0	138 24.9 +03.1	N 04 40.5 -00.8	44 15.7 -37.0	N 28 41.8 +00.3	20								
21	134 13.9 +00.2	N 05 39.5 +00.9	153 28.0 +03.1	N 04 39.7 -00.9	58 38.7 -36.9	N 28 42.1 +00.1	21								
22	149 14.1 +00.2	N 05 40.4 +01.0	168 31.1 +03.1	N 04 38.8 -00.8	73 01.8 -36.9	N 28 42.2 -00.1	22								
23	164 14.3 +00.1	N 05 41.4 +00.9	183 34.2 +03.1	N 04 38.0 -00.8	87 24.9 -36.8	N 28 42.1 -00.2	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 348° 347° 347° 347° 347° 347°	Greenwich Culmination Time: 12:03	UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	HP 00'5 00'5 00'5 00'5 00'5 00'5	SHA 006° 006° 006° 006° 006° 006°	Greenwich Culmination Time: 10:48	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'0 16'0 15'9	HP 59'2 59'1 59'0 58'8 58'7 58'5	SHA 284° 281° 278° 276° 273° 271°	Greenwich Culmination Time: 16:55
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	74 54.6 +01.6	N 23 50.1 -00.3	116 26.1 +02.0	N 22 25.9 +00.1	195 38.8 +02.2	S 03 52.5 -00.2	00								
01	89 56.2 +01.6	N 23 49.8 -00.2	131 28.1 +02.0	N 22 26.0 +00.0	210 41.0 +02.2	S 03 52.3 -00.1	01								
02	104 57.8 +01.5	N 23 49.6 -00.2	146 30.1 +02.1	N 22 26.0 +00.1	225 43.2 +02.2	S 03 52.2 -00.1	02								
03	119 59.3 +01.6	N 23 49.4 -00.2	161 32.2 +02.0	N 22 26.1 +00.0	240 45.4 +02.2	S 03 52.1 -00.1	03								
04	135 00.9 +01.6	N 23 49.2 -00.2	176 34.2 +02.0	N 22 26.1 +00.1	255 47.6 +02.2	S 03 52.0 -00.1	04								
05	150 02.5 +01.5	N 23 49.0 -00.2	191 36.2 +02.1	N 22 26.2 +00.0	270 49.8 +02.2	S 03 51.9 -00.1	05								
06	165 04.0 +01.6	N 23 48.8 -00.2	206 38.3 +02.0	N 22 26.2 +00.1	285 52.0 +02.2	S 03 51.8 -00.1	06								
07	180 05.6 +01.5	N 23 48.6 -00.2	221 40.3 +02.1	N 22 26.3 +00.0	300 54.2 +02.2	S 03 51.7 -00.2	07								
08	195 07.1 +01.6	N 23 48.4 -00.3	236 42.4 +02.0	N 22 26.3 +00.1	315 56.4 +02.1	S 03 51.5 -00.1	08								
09	210 08.7 +01.6	N 23 48.1 -00.2	251 44.4 +02.0	N 22 26.4 +00.0	330 58.5 +02.2	S 03 51.4 -00.1	09								
10	225 10.3 +01.5	N 23 47.9 -00.2	266 46.4 +02.1	N 22 26.4 +00.1	346 00.7 +02.2	S 03 51.3 -00.1	10								
11	240 11.8 +01.6	N 23 47.7 -00.2	281 48.5 +02.0	N 22 26.5 +00.0	1 02.9 +02.2	S 03 51.2 -00.1	11								
12	255 13.4 +01.5	N 23 47.5 -00.2	296 50.5 +02.0	N 22 26.5 +00.1	16 05.1 +02.2	S 03 51.1 -00.1	12								
13	270 14.9 +01.6	N 23 47.3 -00.2	311 52.5 +02.1	N 22 26.6 +00.0	31 07.3 +02.2	S 03 51.0 -00.1	13								
14	285 16.5 +01.6	N 23 47.1 -00.2	326 54.6 +02.0	N 22 26.6 +00.0	46 09.5 +02.2	S 03 50.9 -00.2	14								
15	300 18.1 +01.5	N 23 46.9 -00.3	341 56.6 +02.0	N 22 26.6 +00.1	61 11.7 +02.2	S 03 50.7 -00.1	15								
16	315 19.6 +01.6	N 23 46.6 -00.2	356 58.6 +02.1	N 22 26.7 +00.0	76 13.9 +02.2	S 03 50.6 -00.1	16								
17	330 21.2 +01.5	N 23 46.4 -00.2	12 00.7 +02.0	N 22 26.7 +00.1	91 16.1 +02.1	S 03 50.5 -00.1	17								
18	345 22.7 +01.6	N 23 46.2 -00.2	27 02.7 +02.0	N 22 26.8 +00.0	106 18.2 +02.2	S 03 50.4 -00.1	18								
19	0 24.3 +01.5	N 23 46.0 -00.2	42 04.7 +02.1	N 22 26.8 +00.1	121 20.4 +02.2	S 03 50.3 -00.1	19								
20	15 25.8 +01.6	N 23 45.8 -00.2	57 06.8 +02.0	N 22 26.9 +00.0	136 22.6 +02.2	S 03 50.2 -00.1	20								
21	30 27.4 +01.5	N 23 45.6 -00.3	72 08.8 +02.0	N 22 26.9 +00.1	151 24.8 +02.2	S 03 50.1 -00.2	21								
22	45 28.9 +01.6	N 23 45.3 -00.2	87 10.8 +02.1	N 22 27.0 +00.0	166 27.0 +02.2	S 03 49.9 -00.1	22								
23	60 30.5 +01.5	N 23 45.1 -00.2	102 12.9 +02.0	N 22 27.0 +00.1	181 29.2 +02.2	S 03 49.8 -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 243° 243° 243° 243° 243° 243°	Greenwich Culmination Time: 18:58	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 285° 285° 285° 285° 285° 285°	Greenwich Culmination Time: 16:12	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 004° 004° 004° 004° 004° 004°	Greenwich Culmination Time: 10:55

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 14.4 +00.2	N 05 42.3 +01.0	198 37.3 +03.1	N 04 37.2 -00.9	101 48.1 -36.8	N 28 41.9 -00.5	00						
01	194 14.6 +00.2	N 05 43.3 +01.0	213 40.4 +03.1	N 04 36.3 -00.8	116 11.3 -36.7	N 28 41.4 -00.7	01						
02	209 14.8 +00.2	N 05 44.3 +00.9	228 43.5 +03.0	N 04 35.5 -00.8	130 34.6 -36.7	N 28 40.7 -00.8	02						
03	224 15.0 +00.2	N 05 45.2 +01.0	243 46.5 +03.1	N 04 34.7 -00.8	144 57.9 -36.6	N 28 39.9 -01.0	03						
04	239 15.2 +00.2	N 05 46.2 +00.9	258 49.6 +03.1	N 04 33.9 -00.9	159 21.3 -36.5	N 28 38.9 -01.2	04						
05	254 15.4 +00.1	N 05 47.1 +01.0	273 52.7 +03.0	N 04 33.0 -00.8	173 44.8 -36.4	N 28 37.7 -01.4	05						
06	269 15.5 +00.2	N 05 48.1 +00.9	288 55.7 +03.1	N 04 32.2 -00.8	188 08.4 -36.4	N 28 36.3 -01.6	06						
07	284 15.7 +00.2	N 05 49.0 +01.0	303 58.8 +03.1	N 04 31.4 -00.8	202 32.0 -36.4	N 28 34.7 -01.8	07						
08	299 15.9 +00.2	N 05 50.0 +00.9	319 01.9 +03.0	N 04 30.6 -00.9	216 55.6 -36.2	N 28 32.9 -01.9	08						
09	314 16.1 +00.2	N 05 50.9 +01.0	334 04.9 +03.1	N 04 29.7 -00.8	231 19.4 -36.2	N 28 31.0 -02.1	09						
10	329 16.3 +00.1	N 05 51.9 +00.9	349 08.0 +03.0	N 04 28.9 -00.8	245 43.2 -36.1	N 28 28.9 -02.3	10						
11	344 16.4 +00.2	N 05 52.8 +01.0	4 11.0 +03.1	N 04 28.1 -00.8	260 07.1 -36.1	N 28 26.6 -02.5	11						
12	359 16.6 +00.2	N 05 53.8 +00.9	19 14.1 +03.0	N 04 27.3 -00.8	274 31.0 -35.9	N 28 24.1 -02.7	12						
13	14 16.8 +00.2	N 05 54.7 +01.0	34 17.1 +03.0	N 04 26.5 -00.9	288 55.1 -35.9	N 28 21.4 -02.8	13						
14	29 17.0 +00.2	N 05 55.7 +00.9	49 20.1 +03.1	N 04 25.6 -00.8	303 19.2 -35.8	N 28 18.6 -03.0	14						
15	44 17.2 +00.1	N 05 56.6 +01.0	64 23.2 +03.0	N 04 24.8 -00.8	317 43.4 -35.7	N 28 15.6 -03.2	15						
16	59 17.3 +00.2	N 05 57.6 +00.9	79 26.2 +03.0	N 04 24.0 -00.8	332 07.7 -35.6	N 28 12.4 -03.3	16						
17	74 17.5 +00.2	N 05 58.5 +01.0	94 29.2 +03.0	N 04 23.2 -00.8	346 32.1 -35.5	N 28 09.1 -03.5	17						
18	89 17.7 +00.2	N 05 59.5 +00.9	109 32.2 +03.1	N 04 22.4 -00.8	0 56.6 -35.5	N 28 05.6 -03.7	18						
19	104 17.9 +00.2	N 06 00.4 +01.0	124 35.3 +03.0	N 04 21.6 -00.8	15 21.1 -35.3	N 28 01.9 -03.9	19						
20	119 18.1 +00.1	N 06 01.4 +00.9	139 38.3 +03.0	N 04 20.8 -00.8	29 45.8 -35.3	N 27 58.0 -04.0	20						
21	134 18.2 +00.2	N 06 02.3 +01.0	154 41.3 +03.0	N 04 20.0 -00.8	44 10.5 -35.2	N 27 54.0 -04.2	21						
22	149 18.4 +00.2	N 06 03.3 +00.9	169 44.3 +03.0	N 04 19.2 -00.9	58 35.3 -35.0	N 27 49.8 -04.4	22						
23	164 18.6 +00.2	N 06 04.2 +01.0	184 47.3 +03.0	N 04 18.3 -00.8	73 00.3 -35.0	N 27 45.4 -04.5	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 00'5 00'5 00'5 00'5 00'5 00'5	UT 02 06 10 14 18 22	SD 15'9 15'9 15'8 15'8 15'8 15'7							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 00'5 00'5 00'5 00'5 00'5 00'5	HP 58'4 58'3 58'1 58'0 57'8 57'7								
	SHA 347° 346° 346° 346° 346° 346°	SHA 006° 006° 006° 006° 006° 006°		SHA 006° 006° 006° 006° 006° 006°	SHA 268° 265° 263° 260° 258° 255°								
	Greenwich Culmination Time: 12:02	Greenwich Culmination Time: 10:43		Greenwich Culmination Time: 17:56									

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	75 32.0 +01.6	N 23 44.9 -00.2	117 14.9 +02.0	N 22 27.1 +00.0	196 31.4 +02.2	S 03 49.7 -00.1	00						
01	90 33.6 +01.5	N 23 44.7 -00.2	132 16.9 +02.1	N 22 27.1 +00.1	211 33.6 +02.2	S 03 49.6 -00.1	01						
02	105 35.1 +01.6	N 23 44.5 -00.2	147 19.0 +02.0	N 22 27.2 +00.0	226 35.8 +02.1	S 03 49.5 -00.1	02						
03	120 36.7 +01.5	N 23 44.3 -00.3	162 21.0 +02.0	N 22 27.2 +00.1	241 37.9 +02.2	S 03 49.4 -00.1	03						
04	135 38.2 +01.6	N 23 44.0 -00.2	177 23.0 +02.1	N 22 27.3 +00.0	256 40.1 +02.2	S 03 49.3 -00.2	04						
05	150 39.8 +01.5	N 23 43.8 -00.2	192 25.1 +02.0	N 22 27.3 +00.0	271 42.3 +02.2	S 03 49.1 -00.1	05						
06	165 41.3 +01.6	N 23 43.6 -00.2	207 27.1 +02.0	N 22 27.3 +00.1	286 44.5 +02.2	S 03 49.0 -00.1	06						
07	180 42.9 +01.5	N 23 43.4 -00.2	222 29.1 +02.1	N 22 27.4 +00.0	301 46.7 +02.2	S 03 48.9 -00.1	07						
08	195 44.4 +01.6	N 23 43.2 -00.2	237 31.2 +02.0	N 22 27.4 +00.1	316 48.9 +02.2	S 03 48.8 -00.1	08						
09	210 46.0 +01.5	N 23 43.0 -00.3	252 33.2 +02.0	N 22 27.5 +00.0	331 51.1 +02.2	S 03 48.7 -00.1	09						
10	225 47.5 +01.6	N 23 42.7 -00.2	267 35.2 +02.0	N 22 27.5 +00.1	346 53.3 +02.2	S 03 48.6 -00.1	10						
11	240 49.1 +01.5	N 23 42.5 -00.2	282 37.2 +02.1	N 22 27.6 +00.0	1 55.5 +02.2	S 03 48.5 -00.2	11						
12	255 50.6 +01.6	N 23 42.3 -00.2	297 39.3 +02.0	N 22 27.6 +00.1	16 57.7 +02.1	S 03 48.3 -00.1	12						
13	270 52.2 +01.5	N 23 42.1 -00.2	312 41.3 +02.0	N 22 27.7 +00.0	31 59.8 +02.2	S 03 48.2 -00.1	13						
14	285 53.7 +01.6	N 23 41.9 -00.3	327 43.3 +02.1	N 22 27.7 +00.1	47 02.0 +02.2	S 03 48.1 -00.1	14						
15	300 55.3 +01.5	N 23 41.6 -00.2	342 45.4 +02.0	N 22 27.8 +00.0	62 04.2 +02.2	S 03 48.0 -00.1	15						
16	315 56.8 +01.5	N 23 41.4 -00.2	357 47.4 +02.0	N 22 27.8 +00.1	77 06.4 +02.2	S 03 47.9 -00.1	16						
17	330 58.3 +01.6	N 23 41.2 -00.2	12 49.4 +02.1	N 22 27.9 +00.0	92 08.6 +02.2	S 03 47.8 -00.1	17						
18	345 59.9 +01.5	N 23 41.0 -00.2	27 51.5 +02.0	N 22 27.9 +00.1	107 10.8 +02.2	S 03 47.7 -00.2	18						
19	1 01.4 +01.6	N 23 40.8 -00.2	42 53.5 +02.0	N 22 28.0 +00.0	122 13.0 +02.2	S 03 47.5 -00.1	19						
20	16 03.0 +01.5	N 23 40.6 -00.3	57 55.5 +02.0	N 22 28.0 +00.0	137 15.2 +02.2	S 03 47.4 -00.1	20						
21	31 04.5 +01.5	N 23 40.3 -00.2	72 57.5 +02.1	N 22 28.0 +00.1	152 17.4 +02.2	S 03 47.3 -00.1	21						
22	46 06.0 +01.6	N 23 40.1 -00.2	87 59.6 +02.0	N 22 28.1 +00.0	167 19.6 +02.1	S 03 47.2 -00.1	22						
23	61 07.6 +01.5	N 23 39.9 -00.2	103 01.6 +02.0	N 22 28.1 +00.1	182 21.7 +02.2	S 03 47.1 -00.1	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 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 243° 243° 243° 243° 243° 243°	SHA 285° 285° 285° 285° 285° 285°		SHA 285° 285° 285° 285° 285° 285°	SHA 004° 004° 004° 004° 004° 004°								
	Greenwich Culmination Time: 18:55	Greenwich Culmination Time: 16:08		Greenwich Culmination Time: 10:52									

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 27%</span>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 18.8 +00.2	N 06 05.2 +00.9	199 50.3 +03.0	N 04 17.5 -00.8	87 25.3 -34.9	N 27 40.9 -04.7	00						
01	194 19.0 +00.1	N 06 06.1 +01.0	214 53.3 +03.0	N 04 16.7 -00.8	101 50.4 -34.8	N 27 36.2 -04.8	01						
02	209 19.1 +00.2	N 06 07.1 +00.9	229 56.3 +03.0	N 04 15.9 -00.8	116 15.6 -34.7	N 27 31.4 -05.0	02						
03	224 19.3 +00.2	N 06 08.0 +01.0	244 59.3 +02.9	N 04 15.1 -00.8	130 40.9 -34.6	N 27 26.4 -05.2	03						
04	239 19.5 +00.2	N 06 09.0 +00.9	260 02.2 +03.0	N 04 14.3 -00.8	145 06.3 -34.4	N 27 21.2 -05.3	04						
05	254 19.7 +00.1	N 06 09.9 +01.0	275 05.2 +03.0	N 04 13.5 -00.8	159 31.9 -34.4	N 27 15.9 -05.4	05						
06	269 19.8 +00.2	N 06 10.9 +00.9	290 08.2 +03.0	N 04 12.7 -00.8	173 57.5 -34.3	N 27 10.5 -05.7	06						
07	284 20.0 +00.2	N 06 11.8 +01.0	305 11.2 +02.9	N 04 11.9 -00.8	188 23.2 -34.2	N 27 04.8 -05.7	07						
08	299 20.2 +00.2	N 06 12.8 +00.9	320 14.1 +03.0	N 04 11.1 -00.8	202 49.0 -34.0	N 26 59.1 -06.0	08						
09	314 20.4 +00.2	N 06 13.7 +01.0	335 17.1 +03.0	N 04 10.3 -00.8	217 15.0 -34.0	N 26 53.1 -06.0	09						
10	329 20.6 +00.1	N 06 14.7 +00.9	350 20.1 +02.9	N 04 09.5 -00.7	231 41.0 -33.8	N 26 47.1 -06.3	10						
11	344 20.7 +00.2	N 06 15.6 +01.0	5 23.0 +03.0	N 04 08.8 -00.8	246 07.2 -33.8	N 26 40.8 -06.3	11						
12	359 20.9 +00.2	N 06 16.6 +00.9	20 26.0 +02.9	N 04 08.0 -00.8	260 33.4 -33.6	N 26 34.5 -06.5	12						
13	14 21.1 +00.2	N 06 17.5 +01.0	35 28.9 +02.9	N 04 07.2 -00.8	274 59.8 -33.5	N 26 28.0 -06.7	13						
14	29 21.3 +00.2	N 06 18.5 +00.9	50 31.8 +03.0	N 04 06.4 -00.8	289 26.3 -33.4	N 26 21.3 -06.8	14						
15	44 21.5 +00.1	N 06 19.4 +00.9	65 34.8 +02.9	N 04 05.6 -00.8	303 52.9 -33.3	N 26 14.5 -06.9	15						
16	59 21.6 +00.2	N 06 20.3 +01.0	80 37.7 +03.0	N 04 04.8 -00.8	318 19.6 -33.2	N 26 07.6 -07.1	16						
17	74 21.8 +00.2	N 06 21.3 +00.9	95 40.7 +02.9	N 04 04.0 -00.8	332 46.4 -33.1	N 26 00.5 -07.2	17						
18	89 22.0 +00.2	N 06 22.2 +01.0	110 43.6 +02.9	N 04 03.2 -00.7	347 13.3 -33.0	N 25 53.3 -07.4	18						
19	104 22.2 +00.1	N 06 23.2 +00.9	125 46.5 +02.9	N 04 02.5 -00.8	1 40.3 -32.8	N 25 45.9 -07.5	19						
20	119 22.3 +00.2	N 06 24.1 +01.0	140 49.4 +02.9	N 04 01.7 -00.8	16 07.5 -32.7	N 25 38.4 -07.6	20						
21	134 22.5 +00.2	N 06 25.1 +00.9	155 52.3 +03.0	N 04 00.9 -00.8	30 34.8 -32.7	N 25 30.8 -07.7	21						
22	149 22.7 +00.2	N 06 26.0 +01.0	170 55.3 +02.9	N 04 00.1 -00.8	45 02.1 -32.5	N 25 23.1 -07.9	22						
23	164 22.9 +00.2	N 06 27.0 +00.9	185 58.2 +02.9	N 03 59.3 -00.7	59 29.6 -32.4	N 25 15.2 -08.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'5 00'5 00'5 00'5 00'5 00'4		SD 15'7 15'6 15'6 15'6 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 57'5 57'4 57'3 57'1 57'0 56'9								
	SHA 346° 346° 345° 345° 345° 345°		SHA 006° 006° 006° 006° 006° 006°		SHA 253° 250° 248° 245° 243° 241°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 10:38		Greenwich Culmination Time: 18:53								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	76 09.1 +01.6	N 23 39.7 -00.2	118 03.6 +02.0	N 22 28.2 +00.0	197 23.9 +02.2	S 03 47.0 -00.1	00						
01	91 10.7 +01.5	N 23 39.5 -00.3	133 05.6 +02.1	N 22 28.2 +00.1	212 26.1 +02.2	S 03 46.9 -00.2	01						
02	106 12.2 +01.5	N 23 39.2 -00.2	148 07.7 +02.0	N 22 28.3 +00.0	227 28.3 +02.2	S 03 46.7 -00.1	02						
03	121 13.7 +01.6	N 23 39.0 -00.2	163 09.7 +02.0	N 22 28.3 +00.1	242 30.5 +02.2	S 03 46.6 -00.1	03						
04	136 15.3 +01.5	N 23 38.8 -00.2	178 11.7 +02.1	N 22 28.4 +00.0	257 32.7 +02.2	S 03 46.5 -00.1	04						
05	151 16.8 +01.5	N 23 38.6 -00.3	193 13.8 +02.0	N 22 28.4 +00.1	272 34.9 +02.2	S 03 46.4 -00.1	05						
06	166 18.3 +01.6	N 23 38.3 -00.2	208 15.8 +02.0	N 22 28.5 +00.0	287 37.1 +02.2	S 03 46.3 -00.1	06						
07	181 19.9 +01.5	N 23 38.1 -00.2	223 17.8 +02.0	N 22 28.5 +00.1	302 39.3 +02.2	S 03 46.2 -00.1	07						
08	196 21.4 +01.5	N 23 37.9 -00.2	238 19.8 +02.1	N 22 28.6 +00.0	317 41.5 +02.1	S 03 46.1 -00.1	08						
09	211 22.9 +01.6	N 23 37.7 -00.2	253 21.9 +02.0	N 22 28.6 +00.1	332 43.6 +02.2	S 03 46.0 -00.2	09						
10	226 24.5 +01.5	N 23 37.5 -00.3	268 23.9 +02.0	N 22 28.7 +00.0	347 45.8 +02.2	S 03 45.8 -00.1	10						
11	241 26.0 +01.5	N 23 37.2 -00.2	283 25.9 +02.0	N 22 28.7 +00.0	2 48.0 +02.2	S 03 45.7 -00.1	11						
12	256 27.5 +01.6	N 23 37.0 -00.2	298 27.9 +02.1	N 22 28.7 +00.1	17 50.2 +02.2	S 03 45.6 -00.1	12						
13	271 29.1 +01.5	N 23 36.8 -00.2	313 30.0 +02.0	N 22 28.8 +00.0	32 52.4 +02.2	S 03 45.5 -00.1	13						
14	286 30.6 +01.5	N 23 36.6 -00.3	328 32.0 +02.0	N 22 28.8 +00.1	47 54.6 +02.2	S 03 45.4 -00.1	14						
15	301 32.1 +01.6	N 23 36.3 -00.2	343 34.0 +02.0	N 22 28.9 +00.0	62 56.8 +02.2	S 03 45.3 -00.1	15						
16	316 33.7 +01.5	N 23 36.1 -00.2	358 36.0 +02.1	N 22 28.9 +00.1	77 59.0 +02.2	S 03 45.2 -00.2	16						
17	331 35.2 +01.5	N 23 35.9 -00.2	13 38.1 +02.0	N 22 29.0 +00.0	93 01.2 +02.2	S 03 45.0 -00.1	17						
18	346 36.7 +01.5	N 23 35.7 -00.2	28 40.1 +02.0	N 22 29.0 +00.1	108 03.4 +02.2	S 03 44.9 -00.1	18						
19	1 38.2 +01.6	N 23 35.5 -00.3	43 42.1 +02.0	N 22 29.1 +00.0	123 05.6 +02.1	S 03 44.8 -00.1	19						
20	16 39.8 +01.5	N 23 35.2 -00.2	58 44.1 +02.0	N 22 29.1 +00.1	138 07.7 +02.2	S 03 44.7 -00.1	20						
21	31 41.3 +01.5	N 23 35.0 -00.2	73 46.1 +02.1	N 22 29.2 +00.0	153 09.9 +02.2	S 03 44.6 -00.1	21						
22	46 42.8 +01.5	N 23 34.8 -00.2	88 48.2 +02.0	N 22 29.2 +00.1	168 12.1 +02.2	S 03 44.5 -00.1	22						
23	61 44.3 +01.6	N 23 34.6 -00.3	103 50.2 +02.0	N 22 29.3 +00.0	183 14.3 +02.2	S 03 44.4 -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 243° 243° 242° 242° 242° 242°		SHA 284° 284° 284° 284° 284° 284°		SHA 004° 004° 004° 004° 004° 004°								
	Greenwich Culmination Time: 18:53		Greenwich Culmination Time: 16:05		Greenwich Culmination Time: 10:48								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A:31%				UT							
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec								
00	179 23.1 +00.1	N 06	27.9 +01.0	201 01.1 +02.9	N 03	58.6 -00.8	73 57.2 -32.3	N 25	07.2 -08.1	00										
01	194 23.2 +00.2	N 06	28.9 +00.9	216 04.0 +02.9	N 03	57.8 -00.8	88 24.9 -32.1	N 24	59.1 -08.3	01										
02	209 23.4 +00.2	N 06	29.8 +00.9	231 06.9 +02.9	N 03	57.0 -00.8	102 52.8 -32.1	N 24	50.8 -08.4	02										
03	224 23.6 +00.2	N 06	30.7 +01.0	246 09.8 +02.8	N 03	56.2 -00.7	117 20.7 -31.9	N 24	42.4 -08.5	03										
04	239 23.8 +00.1	N 06	31.7 +00.9	261 12.6 +02.9	N 03	55.5 -00.8	131 48.8 -31.8	N 24	33.9 -08.6	04										
05	254 23.9 +00.2	N 06	32.6 +01.0	276 15.5 +02.9	N 03	54.7 -00.8	146 17.0 -31.8	N 24	25.3 -08.7	05										
06	269 24.1 +00.2	N 06	33.6 +00.9	291 18.4 +02.9	N 03	53.9 -00.8	160 45.2 -31.6	N 24	16.6 -08.9	06										
07	284 24.3 +00.2	N 06	34.5 +01.0	306 21.3 +02.9	N 03	53.1 -00.7	175 13.6 -31.4	N 24	07.7 -09.0	07										
08	299 24.5 +00.2	N 06	35.5 +00.9	321 24.2 +02.8	N 03	52.4 -00.8	189 42.2 -31.4	N 23	58.7 -09.1	08										
09	314 24.7 +00.1	N 06	36.4 +00.9	336 27.0 +02.9	N 03	51.6 -00.8	204 10.8 -31.3	N 23	49.6 -09.2	09										
10	329 24.8 +00.2	N 06	37.3 +01.0	351 29.9 +02.9	N 03	50.8 -00.7	218 39.5 -31.1	N 23	40.4 -09.3	10										
11	344 25.0 +00.2	N 06	38.3 +00.9	6 32.8 +02.8	N 03	50.1 -00.8	233 08.4 -31.0	N 23	31.1 -09.4	11										
12	359 25.2 +00.2	N 06	39.2 +01.0	21 35.6 +02.9	N 03	49.3 -00.7	247 37.4 -30.9	N 23	21.7 -09.6	12										
13	14 25.4 +00.1	N 06	40.2 +00.9	36 38.5 +02.8	N 03	48.6 -00.8	262 06.5 -30.8	N 23	12.1 -09.6	13										
14	29 25.5 +00.2	N 06	41.1 +01.0	51 41.3 +02.9	N 03	47.8 -00.8	276 35.7 -30.7	N 23	02.5 -09.8	14										
15	44 25.7 +00.2	N 06	42.1 +00.9	66 44.2 +02.8	N 03	47.0 -00.7	291 05.0 -30.6	N 22	52.7 -09.8	15										
16	59 25.9 +00.2	N 06	43.0 +00.9	81 47.0 +02.8	N 03	46.3 -00.8	305 34.4 -30.5	N 22	42.9 -10.0	16										
17	74 26.1 +00.1	N 06	43.9 +01.0	96 49.8 +02.9	N 03	45.5 -00.7	320 03.9 -30.3	N 22	32.9 -10.0	17										
18	89 26.2 +00.2	N 06	44.9 +00.9	111 52.7 +02.8	N 03	44.8 -00.8	334 33.6 -30.3	N 22	22.9 -10.2	18										
19	104 26.4 +00.2	N 06	45.8 +01.0	126 55.5 +02.8	N 03	44.0 -00.7	349 03.3 -30.1	N 22	12.7 -10.3	19										
20	119 26.6 +00.2	N 06	46.8 +00.9	141 58.3 +02.8	N 03	43.3 -00.8	3 33.2 -30.0	N 22	02.4 -10.3	20										
21	134 26.8 +00.1	N 06	47.7 +00.9	157 01.1 +02.9	N 03	42.5 -00.7	18 03.2 -30.0	N 21	52.1 -10.5	21										
22	149 26.9 +00.2	N 06	48.6 +01.0	172 04.0 +02.8	N 03	41.8 -00.8	32 33.2 -29.8	N 21	41.6 -10.5	22										
23	164 27.1 +00.2	N 06	49.6 +00.9	187 06.8 +02.8	N 03	41.0 -00.7	47 03.4 -29.7	N 21	31.1 -10.7	23										
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>						
SD	16'0	16'0	16'0	16'0	16'0	16'0	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD	15'5	15'4	15'4	15'4	15'3	15'3
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'5	00'5	00'5	00'5	00'5	00'5	HP	56'8	56'6	56'5	56'4	56'3	56'2
SHA	345°	345°	344°	344°	344°	344°	SHA	006°	007°	007°	007°	007°	007°	SHA	238°	236°	234°	231°	229°	227°
Greenwich Culmination Time: 12:02						Greenwich Culmination Time: 10:33						Greenwich Culmination Time: 19:45								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec								
00	76 45.9 +01.5	N 23	34.3 -00.2	118 52.2 +02.0	N 22	29.3 +00.1	198 16.5 +02.2	S 03	44.3 -00.2	00										
01	91 47.4 +01.5	N 23	34.1 -00.2	133 54.2 +02.1	N 22	29.4 +00.0	213 18.7 +02.2	S 03	44.1 -00.1	01										
02	106 48.9 +01.5	N 23	33.9 -00.2	148 56.3 +02.0	N 22	29.4 +00.0	228 20.9 +02.2	S 03	44.0 -00.1	02										
03	121 50.4 +01.6	N 23	33.7 -00.3	163 58.3 +02.0	N 22	29.4 +00.1	243 23.1 +02.2	S 03	43.9 -00.1	03										
04	136 52.0 +01.5	N 23	33.4 -00.2	179 00.3 +02.0	N 22	29.5 +00.0	258 25.3 +02.2	S 03	43.8 -00.1	04										
05	151 53.5 +01.5	N 23	33.2 -00.2	194 02.3 +02.0	N 22	29.5 +00.1	273 27.5 +02.2	S 03	43.7 -00.1	05										
06	166 55.0 +01.5	N 23	33.0 -00.2	209 04.3 +02.1	N 22	29.6 +00.0	288 29.7 +02.2	S 03	43.6 -00.1	06										
07	181 56.5 +01.5	N 23	32.8 -00.3	224 06.4 +02.0	N 22	29.6 +00.1	303 31.9 +02.1	S 03	43.5 -00.1	07										
08	196 58.0 +01.6	N 23	32.5 -00.2	239 08.4 +02.0	N 22	29.7 +00.0	318 34.0 +02.2	S 03	43.4 -00.2	08										
09	211 59.6 +01.5	N 23	32.3 -00.2	254 10.4 +02.0	N 22	29.7 +00.1	333 36.2 +02.2	S 03	43.2 -00.1	09										
10	227 01.1 +01.5	N 23	32.1 -00.2	269 12.4 +02.1	N 22	29.8 +00.0	348 38.4 +02.2	S 03	43.1 -00.1	10										
11	242 02.6 +01.5	N 23	31.9 -00.3	284 14.5 +02.0	N 22	29.8 +00.1	3 40.6 +02.2	S 03	43.0 -00.1	11										
12	257 04.1 +01.5	N 23	31.6 -00.2	299 16.5 +02.0	N 22	29.9 +00.0	18 42.8 +02.2	S 03	42.9 -00.1	12										
13	272 05.6 +01.6	N 23	31.4 -00.2	314 18.5 +02.0	N 22	29.9 +00.1	33 45.0 +02.2	S 03	42.8 -00.1	13										
14	287 07.2 +01.5	N 23	31.2 -00.2	329 20.5 +02.0	N 22	30.0 +00.0	48 47.2 +02.2	S 03	42.7 -00.1	14										
15	302 08.7 +01.5	N 23	31.0 -00.3	344 22.5 +02.0	N 22	30.0 +00.1	63 49.4 +02.2	S 03	42.6 -00.2	15										
16	317 10.2 +01.5	N 23	30.7 -00.2	359 24.5 +02.1	N 22	30.1 +00.0	78 51.6 +02.2	S 03	42.4 -00.1	16										
17	332 11.7 +01.5	N 23	30.5 -00.2	14 26.6 +02.0	N 22	30.1 +00.0	93 53.8 +02.2	S 03	42.3 -00.1	17										
18	347 13.2 +01.5	N 23	30.3 -00.3	29 28.6 +02.0	N 22	30.1 +00.1	108 56.0 +02.2	S 03	42.2 -00.1	18										
19	2 14.7 +01.5	N 23	30.0 -00.2	44 30.6 +02.0	N 22	30.2 +00.0	123 58.2 +02.1	S 03	42.1 -00.1	19										
20	17 16.2 +01.6	N 23	29.8 -00.2	59 32.6 +02.0	N 22	30.2 +00.1	139 00.3 +02.2	S 03	42.0 -00.1	20										
21	32 17.8 +01.5	N 23	29.6 -00.2	74 34.6 +02.1	N 22	30.3 +00.0	154 02.5 +02.2	S 03	41.9 -00.1	21										
22	47 19.3 +01.5	N 23	29.4 -00.3	89 36.7 +02.0	N 22	30.3 +00.1	169 04.7 +02.2	S 03	41.8 -00.1	22										
23	62 20.8 +01.5	N 23	29.1 -00.2	104 38.7 +02.0	N 22	30.4 +00.0	184 06.9 +02.2	S 03	41.7 -00.2	23										
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>						
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	242°	242°	242°	242°	242°	242°	SHA	284°	284°	284°	284°	284°	284°	SHA	004°	004°	004°	004°	004°	004°
Greenwich Culmination Time: 18:51						Greenwich Culmination Time: 16:02						Greenwich Culmination Time: 10:45								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 34%</span>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	179 27.3 +00.2	N 06 50.5 +01.0	202 09.6 +02.8	N 03 40.3 -00.8	61 33.7 -29.6	N 21 20.4 -10.7	00						
01	194 27.5 +00.1	N 06 51.5 +00.9	217 12.4 +02.8	N 03 39.5 -00.7	76 04.1 -29.4	N 21 09.7 -10.8	01						
02	209 27.6 +00.2	N 06 52.4 +00.9	232 15.2 +02.8	N 03 38.8 -00.7	90 34.7 -29.4	N 20 58.9 -10.9	02						
03	224 27.8 +00.2	N 06 53.3 +01.0	247 18.0 +02.8	N 03 38.1 -00.8	105 05.3 -29.3	N 20 48.0 -11.0	03						
04	239 28.0 +00.2	N 06 54.3 +00.9	262 20.8 +02.8	N 03 37.3 -00.7	119 36.0 -29.2	N 20 37.0 -11.1	04						
05	254 28.2 +00.1	N 06 55.2 +01.0	277 23.6 +02.8	N 03 36.6 -00.8	134 06.8 -29.0	N 20 25.9 -11.2	05						
06	269 28.3 +00.2	N 06 56.2 +00.9	292 26.4 +02.7	N 03 35.8 -00.7	148 37.8 -29.0	N 20 14.7 -11.2	06						
07	284 28.5 +00.2	N 06 57.1 +00.9	307 29.1 +02.8	N 03 35.1 -00.7	163 08.8 -28.9	N 20 03.5 -11.4	07						
08	299 28.7 +00.2	N 06 58.0 +01.0	322 31.9 +02.8	N 03 34.4 -00.8	177 39.9 -28.7	N 19 52.1 -11.4	08						
09	314 28.9 +00.1	N 06 59.0 +00.9	337 34.7 +02.8	N 03 33.6 -00.7	192 11.2 -28.7	N 19 40.7 -11.5	09						
10	329 29.0 +00.2	N 06 59.9 +01.0	352 37.5 +02.7	N 03 32.9 -00.7	206 42.5 -28.5	N 19 29.2 -11.5	10						
11	344 29.2 +00.2	N 07 00.9 +00.9	7 40.2 +02.8	N 03 32.2 -00.8	221 14.0 -28.5	N 19 17.7 -11.7	11						
12	359 29.4 +00.2	N 07 01.8 +00.9	22 43.0 +02.7	N 03 31.4 -00.7	235 45.5 -28.3	N 19 06.0 -11.7	12						
13	14 29.6 +00.1	N 07 02.7 +01.0	37 45.7 +02.8	N 03 30.7 -00.7	250 17.2 -28.3	N 18 54.3 -11.8	13						
14	29 29.7 +00.2	N 07 03.7 +00.9	52 48.5 +02.7	N 03 30.0 -00.7	264 48.9 -28.2	N 18 42.5 -11.9	14						
15	44 29.9 +00.2	N 07 04.6 +00.9	67 51.2 +02.8	N 03 29.3 -00.8	279 20.7 -28.0	N 18 30.6 -12.0	15						
16	59 30.1 +00.2	N 07 05.5 +01.0	82 54.0 +02.7	N 03 28.5 -00.7	293 52.7 -28.0	N 18 18.6 -12.0	16						
17	74 30.3 +00.1	N 07 06.5 +00.9	97 56.7 +02.8	N 03 27.8 -00.7	308 24.7 -27.9	N 18 06.6 -12.1	17						
18	89 30.4 +00.2	N 07 07.4 +00.9	112 59.5 +02.7	N 03 27.1 -00.7	322 56.8 -27.8	N 17 54.5 -12.1	18						
19	104 30.6 +00.2	N 07 08.3 +01.0	128 02.2 +02.7	N 03 26.4 -00.7	337 29.0 -27.7	N 17 42.4 -12.3	19						
20	119 30.8 +00.2	N 07 09.3 +00.9	143 04.9 +02.8	N 03 25.7 -00.8	352 01.3 -27.6	N 17 30.1 -12.2	20						
21	134 31.0 +00.1	N 07 10.2 +01.0	158 07.7 +02.7	N 03 24.9 -00.7	6 33.7 -27.5	N 17 17.9 -12.4	21						
22	149 31.1 +00.2	N 07 11.2 +00.9	173 10.4 +02.7	N 03 24.2 -00.7	21 06.2 -27.4	N 17 05.5 -12.4	22						
23	164 31.3 +00.2	N 07 12.1 +00.9	188 13.1 +02.7	N 03 23.5 -00.7	35 38.8 -27.4	N 16 53.1 -12.5	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 344° 344° 344° 343° 343° 343° Greenwich Culmination Time: 12:02	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'5 00'5 00'5 00'5 00'5 00'5 SHA 007° 007° 007° 007° 007° 007° Greenwich Culmination Time: 10:29	UT 02 06 10 14 18 22 SD 15'3 15'2 15'2 15'2 15'2 15'1 HP 56'1 56'0 55'9 55'8 55'7 55'6 SHA 225° 223° 221° 219° 217° 215° Greenwich Culmination Time: 20:32										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	77 22.3 +01.5	N 23 28.9 -00.2	119 40.7 +02.0	N 22 30.4 +00.1	199 09.1 +02.2	S 03 41.5 -00.1	00						
01	92 23.8 +01.5	N 23 28.7 -00.3	134 42.7 +02.0	N 22 30.5 +00.0	214 11.3 +02.2	S 03 41.4 -00.1	01						
02	107 25.3 +01.5	N 23 28.4 -00.2	149 44.7 +02.0	N 22 30.5 +00.1	229 13.5 +02.2	S 03 41.3 -00.1	02						
03	122 26.8 +01.5	N 23 28.2 -00.2	164 46.7 +02.1	N 22 30.6 +00.0	244 15.7 +02.2	S 03 41.2 -00.1	03						
04	137 28.3 +01.5	N 23 28.0 -00.2	179 48.8 +02.0	N 22 30.6 +00.1	259 17.9 +02.2	S 03 41.1 -00.1	04						
05	152 29.8 +01.6	N 23 27.8 -00.3	194 50.8 +02.0	N 22 30.7 +00.0	274 20.1 +02.2	S 03 41.0 -00.1	05						
06	167 31.4 +01.5	N 23 27.5 -00.2	209 52.8 +02.0	N 22 30.7 +00.1	289 22.3 +02.2	S 03 40.9 -00.1	06						
07	182 32.9 +01.5	N 23 27.3 -00.2	224 54.8 +02.0	N 22 30.8 +00.0	304 24.5 +02.2	S 03 40.8 -00.2	07						
08	197 34.4 +01.5	N 23 27.1 -00.3	239 56.8 +02.0	N 22 30.8 +00.0	319 26.7 +02.1	S 03 40.6 -00.1	08						
09	212 35.9 +01.5	N 23 26.8 -00.2	254 58.8 +02.1	N 22 30.8 +00.1	334 28.8 +02.2	S 03 40.5 -00.1	09						
10	227 37.4 +01.5	N 23 26.6 -00.2	270 00.9 +02.0	N 22 30.9 +00.0	349 31.0 +02.2	S 03 40.4 -00.1	10						
11	242 38.9 +01.5	N 23 26.4 -00.2	285 02.9 +02.0	N 22 30.9 +00.1	4 33.2 +02.2	S 03 40.3 -00.1	11						
12	257 40.4 +01.5	N 23 26.2 -00.3	300 04.9 +02.0	N 22 31.0 +00.0	19 35.4 +02.2	S 03 40.2 -00.1	12						
13	272 41.9 +01.5	N 23 25.9 -00.2	315 06.9 +02.0	N 22 31.0 +00.1	34 37.6 +02.2	S 03 40.1 -00.1	13						
14	287 43.4 +01.5	N 23 25.7 -00.2	330 08.9 +02.0	N 22 31.1 +00.0	49 39.8 +02.2	S 03 40.0 -00.1	14						
15	302 44.9 +01.5	N 23 25.5 -00.3	345 10.9 +02.1	N 22 31.1 +00.1	64 42.0 +02.2	S 03 39.9 -00.1	15						
16	317 46.4 +01.5	N 23 25.2 -00.2	0 13.0 +02.0	N 22 31.2 +00.0	79 44.2 +02.2	S 03 39.8 -00.2	16						
17	332 47.9 +01.5	N 23 25.0 -00.2	15 15.0 +02.0	N 22 31.2 +00.1	94 46.4 +02.2	S 03 39.6 -00.1	17						
18	347 49.4 +01.5	N 23 24.8 -00.3	30 17.0 +02.0	N 22 31.3 +00.0	109 48.6 +02.2	S 03 39.5 -00.1	18						
19	2 50.9 +01.5	N 23 24.5 -00.2	45 19.0 +02.0	N 22 31.3 +00.1	124 50.8 +02.2	S 03 39.4 -00.1	19						
20	17 52.4 +01.5	N 23 24.3 -00.2	60 21.0 +02.0	N 22 31.4 +00.0	139 53.0 +02.2	S 03 39.3 -00.1	20						
21	32 53.9 +01.5	N 23 24.1 -00.3	75 23.0 +02.0	N 22 31.4 +00.0	154 55.2 +02.2	S 03 39.2 -00.1	21						
22	47 55.4 +01.5	N 23 23.8 -00.2	90 25.0 +02.0	N 22 31.4 +00.1	169 57.4 +02.2	S 03 39.1 -00.1	22						
23	62 56.9 +01.5	N 23 23.6 -00.2	105 27.0 +02.1	N 22 31.5 +00.0	184 59.6 +02.1	S 03 39.0 -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 242° 242° 242° 242° 242° 241° Greenwich Culmination Time: 18:48	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 284° 284° 284° 284° 284° 284° Greenwich Culmination Time: 15:59	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 004° 004° 004° 004° 004° 004° Greenwich Culmination Time: 10:41										

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 31.5 +00.2	N 07 13.0 +01.0	203 15.8 +02.7	N 03 22.8 -00.7	50 11.4 -27.2	N 16 40.6 -12.5	00						
01	194 31.7 +00.1	N 07 14.0 +00.9	218 18.5 +02.7	N 03 22.1 -00.7	64 44.2 -27.2	N 16 28.1 -12.6	01						
02	209 31.8 +00.2	N 07 14.9 +00.9	233 21.2 +02.7	N 03 21.4 -00.7	79 17.0 -27.0	N 16 15.5 -12.7	02						
03	224 32.0 +00.2	N 07 15.8 +01.0	248 23.9 +02.7	N 03 20.7 -00.7	93 50.0 -27.0	N 16 02.8 -12.7	03						
04	239 32.2 +00.1	N 07 16.8 +00.9	263 26.6 +02.7	N 03 20.0 -00.7	108 23.0 -27.0	N 15 50.1 -12.8	04						
05	254 32.3 +00.2	N 07 17.7 +00.9	278 29.3 +02.7	N 03 19.3 -00.7	122 56.0 -26.8	N 15 37.3 -12.8	05						
06	269 32.5 +00.2	N 07 18.6 +01.0	293 32.0 +02.7	N 03 18.6 -00.7	137 29.2 -26.7	N 15 24.5 -12.9	06						
07	284 32.7 +00.2	N 07 19.6 +00.9	308 34.7 +02.7	N 03 17.9 -00.7	152 02.5 -26.7	N 15 11.6 -13.0	07						
08	299 32.9 +00.1	N 07 20.5 +00.9	323 37.4 +02.7	N 03 17.2 -00.7	166 35.8 -26.6	N 14 58.6 -13.0	08						
09	314 33.0 +00.2	N 07 21.4 +01.0	338 40.1 +02.6	N 03 16.5 -00.7	181 09.2 -26.5	N 14 45.6 -13.0	09						
10	329 33.2 +00.2	N 07 22.4 +00.9	353 42.7 +02.7	N 03 15.8 -00.7	195 42.7 -26.4	N 14 32.6 -13.1	10						
11	344 33.4 +00.2	N 07 23.3 +00.9	8 45.4 +02.7	N 03 15.1 -00.7	210 16.3 -26.4	N 14 19.5 -13.1	11						
12	359 33.6 +00.1	N 07 24.2 +01.0	23 48.1 +02.6	N 03 14.4 -00.7	224 49.9 -26.3	N 14 06.4 -13.2	12						
13	14 33.7 +00.2	N 07 25.2 +00.9	38 50.7 +02.7	N 03 13.7 -00.7	239 23.6 -26.2	N 13 53.2 -13.3	13						
14	29 33.9 +00.2	N 07 26.1 +00.9	53 53.4 +02.7	N 03 13.0 -00.7	253 57.4 -26.1	N 13 39.9 -13.3	14						
15	44 34.1 +00.1	N 07 27.0 +00.9	68 56.1 +02.6	N 03 12.3 -00.7	268 31.3 -26.1	N 13 26.6 -13.3	15						
16	59 34.2 +00.2	N 07 27.9 +01.0	83 58.7 +02.7	N 03 11.6 -00.7	283 05.2 -26.0	N 13 13.3 -13.4	16						
17	74 34.4 +00.2	N 07 28.9 +00.9	99 01.4 +02.6	N 03 10.9 -00.7	297 39.2 -25.9	N 12 59.9 -13.4	17						
18	89 34.6 +00.2	N 07 29.8 +00.9	114 04.0 +02.6	N 03 10.2 -00.6	312 13.3 -25.9	N 12 46.5 -13.4	18						
19	104 34.8 +00.1	N 07 30.7 +01.0	129 06.6 +02.7	N 03 09.6 -00.7	326 47.4 -25.8	N 12 33.1 -13.5	19						
20	119 34.9 +00.2	N 07 31.7 +00.9	144 09.3 +02.6	N 03 08.9 -00.7	341 21.6 -25.7	N 12 19.6 -13.6	20						
21	134 35.1 +00.2	N 07 32.6 +00.9	159 11.9 +02.6	N 03 08.2 -00.7	355 55.9 -25.7	N 12 06.0 -13.6	21						
22	149 35.3 +00.1	N 07 33.5 +01.0	174 14.5 +02.6	N 03 07.5 -00.7	10 30.2 -25.6	N 11 52.4 -13.6	22						
23	164 35.4 +00.2	N 07 34.5 +00.9	189 17.1 +02.7	N 03 06.8 -00.6	25 04.6 -25.5	N 11 38.8 -13.6	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 00'4 00'4 00'4 00'4 00'4 00'4	UT 02 06 10 14 18 22	SD 15'1 15'1 15'1 15'0 15'0 15'0							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 00'5 00'5 00'5 00'5 00'5 00'5	HP 55'5 55'4 55'3 55'2 55'1 55'1								
	SHA 343° 343° 343° 342° 342° 342°	SHA 007° 007° 007° 007° 007° 007°		SHA 007° 007° 007° 007° 007° 007°	SHA 213° 211° 209° 207° 205° 203°								
	Greenwich Culmination Time: 12:01	Greenwich Culmination Time: 10:25		Greenwich Culmination Time: 21:16									

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	77 58.4 +01.5	N 23 23.4 -00.3	120 29.1 +02.0	N 22 31.5 +00.1	200 01.7 +02.2	S 03 38.9 -00.2	00						
01	92 59.9 +01.5	N 23 23.1 -00.2	135 31.1 +02.0	N 22 31.6 +00.0	215 03.9 +02.2	S 03 38.7 -00.1	01						
02	108 01.4 +01.5	N 23 22.9 -00.2	150 33.1 +02.0	N 22 31.6 +00.1	230 06.1 +02.2	S 03 38.6 -00.1	02						
03	123 02.9 +01.5	N 23 22.7 -00.3	165 35.1 +02.0	N 22 31.7 +00.0	245 08.3 +02.2	S 03 38.5 -00.1	03						
04	138 04.4 +01.5	N 23 22.4 -00.2	180 37.1 +02.0	N 22 31.7 +00.1	260 10.5 +02.2	S 03 38.4 -00.1	04						
05	153 05.9 +01.5	N 23 22.2 -00.2	195 39.1 +02.0	N 22 31.8 +00.0	275 12.7 +02.2	S 03 38.3 -00.1	05						
06	168 07.4 +01.5	N 23 22.0 -00.3	210 41.1 +02.0	N 22 31.8 +00.1	290 14.9 +02.2	S 03 38.2 -00.1	06						
07	183 08.9 +01.5	N 23 21.7 -00.2	225 43.1 +02.1	N 22 31.9 +00.0	305 17.1 +02.2	S 03 38.1 -00.1	07						
08	198 10.4 +01.5	N 23 21.5 -00.2	240 45.2 +02.0	N 22 31.9 +00.1	320 19.3 +02.2	S 03 38.0 -00.2	08						
09	213 11.9 +01.5	N 23 21.3 -00.3	255 47.2 +02.0	N 22 32.0 +00.0	335 21.5 +02.2	S 03 37.8 -00.1	09						
10	228 13.4 +01.5	N 23 21.0 -00.2	270 49.2 +02.0	N 22 32.0 +00.1	350 23.7 +02.2	S 03 37.7 -00.1	10						
11	243 14.9 +01.5	N 23 20.8 -00.2	285 51.2 +02.0	N 22 32.1 +00.0	5 25.9 +02.2	S 03 37.6 -00.1	11						
12	258 16.4 +01.5	N 23 20.6 -00.3	300 53.2 +02.0	N 22 32.1 +00.0	20 28.1 +02.2	S 03 37.5 -00.1	12						
13	273 17.9 +01.4	N 23 20.3 -00.2	315 55.2 +02.0	N 22 32.1 +00.1	35 30.3 +02.2	S 03 37.4 -00.1	13						
14	288 19.3 +01.5	N 23 20.1 -00.2	330 57.2 +02.0	N 22 32.2 +00.0	50 32.5 +02.2	S 03 37.3 -00.1	14						
15	303 20.8 +01.5	N 23 19.9 -00.3	345 59.2 +02.0	N 22 32.2 +00.1	65 34.7 +02.1	S 03 37.2 -00.1	15						
16	318 22.3 +01.5	N 23 19.6 -00.2	1 01.2 +02.0	N 22 32.3 +00.0	80 36.8 +02.2	S 03 37.1 -00.1	16						
17	333 23.8 +01.5	N 23 19.4 -00.2	16 03.2 +02.1	N 22 32.3 +00.1	95 39.0 +02.2	S 03 37.0 -00.2	17						
18	348 25.3 +01.5	N 23 19.2 -00.3	31 05.3 +02.0	N 22 32.4 +00.0	110 41.2 +02.2	S 03 36.8 -00.1	18						
19	3 26.8 +01.5	N 23 18.9 -00.2	46 07.3 +02.0	N 22 32.4 +00.1	125 43.4 +02.2	S 03 36.7 -00.1	19						
20	18 28.3 +01.5	N 23 18.7 -00.2	61 09.3 +02.0	N 22 32.5 +00.0	140 45.6 +02.2	S 03 36.6 -00.1	20						
21	33 29.8 +01.5	N 23 18.5 -00.3	76 11.3 +02.0	N 22 32.5 +00.1	155 47.8 +02.2	S 03 36.5 -00.1	21						
22	48 31.3 +01.4	N 23 18.2 -00.2	91 13.3 +02.0	N 22 32.6 +00.0	170 50.0 +02.2	S 03 36.4 -00.1	22						
23	63 32.7 +01.5	N 23 18.0 -00.3	106 15.3 +02.0	N 22 32.6 +00.1	185 52.2 +02.2	S 03 36.3 -00.1	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 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 241° 241° 241° 241° 241° 241°	SHA 284° 284° 284° 284° 284° 284°		SHA 284° 284° 284° 284° 284° 284°	SHA 004° 003° 003° 003° 003° 003°								
	Greenwich Culmination Time: 18:46	Greenwich Culmination Time: 15:55		Greenwich Culmination Time: 10:38									



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 40%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	179 35.6 +00.2	N 07	35.4 +00.9	204 19.8 +02.6	N 03	06.2 -00.7	39 39.1 -25.5	N 11	25.2 -13.7	00			
01	194 35.8 +00.2	N 07	36.3 +01.0	219 22.4 +02.6	N 03	05.5 -00.7	54 13.6 -25.4	N 11	11.5 -13.7	01			
02	209 36.0 +00.1	N 07	37.3 +00.9	234 25.0 +02.6	N 03	04.8 -00.7	68 48.2 -25.3	N 10	57.8 -13.8	02			
03	224 36.1 +00.2	N 07	38.2 +00.9	249 27.6 +02.6	N 03	04.1 -00.6	83 22.9 -25.3	N 10	44.0 -13.8	03			
04	239 36.3 +00.2	N 07	39.1 +00.9	264 30.2 +02.6	N 03	03.5 -00.7	97 57.6 -25.3	N 10	30.2 -13.8	04			
05	254 36.5 +00.1	N 07	40.0 +01.0	279 32.8 +02.6	N 03	02.8 -00.7	112 32.3 -25.2	N 10	16.4 -13.9	05			
06	269 36.6 +00.2	N 07	41.0 +00.9	294 35.4 +02.6	N 03	02.1 -00.6	127 07.1 -25.1	N 10	02.5 -13.9	06			
07	284 36.8 +00.2	N 07	41.9 +00.9	309 38.0 +02.6	N 03	01.5 -00.7	141 42.0 -25.1	N 09	48.6 -13.9	07			
08	299 37.0 +00.1	N 07	42.8 +00.9	324 40.6 +02.6	N 03	00.8 -00.7	156 16.9 -25.0	N 09	34.7 -13.9	08			
09	314 37.1 +00.2	N 07	43.7 +01.0	339 43.2 +02.5	N 03	00.1 -00.6	170 51.9 -25.0	N 09	20.8 -14.0	09			
10	329 37.3 +00.2	N 07	44.7 +00.9	354 45.7 +02.6	N 02	59.5 -00.7	185 26.9 -24.9	N 09	06.8 -14.0	10			
11	344 37.5 +00.2	N 07	45.6 +00.9	9 48.3 +02.6	N 02	58.8 -00.6	200 02.0 -24.9	N 08	52.8 -14.0	11			
12	359 37.7 +00.1	N 07	46.5 +01.0	24 50.9 +02.6	N 02	58.2 -00.7	214 37.1 -24.8	N 08	38.8 -14.1	12			
13	14 37.8 +00.2	N 07	47.5 +00.9	39 53.5 +02.5	N 02	57.5 -00.6	229 12.3 -24.8	N 08	24.7 -14.0	13			
14	29 38.0 +00.2	N 07	48.4 +00.9	54 56.0 +02.6	N 02	56.9 -00.7	243 47.5 -24.7	N 08	10.7 -14.1	14			
15	44 38.2 +00.1	N 07	49.3 +00.9	69 58.6 +02.5	N 02	56.2 -00.7	258 22.8 -24.7	N 07	56.6 -14.1	15			
16	59 38.3 +00.2	N 07	50.2 +01.0	85 01.1 +02.6	N 02	55.5 -00.6	272 58.1 -24.6	N 07	42.5 -14.2	16			
17	74 38.5 +00.2	N 07	51.2 +00.9	100 03.7 +02.5	N 02	54.9 -00.6	287 33.5 -24.6	N 07	28.3 -14.1	17			
18	89 38.7 +00.1	N 07	52.1 +00.9	115 06.2 +02.6	N 02	54.3 -00.7	302 08.9 -24.6	N 07	14.2 -14.2	18			
19	104 38.8 +00.2	N 07	53.0 +00.9	130 08.8 +02.5	N 02	53.6 -00.6	316 44.3 -24.5	N 06	60.0 -14.2	19			
20	119 39.0 +00.2	N 07	53.9 +01.0	145 11.3 +02.6	N 02	53.0 -00.7	331 19.8 -24.5	N 06	45.8 -14.2	20			
21	134 39.2 +00.1	N 07	54.9 +00.9	160 13.9 +02.5	N 02	52.3 -00.6	345 55.3 -24.4	N 06	31.6 -14.3	21			
22	149 39.3 +00.2	N 07	55.8 +00.9	175 16.4 +02.5	N 02	51.7 -00.7	0 30.9 -24.5	N 06	17.3 -14.2	22			
23	164 39.5 +00.2	N 07	56.7 +00.9	190 18.9 +02.5	N 02	51.0 -00.6	15 06.4 -24.3	N 06	03.1 -14.3	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 15'0 15'0 14'9 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'4 00'4			HP 55'0 54'9 54'8 54'8 54'7 54'6						
	SHA 342° 342° 342° 342° 341° 341°			SHA 007° 007° 007° 007° 007° 007°			SHA 201° 199° 198° 196° 194° 192°						
	Greenwich Culmination Time: 12:01			Greenwich Culmination Time: 10:20			Greenwich Culmination Time: 21:57						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	78 34.2 +01.5	N 23	17.7 -00.2	121 17.3 +02.0	N 22	32.7 +00.0	200 54.4 +02.2	S 03	36.2 -00.1	00			
01	93 35.7 +01.5	N 23	17.5 -00.2	136 19.3 +02.0	N 22	32.7 +00.0	215 56.6 +02.2	S 03	36.1 -00.1	01			
02	108 37.2 +01.5	N 23	17.3 -00.3	151 21.3 +02.0	N 22	32.7 +00.1	230 58.8 +02.2	S 03	36.0 -00.2	02			
03	123 38.7 +01.5	N 23	17.0 -00.2	166 23.3 +02.0	N 22	32.8 +00.0	246 01.0 +02.2	S 03	35.8 -00.1	03			
04	138 40.2 +01.5	N 23	16.8 -00.2	181 25.3 +02.0	N 22	32.8 +00.1	261 03.2 +02.2	S 03	35.7 -00.1	04			
05	153 41.7 +01.4	N 23	16.6 -00.3	196 27.3 +02.0	N 22	32.9 +00.0	276 05.4 +02.2	S 03	35.6 -00.1	05			
06	168 43.1 +01.5	N 23	16.3 -00.2	211 29.3 +02.1	N 22	32.9 +00.1	291 07.6 +02.2	S 03	35.5 -00.1	06			
07	183 44.6 +01.5	N 23	16.1 -00.2	226 31.4 +02.0	N 22	33.0 +00.0	306 09.8 +02.2	S 03	35.4 -00.1	07			
08	198 46.1 +01.5	N 23	15.9 -00.3	241 33.4 +02.0	N 22	33.0 +00.1	321 12.0 +02.2	S 03	35.3 -00.1	08			
09	213 47.6 +01.5	N 23	15.6 -00.2	256 35.4 +02.0	N 22	33.1 +00.0	336 14.2 +02.1	S 03	35.2 -00.1	09			
10	228 49.1 +01.5	N 23	15.4 -00.3	271 37.4 +02.0	N 22	33.1 +00.1	351 16.3 +02.2	S 03	35.1 -00.1	10			
11	243 50.6 +01.4	N 23	15.1 -00.2	286 39.4 +02.0	N 22	33.2 +00.0	6 18.5 +02.2	S 03	35.0 -00.2	11			
12	258 52.0 +01.5	N 23	14.9 -00.2	301 41.4 +02.0	N 22	33.2 +00.1	21 20.7 +02.2	S 03	34.8 -00.1	12			
13	273 53.5 +01.5	N 23	14.7 -00.3	316 43.4 +02.0	N 22	33.3 +00.0	36 22.9 +02.2	S 03	34.7 -00.1	13			
14	288 55.0 +01.5	N 23	14.4 -00.2	331 45.4 +02.0	N 22	33.3 +00.0	51 25.1 +02.2	S 03	34.6 -00.1	14			
15	303 56.5 +01.5	N 23	14.2 -00.3	346 47.4 +02.0	N 22	33.3 +00.1	66 27.3 +02.2	S 03	34.5 -00.1	15			
16	318 58.0 +01.4	N 23	13.9 -00.2	1 49.4 +02.0	N 22	33.4 +00.0	81 29.5 +02.2	S 03	34.4 -00.1	16			
17	333 59.4 +01.5	N 23	13.7 -00.2	16 51.4 +02.0	N 22	33.4 +00.1	96 31.7 +02.2	S 03	34.3 -00.1	17			
18	349 00.9 +01.5	N 23	13.5 -00.3	31 53.4 +02.0	N 22	33.5 +00.0	111 33.9 +02.2	S 03	34.2 -00.1	18			
19	4 02.4 +01.5	N 23	13.2 -00.2	46 55.4 +02.0	N 22	33.5 +00.1	126 36.1 +02.2	S 03	34.1 -00.1	19			
20	19 03.9 +01.4	N 23	13.0 -00.3	61 57.4 +02.0	N 22	33.6 +00.0	141 38.3 +02.2	S 03	34.0 -00.2	20			
21	34 05.3 +01.5	N 23	12.7 -00.2	76 59.4 +02.0	N 22	33.6 +00.1	156 40.5 +02.2	S 03	33.8 -00.1	21			
22	49 06.8 +01.5	N 23	12.5 -00.2	92 01.4 +02.0	N 22	33.7 +00.0	171 42.7 +02.2	S 03	33.7 -00.1	22			
23	64 08.3 +01.5	N 23	12.3 -00.3	107 03.4 +02.0	N 22	33.7 +00.1	186 44.9 +02.2	S 03	33.6 -00.1	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 241° 241° 241° 241° 241° 241°			SHA 284° 284° 284° 284° 284° 284°			SHA 003° 003° 003° 003° 003° 003°						
	Greenwich Culmination Time: 18:43			Greenwich Culmination Time: 15:52			Greenwich Culmination Time: 10:34						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 39.7 +00.2	N 07 57.6 +01.0	205 21.4 +02.6	N 02 50.4 -00.6	29 42.1 -24.4	N 05 48.8 -14.3	00						
01	194 39.9 +00.1	N 07 58.6 +00.9	220 24.0 +02.5	N 02 49.8 -00.7	44 17.7 -24.3	N 05 34.5 -14.2	01						
02	209 40.0 +00.2	N 07 59.5 +00.9	235 26.5 +02.5	N 02 49.1 -00.6	58 53.4 -24.2	N 05 20.3 -14.4	02						
03	224 40.2 +00.2	N 08 00.4 +00.9	250 29.0 +02.5	N 02 48.5 -00.6	73 29.2 -24.3	N 05 05.9 -14.3	03						
04	239 40.4 +00.1	N 08 01.3 +00.9	265 31.5 +02.5	N 02 47.9 -00.7	88 04.9 -24.2	N 04 51.6 -14.3	04						
05	254 40.5 +00.2	N 08 02.2 +01.0	280 34.0 +02.5	N 02 47.2 -00.6	102 40.7 -24.2	N 04 37.3 -14.3	05						
06	269 40.7 +00.2	N 08 03.2 +00.9	295 36.5 +02.5	N 02 46.6 -00.6	117 16.5 -24.1	N 04 23.0 -14.4	06						
07	284 40.9 +00.1	N 08 04.1 +00.9	310 39.0 +02.5	N 02 46.0 -00.7	131 52.4 -24.1	N 04 08.6 -14.3	07						
08	299 41.0 +00.2	N 08 05.0 +00.9	325 41.5 +02.5	N 02 45.3 -00.6	146 28.3 -24.1	N 03 54.3 -14.4	08						
09	314 41.2 +00.2	N 08 05.9 +01.0	340 44.0 +02.5	N 02 44.7 -00.6	161 04.2 -24.1	N 03 39.9 -14.4	09						
10	329 41.4 +00.1	N 08 06.9 +00.9	355 46.5 +02.5	N 02 44.1 -00.6	175 40.1 -24.1	N 03 25.5 -14.4	10						
11	344 41.5 +00.2	N 08 07.8 +00.9	10 49.0 +02.4	N 02 43.5 -00.6	190 16.0 -24.0	N 03 11.1 -14.3	11						
12	359 41.7 +00.2	N 08 08.7 +00.9	25 51.4 +02.5	N 02 42.9 -00.7	204 52.0 -24.0	N 02 56.8 -14.4	12						
13	14 41.9 +00.1	N 08 09.6 +00.9	40 53.9 +02.5	N 02 42.2 -00.6	219 28.0 -24.0	N 02 42.4 -14.4	13						
14	29 42.0 +00.2	N 08 10.5 +01.0	55 56.4 +02.4	N 02 41.6 -00.6	234 04.0 -23.9	N 02 28.0 -14.4	14						
15	44 42.2 +00.2	N 08 11.5 +00.9	70 58.8 +02.5	N 02 41.0 -00.6	248 40.1 -24.0	N 02 13.6 -14.4	15						
16	59 42.4 +00.1	N 08 12.4 +00.9	86 01.3 +02.5	N 02 40.4 -00.6	263 16.1 -23.9	N 01 59.2 -14.4	16						
17	74 42.5 +00.2	N 08 13.3 +00.9	101 03.8 +02.4	N 02 39.8 -00.6	277 52.2 -23.9	N 01 44.8 -14.4	17						
18	89 42.7 +00.2	N 08 14.2 +00.9	116 06.2 +02.5	N 02 39.2 -00.6	292 28.3 -23.9	N 01 30.4 -14.4	18						
19	104 42.9 +00.1	N 08 15.1 +01.0	131 08.7 +02.4	N 02 38.6 -00.6	307 04.4 -23.9	N 01 16.0 -14.4	19						
20	119 43.0 +00.2	N 08 16.1 +00.9	146 11.1 +02.5	N 02 38.0 -00.6	321 40.5 -23.9	N 01 01.6 -14.4	20						
21	134 43.2 +00.2	N 08 17.0 +00.9	161 13.6 +02.4	N 02 37.4 -00.6	336 16.6 -23.8	N 00 47.2 -14.4	21						
22	149 43.4 +00.1	N 08 17.9 +00.9	176 16.0 +02.4	N 02 36.8 -00.6	350 52.8 -23.9	N 00 32.8 -14.4	22						
23	164 43.5 +00.2	N 08 18.8 +00.9	191 18.4 +02.5	N 02 36.2 -00.6	5 28.9 -23.8	N 00 18.4 -14.4	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 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 54'6 54'5 54'5 54'4 54'4 54'3								
	SHA 341° 341° 341° 341° 340° 340°		SHA 007° 007° 007° 007° 007° 007°		SHA 190° 189° 187° 185° 183° 181°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 10:16		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	79 09.8 +01.4	N 23 12.0 -00.2	122 05.4 +02.0	N 22 33.8 +00.0	201 47.1 +02.2	S 03 33.5 -00.1	00						
01	94 11.2 +01.5	N 23 11.8 -00.3	137 07.4 +02.0	N 22 33.8 +00.1	216 49.3 +02.2	S 03 33.4 -00.1	01						
02	109 12.7 +01.5	N 23 11.5 -00.2	152 09.4 +02.0	N 22 33.9 +00.0	231 51.5 +02.2	S 03 33.3 -00.1	02						
03	124 14.2 +01.5	N 23 11.3 -00.2	167 11.4 +02.1	N 22 33.9 +00.0	246 53.7 +02.2	S 03 33.2 -00.1	03						
04	139 15.7 +01.4	N 23 11.1 -00.3	182 13.5 +02.0	N 22 33.9 +00.1	261 55.9 +02.2	S 03 33.1 -00.1	04						
05	154 17.1 +01.5	N 23 10.8 -00.2	197 15.5 +02.0	N 22 34.0 +00.0	276 58.1 +02.2	S 03 33.0 -00.2	05						
06	169 18.6 +01.5	N 23 10.6 -00.3	212 17.5 +02.0	N 22 34.0 +00.1	292 00.3 +02.2	S 03 32.8 -00.1	06						
07	184 20.1 +01.4	N 23 10.3 -00.2	227 19.5 +02.0	N 22 34.1 +00.0	307 02.5 +02.2	S 03 32.7 -00.1	07						
08	199 21.5 +01.5	N 23 10.1 -00.2	242 21.5 +02.0	N 22 34.1 +00.1	322 04.7 +02.1	S 03 32.6 -00.1	08						
09	214 23.0 +01.5	N 23 09.9 -00.3	257 23.5 +02.0	N 22 34.2 +00.0	337 06.8 +02.2	S 03 32.5 -00.1	09						
10	229 24.5 +01.5	N 23 09.6 -00.2	272 25.5 +02.0	N 22 34.2 +00.1	352 09.0 +02.2	S 03 32.4 -00.1	10						
11	244 26.0 +01.4	N 23 09.4 -00.3	287 27.5 +02.0	N 22 34.3 +00.0	7 11.2 +02.2	S 03 32.3 -00.1	11						
12	259 27.4 +01.5	N 23 09.1 -00.2	302 29.5 +02.0	N 22 34.3 +00.1	22 13.4 +02.2	S 03 32.2 -00.1	12						
13	274 28.9 +01.5	N 23 08.9 -00.3	317 31.5 +02.0	N 22 34.4 +00.0	37 15.6 +02.2	S 03 32.1 -00.1	13						
14	289 30.4 +01.4	N 23 08.6 -00.2	332 33.5 +02.0	N 22 34.4 +00.0	52 17.8 +02.2	S 03 32.0 -00.1	14						
15	304 31.8 +01.5	N 23 08.4 -00.2	347 35.5 +02.0	N 22 34.4 +00.1	67 20.0 +02.2	S 03 31.9 -00.2	15						
16	319 33.3 +01.5	N 23 08.2 -00.3	2 37.5 +02.0	N 22 34.5 +00.0	82 22.2 +02.2	S 03 31.7 -00.1	16						
17	334 34.8 +01.4	N 23 07.9 -00.2	17 39.5 +02.0	N 22 34.5 +00.1	97 24.4 +02.2	S 03 31.6 -00.1	17						
18	349 36.2 +01.5	N 23 07.7 -00.3	32 41.5 +02.0	N 22 34.6 +00.0	112 26.6 +02.2	S 03 31.5 -00.1	18						
19	4 37.7 +01.5	N 23 07.4 -00.2	47 43.5 +02.0	N 22 34.6 +00.1	127 28.8 +02.2	S 03 31.4 -00.1	19						
20	19 39.2 +01.4	N 23 07.2 -00.3	62 45.5 +02.0	N 22 34.7 +00.0	142 31.0 +02.2	S 03 31.3 -00.1	20						
21	34 40.6 +01.5	N 23 06.9 -00.2	77 47.5 +02.0	N 22 34.7 +00.1	157 33.2 +02.2	S 03 31.2 -00.1	21						
22	49 42.1 +01.5	N 23 06.7 -00.2	92 49.5 +02.0	N 22 34.8 +00.0	172 35.4 +02.2	S 03 31.1 -00.1	22						
23	64 43.6 +01.4	N 23 06.5 -00.3	107 51.5 +02.0	N 22 34.8 +00.1	187 37.6 +02.2	S 03 31.0 -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 00'1 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 241° 241° 241° 240° 240° 240°		SHA 284° 284° 284° 284° 283° 283°		SHA 003° 003° 003° 003° 003° 003°								
	Greenwich Culmination Time: 18:41		Greenwich Culmination Time: 15:49		Greenwich Culmination Time: 10:31								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 45%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	179 43.7 +00.2	N 08	19.7 +01.0	206 20.9 +02.4	N 02	35.6 -00.6	20 05.1 -23.9	N 00	04.0 -14.4	00			
01	194 43.9 +00.1	N 08	20.7 +00.9	221 23.3 +02.4	N 02	35.0 -00.6	34 41.2 -23.8	S 00	10.4 +14.4	01			
02	209 44.0 +00.2	N 08	21.6 +00.9	236 25.7 +02.4	N 02	34.4 -00.6	49 17.4 -23.8	S 00	24.8 +14.3	02			
03	224 44.2 +00.2	N 08	22.5 +00.9	251 28.1 +02.4	N 02	33.8 -00.6	63 53.6 -23.8	S 00	39.1 +14.4	03			
04	239 44.4 +00.1	N 08	23.4 +00.9	266 30.5 +02.5	N 02	33.2 -00.6	78 29.8 -23.8	S 00	53.5 +14.3	04			
05	254 44.5 +00.2	N 08	24.3 +00.9	281 33.0 +02.4	N 02	32.6 -00.6	93 06.0 -23.8	S 01	07.8 +14.4	05			
06	269 44.7 +00.1	N 08	25.2 +01.0	296 35.4 +02.4	N 02	32.0 -00.6	107 42.2 -23.8	S 01	22.2 +14.3	06			
07	284 44.8 +00.2	N 08	26.2 +00.9	311 37.8 +02.4	N 02	31.4 -00.6	122 18.4 -23.8	S 01	36.5 +14.4	07			
08	299 45.0 +00.2	N 08	27.1 +00.9	326 40.2 +02.4	N 02	30.8 -00.6	136 54.6 -23.8	S 01	50.9 +14.3	08			
09	314 45.2 +00.1	N 08	28.0 +00.9	341 42.6 +02.4	N 02	30.2 -00.5	151 30.8 -23.8	S 02	05.2 +14.3	09			
10	329 45.3 +00.2	N 08	28.9 +00.9	356 45.0 +02.3	N 02	29.7 -00.6	166 07.0 -23.8	S 02	19.5 +14.3	10			
11	344 45.5 +00.2	N 08	29.8 +00.9	11 47.3 +02.4	N 02	29.1 -00.6	180 43.2 -23.8	S 02	33.8 +14.3	11			
12	359 45.7 +00.1	N 08	30.7 +01.0	26 49.7 +02.4	N 02	28.5 -00.6	195 19.4 -23.8	S 02	48.1 +14.2	12			
13	14 45.8 +00.2	N 08	31.7 +00.9	41 52.1 +02.4	N 02	27.9 -00.5	209 55.6 -23.8	S 03	02.3 +14.3	13			
14	29 46.0 +00.2	N 08	32.6 +00.9	56 54.5 +02.4	N 02	27.4 -00.6	224 31.8 -23.8	S 03	16.6 +14.2	14			
15	44 46.2 +00.1	N 08	33.5 +00.9	71 56.9 +02.3	N 02	26.8 -00.6	239 08.0 -23.8	S 03	30.8 +14.3	15			
16	59 46.3 +00.2	N 08	34.4 +00.9	86 59.2 +02.4	N 02	26.2 -00.6	253 44.2 -23.9	S 03	45.1 +14.2	16			
17	74 46.5 +00.1	N 08	35.3 +00.9	102 01.6 +02.4	N 02	25.6 -00.5	268 20.3 -23.8	S 03	59.3 +14.1	17			
18	89 46.6 +00.2	N 08	36.2 +00.9	117 04.0 +02.3	N 02	25.1 -00.6	282 56.5 -23.9	S 04	13.4 +14.2	18			
19	104 46.8 +00.2	N 08	37.1 +01.0	132 06.3 +02.4	N 02	24.5 -00.6	297 32.6 -23.8	S 04	27.6 +14.2	19			
20	119 47.0 +00.1	N 08	38.1 +00.9	147 08.7 +02.3	N 02	23.9 -00.5	312 08.8 -23.9	S 04	41.8 +14.1	20			
21	134 47.1 +00.2	N 08	39.0 +00.9	162 11.0 +02.4	N 02	23.4 -00.6	326 44.9 -23.9	S 04	55.9 +14.1	21			
22	149 47.3 +00.2	N 08	39.9 +00.9	177 13.4 +02.3	N 02	22.8 -00.6	341 21.0 -23.9	S 05	10.0 +14.1	22			
23	164 47.5 +00.1	N 08	40.8 +00.9	192 15.7 +02.3	N 02	22.2 -00.5	355 57.1 -23.9	S 05	24.1 +14.0	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'3 54'3 54'2 54'2 54'2 54'1						
	SHA 340° 340° 340° 340° 340° 339°			SHA 007° 007° 007° 007° 007° 007°			SHA 180° 178° 176° 174° 173° 171°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 10:12			Greenwich Culmination Time: 23:16						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	79 45.0 +01.5	N 23	06.2 -00.2	122 53.5 +02.0	N 22	34.9 +00.0	202 39.8 +02.2	S 03	30.9 -00.2	00			
01	94 46.5 +01.4	N 23	06.0 -00.3	137 55.5 +02.0	N 22	34.9 +00.1	217 42.0 +02.2	S 03	30.7 -00.1	01			
02	109 47.9 +01.5	N 23	05.7 -00.2	152 57.5 +02.0	N 22	35.0 +00.0	232 44.2 +02.2	S 03	30.6 -00.1	02			
03	124 49.4 +01.5	N 23	05.5 -00.3	167 59.5 +02.0	N 22	35.0 +00.0	247 46.4 +02.2	S 03	30.5 -00.1	03			
04	139 50.9 +01.4	N 23	05.2 -00.2	183 01.5 +02.0	N 22	35.0 +00.1	262 48.6 +02.2	S 03	30.4 -00.1	04			
05	154 52.3 +01.5	N 23	05.0 -00.3	198 03.5 +02.0	N 22	35.1 +00.0	277 50.8 +02.2	S 03	30.3 -00.1	05			
06	169 53.8 +01.4	N 23	04.7 -00.2	213 05.5 +02.0	N 22	35.1 +00.1	292 53.0 +02.2	S 03	30.2 -00.1	06			
07	184 55.2 +01.5	N 23	04.5 -00.3	228 07.5 +01.9	N 22	35.2 +00.0	307 55.2 +02.2	S 03	30.1 -00.1	07			
08	199 56.7 +01.5	N 23	04.2 -00.2	243 09.4 +02.0	N 22	35.2 +00.1	322 57.4 +02.2	S 03	30.0 -00.1	08			
09	214 58.2 +01.4	N 23	04.0 -00.2	258 11.4 +02.0	N 22	35.3 +00.0	337 59.6 +02.2	S 03	29.9 -00.1	09			
10	229 59.6 +01.5	N 23	03.8 -00.3	273 13.4 +02.0	N 22	35.3 +00.1	353 01.8 +02.2	S 03	29.8 -00.2	10			
11	245 01.1 +01.4	N 23	03.5 -00.2	288 15.4 +02.0	N 22	35.4 +00.0	8 04.0 +02.2	S 03	29.6 -00.1	11			
12	260 02.5 +01.5	N 23	03.3 -00.3	303 17.4 +02.0	N 22	35.4 +00.1	23 06.2 +02.2	S 03	29.5 -00.1	12			
13	275 04.0 +01.5	N 23	03.0 -00.2	318 19.4 +02.0	N 22	35.5 +00.0	38 08.4 +02.2	S 03	29.4 -00.1	13			
14	290 05.5 +01.4	N 23	02.8 -00.3	333 21.4 +02.0	N 22	35.5 +00.0	53 10.6 +02.2	S 03	29.3 -00.1	14			
15	305 06.9 +01.5	N 23	02.5 -00.2	348 23.4 +02.0	N 22	35.5 +00.1	68 12.8 +02.2	S 03	29.2 -00.1	15			
16	320 08.4 +01.4	N 23	02.3 -00.3	3 25.4 +02.0	N 22	35.6 +00.0	83 15.0 +02.2	S 03	29.1 -00.1	16			
17	335 09.8 +01.5	N 23	02.0 -00.2	18 27.4 +02.0	N 22	35.6 +00.1	98 17.2 +02.1	S 03	29.0 -00.1	17			
18	350 11.3 +01.4	N 23	01.8 -00.3	33 29.4 +02.0	N 22	35.7 +00.0	113 19.3 +02.2	S 03	28.9 -00.1	18			
19	5 12.7 +01.5	N 23	01.5 -00.2	48 31.4 +02.0	N 22	35.7 +00.1	128 21.5 +02.2	S 03	28.8 -00.1	19			
20	20 14.2 +01.4	N 23	01.3 -00.3	63 33.4 +02.0	N 22	35.8 +00.0	143 23.7 +02.2	S 03	28.7 -00.1	20			
21	35 15.6 +01.5	N 23	01.0 -00.2	78 35.4 +02.0	N 22	35.8 +00.1	158 25.9 +02.2	S 03	28.6 -00.2	21			
22	50 17.1 +01.4	N 23	00.8 -00.3	93 37.4 +02.0	N 22	35.9 +00.0	173 28.1 +02.2	S 03	28.4 -00.1	22			
23	65 18.5 +01.5	N 23	00.5 -00.2	108 39.4 +02.0	N 22	35.9 +00.1	188 30.3 +02.2	S 03	28.3 -00.1	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 240° 240° 240° 240° 240° 240°			SHA 283° 283° 283° 283° 283° 283°			SHA 003° 003° 003° 003° 003° 003°						
	Greenwich Culmination Time: 18:39			Greenwich Culmination Time: 15:46			Greenwich Culmination Time: 10:27						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 47.6 +00.2	N 08 41.7 +00.9	207 18.0 +02.4	N 02 21.7 -00.6	10 33.2 -23.9	S 05 38.1 +14.1	00						
01	194 47.8 +00.1	N 08 42.6 +00.9	222 20.4 +02.3	N 02 21.1 -00.5	25 09.3 -23.9	S 05 52.2 +14.0	01						
02	209 47.9 +00.2	N 08 43.5 +00.9	237 22.7 +02.3	N 02 20.6 -00.6	39 45.4 -24.0	S 06 06.2 +14.0	02						
03	224 48.1 +00.2	N 08 44.4 +01.0	252 25.0 +02.4	N 02 20.0 -00.5	54 21.4 -24.0	S 06 20.2 +14.0	03						
04	239 48.3 +00.1	N 08 45.4 +00.9	267 27.4 +02.3	N 02 19.5 -00.6	68 57.4 -24.0	S 06 34.2 +13.9	04						
05	254 48.4 +00.2	N 08 46.3 +00.9	282 29.7 +02.3	N 02 18.9 -00.5	83 33.4 -24.0	S 06 48.1 +13.9	05						
06	269 48.6 +00.2	N 08 47.2 +00.9	297 32.0 +02.3	N 02 18.4 -00.6	98 09.4 -24.0	S 07 02.0 +13.9	06						
07	284 48.8 +00.1	N 08 48.1 +00.9	312 34.3 +02.3	N 02 17.8 -00.5	112 45.4 -24.1	S 07 15.9 +13.9	07						
08	299 48.9 +00.2	N 08 49.0 +00.9	327 36.6 +02.3	N 02 17.3 -00.6	127 21.3 -24.0	S 07 29.8 +13.8	08						
09	314 49.1 +00.1	N 08 49.9 +00.9	342 38.9 +02.3	N 02 16.7 -00.5	141 57.3 -24.2	S 07 43.6 +13.8	09						
10	329 49.2 +00.2	N 08 50.8 +00.9	357 41.2 +02.3	N 02 16.2 -00.5	156 33.1 -24.1	S 07 57.4 +13.8	10						
11	344 49.4 +00.2	N 08 51.7 +00.9	12 43.5 +02.3	N 02 15.7 -00.6	171 09.0 -24.1	S 08 11.2 +13.7	11						
12	359 49.6 +00.1	N 08 52.6 +00.9	27 45.8 +02.3	N 02 15.1 -00.5	185 44.9 -24.2	S 08 24.9 +13.7	12						
13	14 49.7 +00.2	N 08 53.5 +01.0	42 48.1 +02.3	N 02 14.6 -00.6	200 20.7 -24.2	S 08 38.6 +13.7	13						
14	29 49.9 +00.1	N 08 54.5 +00.9	57 50.4 +02.3	N 02 14.0 -00.5	214 56.5 -24.3	S 08 52.3 +13.6	14						
15	44 50.0 +00.2	N 08 55.4 +00.9	72 52.7 +02.2	N 02 13.5 -00.5	229 32.2 -24.2	S 09 05.9 +13.6	15						
16	59 50.2 +00.2	N 08 56.3 +00.9	87 54.9 +02.3	N 02 13.0 -00.5	244 08.0 -24.3	S 09 19.5 +13.6	16						
17	74 50.4 +00.1	N 08 57.2 +00.9	102 57.2 +02.3	N 02 12.5 -00.6	258 43.7 -24.4	S 09 33.1 +13.5	17						
18	89 50.5 +00.2	N 08 58.1 +00.9	117 59.5 +02.3	N 02 11.9 -00.5	273 19.3 -24.3	S 09 46.6 +13.5	18						
19	104 50.7 +00.1	N 08 59.0 +00.9	133 01.8 +02.2	N 02 11.4 -00.5	287 55.0 -24.4	S 10 00.1 +13.4	19						
20	119 50.8 +00.2	N 08 59.9 +00.9	148 04.0 +02.3	N 02 10.9 -00.5	302 30.6 -24.5	S 10 13.5 +13.5	20						
21	134 51.0 +00.2	N 09 00.8 +00.9	163 06.3 +02.2	N 02 10.4 -00.6	317 06.1 -24.4	S 10 27.0 +13.3	21						
22	149 51.2 +00.1	N 09 01.7 +00.9	178 08.5 +02.3	N 02 09.8 -00.5	331 41.7 -24.5	S 10 40.3 +13.4	22						
23	164 51.3 +00.2	N 09 02.6 +00.9	193 10.8 +02.2	N 02 09.3 -00.5	346 17.2 -24.6	S 10 53.7 +13.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 54'1 54'1 54'0 54'0 54'0 54'0								
	SHA 339° 339° 339° 339° 339° 338°		SHA 007° 007° 007° 007° 007° 007°		SHA 169° 167° 166° 164° 162° 160°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 10:09		Greenwich Culmination Time: 23:56								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	80 20.0 +01.4	N 23 00.3 -00.3	123 41.4 +02.0	N 22 36.0 +00.0	203 32.5 +02.2	S 03 28.2 -00.1	00						
01	95 21.4 +01.5	N 23 00.0 -00.2	138 43.4 +02.0	N 22 36.0 +00.1	218 34.7 +02.2	S 03 28.1 -00.1	01						
02	110 22.9 +01.5	N 22 59.8 -00.3	153 45.4 +02.0	N 22 36.1 +00.0	233 36.9 +02.2	S 03 28.0 -00.1	02						
03	125 24.4 +01.4	N 22 59.5 -00.2	168 47.4 +02.0	N 22 36.1 +00.0	248 39.1 +02.2	S 03 27.9 -00.1	03						
04	140 25.8 +01.5	N 22 59.3 -00.3	183 49.4 +01.9	N 22 36.1 +00.1	263 41.3 +02.2	S 03 27.8 -00.1	04						
05	155 27.3 +01.4	N 22 59.0 -00.2	198 51.3 +02.0	N 22 36.2 +00.0	278 43.5 +02.2	S 03 27.7 -00.1	05						
06	170 28.7 +01.4	N 22 58.8 -00.3	213 53.3 +02.0	N 22 36.2 +00.1	293 45.7 +02.2	S 03 27.6 -00.1	06						
07	185 30.1 +01.5	N 22 58.5 -00.2	228 55.3 +02.0	N 22 36.3 +00.0	308 47.9 +02.2	S 03 27.5 -00.2	07						
08	200 31.6 +01.4	N 22 58.3 -00.3	243 57.3 +02.0	N 22 36.3 +00.1	323 50.1 +02.2	S 03 27.3 -00.1	08						
09	215 33.0 +01.5	N 22 58.0 -00.2	258 59.3 +02.0	N 22 36.4 +00.0	338 52.3 +02.2	S 03 27.2 -00.1	09						
10	230 34.5 +01.4	N 22 57.8 -00.3	274 01.3 +02.0	N 22 36.4 +00.1	353 54.5 +02.2	S 03 27.1 -00.1	10						
11	245 35.9 +01.5	N 22 57.5 -00.2	289 03.3 +02.0	N 22 36.5 +00.0	8 56.7 +02.2	S 03 27.0 -00.1	11						
12	260 37.4 +01.4	N 22 57.3 -00.3	304 05.3 +02.0	N 22 36.5 +00.1	23 58.9 +02.2	S 03 26.9 -00.1	12						
13	275 38.8 +01.5	N 22 57.0 -00.2	319 07.3 +02.0	N 22 36.6 +00.0	39 01.1 +02.2	S 03 26.8 -00.1	13						
14	290 40.3 +01.4	N 22 56.8 -00.3	334 09.3 +02.0	N 22 36.6 +00.0	54 03.3 +02.2	S 03 26.7 -00.1	14						
15	305 41.7 +01.5	N 22 56.5 -00.2	349 11.3 +02.0	N 22 36.6 +00.1	69 05.5 +02.2	S 03 26.6 -00.1	15						
16	320 43.2 +01.4	N 22 56.3 -00.3	4 13.3 +02.0	N 22 36.7 +00.0	84 07.7 +02.2	S 03 26.5 -00.1	16						
17	335 44.6 +01.5	N 22 56.0 -00.2	19 15.3 +01.9	N 22 36.7 +00.1	99 09.9 +02.2	S 03 26.4 -00.1	17						
18	350 46.1 +01.4	N 22 55.8 -00.3	34 17.2 +02.0	N 22 36.8 +00.0	114 12.1 +02.2	S 03 26.3 -00.2	18						
19	5 47.5 +01.4	N 22 55.5 -00.2	49 19.2 +02.0	N 22 36.8 +00.1	129 14.3 +02.2	S 03 26.1 -00.1	19						
20	20 48.9 +01.5	N 22 55.3 -00.3	64 21.2 +02.0	N 22 36.9 +00.0	144 16.5 +02.2	S 03 26.0 -00.1	20						
21	35 50.4 +01.4	N 22 55.0 -00.2	79 23.2 +02.0	N 22 36.9 +00.1	159 18.7 +02.2	S 03 25.9 -00.1	21						
22	50 51.8 +01.5	N 22 54.8 -00.3	94 25.2 +02.0	N 22 37.0 +00.0	174 20.9 +02.2	S 03 25.8 -00.1	22						
23	65 53.3 +01.4	N 22 54.5 -00.2	109 27.2 +02.0	N 22 37.0 +00.1	189 23.1 +02.2	S 03 25.7 -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 240° 240° 240° 240° 240° 240°		SHA 283° 283° 283° 283° 283° 283°		SHA 003° 003° 003° 003° 003° 003°								
	Greenwich Culmination Time: 18:36		Greenwich Culmination Time: 15:43		Greenwich Culmination Time: 10:24								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	179 51.5 +00.1	N 09 03.5 +00.9	208 13.0 +02.3	N 02 08.8 -00.5	0 52.6 -24.6	S 11 07.0 +13.2	00							
01	194 51.6 +00.2	N 09 04.4 +00.9	223 15.3 +02.2	N 02 08.3 -00.5	15 28.0 -24.6	S 11 20.2 +13.2	01							
02	209 51.8 +00.2	N 09 05.3 +00.9	238 17.5 +02.2	N 02 07.8 -00.5	30 03.4 -24.6	S 11 33.4 +13.2	02							
03	224 52.0 +00.1	N 09 06.2 +00.9	253 19.7 +02.3	N 02 07.3 -00.6	44 38.8 -24.7	S 11 46.6 +13.1	03							
04	239 52.1 +00.2	N 09 07.1 +01.0	268 22.0 +02.2	N 02 06.7 -00.5	59 14.1 -24.8	S 11 59.7 +13.1	04							
05	254 52.3 +00.1	N 09 08.1 +00.9	283 24.2 +02.2	N 02 06.2 -00.5	73 49.3 -24.7	S 12 12.8 +13.0	05							
06	269 52.4 +00.2	N 09 09.0 +00.9	298 26.4 +02.3	N 02 05.7 -00.5	88 24.6 -24.9	S 12 25.8 +13.0	06							
07	284 52.6 +00.1	N 09 09.9 +00.9	313 28.7 +02.2	N 02 05.2 -00.5	102 59.7 -24.8	S 12 38.8 +12.9	07							
08	299 52.7 +00.2	N 09 10.8 +00.9	328 30.9 +02.2	N 02 04.7 -00.5	117 34.9 -24.9	S 12 51.7 +12.9	08							
09	314 52.9 +00.2	N 09 11.7 +00.9	343 33.1 +02.2	N 02 04.2 -00.5	132 10.0 -25.0	S 13 04.6 +12.8	09							
10	329 53.1 +00.1	N 09 12.6 +00.9	358 35.3 +02.2	N 02 03.7 -00.5	146 45.0 -25.0	S 13 17.4 +12.8	10							
11	344 53.2 +00.2	N 09 13.5 +00.9	13 37.5 +02.2	N 02 03.2 -00.5	161 20.0 -25.0	S 13 30.2 +12.8	11							
12	359 53.4 +00.1	N 09 14.4 +00.9	28 39.7 +02.2	N 02 02.7 -00.5	175 55.0 -25.1	S 13 43.0 +12.6	12							
13	14 53.5 +00.2	N 09 15.3 +00.9	43 41.9 +02.2	N 02 02.2 -00.5	190 29.9 -25.2	S 13 55.6 +12.7	13							
14	29 53.7 +00.2	N 09 16.2 +00.9	58 44.1 +02.2	N 02 01.7 -00.5	205 04.7 -25.2	S 14 08.3 +12.5	14							
15	44 53.9 +00.1	N 09 17.1 +00.9	73 46.3 +02.2	N 02 01.2 -00.4	219 39.5 -25.2	S 14 20.8 +12.6	15							
16	59 54.0 +00.2	N 09 18.0 +00.9	88 48.5 +02.2	N 02 00.8 -00.5	234 14.3 -25.3	S 14 33.4 +12.4	16							
17	74 54.2 +00.1	N 09 18.9 +00.9	103 50.7 +02.1	N 02 00.3 -00.5	248 49.0 -25.3	S 14 45.8 +12.4	17							
18	89 54.3 +00.2	N 09 19.8 +00.9	118 52.8 +02.2	N 01 59.8 -00.5	263 23.7 -25.4	S 14 58.2 +12.4	18							
19	104 54.5 +00.1	N 09 20.7 +00.9	133 55.0 +02.2	N 01 59.3 -00.5	277 58.3 -25.5	S 15 10.6 +12.3	19							
20	119 54.6 +00.2	N 09 21.6 +00.9	148 57.2 +02.2	N 01 58.8 -00.5	292 32.8 -25.5	S 15 22.9 +12.2	20							
21	134 54.8 +00.1	N 09 22.5 +00.9	163 59.4 +02.1	N 01 58.3 -00.4	307 07.3 -25.5	S 15 35.1 +12.2	21							
22	149 54.9 +00.2	N 09 23.4 +00.9	179 01.5 +02.2	N 01 57.9 -00.5	321 41.8 -25.7	S 15 47.3 +12.1	22							
23	164 55.1 +00.2	N 09 24.3 +00.9	194 03.7 +02.2	N 01 57.4 -00.5	336 16.1 -25.6	S 15 59.4 +12.1	23							
UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 15'9 15'9	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 338° 338° 338° 338° 338° 338°	Greenwich Culmination Time: 12:00	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'4 00'4 00'4 00'4 00'4 00'4	SHA 007° 007° 007° 007° 007° 007°	Greenwich Culmination Time: 10:05	UT 02 06 10 14 18 22	SD 14'7 14'7 14'7 14'7 14'7 14'7	HP 54'0 54'0 54'0 53'9 53'9 53'9	SHA 159° 157° 155° 153° 151° 149°	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	80 54.7 +01.5	N 22 54.3 -00.3	124 29.2 +02.0	N 22 37.1 +00.0	204 25.3 +02.2	S 03 25.6 -00.1	00							
01	95 56.2 +01.4	N 22 54.0 -00.2	139 31.2 +02.0	N 22 37.1 +00.0	219 27.5 +02.2	S 03 25.5 -00.1	01							
02	110 57.6 +01.4	N 22 53.8 -00.3	154 33.2 +02.0	N 22 37.1 +00.1	234 29.7 +02.2	S 03 25.4 -00.1	02							
03	125 59.0 +01.5	N 22 53.5 -00.2	169 35.2 +01.9	N 22 37.2 +00.0	249 31.9 +02.2	S 03 25.3 -00.1	03							
04	141 00.5 +01.4	N 22 53.3 -00.3	184 37.1 +02.0	N 22 37.2 +00.1	264 34.1 +02.2	S 03 25.2 -00.1	04							
05	156 01.9 +01.5	N 22 53.0 -00.3	199 39.1 +02.0	N 22 37.3 +00.0	279 36.3 +02.2	S 03 25.1 -00.1	05							
06	171 03.4 +01.4	N 22 52.7 -00.2	214 41.1 +02.0	N 22 37.3 +00.1	294 38.5 +02.2	S 03 25.0 -00.2	06							
07	186 04.8 +01.4	N 22 52.5 -00.3	229 43.1 +02.0	N 22 37.4 +00.0	309 40.7 +02.2	S 03 24.8 -00.1	07							
08	201 06.2 +01.5	N 22 52.2 -00.2	244 45.1 +02.0	N 22 37.4 +00.1	324 42.9 +02.2	S 03 24.7 -00.1	08							
09	216 07.7 +01.4	N 22 52.0 -00.3	259 47.1 +02.0	N 22 37.5 +00.0	339 45.1 +02.2	S 03 24.6 -00.1	09							
10	231 09.1 +01.4	N 22 51.7 -00.2	274 49.1 +02.0	N 22 37.5 +00.0	354 47.3 +02.2	S 03 24.5 -00.1	10							
11	246 10.5 +01.5	N 22 51.5 -00.3	289 51.1 +02.0	N 22 37.5 +00.1	9 49.5 +02.2	S 03 24.4 -00.1	11							
12	261 12.0 +01.4	N 22 51.2 -00.2	304 53.1 +01.9	N 22 37.6 +00.0	24 51.7 +02.2	S 03 24.3 -00.1	12							
13	276 13.4 +01.4	N 22 51.0 -00.3	319 55.0 +02.0	N 22 37.6 +00.1	39 53.9 +02.2	S 03 24.2 -00.1	13							
14	291 14.8 +01.5	N 22 50.7 -00.2	334 57.0 +02.0	N 22 37.7 +00.0	54 56.1 +02.2	S 03 24.1 -00.1	14							
15	306 16.3 +01.4	N 22 50.5 -00.3	349 59.0 +02.0	N 22 37.7 +00.1	69 58.3 +02.2	S 03 24.0 -00.1	15							
16	321 17.7 +01.4	N 22 50.2 -00.3	5 01.0 +02.0	N 22 37.8 +00.0	85 00.5 +02.2	S 03 23.9 -00.1	16							
17	336 19.1 +01.5	N 22 49.9 -00.2	20 03.0 +02.0	N 22 37.8 +00.1	100 02.7 +02.2	S 03 23.8 -00.2	17							
18	351 20.6 +01.4	N 22 49.7 -00.3	35 05.0 +02.0	N 22 37.9 +00.0	115 04.9 +02.2	S 03 23.6 -00.1	18							
19	6 22.0 +01.4	N 22 49.4 -00.2	50 07.0 +01.9	N 22 37.9 +00.1	130 07.1 +02.2	S 03 23.5 -00.1	19							
20	21 23.4 +01.5	N 22 49.2 -00.3	65 08.9 +02.0	N 22 38.0 +00.0	145 09.3 +02.2	S 03 23.4 -00.1	20							
21	36 24.9 +01.4	N 22 48.9 -00.2	80 10.9 +02.0	N 22 38.0 +00.0	160 11.5 +02.2	S 03 23.3 -00.1	21							
22	51 26.3 +01.4	N 22 48.7 -00.3	95 12.9 +02.0	N 22 38.0 +00.1	175 13.7 +02.2	S 03 23.2 -00.1	22							
23	66 27.7 +01.5	N 22 48.4 -00.2	110 14.9 +02.0	N 22 38.1 +00.0	190 15.9 +02.2	S 03 23.1 -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 239° 239° 239° 239° 239° 239°	Greenwich Culmination Time: 18:34	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 283° 283° 283° 283° 283° 283°	Greenwich Culmination Time: 15:39	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 003° 003° 003° 003° 003° 003°	Greenwich Culmination Time: 10:20

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 55.3 +00.1	N 09 25.2 +00.9	209 05.9 +02.1	N 01 56.9 -00.5	350 50.5 -25.8	S 16 11.5 +12.0	00						
01	194 55.4 +00.2	N 09 26.1 +00.9	224 08.0 +02.2	N 01 56.4 -00.4	5 24.7 -25.7	S 16 23.5 +11.9	01						
02	209 55.6 +00.1	N 09 27.0 +00.9	239 10.2 +02.1	N 01 56.0 -00.5	19 59.0 -25.9	S 16 35.4 +11.9	02						
03	224 55.7 +00.2	N 09 27.9 +00.9	254 12.3 +02.1	N 01 55.5 -00.5	34 33.1 -25.9	S 16 47.3 +11.8	03						
04	239 55.9 +00.1	N 09 28.8 +00.9	269 14.4 +02.2	N 01 55.0 -00.4	49 07.2 -25.9	S 16 59.1 +11.7	04						
05	254 56.0 +00.2	N 09 29.7 +00.9	284 16.6 +02.1	N 01 54.6 -00.5	63 41.3 -26.0	S 17 10.8 +11.7	05						
06	269 56.2 +00.1	N 09 30.6 +00.9	299 18.7 +02.2	N 01 54.1 -00.5	78 15.3 -26.1	S 17 22.5 +11.6	06						
07	284 56.3 +00.2	N 09 31.5 +00.9	314 20.9 +02.1	N 01 53.6 -00.4	92 49.2 -26.2	S 17 34.1 +11.5	07						
08	299 56.5 +00.2	N 09 32.4 +00.9	329 23.0 +02.1	N 01 53.2 -00.5	107 23.0 -26.2	S 17 45.6 +11.5	08						
09	314 56.7 +00.1	N 09 33.3 +00.9	344 25.1 +02.1	N 01 52.7 -00.5	121 56.8 -26.2	S 17 57.1 +11.3	09						
10	329 56.8 +00.2	N 09 34.2 +00.9	359 27.2 +02.2	N 01 52.2 -00.4	136 30.6 -26.4	S 18 08.4 +11.4	10						
11	344 57.0 +00.1	N 09 35.1 +00.9	14 29.4 +02.1	N 01 51.8 -00.5	151 04.2 -26.3	S 18 19.8 +11.2	11						
12	359 57.1 +00.2	N 09 36.0 +00.9	29 31.5 +02.1	N 01 51.3 -00.4	165 37.9 -26.5	S 18 31.0 +11.2	12						
13	14 57.3 +00.1	N 09 36.9 +00.9	44 33.6 +02.1	N 01 50.9 -00.5	180 11.4 -26.5	S 18 42.2 +11.1	13						
14	29 57.4 +00.2	N 09 37.8 +00.9	59 35.7 +02.1	N 01 50.4 -00.4	194 44.9 -26.6	S 18 53.3 +11.0	14						
15	44 57.6 +00.1	N 09 38.7 +00.9	74 37.8 +02.1	N 01 50.0 -00.5	209 18.3 -26.7	S 19 04.3 +11.0	15						
16	59 57.7 +00.2	N 09 39.6 +00.9	89 39.9 +02.1	N 01 49.5 -00.4	223 51.6 -26.7	S 19 15.3 +10.8	16						
17	74 57.9 +00.1	N 09 40.5 +00.8	104 42.0 +02.1	N 01 49.1 -00.5	238 24.9 -26.8	S 19 26.1 +10.8	17						
18	89 58.0 +00.2	N 09 41.3 +00.9	119 44.1 +02.1	N 01 48.6 -00.4	252 58.1 -26.8	S 19 36.9 +10.8	18						
19	104 58.2 +00.1	N 09 42.2 +00.9	134 46.2 +02.1	N 01 48.2 -00.4	267 31.3 -26.9	S 19 47.7 +10.6	19						
20	119 58.3 +00.2	N 09 43.1 +00.9	149 48.3 +02.0	N 01 47.8 -00.5	282 04.4 -27.0	S 19 58.3 +10.6	20						
21	134 58.5 +00.1	N 09 44.0 +00.9	164 50.3 +02.1	N 01 47.3 -00.4	296 37.4 -27.1	S 20 08.9 +10.4	21						
22	149 58.6 +00.2	N 09 44.9 +00.9	179 52.4 +02.1	N 01 46.9 -00.4	311 10.3 -27.1	S 20 19.3 +10.4	22						
23	164 58.8 +00.2	N 09 45.8 +00.9	194 54.5 +02.1	N 01 46.5 -00.5	325 43.2 -27.2	S 20 29.7 +10.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'4 00'4 00'4 00'4 00'4 00'4		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 00'4 00'4 00'4 00'4 00'4 00'4		HP 53'9 53'9 54'0 54'0 54'0 54'0								
	SHA 337° 337° 337° 337° 337° 337°		SHA 007° 007° 007° 007° 007° 007°		SHA 147° 146° 144° 142° 140° 138°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 10:02		Greenwich Culmination Time: 00:37								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	81 29.2 +01.4	N 22 48.2 -00.3	125 16.9 +02.0	N 22 38.1 +00.1	205 18.1 +02.2	S 03 23.0 -00.1	00						
01	96 30.6 +01.4	N 22 47.9 -00.3	140 18.9 +02.0	N 22 38.2 +00.0	220 20.3 +02.2	S 03 22.9 -00.1	01						
02	111 32.0 +01.5	N 22 47.6 -00.2	155 20.9 +01.9	N 22 38.2 +00.1	235 22.5 +02.2	S 03 22.8 -00.1	02						
03	126 33.5 +01.4	N 22 47.4 -00.3	170 22.8 +02.0	N 22 38.3 +00.0	250 24.7 +02.2	S 03 22.7 -00.1	03						
04	141 34.9 +01.4	N 22 47.1 -00.2	185 24.8 +02.0	N 22 38.3 +00.1	265 26.9 +02.2	S 03 22.6 -00.1	04						
05	156 36.3 +01.4	N 22 46.9 -00.3	200 26.8 +02.0	N 22 38.4 +00.0	280 29.1 +02.2	S 03 22.5 -00.2	05						
06	171 37.7 +01.5	N 22 46.6 -00.3	215 28.8 +02.0	N 22 38.4 +00.1	295 31.3 +02.2	S 03 22.3 -00.1	06						
07	186 39.2 +01.4	N 22 46.3 -00.2	230 30.8 +02.0	N 22 38.5 +00.0	310 33.5 +02.2	S 03 22.2 -00.1	07						
08	201 40.6 +01.4	N 22 46.1 -00.3	245 32.8 +01.9	N 22 38.5 +00.0	325 35.7 +02.2	S 03 22.1 -00.1	08						
09	216 42.0 +01.5	N 22 45.8 -00.2	260 34.7 +02.0	N 22 38.5 +00.1	340 37.9 +02.2	S 03 22.0 -00.1	09						
10	231 43.5 +01.4	N 22 45.6 -00.3	275 36.7 +02.0	N 22 38.6 +00.0	355 40.1 +02.2	S 03 21.9 -00.1	10						
11	246 44.9 +01.4	N 22 45.3 -00.2	290 38.7 +02.0	N 22 38.6 +00.1	10 42.3 +02.2	S 03 21.8 -00.1	11						
12	261 46.3 +01.4	N 22 45.1 -00.3	305 40.7 +02.0	N 22 38.7 +00.0	25 44.5 +02.2	S 03 21.7 -00.1	12						
13	276 47.7 +01.5	N 22 44.8 -00.3	320 42.7 +02.0	N 22 38.7 +00.1	40 46.7 +02.2	S 03 21.6 -00.1	13						
14	291 49.2 +01.4	N 22 44.5 -00.2	335 44.7 +01.9	N 22 38.8 +00.0	55 48.9 +02.2	S 03 21.5 -00.1	14						
15	306 50.6 +01.4	N 22 44.3 -00.3	350 46.6 +02.0	N 22 38.8 +00.1	70 51.1 +02.2	S 03 21.4 -00.1	15						
16	321 52.0 +01.4	N 22 44.0 -00.2	5 48.6 +02.0	N 22 38.9 +00.0	85 53.3 +02.2	S 03 21.3 -00.1	16						
17	336 53.4 +01.4	N 22 43.8 -00.3	20 50.6 +02.0	N 22 38.9 +00.0	100 55.5 +02.2	S 03 21.2 -00.1	17						
18	351 54.8 +01.5	N 22 43.5 -00.3	35 52.6 +02.0	N 22 38.9 +00.1	115 57.7 +02.2	S 03 21.1 -00.2	18						
19	6 56.3 +01.4	N 22 43.2 -00.2	50 54.6 +02.0	N 22 39.0 +00.0	130 59.9 +02.2	S 03 20.9 -00.1	19						
20	21 57.7 +01.4	N 22 43.0 -00.3	65 56.6 +01.9	N 22 39.0 +00.1	146 02.1 +02.2	S 03 20.8 -00.1	20						
21	36 59.1 +01.4	N 22 42.7 -00.2	80 58.5 +02.0	N 22 39.1 +00.0	161 04.3 +02.2	S 03 20.7 -00.1	21						
22	52 00.5 +01.5	N 22 42.5 -00.3	96 00.5 +02.0	N 22 39.1 +00.1	176 06.5 +02.2	S 03 20.6 -00.1	22						
23	67 02.0 +01.4	N 22 42.2 -00.3	111 02.5 +02.0	N 22 39.2 +00.0	191 08.7 +02.2	S 03 20.5 -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 239° 239° 239° 239° 239° 239°		SHA 283° 283° 283° 283° 283° 283°		SHA 003° 003° 003° 003° 003° 003°								
	Greenwich Culmination Time: 18:32		Greenwich Culmination Time: 15:36		Greenwich Culmination Time: 10:17								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 57%</span>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 59.0 +00.1	N 09	46.7 +00.9	209 56.6 +02.0	N 01	46.0 -00.4	340 16.0 -27.2	S 20	40.0 +10.3	00			
01	194 59.1 +00.2	N 09	47.6 +00.9	224 58.6 +02.1	N 01	45.6 -00.4	354 48.8 -27.4	S 20	50.3 +10.1	01			
02	209 59.3 +00.1	N 09	48.5 +00.9	240 00.7 +02.1	N 01	45.2 -00.5	9 21.4 -27.4	S 21	00.4 +10.1	02			
03	224 59.4 +00.2	N 09	49.4 +00.9	255 02.8 +02.0	N 01	44.7 -00.4	23 54.0 -27.4	S 21	10.5 +09.9	03			
04	239 59.6 +00.1	N 09	50.3 +00.9	270 04.8 +02.1	N 01	44.3 -00.4	38 26.6 -27.6	S 21	20.4 +09.9	04			
05	254 59.7 +00.2	N 09	51.2 +00.9	285 06.9 +02.0	N 01	43.9 -00.4	52 59.0 -27.6	S 21	30.3 +09.8	05			
06	269 59.9 +00.1	N 09	52.1 +00.9	300 08.9 +02.1	N 01	43.5 -00.5	67 31.4 -27.7	S 21	40.1 +09.7	06			
07	285 00.0 +00.2	N 09	53.0 +00.8	315 11.0 +02.0	N 01	43.0 -00.4	82 03.7 -27.7	S 21	49.8 +09.6	07			
08	300 00.2 +00.1	N 09	53.8 +00.9	330 13.0 +02.0	N 01	42.6 -00.4	96 36.0 -27.9	S 21	59.4 +09.6	08			
09	315 00.3 +00.2	N 09	54.7 +00.9	345 15.0 +02.1	N 01	42.2 -00.4	111 08.1 -27.9	S 22	09.0 +09.4	09			
10	330 00.5 +00.1	N 09	55.6 +00.9	0 17.1 +02.0	N 01	41.8 -00.4	125 40.2 -28.0	S 22	18.4 +09.3	10			
11	345 00.6 +00.2	N 09	56.5 +00.9	15 19.1 +02.0	N 01	41.4 -00.4	140 12.2 -28.0	S 22	27.7 +09.3	11			
12	0 00.8 +00.1	N 09	57.4 +00.9	30 21.1 +02.1	N 01	41.0 -00.4	154 44.2 -28.1	S 22	37.0 +09.1	12			
13	15 00.9 +00.2	N 09	58.3 +00.9	45 23.2 +02.0	N 01	40.6 -00.5	169 16.1 -28.2	S 22	46.1 +09.1	13			
14	30 01.1 +00.1	N 09	59.2 +00.9	60 25.2 +02.0	N 01	40.1 -00.4	183 47.9 -28.3	S 22	55.2 +08.9	14			
15	45 01.2 +00.2	N 10	00.1 +00.9	75 27.2 +02.0	N 01	39.7 -00.4	198 19.6 -28.3	S 23	04.1 +08.9	15			
16	60 01.4 +00.1	N 10	01.0 +00.9	90 29.2 +02.0	N 01	39.3 -00.4	212 51.3 -28.5	S 23	13.0 +08.8	16			
17	75 01.5 +00.2	N 10	01.9 +00.8	105 31.2 +02.0	N 01	38.9 -00.4	227 22.8 -28.4	S 23	21.8 +08.6	17			
18	90 01.7 +00.1	N 10	02.7 +00.9	120 33.2 +02.0	N 01	38.5 -00.4	241 54.4 -28.6	S 23	30.4 +08.6	18			
19	105 01.8 +00.2	N 10	03.6 +00.9	135 35.2 +02.0	N 01	38.1 -00.4	256 25.8 -28.6	S 23	39.0 +08.4	19			
20	120 02.0 +00.1	N 10	04.5 +00.9	150 37.2 +02.0	N 01	37.7 -00.4	270 57.2 -28.8	S 23	47.4 +08.4	20			
21	135 02.1 +00.2	N 10	05.4 +00.9	165 39.2 +02.0	N 01	37.3 -00.4	285 28.4 -28.7	S 23	55.8 +08.2	21			
22	150 02.3 +00.1	N 10	06.3 +00.9	180 41.2 +02.0	N 01	36.9 -00.4	299 59.7 -28.9	S 24	04.0 +08.2	22			
23	165 02.4 +00.2	N 10	07.2 +00.9	195 43.2 +02.0	N 01	36.5 -00.3	314 30.8 -28.9	S 24	12.2 +08.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'4 00'4 00'4 00'4 00'4 00'4			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 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'0 54'0 54'0 54'1 54'1 54'1						
	SHA 336° 336° 336° 336° 336° 336°			SHA 007° 006° 006° 006° 006° 006°			SHA 136° 134° 132° 130° 128° 126°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 09:58			Greenwich Culmination Time: 01:21						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	82 03.4 +01.4	N 22	41.9 -00.2	126 04.5 +02.0	N 22	39.2 +00.1	206 10.9 +02.2	S 03	20.4 -00.1	00			
01	97 04.8 +01.4	N 22	41.7 -00.3	141 06.5 +01.9	N 22	39.3 +00.0	221 13.1 +02.2	S 03	20.3 -00.1	01			
02	112 06.2 +01.4	N 22	41.4 -00.3	156 08.4 +02.0	N 22	39.3 +00.0	236 15.3 +02.2	S 03	20.2 -00.1	02			
03	127 07.6 +01.5	N 22	41.1 -00.2	171 10.4 +02.0	N 22	39.3 +00.1	251 17.5 +02.2	S 03	20.1 -00.1	03			
04	142 09.1 +01.4	N 22	40.9 -00.3	186 12.4 +02.0	N 22	39.4 +00.0	266 19.7 +02.2	S 03	20.0 -00.1	04			
05	157 10.5 +01.4	N 22	40.6 -00.2	201 14.4 +02.0	N 22	39.4 +00.1	281 21.9 +02.3	S 03	19.9 -00.1	05			
06	172 11.9 +01.4	N 22	40.4 -00.3	216 16.4 +01.9	N 22	39.5 +00.0	296 24.2 +02.2	S 03	19.8 -00.1	06			
07	187 13.3 +01.4	N 22	40.1 -00.3	231 18.3 +02.0	N 22	39.5 +00.1	311 26.4 +02.2	S 03	19.7 -00.2	07			
08	202 14.7 +01.4	N 22	39.8 -00.2	246 20.3 +02.0	N 22	39.6 +00.0	326 28.6 +02.2	S 03	19.5 -00.1	08			
09	217 16.1 +01.5	N 22	39.6 -00.3	261 22.3 +02.0	N 22	39.6 +00.1	341 30.8 +02.2	S 03	19.4 -00.1	09			
10	232 17.6 +01.4	N 22	39.3 -00.3	276 24.3 +02.0	N 22	39.7 +00.0	356 33.0 +02.2	S 03	19.3 -00.1	10			
11	247 19.0 +01.4	N 22	39.0 -00.2	291 26.3 +01.9	N 22	39.7 +00.1	11 35.2 +02.2	S 03	19.2 -00.1	11			
12	262 20.4 +01.4	N 22	38.8 -00.3	306 28.2 +02.0	N 22	39.8 +00.0	26 37.4 +02.2	S 03	19.1 -00.1	12			
13	277 21.8 +01.4	N 22	38.5 -00.2	321 30.2 +02.0	N 22	39.8 +00.0	41 39.6 +02.2	S 03	19.0 -00.1	13			
14	292 23.2 +01.4	N 22	38.3 -00.3	336 32.2 +02.0	N 22	39.8 +00.1	56 41.8 +02.2	S 03	18.9 -00.1	14			
15	307 24.6 +01.4	N 22	38.0 -00.3	351 34.2 +02.0	N 22	39.9 +00.0	71 44.0 +02.2	S 03	18.8 -00.1	15			
16	322 26.0 +01.5	N 22	37.7 -00.2	6 36.2 +01.9	N 22	39.9 +00.1	86 46.2 +02.2	S 03	18.7 -00.1	16			
17	337 27.5 +01.4	N 22	37.5 -00.3	21 38.1 +02.0	N 22	40.0 +00.0	101 48.4 +02.2	S 03	18.6 -00.1	17			
18	352 28.9 +01.4	N 22	37.2 -00.3	36 40.1 +02.0	N 22	40.0 +00.1	116 50.6 +02.2	S 03	18.5 -00.1	18			
19	7 30.3 +01.4	N 22	36.9 -00.2	51 42.1 +02.0	N 22	40.1 +00.0	131 52.8 +02.2	S 03	18.4 -00.1	19			
20	22 31.7 +01.4	N 22	36.7 -00.3	66 44.1 +01.9	N 22	40.1 +00.1	146 55.0 +02.2	S 03	18.3 -00.1	20			
21	37 33.1 +01.4	N 22	36.4 -00.3	81 46.0 +02.0	N 22	40.2 +00.0	161 57.2 +02.2	S 03	18.2 -00.2	21			
22	52 34.5 +01.4	N 22	36.1 -00.2	96 48.0 +02.0	N 22	40.2 +00.0	176 59.4 +02.2	S 03	18.0 -00.1	22			
23	67 35.9 +01.4	N 22	35.9 -00.3	111 50.0 +02.0	N 22	40.2 +00.1	192 01.6 +02.2	S 03	17.9 -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 239° 239° 238° 238° 238° 238°			SHA 283° 283° 283° 283° 283° 282°			SHA 003° 003° 003° 003° 003° 003°						
	Greenwich Culmination Time: 18:30			Greenwich Culmination Time: 15:33			Greenwich Culmination Time: 10:13						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	02.6 +00.1	N 10 08.1 +00.9	210	45.2 +02.0	N 01 36.2 -00.4	329	01.9 -29.0	S 24 20.2 +08.0	00			
01	195	02.7 +00.1	N 10 09.0 +00.8	225	47.2 +02.0	N 01 35.8 -00.4	343	32.9 -29.1	S 24 28.2 +07.8	01			
02	210	02.8 +00.2	N 10 09.8 +00.9	240	49.2 +01.9	N 01 35.4 -00.4	358	03.8 -29.2	S 24 36.0 +07.7	02			
03	225	03.0 +00.1	N 10 10.7 +00.9	255	51.1 +02.0	N 01 35.0 -00.4	12	34.6 -29.2	S 24 43.7 +07.6	03			
04	240	03.1 +00.2	N 10 11.6 +00.9	270	53.1 +02.0	N 01 34.6 -00.4	27	05.4 -29.3	S 24 51.3 +07.5	04			
05	255	03.3 +00.1	N 10 12.5 +00.9	285	55.1 +01.9	N 01 34.2 -00.3	41	36.1 -29.3	S 24 58.8 +07.4	05			
06	270	03.4 +00.2	N 10 13.4 +00.9	300	57.0 +02.0	N 01 33.9 -00.4	56	06.8 -29.5	S 25 06.2 +07.3	06			
07	285	03.6 +00.1	N 10 14.3 +00.8	315	59.0 +02.0	N 01 33.5 -00.4	70	37.3 -29.5	S 25 13.5 +07.2	07			
08	300	03.7 +00.2	N 10 15.1 +00.9	331	01.0 +01.9	N 01 33.1 -00.4	85	07.8 -29.6	S 25 20.7 +07.0	08			
09	315	03.9 +00.1	N 10 16.0 +00.9	346	02.9 +02.0	N 01 32.7 -00.4	99	38.2 -29.6	S 25 27.7 +07.0	09			
10	330	04.0 +00.2	N 10 16.9 +00.9	1	04.9 +01.9	N 01 32.3 -00.3	114	08.6 -29.8	S 25 34.7 +06.8	10			
11	345	04.2 +00.1	N 10 17.8 +00.9	16	06.8 +02.0	N 01 32.0 -00.4	128	38.8 -29.8	S 25 41.5 +06.7	11			
12	0	04.3 +00.2	N 10 18.7 +00.9	31	08.8 +01.9	N 01 31.6 -00.4	143	09.0 -29.8	S 25 48.2 +06.6	12			
13	15	04.5 +00.1	N 10 19.6 +00.8	46	10.7 +01.9	N 01 31.2 -00.3	157	39.2 -30.0	S 25 54.8 +06.5	13			
14	30	04.6 +00.2	N 10 20.4 +00.9	61	12.6 +02.0	N 01 30.9 -00.4	172	09.2 -30.0	S 26 01.3 +06.3	14			
15	45	04.8 +00.1	N 10 21.3 +00.9	76	14.6 +01.9	N 01 30.5 -00.4	186	39.2 -30.1	S 26 07.6 +06.2	15			
16	60	04.9 +00.1	N 10 22.2 +00.9	91	16.5 +01.9	N 01 30.1 -00.3	201	09.1 -30.1	S 26 13.8 +06.2	16			
17	75	05.0 +00.2	N 10 23.1 +00.9	106	18.4 +02.0	N 01 29.8 -00.4	215	39.0 -30.2	S 26 20.0 +05.9	17			
18	90	05.2 +00.1	N 10 24.0 +00.9	121	20.4 +01.9	N 01 29.4 -00.3	230	08.8 -30.3	S 26 25.9 +05.9	18			
19	105	05.3 +00.2	N 10 24.9 +00.8	136	22.3 +01.9	N 01 29.1 -00.4	244	38.5 -30.4	S 26 31.8 +05.8	19			
20	120	05.5 +00.1	N 10 25.7 +00.9	151	24.2 +01.9	N 01 28.7 -00.3	259	08.1 -30.4	S 26 37.6 +05.6	20			
21	135	05.6 +00.2	N 10 26.6 +00.9	166	26.1 +01.9	N 01 28.4 -00.4	273	37.7 -30.5	S 26 43.2 +05.5	21			
22	150	05.8 +00.1	N 10 27.5 +00.9	181	28.0 +01.9	N 01 28.0 -00.3	288	07.2 -30.5	S 26 48.7 +05.4	22			
23	165	05.9 +00.2	N 10 28.4 +00.9	196	29.9 +01.9	N 01 27.7 -00.4	302	36.7 -30.6	S 26 54.1 +05.2	23			
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					UT 02 06 10 14 18 22			
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'4 00'4 00'4 00'4 00'4 00'4					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 00'4 00'4 00'4 00'4 00'4 00'4					HP 54'2 54'2 54'2 54'3 54'3 54'4			
	SHA 336° 335° 335° 335° 335° 335°				SHA 006° 006° 006° 006° 006° 006°					SHA 124° 121° 119° 117° 115° 113°			
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 09:55					Greenwich Culmination Time: 02:08			

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	82	37.3 +01.5	N 22 35.6 -00.3	126	52.0 +02.0	N 22 40.3 +00.0	207	03.8 +02.2	S 03 17.8 -00.1	00			
01	97	38.8 +01.4	N 22 35.3 -00.2	141	54.0 +01.9	N 22 40.3 +00.1	222	06.0 +02.2	S 03 17.7 -00.1	01			
02	112	40.2 +01.4	N 22 35.1 -00.3	156	55.9 +02.0	N 22 40.4 +00.0	237	08.2 +02.2	S 03 17.6 -00.1	02			
03	127	41.6 +01.4	N 22 34.8 -00.3	171	57.9 +02.0	N 22 40.4 +00.1	252	10.4 +02.2	S 03 17.5 -00.1	03			
04	142	43.0 +01.4	N 22 34.5 -00.2	186	59.9 +02.0	N 22 40.5 +00.0	267	12.6 +02.2	S 03 17.4 -00.1	04			
05	157	44.4 +01.4	N 22 34.3 -00.3	202	01.9 +01.9	N 22 40.5 +00.1	282	14.8 +02.2	S 03 17.3 -00.1	05			
06	172	45.8 +01.4	N 22 34.0 -00.2	217	03.8 +02.0	N 22 40.6 +00.0	297	17.0 +02.2	S 03 17.2 -00.1	06			
07	187	47.2 +01.4	N 22 33.8 -00.3	232	05.8 +02.0	N 22 40.6 +00.0	312	19.2 +02.2	S 03 17.1 -00.1	07			
08	202	48.6 +01.4	N 22 33.5 -00.3	247	07.8 +02.0	N 22 40.6 +00.1	327	21.4 +02.2	S 03 17.0 -00.1	08			
09	217	50.0 +01.4	N 22 33.2 -00.2	262	09.8 +01.9	N 22 40.7 +00.0	342	23.6 +02.2	S 03 16.9 -00.1	09			
10	232	51.4 +01.4	N 22 33.0 -00.3	277	11.7 +02.0	N 22 40.7 +00.1	357	25.8 +02.2	S 03 16.8 -00.1	10			
11	247	52.8 +01.4	N 22 32.7 -00.3	292	13.7 +02.0	N 22 40.8 +00.0	12	28.0 +02.2	S 03 16.7 -00.1	11			
12	262	54.2 +01.4	N 22 32.4 -00.3	307	15.7 +02.0	N 22 40.8 +00.1	27	30.2 +02.3	S 03 16.6 -00.2	12			
13	277	55.6 +01.4	N 22 32.1 -00.2	322	17.7 +01.9	N 22 40.9 +00.0	42	32.5 +02.2	S 03 16.4 -00.1	13			
14	292	57.0 +01.5	N 22 31.9 -00.3	337	19.6 +02.0	N 22 40.9 +00.1	57	34.7 +02.2	S 03 16.3 -00.1	14			
15	307	58.5 +01.4	N 22 31.6 -00.3	352	21.6 +02.0	N 22 41.0 +00.0	72	36.9 +02.2	S 03 16.2 -00.1	15			
16	322	59.9 +01.4	N 22 31.3 -00.2	7	23.6 +02.0	N 22 41.0 +00.0	87	39.1 +02.2	S 03 16.1 -00.1	16			
17	338	01.3 +01.4	N 22 31.1 -00.3	22	25.6 +01.9	N 22 41.0 +00.1	102	41.3 +02.2	S 03 16.0 -00.1	17			
18	353	02.7 +01.4	N 22 30.8 -00.3	37	27.5 +02.0	N 22 41.1 +00.0	117	43.5 +02.2	S 03 15.9 -00.1	18			
19	8	04.1 +01.4	N 22 30.5 -00.2	52	29.5 +02.0	N 22 41.1 +00.1	132	45.7 +02.2	S 03 15.8 -00.1	19			
20	23	05.5 +01.4	N 22 30.3 -00.3	67	31.5 +02.0	N 22 41.2 +00.0	147	47.9 +02.2	S 03 15.7 -00.1	20			
21	38	06.9 +01.4	N 22 30.0 -00.3	82	33.5 +01.9	N 22 41.2 +00.1	162	50.1 +02.2	S 03 15.6 -00.1	21			
22	53	08.3 +01.4	N 22 29.7 -00.2	97	35.4 +02.0	N 22 41.3 +00.0	177	52.3 +02.2	S 03 15.5 -00.1	22			
23	68	09.7 +01.4	N 22 29.5 -00.3	112	37.4 +02.0	N 22 41.3 +00.1	192	54.5 +02.2	S 03 15.4 -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 238° 238° 238° 238° 238° 238°				SHA 282° 282° 282° 282° 282° 282°					SHA 003° 003° 003° 003° 003° 003°			
	Greenwich Culmination Time: 18:27				Greenwich Culmination Time: 15:30					Greenwich Culmination Time: 10:10			



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 06.1 +00.1	N 10	29.3 +00.8	211 31.8 +01.9	N 01	27.3 -00.3	317 06.1 -30.7	S 26	59.3 +05.1	00			
01	195 06.2 +00.1	N 10	30.1 +00.9	226 33.7 +01.9	N 01	27.0 -00.4	331 35.4 -30.8	S 27	04.4 +05.0	01			
02	210 06.3 +00.2	N 10	31.0 +00.9	241 35.6 +01.9	N 01	26.6 -00.3	346 04.6 -30.8	S 27	09.4 +04.9	02			
03	225 06.5 +00.1	N 10	31.9 +00.9	256 37.5 +01.9	N 01	26.3 -00.4	0 33.8 -30.8	S 27	14.3 +04.7	03			
04	240 06.6 +00.2	N 10	32.8 +00.8	271 39.4 +01.9	N 01	25.9 -00.3	15 03.0 -31.0	S 27	19.0 +04.6	04			
05	255 06.8 +00.1	N 10	33.6 +00.9	286 41.3 +01.9	N 01	25.6 -00.3	29 32.0 -31.0	S 27	23.6 +04.5	05			
06	270 06.9 +00.2	N 10	34.5 +00.9	301 43.2 +01.9	N 01	25.3 -00.4	44 01.0 -31.0	S 27	28.1 +04.3	06			
07	285 07.1 +00.1	N 10	35.4 +00.9	316 45.1 +01.8	N 01	24.9 -00.3	58 30.0 -31.1	S 27	32.4 +04.2	07			
08	300 07.2 +00.2	N 10	36.3 +00.9	331 46.9 +01.9	N 01	24.6 -00.3	72 58.9 -31.2	S 27	36.6 +04.1	08			
09	315 07.4 +00.1	N 10	37.2 +00.8	346 48.8 +01.9	N 01	24.3 -00.4	87 27.7 -31.2	S 27	40.7 +04.0	09			
10	330 07.5 +00.1	N 10	38.0 +00.9	1 50.7 +01.9	N 01	23.9 -00.3	101 56.5 -31.3	S 27	44.7 +03.8	10			
11	345 07.6 +00.2	N 10	38.9 +00.9	16 52.6 +01.8	N 01	23.6 -00.3	116 25.2 -31.3	S 27	48.5 +03.6	11			
12	0 07.8 +00.1	N 10	39.8 +00.9	31 54.4 +01.9	N 01	23.3 -00.3	130 53.9 -31.4	S 27	52.1 +03.6	12			
13	15 07.9 +00.2	N 10	40.7 +00.8	46 56.3 +01.8	N 01	23.0 -00.4	145 22.5 -31.4	S 27	55.7 +03.4	13			
14	30 08.1 +00.1	N 10	41.5 +00.9	61 58.1 +01.9	N 01	22.6 -00.3	159 51.1 -31.5	S 27	59.1 +03.2	14			
15	45 08.2 +00.1	N 10	42.4 +00.9	76 60.0 +01.8	N 01	22.3 -00.3	174 19.6 -31.6	S 28	02.3 +03.2	15			
16	60 08.3 +00.2	N 10	43.3 +00.9	92 01.8 +01.9	N 01	22.0 -00.3	188 48.0 -31.6	S 28	05.5 +02.9	16			
17	75 08.5 +00.1	N 10	44.2 +00.8	107 03.7 +01.8	N 01	21.7 -00.3	203 16.4 -31.6	S 28	08.4 +02.9	17			
18	90 08.6 +00.2	N 10	45.0 +00.9	122 05.5 +01.9	N 01	21.4 -00.4	217 44.8 -31.7	S 28	11.3 +02.7	18			
19	105 08.8 +00.1	N 10	45.9 +00.9	137 07.4 +01.8	N 01	21.0 -00.3	232 13.1 -31.7	S 28	14.0 +02.6	19			
20	120 08.9 +00.2	N 10	46.8 +00.9	152 09.2 +01.8	N 01	20.7 -00.3	246 41.4 -31.8	S 28	16.6 +02.4	20			
21	135 09.1 +00.1	N 10	47.7 +00.8	167 11.0 +01.9	N 01	20.4 -00.3	261 09.6 -31.9	S 28	19.0 +02.3	21			
22	150 09.2 +00.1	N 10	48.5 +00.9	182 12.9 +01.8	N 01	20.1 -00.3	275 37.7 -31.8	S 28	21.3 +02.1	22			
23	165 09.3 +00.2	N 10	49.4 +00.9	197 14.7 +01.8	N 01	19.8 -00.3	290 05.9 -31.9	S 28	23.4 +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 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'8 14'8 14'9 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'4 54'5 54'5 54'6 54'7 54'7						
	SHA 335° 334° 334° 334° 334° 334°			SHA 006° 006° 006° 006° 006° 006°			SHA 111° 108° 106° 104° 102° 099°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 09:52			Greenwich Culmination Time: 02:57						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	83 11.1 +01.4	N 22	29.2 -00.3	127 39.4 +01.9	N 22	41.4 +00.0	207 56.7 +02.2	S 03	15.3 -00.1	00			
01	98 12.5 +01.4	N 22	28.9 -00.2	142 41.3 +02.0	N 22	41.4 +00.0	222 58.9 +02.2	S 03	15.2 -00.1	01			
02	113 13.9 +01.4	N 22	28.7 -00.3	157 43.3 +02.0	N 22	41.4 +00.1	238 01.1 +02.2	S 03	15.1 -00.1	02			
03	128 15.3 +01.4	N 22	28.4 -00.3	172 45.3 +02.0	N 22	41.5 +00.0	253 03.3 +02.2	S 03	15.0 -00.1	03			
04	143 16.7 +01.4	N 22	28.1 -00.3	187 47.3 +01.9	N 22	41.5 +00.1	268 05.5 +02.2	S 03	14.9 -00.2	04			
05	158 18.1 +01.4	N 22	27.8 -00.2	202 49.2 +02.0	N 22	41.6 +00.0	283 07.7 +02.2	S 03	14.7 -00.1	05			
06	173 19.5 +01.4	N 22	27.6 -00.3	217 51.2 +02.0	N 22	41.6 +00.1	298 09.9 +02.2	S 03	14.6 -00.1	06			
07	188 20.9 +01.4	N 22	27.3 -00.3	232 53.2 +02.0	N 22	41.7 +00.0	313 12.1 +02.2	S 03	14.5 -00.1	07			
08	203 22.3 +01.4	N 22	27.0 -00.2	247 55.2 +01.9	N 22	41.7 +00.0	328 14.3 +02.2	S 03	14.4 -00.1	08			
09	218 23.7 +01.4	N 22	26.8 -00.3	262 57.1 +02.0	N 22	41.7 +00.1	343 16.5 +02.3	S 03	14.3 -00.1	09			
10	233 25.1 +01.4	N 22	26.5 -00.3	277 59.1 +02.0	N 22	41.8 +00.0	358 18.8 +02.2	S 03	14.2 -00.1	10			
11	248 26.5 +01.4	N 22	26.2 -00.3	293 01.1 +01.9	N 22	41.8 +00.1	13 21.0 +02.2	S 03	14.1 -00.1	11			
12	263 27.9 +01.3	N 22	25.9 -00.2	308 03.0 +02.0	N 22	41.9 +00.0	28 23.2 +02.2	S 03	14.0 -00.1	12			
13	278 29.2 +01.4	N 22	25.7 -00.3	323 05.0 +02.0	N 22	41.9 +00.1	43 25.4 +02.2	S 03	13.9 -00.1	13			
14	293 30.6 +01.4	N 22	25.4 -00.3	338 07.0 +01.9	N 22	42.0 +00.0	58 27.6 +02.2	S 03	13.8 -00.1	14			
15	308 32.0 +01.4	N 22	25.1 -00.2	353 08.9 +02.0	N 22	42.0 +00.1	73 29.8 +02.2	S 03	13.7 -00.1	15			
16	323 33.4 +01.4	N 22	24.9 -00.3	8 10.9 +02.0	N 22	42.1 +00.0	88 32.0 +02.2	S 03	13.6 -00.1	16			
17	338 34.8 +01.4	N 22	24.6 -00.3	23 12.9 +02.0	N 22	42.1 +00.0	103 34.2 +02.2	S 03	13.5 -00.1	17			
18	353 36.2 +01.4	N 22	24.3 -00.3	38 14.9 +01.9	N 22	42.1 +00.1	118 36.4 +02.2	S 03	13.4 -00.1	18			
19	8 37.6 +01.4	N 22	24.0 -00.2	53 16.8 +02.0	N 22	42.2 +00.0	133 38.6 +02.2	S 03	13.3 -00.1	19			
20	23 39.0 +01.4	N 22	23.8 -00.3	68 18.8 +02.0	N 22	42.2 +00.1	148 40.8 +02.2	S 03	13.2 -00.1	20			
21	38 40.4 +01.4	N 22	23.5 -00.3	83 20.8 +01.9	N 22	42.3 +00.0	163 43.0 +02.2	S 03	13.1 -00.1	21			
22	53 41.8 +01.4	N 22	23.2 -00.3	98 22.7 +02.0	N 22	42.3 +00.1	178 45.2 +02.2	S 03	13.0 -00.2	22			
23	68 43.2 +01.4	N 22	22.9 -00.2	113 24.7 +02.0	N 22	42.4 +00.0	193 47.4 +02.2	S 03	12.8 -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 00'1 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 238° 238° 238° 238° 237° 237°			SHA 282° 282° 282° 282° 282° 282°			SHA 003° 003° 003° 003° 002° 002°						
	Greenwich Culmination Time: 18:25			Greenwich Culmination Time: 15:27			Greenwich Culmination Time: 10:06						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 09.5 +00.1	N 10	50.3 +00.8	212 16.5 +01.8	N 01	19.5 -00.3	304 34.0 -32.0	S 28	25.4 +01.9	00			
01	195 09.6 +00.2	N 10	51.1 +00.9	227 18.3 +01.9	N 01	19.2 -00.3	319 02.0 -32.0	S 28	27.3 +01.7	01			
02	210 09.8 +00.1	N 10	52.0 +00.9	242 20.2 +01.8	N 01	18.9 -00.3	333 30.0 -32.0	S 28	29.0 +01.5	02			
03	225 09.9 +00.1	N 10	52.9 +00.9	257 22.0 +01.8	N 01	18.6 -00.3	347 58.0 -32.1	S 28	30.5 +01.5	03			
04	240 10.0 +00.2	N 10	53.8 +00.8	272 23.8 +01.8	N 01	18.3 -00.3	2 25.9 -32.1	S 28	32.0 +01.3	04			
05	255 10.2 +00.1	N 10	54.6 +00.9	287 25.6 +01.8	N 01	18.0 -00.3	16 53.8 -32.2	S 28	33.3 +01.1	05			
06	270 10.3 +00.1	N 10	55.5 +00.9	302 27.4 +01.8	N 01	17.7 -00.3	31 21.6 -32.1	S 28	34.4 +01.0	06			
07	285 10.4 +00.2	N 10	56.4 +00.8	317 29.2 +01.8	N 01	17.4 -00.3	45 49.5 -32.3	S 28	35.4 +00.8	07			
08	300 10.6 +00.1	N 10	57.2 +00.9	332 31.0 +01.8	N 01	17.1 -00.3	60 17.2 -32.2	S 28	36.2 +00.7	08			
09	315 10.7 +00.2	N 10	58.1 +00.9	347 32.8 +01.8	N 01	16.8 -00.3	74 45.0 -32.3	S 28	36.9 +00.6	09			
10	330 10.9 +00.1	N 10	59.0 +00.8	2 34.6 +01.8	N 01	16.5 -00.3	89 12.7 -32.3	S 28	37.5 +00.4	10			
11	345 11.0 +00.1	N 10	59.8 +00.9	17 36.4 +01.8	N 01	16.2 -00.2	103 40.4 -32.3	S 28	37.9 +00.2	11			
12	0 11.1 +00.2	N 11	00.7 +00.9	32 38.2 +01.7	N 01	16.0 -00.3	118 08.1 -32.4	S 28	38.1 +00.1	12			
13	15 11.3 +00.1	N 11	01.6 +00.9	47 39.9 +01.8	N 01	15.7 -00.3	132 35.7 -32.4	S 28	38.2 +00.0	13			
14	30 11.4 +00.2	N 11	02.5 +00.8	62 41.7 +01.8	N 01	15.4 -00.3	147 03.3 -32.4	S 28	38.2 -00.2	14			
15	45 11.6 +00.1	N 11	03.3 +00.9	77 43.5 +01.8	N 01	15.1 -00.3	161 30.9 -32.4	S 28	38.0 -00.4	15			
16	60 11.7 +00.1	N 11	04.2 +00.9	92 45.3 +01.7	N 01	14.8 -00.2	175 58.5 -32.4	S 28	37.6 -00.5	16			
17	75 11.8 +00.2	N 11	05.1 +00.8	107 47.0 +01.8	N 01	14.6 -00.3	190 26.1 -32.5	S 28	37.1 -00.6	17			
18	90 12.0 +00.1	N 11	05.9 +00.9	122 48.8 +01.8	N 01	14.3 -00.3	204 53.6 -32.5	S 28	36.5 -00.8	18			
19	105 12.1 +00.1	N 11	06.8 +00.9	137 50.6 +01.7	N 01	14.0 -00.3	219 21.1 -32.5	S 28	35.7 -00.9	19			
20	120 12.2 +00.2	N 11	07.7 +00.8	152 52.3 +01.8	N 01	13.7 -00.2	233 48.6 -32.5	S 28	34.8 -01.1	20			
21	135 12.4 +00.1	N 11	08.5 +00.9	167 54.1 +01.7	N 01	13.5 -00.3	248 16.1 -32.6	S 28	33.7 -01.3	21			
22	150 12.5 +00.1	N 11	09.4 +00.8	182 55.8 +01.8	N 01	13.2 -00.3	262 43.5 -32.5	S 28	32.4 -01.4	22			
23	165 12.6 +00.2	N 11	10.2 +00.9	197 57.6 +01.7	N 01	12.9 -00.2	277 11.0 -32.6	S 28	31.0 -01.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'9 15'0 15'0 15'0 15'0 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'8 54'9 55'0 55'1 55'2 55'2						
	SHA 334° 334° 333° 333° 333° 333°			SHA 006° 006° 006° 006° 006° 006°			SHA 097° 095° 092° 090° 088° 085°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 09:49			Greenwich Culmination Time: 03:49						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	83 44.6 +01.4	N 22	22.7 -00.3	128 26.7 +01.9	N 22	42.4 +00.1	208 49.6 +02.2	S 03	12.7 -00.1	00			
01	98 46.0 +01.4	N 22	22.4 -00.3	143 28.6 +02.0	N 22	42.5 +00.0	223 51.8 +02.2	S 03	12.6 -00.1	01			
02	113 47.4 +01.3	N 22	22.1 -00.3	158 30.6 +02.0	N 22	42.5 +00.0	238 54.0 +02.3	S 03	12.5 -00.1	02			
03	128 48.7 +01.4	N 22	21.8 -00.2	173 32.6 +01.9	N 22	42.5 +00.1	253 56.3 +02.2	S 03	12.4 -00.1	03			
04	143 50.1 +01.4	N 22	21.6 -00.3	188 34.5 +02.0	N 22	42.6 +00.0	268 58.5 +02.2	S 03	12.3 -00.1	04			
05	158 51.5 +01.4	N 22	21.3 -00.3	203 36.5 +02.0	N 22	42.6 +00.1	284 00.7 +02.2	S 03	12.2 -00.1	05			
06	173 52.9 +01.4	N 22	21.0 -00.3	218 38.5 +01.9	N 22	42.7 +00.0	299 02.9 +02.2	S 03	12.1 -00.1	06			
07	188 54.3 +01.4	N 22	20.7 -00.2	233 40.4 +02.0	N 22	42.7 +00.1	314 05.1 +02.2	S 03	12.0 -00.1	07			
08	203 55.7 +01.4	N 22	20.5 -00.3	248 42.4 +02.0	N 22	42.8 +00.0	329 07.3 +02.2	S 03	11.9 -00.1	08			
09	218 57.1 +01.4	N 22	20.2 -00.3	263 44.4 +01.9	N 22	42.8 +00.0	344 09.5 +02.2	S 03	11.8 -00.1	09			
10	233 58.5 +01.4	N 22	19.9 -00.3	278 46.3 +02.0	N 22	42.8 +00.1	359 11.7 +02.2	S 03	11.7 -00.1	10			
11	248 59.9 +01.3	N 22	19.6 -00.2	293 48.3 +02.0	N 22	42.9 +00.0	14 13.9 +02.2	S 03	11.6 -00.1	11			
12	264 01.2 +01.4	N 22	19.4 -00.3	308 50.3 +01.9	N 22	42.9 +00.1	29 16.1 +02.2	S 03	11.5 -00.1	12			
13	279 02.6 +01.4	N 22	19.1 -00.3	323 52.2 +02.0	N 22	43.0 +00.0	44 18.3 +02.2	S 03	11.4 -00.1	13			
14	294 04.0 +01.4	N 22	18.8 -00.3	338 54.2 +02.0	N 22	43.0 +00.1	59 20.5 +02.2	S 03	11.3 -00.1	14			
15	309 05.4 +01.4	N 22	18.5 -00.2	353 56.2 +01.9	N 22	43.1 +00.0	74 22.7 +02.2	S 03	11.2 -00.1	15			
16	324 06.8 +01.4	N 22	18.3 -00.3	8 58.1 +02.0	N 22	43.1 +00.1	89 24.9 +02.2	S 03	11.1 -00.1	16			
17	339 08.2 +01.4	N 22	18.0 -00.3	24 00.1 +02.0	N 22	43.2 +00.0	104 27.1 +02.3	S 03	11.0 -00.2	17			
18	354 09.6 +01.3	N 22	17.7 -00.3	39 02.1 +01.9	N 22	43.2 +00.0	119 29.4 +02.2	S 03	10.8 -00.1	18			
19	9 10.9 +01.4	N 22	17.4 -00.2	54 04.0 +02.0	N 22	43.2 +00.1	134 31.6 +02.2	S 03	10.7 -00.1	19			
20	24 12.3 +01.4	N 22	17.2 -00.3	69 06.0 +02.0	N 22	43.3 +00.0	149 33.8 +02.2	S 03	10.6 -00.1	20			
21	39 13.7 +01.4	N 22	16.9 -00.3	84 08.0 +01.9	N 22	43.3 +00.1	164 36.0 +02.2	S 03	10.5 -00.1	21			
22	54 15.1 +01.4	N 22	16.6 -00.3	99 09.9 +02.0	N 22	43.4 +00.0	179 38.2 +02.2	S 03	10.4 -00.1	22			
23	69 16.5 +01.4	N 22	16.3 -00.3	114 11.9 +02.0	N 22	43.4 +00.1	194 40.4 +02.2	S 03	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 237° 237° 237° 237° 237° 237°			SHA 282° 282° 282° 282° 282° 282°			SHA 002° 002° 002° 002° 002° 002°						
	Greenwich Culmination Time: 18:23			Greenwich Culmination Time: 15:24			Greenwich Culmination Time: 10:03						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 12.8 +00.1	N 11 11.1 +00.9	212 59.3 +01.8	N 01 12.7 -00.3	291 38.4 -32.5	S 28 29.5 -01.7	00						
01	195 12.9 +00.2	N 11 12.0 +00.8	228 01.1 +01.7	N 01 12.4 -00.2	306 05.9 -32.6	S 28 27.8 -01.9	01						
02	210 13.1 +00.1	N 11 12.8 +00.9	243 02.8 +01.7	N 01 12.2 -00.3	320 33.3 -32.6	S 28 25.9 -02.0	02						
03	225 13.2 +00.1	N 11 13.7 +00.9	258 04.5 +01.8	N 01 11.9 -00.3	335 00.7 -32.6	S 28 23.9 -02.1	03						
04	240 13.3 +00.2	N 11 14.6 +00.8	273 06.3 +01.7	N 01 11.6 -00.2	349 28.1 -32.6	S 28 21.8 -02.3	04						
05	255 13.5 +00.1	N 11 15.4 +00.9	288 08.0 +01.7	N 01 11.4 -00.3	3 55.5 -32.6	S 28 19.5 -02.5	05						
06	270 13.6 +00.1	N 11 16.3 +00.9	303 09.7 +01.8	N 01 11.1 -00.2	18 22.9 -32.6	S 28 17.0 -02.6	06						
07	285 13.7 +00.2	N 11 17.2 +00.8	318 11.5 +01.7	N 01 10.9 -00.3	32 50.3 -32.6	S 28 14.4 -02.7	07						
08	300 13.9 +00.1	N 11 18.0 +00.9	333 13.2 +01.7	N 01 10.6 -00.2	47 17.7 -32.6	S 28 11.7 -02.9	08						
09	315 14.0 +00.1	N 11 18.9 +00.8	348 14.9 +01.7	N 01 10.4 -00.3	61 45.1 -32.6	S 28 08.8 -03.1	09						
10	330 14.1 +00.2	N 11 19.7 +00.9	3 16.6 +01.7	N 01 10.1 -00.2	76 12.5 -32.6	S 28 05.7 -03.2	10						
11	345 14.3 +00.1	N 11 20.6 +00.9	18 18.3 +01.7	N 01 09.9 -00.3	90 39.9 -32.6	S 28 02.5 -03.4	11						
12	0 14.4 +00.1	N 11 21.5 +00.8	33 20.0 +01.7	N 01 09.6 -00.2	105 07.3 -32.6	S 27 59.1 -03.5	12						
13	15 14.5 +00.2	N 11 22.3 +00.9	48 21.7 +01.7	N 01 09.4 -00.2	119 34.7 -32.6	S 27 55.6 -03.6	13						
14	30 14.7 +00.1	N 11 23.2 +00.8	63 23.4 +01.7	N 01 09.2 -00.3	134 02.1 -32.6	S 27 52.0 -03.9	14						
15	45 14.8 +00.1	N 11 24.0 +00.9	78 25.1 +01.7	N 01 08.9 -00.2	148 29.5 -32.5	S 27 48.1 -03.9	15						
16	60 14.9 +00.2	N 11 24.9 +00.9	93 26.8 +01.7	N 01 08.7 -00.2	162 57.0 -32.6	S 27 44.2 -04.1	16						
17	75 15.1 +00.1	N 11 25.8 +00.8	108 28.5 +01.7	N 01 08.5 -00.3	177 24.4 -32.5	S 27 40.1 -04.3	17						
18	90 15.2 +00.1	N 11 26.6 +00.9	123 30.2 +01.7	N 01 08.2 -00.2	191 51.9 -32.6	S 27 35.8 -04.4	18						
19	105 15.3 +00.2	N 11 27.5 +00.8	138 31.9 +01.7	N 01 08.0 -00.2	206 19.3 -32.5	S 27 31.4 -04.6	19						
20	120 15.5 +00.1	N 11 28.3 +00.9	153 33.6 +01.7	N 01 07.8 -00.3	220 46.8 -32.5	S 27 26.8 -04.7	20						
21	135 15.6 +00.1	N 11 29.2 +00.9	168 35.3 +01.6	N 01 07.5 -00.2	235 14.3 -32.5	S 27 22.1 -04.9	21						
22	150 15.7 +00.1	N 11 30.1 +00.8	183 36.9 +01.7	N 01 07.3 -00.2	249 41.8 -32.5	S 27 17.2 -05.0	22						
23	165 15.8 +00.2	N 11 30.9 +00.9	198 38.6 +01.7	N 01 07.1 -00.2	264 09.3 -32.4	S 27 12.2 -05.2	23						
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>					
SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 15'1 15'1 15'1 15'2 15'2 15'2					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 55'3 55'4 55'5 55'7 55'8 55'9					
SHA 333° 333° 332° 332° 332° 332°				SHA 006° 006° 006° 005° 005° 005°				SHA 083° 081° 078° 076° 074° 071°					
Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 09:46				Greenwich Culmination Time: 04:43					

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	84 17.9 +01.3	N 22 16.0 -00.2	129 13.9 +01.9	N 22 43.5 +00.0	209 42.6 +02.2	S 03 10.2 -00.1	00						
01	99 19.2 +01.4	N 22 15.8 -00.3	144 15.8 +02.0	N 22 43.5 +00.0	224 44.8 +02.2	S 03 10.1 -00.1	01						
02	114 20.6 +01.4	N 22 15.5 -00.3	159 17.8 +02.0	N 22 43.5 +00.1	239 47.0 +02.2	S 03 10.0 -00.1	02						
03	129 22.0 +01.4	N 22 15.2 -00.3	174 19.8 +01.9	N 22 43.6 +00.0	254 49.2 +02.2	S 03 09.9 -00.1	03						
04	144 23.4 +01.4	N 22 14.9 -00.2	189 21.7 +02.0	N 22 43.6 +00.1	269 51.4 +02.2	S 03 09.8 -00.1	04						
05	159 24.8 +01.3	N 22 14.7 -00.3	204 23.7 +02.0	N 22 43.7 +00.0	284 53.6 +02.2	S 03 09.7 -00.1	05						
06	174 26.1 +01.4	N 22 14.4 -00.3	219 25.7 +01.9	N 22 43.7 +00.1	299 55.8 +02.3	S 03 09.6 -00.1	06						
07	189 27.5 +01.4	N 22 14.1 -00.3	234 27.6 +02.0	N 22 43.8 +00.0	314 58.1 +02.2	S 03 09.5 -00.1	07						
08	204 28.9 +01.4	N 22 13.8 -00.3	249 29.6 +01.9	N 22 43.8 +00.0	330 00.3 +02.2	S 03 09.4 -00.1	08						
09	219 30.3 +01.4	N 22 13.5 -00.2	264 31.5 +02.0	N 22 43.8 +00.1	345 02.5 +02.2	S 03 09.3 -00.1	09						
10	234 31.7 +01.3	N 22 13.3 -00.3	279 33.5 +02.0	N 22 43.9 +00.0	0 04.7 +02.2	S 03 09.2 -00.1	10						
11	249 33.0 +01.4	N 22 13.0 -00.3	294 35.5 +01.9	N 22 43.9 +00.1	15 06.9 +02.2	S 03 09.1 -00.1	11						
12	264 34.4 +01.4	N 22 12.7 -00.3	309 37.4 +02.0	N 22 44.0 +00.0	30 09.1 +02.2	S 03 09.0 -00.1	12						
13	279 35.8 +01.4	N 22 12.4 -00.3	324 39.4 +02.0	N 22 44.0 +00.1	45 11.3 +02.2	S 03 08.9 -00.1	13						
14	294 37.2 +01.3	N 22 12.1 -00.2	339 41.4 +01.9	N 22 44.1 +00.0	60 13.5 +02.2	S 03 08.8 -00.1	14						
15	309 38.5 +01.4	N 22 11.9 -00.3	354 43.3 +02.0	N 22 44.1 +00.1	75 15.7 +02.2	S 03 08.7 -00.2	15						
16	324 39.9 +01.4	N 22 11.6 -00.3	9 45.3 +01.9	N 22 44.2 +00.0	90 17.9 +02.2	S 03 08.5 -00.1	16						
17	339 41.3 +01.4	N 22 11.3 -00.3	24 47.2 +02.0	N 22 44.2 +00.0	105 20.1 +02.3	S 03 08.4 -00.1	17						
18	354 42.7 +01.3	N 22 11.0 -00.3	39 49.2 +02.0	N 22 44.2 +00.1	120 22.4 +02.2	S 03 08.3 -00.1	18						
19	9 44.0 +01.4	N 22 10.7 -00.3	54 51.2 +01.9	N 22 44.3 +00.0	135 24.6 +02.2	S 03 08.2 -00.1	19						
20	24 45.4 +01.4	N 22 10.4 -00.2	69 53.1 +02.0	N 22 44.3 +00.1	150 26.8 +02.2	S 03 08.1 -00.1	20						
21	39 46.8 +01.4	N 22 10.2 -00.3	84 55.1 +01.9	N 22 44.4 +00.0	165 29.0 +02.2	S 03 08.0 -00.1	21						
22	54 48.2 +01.3	N 22 09.9 -00.3	99 57.0 +02.0	N 22 44.4 +00.1	180 31.2 +02.2	S 03 07.9 -00.1	22						
23	69 49.5 +01.4	N 22 09.6 -00.3	114 59.0 +02.0	N 22 44.5 +00.0	195 33.4 +02.2	S 03 07.8 -00.1	23						
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>					
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 237° 237° 237° 237° 237° 237°				SHA 282° 282° 282° 282° 282° 282°				SHA 002° 002° 002° 002° 002° 002°					
Greenwich Culmination Time: 18:21				Greenwich Culmination Time: 15:21				Greenwich Culmination Time: 09:59					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 16.0 +00.1	N 11 31.8 +00.8	213 40.3 +01.7	N 01 06.9 -00.3	278 36.9 -32.5	S 27 07.0 -05.3	00						
01	195 16.1 +00.1	N 11 32.6 +00.9	228 42.0 +01.6	N 01 06.6 -00.2	293 04.4 -32.4	S 27 01.7 -05.5	01						
02	210 16.2 +00.2	N 11 33.5 +00.8	243 43.6 +01.7	N 01 06.4 -00.2	307 32.0 -32.4	S 26 56.2 -05.6	02						
03	225 16.4 +00.1	N 11 34.3 +00.9	258 45.3 +01.6	N 01 06.2 -00.2	321 59.6 -32.3	S 26 50.6 -05.7	03						
04	240 16.5 +00.1	N 11 35.2 +00.9	273 46.9 +01.7	N 01 06.0 -00.2	336 27.3 -32.4	S 26 44.9 -05.9	04						
05	255 16.6 +00.2	N 11 36.1 +00.8	288 48.6 +01.7	N 01 05.8 -00.2	350 54.9 -32.3	S 26 39.0 -06.1	05						
06	270 16.8 +00.1	N 11 36.9 +00.9	303 50.3 +01.6	N 01 05.6 -00.2	5 22.6 -32.3	S 26 32.9 -06.2	06						
07	285 16.9 +00.1	N 11 37.8 +00.8	318 51.9 +01.7	N 01 05.4 -00.3	19 50.3 -32.3	S 26 26.7 -06.4	07						
08	300 17.0 +00.2	N 11 38.6 +00.9	333 53.6 +01.6	N 01 05.1 -00.2	34 18.0 -32.3	S 26 20.3 -06.5	08						
09	315 17.2 +00.1	N 11 39.5 +00.8	348 55.2 +01.6	N 01 04.9 -00.2	48 45.7 -32.2	S 26 13.8 -06.6	09						
10	330 17.3 +00.1	N 11 40.3 +00.9	3 56.8 +01.7	N 01 04.7 -00.2	63 13.5 -32.2	S 26 07.2 -06.8	10						
11	345 17.4 +00.1	N 11 41.2 +00.8	18 58.5 +01.6	N 01 04.5 -00.2	77 41.3 -32.1	S 26 00.4 -06.9	11						
12	0 17.5 +00.2	N 11 42.0 +00.9	34 00.1 +01.6	N 01 04.3 -00.2	92 09.2 -32.2	S 25 53.5 -07.1	12						
13	15 17.7 +00.1	N 11 42.9 +00.8	49 01.7 +01.7	N 01 04.1 -00.2	106 37.0 -32.1	S 25 46.4 -07.3	13						
14	30 17.8 +00.1	N 11 43.7 +00.9	64 03.4 +01.6	N 01 03.9 -00.2	121 04.9 -32.1	S 25 39.1 -07.3	14						
15	45 17.9 +00.2	N 11 44.6 +00.8	79 05.0 +01.6	N 01 03.7 -00.2	135 32.8 -32.0	S 25 31.8 -07.5	15						
16	60 18.1 +00.1	N 11 45.4 +00.9	94 06.6 +01.6	N 01 03.5 -00.2	150 00.8 -32.0	S 25 24.3 -07.7	16						
17	75 18.2 +00.1	N 11 46.3 +00.8	109 08.2 +01.7	N 01 03.3 -00.1	164 28.8 -32.0	S 25 16.6 -07.8	17						
18	90 18.3 +00.1	N 11 47.1 +00.9	124 09.9 +01.6	N 01 03.2 -00.2	178 56.8 -31.9	S 25 08.8 -07.9	18						
19	105 18.4 +00.2	N 11 48.0 +00.8	139 11.5 +01.6	N 01 03.0 -00.2	193 24.9 -31.9	S 25 00.9 -08.1	19						
20	120 18.6 +00.1	N 11 48.8 +00.9	154 13.1 +01.6	N 01 02.8 -00.2	207 53.0 -31.9	S 24 52.8 -08.2	20						
21	135 18.7 +00.1	N 11 49.7 +00.8	169 14.7 +01.6	N 01 02.6 -00.2	222 21.1 -31.8	S 24 44.6 -08.4	21						
22	150 18.8 +00.1	N 11 50.5 +00.9	184 16.3 +01.6	N 01 02.4 -00.2	236 49.3 -31.8	S 24 36.2 -08.5	22						
23	165 18.9 +00.2	N 11 51.4 +00.8	199 17.9 +01.6	N 01 02.2 -00.2	251 17.5 -31.8	S 24 27.7 -08.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'3 15'3 15'3 15'4 15'4 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 56'0 56'1 56'2 56'4 56'5 56'6								
	SHA 332° 332° 332° 331° 331° 331°		SHA 005° 005° 005° 005° 005° 005°		SHA 069° 067° 064° 062° 060° 058°								
	Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 09:44		Greenwich Culmination Time: 05:37								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	84 50.9 +01.4	N 22 09.3 -00.3	130 01.0 +01.9	N 22 44.5 +00.0	210 35.6 +02.2	S 03 07.7 -00.1	00						
01	99 52.3 +01.4	N 22 09.0 -00.2	145 02.9 +02.0	N 22 44.5 +00.1	225 37.8 +02.2	S 03 07.6 -00.1	01						
02	114 53.7 +01.3	N 22 08.8 -00.3	160 04.9 +02.0	N 22 44.6 +00.0	240 40.0 +02.2	S 03 07.5 -00.1	02						
03	129 55.0 +01.4	N 22 08.5 -00.3	175 06.9 +01.9	N 22 44.6 +00.1	255 42.2 +02.2	S 03 07.4 -00.1	03						
04	144 56.4 +01.4	N 22 08.2 -00.3	190 08.8 +02.0	N 22 44.7 +00.0	270 44.4 +02.3	S 03 07.3 -00.1	04						
05	159 57.8 +01.3	N 22 07.9 -00.3	205 10.8 +01.9	N 22 44.7 +00.1	285 46.7 +02.2	S 03 07.2 -00.1	05						
06	174 59.1 +01.4	N 22 07.6 -00.3	220 12.7 +02.0	N 22 44.8 +00.0	300 48.9 +02.2	S 03 07.1 -00.1	06						
07	190 00.5 +01.4	N 22 07.3 -00.2	235 14.7 +02.0	N 22 44.8 +00.0	315 51.1 +02.2	S 03 07.0 -00.1	07						
08	205 01.9 +01.4	N 22 07.1 -00.3	250 16.7 +01.9	N 22 44.8 +00.1	330 53.3 +02.2	S 03 06.9 -00.1	08						
09	220 03.3 +01.3	N 22 06.8 -00.3	265 18.6 +02.0	N 22 44.9 +00.0	345 55.5 +02.2	S 03 06.8 -00.1	09						
10	235 04.6 +01.4	N 22 06.5 -00.3	280 20.6 +01.9	N 22 44.9 +00.1	0 57.7 +02.2	S 03 06.7 -00.1	10						
11	250 06.0 +01.4	N 22 06.2 -00.3	295 22.5 +02.0	N 22 45.0 +00.0	15 59.9 +02.2	S 03 06.6 -00.1	11						
12	265 07.4 +01.3	N 22 05.9 -00.3	310 24.5 +01.9	N 22 45.0 +00.1	31 02.1 +02.2	S 03 06.5 -00.1	12						
13	280 08.7 +01.4	N 22 05.6 -00.3	325 26.4 +02.0	N 22 45.1 +00.0	46 04.3 +02.2	S 03 06.4 -00.1	13						
14	295 10.1 +01.4	N 22 05.3 -00.2	340 28.4 +02.0	N 22 45.1 +00.0	61 06.5 +02.3	S 03 06.3 -00.1	14						
15	310 11.5 +01.3	N 22 05.1 -00.3	355 30.4 +01.9	N 22 45.1 +00.1	76 08.8 +02.2	S 03 06.2 -00.1	15						
16	325 12.8 +01.4	N 22 04.8 -00.3	10 32.3 +02.0	N 22 45.2 +00.0	91 11.0 +02.2	S 03 06.1 -00.1	16						
17	340 14.2 +01.4	N 22 04.5 -00.3	25 34.3 +01.9	N 22 45.2 +00.1	106 13.2 +02.2	S 03 06.0 -00.2	17						
18	355 15.6 +01.3	N 22 04.2 -00.3	40 36.2 +02.0	N 22 45.3 +00.0	121 15.4 +02.2	S 03 05.8 -00.1	18						
19	10 16.9 +01.4	N 22 03.9 -00.3	55 38.2 +02.0	N 22 45.3 +00.1	136 17.6 +02.2	S 03 05.7 -00.1	19						
20	25 18.3 +01.4	N 22 03.6 -00.3	70 40.2 +01.9	N 22 45.4 +00.0	151 19.8 +02.2	S 03 05.6 -00.1	20						
21	40 19.7 +01.3	N 22 03.3 -00.2	85 42.1 +02.0	N 22 45.4 +00.0	166 22.0 +02.2	S 03 05.5 -00.1	21						
22	55 21.0 +01.4	N 22 03.1 -00.3	100 44.1 +01.9	N 22 45.4 +00.1	181 24.2 +02.2	S 03 05.4 -00.1	22						
23	70 22.4 +01.4	N 22 02.8 -00.3	115 46.0 +02.0	N 22 45.5 +00.0	196 26.4 +02.2	S 03 05.3 -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 236° 236° 236° 236° 236° 236°		SHA 282° 282° 282° 282° 282° 281°		SHA 002° 002° 002° 002° 002° 002°								
	Greenwich Culmination Time: 18:18		Greenwich Culmination Time: 15:17		Greenwich Culmination Time: 09:56								















Table with columns for Sun, Venus, Moon and rows for UT 00-23. Includes GHA, ddGHA, Dec, dDec, and Greenwich Culmination Time for each planet.

Table with columns for Mars, Jupiter, Saturn and rows for UT 00-23. Includes GHA, ddGHA, Dec, dDec, and Greenwich Culmination Time for each planet.

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 37.4 +00.1	N 14 09.8 +00.8	218 09.8 +01.2	N 00 54.5 +00.1	179 11.2 -34.8	N 18 24.6 +14.5	00						
01	195 37.5 +00.0	N 14 10.6 +00.8	233 11.0 +01.1	N 00 54.6 +00.0	193 36.4 -34.9	N 18 39.1 +14.2	01						
02	210 37.5 +00.1	N 14 11.4 +00.8	248 12.1 +01.2	N 00 54.6 +00.1	208 01.5 -35.0	N 18 53.3 +14.2	02						
03	225 37.6 +00.1	N 14 12.2 +00.7	263 13.3 +01.1	N 00 54.7 +00.1	222 26.5 -35.1	N 19 07.5 +14.0	03						
04	240 37.7 +00.1	N 14 12.9 +00.8	278 14.4 +01.2	N 00 54.8 +00.1	236 51.4 -35.2	N 19 21.5 +13.9	04						
05	255 37.8 +00.1	N 14 13.7 +00.8	293 15.6 +01.1	N 00 54.9 +00.1	251 16.2 -35.4	N 19 35.4 +13.8	05						
06	270 37.9 +00.1	N 14 14.5 +00.8	308 16.7 +01.2	N 00 55.0 +00.1	265 40.8 -35.4	N 19 49.2 +13.6	06						
07	285 38.0 +00.1	N 14 15.3 +00.8	323 17.9 +01.1	N 00 55.1 +00.1	280 05.4 -35.5	N 20 02.8 +13.5	07						
08	300 38.1 +00.1	N 14 16.1 +00.8	338 19.0 +01.2	N 00 55.2 +00.1	294 29.9 -35.6	N 20 16.3 +13.3	08						
09	315 38.2 +00.1	N 14 16.9 +00.7	353 20.2 +01.1	N 00 55.3 +00.1	308 54.3 -35.7	N 20 29.6 +13.2	09						
10	330 38.3 +00.1	N 14 17.6 +00.8	8 21.3 +01.2	N 00 55.4 +00.1	323 18.6 -35.8	N 20 42.8 +13.0	10						
11	345 38.4 +00.0	N 14 18.4 +00.8	23 22.5 +01.1	N 00 55.5 +00.1	337 42.8 -35.9	N 20 55.8 +12.9	11						
12	0 38.4 +00.1	N 14 19.2 +00.8	38 23.6 +01.2	N 00 55.6 +00.1	352 06.9 -35.9	N 21 08.7 +12.8	12						
13	15 38.5 +00.1	N 14 20.0 +00.8	53 24.8 +01.1	N 00 55.7 +00.1	6 31.0 -36.1	N 21 21.5 +12.6	13						
14	30 38.6 +00.1	N 14 20.8 +00.8	68 25.9 +01.1	N 00 55.8 +00.1	20 54.9 -36.2	N 21 34.1 +12.4	14						
15	45 38.7 +00.1	N 14 21.6 +00.7	83 27.0 +01.2	N 00 55.9 +00.1	35 18.7 -36.3	N 21 46.5 +12.3	15						
16	60 38.8 +00.1	N 14 22.3 +00.8	98 28.2 +01.1	N 00 56.0 +00.1	49 42.4 -36.3	N 21 58.8 +12.2	16						
17	75 38.9 +00.1	N 14 23.1 +00.8	113 29.3 +01.1	N 00 56.1 +00.1	64 06.1 -36.5	N 22 11.0 +11.9	17						
18	90 39.0 +00.0	N 14 23.9 +00.8	128 30.4 +01.1	N 00 56.2 +00.1	78 29.6 -36.5	N 22 22.9 +11.8	18						
19	105 39.0 +00.1	N 14 24.7 +00.7	143 31.5 +01.2	N 00 56.3 +00.1	92 53.1 -36.7	N 22 34.7 +11.7	19						
20	120 39.1 +00.1	N 14 25.4 +00.8	158 32.7 +01.1	N 00 56.4 +00.1	107 16.4 -36.7	N 22 46.4 +11.5	20						
21	135 39.2 +00.1	N 14 26.2 +00.8	173 33.8 +01.1	N 00 56.5 +00.1	121 39.7 -36.8	N 22 57.9 +11.3	21						
22	150 39.3 +00.1	N 14 27.0 +00.8	188 34.9 +01.1	N 00 56.6 +00.2	136 02.9 -36.9	N 23 09.2 +11.1	22						
23	165 39.4 +00.1	N 14 27.8 +00.8	203 36.0 +01.1	N 00 56.8 +00.1	150 26.0 -37.0	N 23 20.3 +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 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'3 00'3 00'3 00'3 00'3 00'3		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 00'3 00'3 00'3 00'3 00'3 00'3		HP 61'3 61'3 61'3 61'2 61'2 61'1								
	SHA 324° 324° 324° 324° 324° 324°		SHA 002° 002° 002° 002° 002° 001°		SHA 322° 319° 317° 314° 312° 309°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 09:26		Greenwich Culmination Time: 12:32								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	89 08.2 +01.4	N 21 11.7 -00.3	136 14.5 +02.0	N 22 52.4 +00.1	217 41.1 +02.2	S 02 48.4 -00.1	00						
01	104 09.6 +01.3	N 21 11.4 -00.3	151 16.5 +01.9	N 22 52.5 +00.0	232 43.3 +02.2	S 02 48.3 -00.1	01						
02	119 10.9 +01.3	N 21 11.1 -00.3	166 18.4 +01.9	N 22 52.5 +00.1	247 45.5 +02.2	S 02 48.2 -00.1	02						
03	134 12.2 +01.3	N 21 10.8 -00.3	181 20.3 +02.0	N 22 52.6 +00.0	262 47.7 +02.2	S 02 48.1 -00.1	03						
04	149 13.5 +01.3	N 21 10.5 -00.4	196 22.3 +01.9	N 22 52.6 +00.0	277 49.9 +02.3	S 02 48.0 -00.1	04						
05	164 14.8 +01.3	N 21 10.1 -00.3	211 24.2 +01.9	N 22 52.6 +00.1	292 52.2 +02.2	S 02 47.9 -00.1	05						
06	179 16.1 +01.3	N 21 09.8 -00.3	226 26.1 +01.9	N 22 52.7 +00.0	307 54.4 +02.2	S 02 47.8 -00.1	06						
07	194 17.4 +01.3	N 21 09.5 -00.3	241 28.0 +02.0	N 22 52.7 +00.1	322 56.6 +02.2	S 02 47.7 -00.1	07						
08	209 18.7 +01.3	N 21 09.2 -00.3	256 30.0 +01.9	N 22 52.8 +00.0	337 58.8 +02.3	S 02 47.6 -00.1	08						
09	224 20.0 +01.3	N 21 08.9 -00.4	271 31.9 +01.9	N 22 52.8 +00.0	353 01.1 +02.2	S 02 47.5 -00.1	09						
10	239 21.3 +01.3	N 21 08.5 -00.3	286 33.8 +02.0	N 22 52.8 +00.1	8 03.3 +02.2	S 02 47.4 -00.1	10						
11	254 22.6 +01.3	N 21 08.2 -00.3	301 35.8 +01.9	N 22 52.9 +00.0	23 05.5 +02.2	S 02 47.3 -00.1	11						
12	269 23.9 +01.3	N 21 07.9 -00.3	316 37.7 +01.9	N 22 52.9 +00.1	38 07.7 +02.3	S 02 47.2 -00.1	12						
13	284 25.2 +01.4	N 21 07.6 -00.3	331 39.6 +02.0	N 22 53.0 +00.0	53 10.0 +02.2	S 02 47.1 -00.1	13						
14	299 26.6 +01.3	N 21 07.3 -00.4	346 41.6 +01.9	N 22 53.0 +00.0	68 12.2 +02.2	S 02 47.0 -00.1	14						
15	314 27.9 +01.3	N 21 06.9 -00.3	1 43.5 +01.9	N 22 53.0 +00.1	83 14.4 +02.2	S 02 46.9 -00.1	15						
16	329 29.2 +01.3	N 21 06.6 -00.3	16 45.4 +01.9	N 22 53.1 +00.0	98 16.6 +02.3	S 02 46.8 -00.1	16						
17	344 30.5 +01.3	N 21 06.3 -00.3	31 47.3 +02.0	N 22 53.1 +00.0	113 18.9 +02.2	S 02 46.7 +00.0	17						
18	359 31.8 +01.3	N 21 06.0 -00.3	46 49.3 +01.9	N 22 53.1 +00.1	128 21.1 +02.2	S 02 46.7 -00.1	18						
19	14 33.1 +01.3	N 21 05.7 -00.4	61 51.2 +01.9	N 22 53.2 +00.0	143 23.3 +02.2	S 02 46.6 -00.1	19						
20	29 34.4 +01.3	N 21 05.3 -00.3	76 53.1 +02.0	N 22 53.2 +00.1	158 25.5 +02.3	S 02 46.5 -00.1	20						
21	44 35.7 +01.3	N 21 05.0 -00.3	91 55.1 +01.9	N 22 53.3 +00.0	173 27.8 +02.2	S 02 46.4 -00.1	21						
22	59 37.0 +01.3	N 21 04.7 -00.3	106 57.0 +01.9	N 22 53.3 +00.0	188 30.0 +02.2	S 02 46.3 -00.1	22						
23	74 38.3 +01.3	N 21 04.4 -00.4	121 58.9 +01.9	N 22 53.3 +00.1	203 32.2 +02.2	S 02 46.2 -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 00'1 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 233° 233° 233° 233° 233° 232°		SHA 280° 280° 280° 280° 280° 280°		SHA 001° 001° 001° 001° 001° 001°								
	Greenwich Culmination Time: 18:01		Greenwich Culmination Time: 14:53		Greenwich Culmination Time: 09:27								





UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 15%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	180 43.3 +00.1	N 15 05.4 +00.7	219 28.2 +01.0	N 01 04.1 +00.2	134 11.9 -38.5	N 28 30.7 +01.2	00						
01	195 43.4 +00.1	N 15 06.1 +00.8	234 29.2 +01.0	N 01 04.3 +00.1	148 33.4 -38.5	N 28 31.9 +01.0	01						
02	210 43.5 +00.0	N 15 06.9 +00.7	249 30.2 +01.0	N 01 04.4 +00.2	162 54.9 -38.4	N 28 32.9 +00.8	02						
03	225 43.5 +00.1	N 15 07.6 +00.8	264 31.2 +01.0	N 01 04.6 +00.2	177 16.5 -38.4	N 28 33.7 +00.6	03						
04	240 43.6 +00.1	N 15 08.4 +00.7	279 32.2 +01.0	N 01 04.8 +00.2	191 38.1 -38.4	N 28 34.3 +00.3	04						
05	255 43.7 +00.1	N 15 09.1 +00.8	294 33.2 +01.1	N 01 05.0 +00.2	205 59.7 -38.2	N 28 34.6 +00.2	05						
06	270 43.8 +00.0	N 15 09.9 +00.7	309 34.3 +01.0	N 01 05.2 +00.2	220 21.5 -38.3	N 28 34.8 +00.0	06						
07	285 43.8 +00.1	N 15 10.6 +00.8	324 35.3 +01.0	N 01 05.4 +00.2	234 43.2 -38.2	N 28 34.8 -00.2	07						
08	300 43.9 +00.1	N 15 11.4 +00.7	339 36.3 +01.0	N 01 05.6 +00.2	249 05.0 -38.1	N 28 34.6 -00.4	08						
09	315 44.0 +00.0	N 15 12.1 +00.8	354 37.3 +01.0	N 01 05.8 +00.2	263 26.9 -38.0	N 28 34.2 -00.7	09						
10	330 44.0 +00.1	N 15 12.9 +00.8	9 38.3 +00.9	N 01 06.0 +00.2	277 48.9 -38.0	N 28 33.5 -00.8	10						
11	345 44.1 +00.1	N 15 13.7 +00.7	24 39.2 +01.0	N 01 06.2 +00.1	292 10.9 -38.0	N 28 32.7 -01.0	11						
12	0 44.2 +00.1	N 15 14.4 +00.8	39 40.2 +01.0	N 01 06.3 +00.2	306 32.9 -37.8	N 28 31.7 -01.2	12						
13	15 44.3 +00.0	N 15 15.2 +00.7	54 41.2 +01.0	N 01 06.5 +00.2	320 55.1 -37.8	N 28 30.5 -01.5	13						
14	30 44.3 +00.1	N 15 15.9 +00.8	69 42.2 +01.0	N 01 06.7 +00.2	335 17.3 -37.7	N 28 29.0 -01.6	14						
15	45 44.4 +00.1	N 15 16.7 +00.7	84 43.2 +01.0	N 01 06.9 +00.2	349 39.6 -37.7	N 28 27.4 -01.8	15						
16	60 44.5 +00.0	N 15 17.4 +00.8	99 44.2 +01.0	N 01 07.1 +00.3	4 01.9 -37.5	N 28 25.6 -02.0	16						
17	75 44.5 +00.1	N 15 18.2 +00.7	114 45.2 +01.0	N 01 07.4 +00.2	18 24.4 -37.5	N 28 23.6 -02.2	17						
18	90 44.6 +00.1	N 15 18.9 +00.7	129 46.2 +00.9	N 01 07.6 +00.2	32 46.9 -37.4	N 28 21.4 -02.3	18						
19	105 44.7 +00.1	N 15 19.6 +00.8	144 47.1 +01.0	N 01 07.8 +00.2	47 09.5 -37.3	N 28 19.1 -02.6	19						
20	120 44.8 +00.0	N 15 20.4 +00.7	159 48.1 +01.0	N 01 08.0 +00.2	61 32.2 -37.2	N 28 16.5 -02.8	20						
21	135 44.8 +00.1	N 15 21.1 +00.8	174 49.1 +01.0	N 01 08.2 +00.2	75 55.0 -37.2	N 28 13.7 -02.9	21						
22	150 44.9 +00.1	N 15 21.9 +00.7	189 50.1 +00.9	N 01 08.4 +00.2	90 17.8 -37.0	N 28 10.8 -03.2	22						
23	165 45.0 +00.0	N 15 22.6 +00.8	204 51.0 +01.0	N 01 08.6 +00.2	104 40.8 -36.9	N 28 07.6 -03.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 16'3 16'2 16'2 16'1 16'1 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 59'6 59'5 59'4 59'2 59'0 58'9								
	SHA 321° 321° 321° 321° 321° 321°		SHA 000° 000° 000° 360° 360° 360°		SHA 274° 271° 268° 266° 263° 260°								
	Greenwich Culmination Time: 11:57		Greenwich Culmination Time: 09:21		Greenwich Culmination Time: 15:43								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	90 41.8 +01.3	N 20 48.4 -00.4	138 33.2 +01.9	N 22 55.2 +00.1	220 21.3 +02.2	S 02 41.5 -00.1	00						
01	105 43.1 +01.3	N 20 48.0 -00.3	153 35.1 +02.0	N 22 55.3 +00.0	235 23.5 +02.3	S 02 41.4 -00.1	01						
02	120 44.4 +01.3	N 20 47.7 -00.3	168 37.1 +01.9	N 22 55.3 +00.0	250 25.8 +02.2	S 02 41.3 -00.1	02						
03	135 45.7 +01.3	N 20 47.4 -00.4	183 39.0 +01.9	N 22 55.3 +00.1	265 28.0 +02.2	S 02 41.2 -00.1	03						
04	150 47.0 +01.2	N 20 47.0 -00.3	198 40.9 +01.9	N 22 55.4 +00.0	280 30.2 +02.3	S 02 41.1 -00.1	04						
05	165 48.2 +01.3	N 20 46.7 -00.3	213 42.8 +02.0	N 22 55.4 +00.0	295 32.5 +02.2	S 02 41.0 -00.1	05						
06	180 49.5 +01.3	N 20 46.4 -00.4	228 44.8 +01.9	N 22 55.4 +00.1	310 34.7 +02.2	S 02 40.9 -00.1	06						
07	195 50.8 +01.3	N 20 46.0 -00.3	243 46.7 +01.9	N 22 55.5 +00.0	325 36.9 +02.2	S 02 40.8 -00.1	07						
08	210 52.1 +01.3	N 20 45.7 -00.3	258 48.6 +01.9	N 22 55.5 +00.1	340 39.1 +02.3	S 02 40.7 +00.0	08						
09	225 53.4 +01.3	N 20 45.4 -00.4	273 50.5 +01.9	N 22 55.6 +00.0	355 41.4 +02.2	S 02 40.7 -00.1	09						
10	240 54.7 +01.3	N 20 45.0 -00.3	288 52.4 +02.0	N 22 55.6 +00.0	10 43.6 +02.2	S 02 40.6 -00.1	10						
11	255 56.0 +01.3	N 20 44.7 -00.3	303 54.4 +01.9	N 22 55.6 +00.1	25 45.8 +02.3	S 02 40.5 -00.1	11						
12	270 57.3 +01.2	N 20 44.4 -00.4	318 56.3 +01.9	N 22 55.7 +00.0	40 48.1 +02.2	S 02 40.4 -00.1	12						
13	285 58.5 +01.3	N 20 44.0 -00.3	333 58.2 +01.9	N 22 55.7 +00.0	55 50.3 +02.2	S 02 40.3 -00.1	13						
14	300 59.8 +01.3	N 20 43.7 -00.3	349 00.1 +01.9	N 22 55.7 +00.1	70 52.5 +02.3	S 02 40.2 -00.1	14						
15	316 01.1 +01.3	N 20 43.4 -00.4	4 02.0 +02.0	N 22 55.8 +00.0	85 54.8 +02.2	S 02 40.1 -00.1	15						
16	331 02.4 +01.3	N 20 43.0 -00.3	19 04.0 +01.9	N 22 55.8 +00.1	100 57.0 +02.2	S 02 40.0 -00.1	16						
17	346 03.7 +01.3	N 20 42.7 -00.3	34 05.9 +01.9	N 22 55.9 +00.0	115 59.2 +02.2	S 02 39.9 -00.1	17						
18	1 05.0 +01.3	N 20 42.4 -00.4	49 07.8 +01.9	N 22 55.9 +00.0	131 01.4 +02.3	S 02 39.8 -00.1	18						
19	16 06.3 +01.2	N 20 42.0 -00.3	64 09.7 +01.9	N 22 55.9 +00.1	146 03.7 +02.2	S 02 39.7 -00.1	19						
20	31 07.5 +01.3	N 20 41.7 -00.3	79 11.6 +01.9	N 22 56.0 +00.0	161 05.9 +02.2	S 02 39.6 -00.1	20						
21	46 08.8 +01.3	N 20 41.4 -00.4	94 13.5 +02.0	N 22 56.0 +00.0	176 08.1 +02.3	S 02 39.5 -00.1	21						
22	61 10.1 +01.3	N 20 41.0 -00.3	109 15.5 +01.9	N 22 56.0 +00.1	191 10.4 +02.2	S 02 39.4 -00.1	22						
23	76 11.4 +01.3	N 20 40.7 -00.3	124 17.4 +01.9	N 22 56.1 +00.0	206 12.6 +02.2	S 02 39.3 -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 231° 231° 231° 231° 231° 231°		SHA 279° 279° 279° 279° 279° 279°		SHA 001° 001° 001° 001° 001° 001°								
	Greenwich Culmination Time: 17:55		Greenwich Culmination Time: 14:43		Greenwich Culmination Time: 09:17								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 19%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 45.0 +00.1	N 15 23.4 +00.7	219 52.0 +01.0	N 01 08.8 +00.2	119 03.9 -36.9	N 28 04.3 -03.5	00						
01	195 45.1 +00.1	N 15 24.1 +00.8	234 53.0 +01.0	N 01 09.0 +00.2	133 27.0 -36.7	N 28 00.8 -03.6	01						
02	210 45.2 +00.0	N 15 24.9 +00.7	249 54.0 +00.9	N 01 09.2 +00.3	147 50.3 -36.7	N 27 57.2 -03.9	02						
03	225 45.2 +00.1	N 15 25.6 +00.8	264 54.9 +01.0	N 01 09.5 +00.2	162 13.6 -36.5	N 27 53.3 -04.0	03						
04	240 45.3 +00.1	N 15 26.4 +00.7	279 55.9 +00.9	N 01 09.7 +00.2	176 37.1 -36.5	N 27 49.3 -04.3	04						
05	255 45.4 +00.0	N 15 27.1 +00.7	294 56.8 +01.0	N 01 09.9 +00.2	191 00.6 -36.3	N 27 45.0 -04.3	05						
06	270 45.4 +00.1	N 15 27.8 +00.8	309 57.8 +01.0	N 01 10.1 +00.2	205 24.3 -36.2	N 27 40.7 -04.6	06						
07	285 45.5 +00.1	N 15 28.6 +00.7	324 58.8 +00.9	N 01 10.3 +00.3	219 48.1 -36.1	N 27 36.1 -04.7	07						
08	300 45.6 +00.0	N 15 29.3 +00.8	339 59.7 +01.0	N 01 10.6 +00.2	234 12.0 -36.0	N 27 31.4 -04.9	08						
09	315 45.6 +00.1	N 15 30.1 +00.7	355 00.7 +00.9	N 01 10.8 +00.2	248 36.0 -35.9	N 27 26.5 -05.1	09						
10	330 45.7 +00.1	N 15 30.8 +00.8	10 01.6 +01.0	N 01 11.0 +00.2	263 00.1 -35.8	N 27 21.4 -05.3	10						
11	345 45.8 +00.0	N 15 31.6 +00.7	25 02.6 +00.9	N 01 11.2 +00.3	277 24.3 -35.6	N 27 16.1 -05.4	11						
12	0 45.8 +00.1	N 15 32.3 +00.7	40 03.5 +01.0	N 01 11.5 +00.2	291 48.7 -35.6	N 27 10.7 -05.5	12						
13	15 45.9 +00.1	N 15 33.0 +00.8	55 04.5 +00.9	N 01 11.7 +00.2	306 13.1 -35.4	N 27 05.2 -05.8	13						
14	30 46.0 +00.0	N 15 33.8 +00.7	70 05.4 +01.0	N 01 11.9 +00.3	320 37.7 -35.3	N 26 59.4 -05.8	14						
15	45 46.0 +00.1	N 15 34.5 +00.8	85 06.4 +00.9	N 01 12.2 +00.2	335 02.4 -35.2	N 26 53.6 -06.1	15						
16	60 46.1 +00.1	N 15 35.3 +00.7	100 07.3 +00.9	N 01 12.4 +00.2	349 27.2 -35.1	N 26 47.5 -06.2	16						
17	75 46.2 +00.0	N 15 36.0 +00.7	115 08.2 +01.0	N 01 12.6 +00.3	3 52.1 -34.9	N 26 41.3 -06.4	17						
18	90 46.2 +00.1	N 15 36.7 +00.8	130 09.2 +00.9	N 01 12.9 +00.2	18 17.2 -34.8	N 26 34.9 -06.5	18						
19	105 46.3 +00.1	N 15 37.5 +00.7	145 10.1 +01.0	N 01 13.1 +00.2	32 42.4 -34.7	N 26 28.4 -06.6	19						
20	120 46.4 +00.0	N 15 38.2 +00.7	160 11.1 +00.9	N 01 13.3 +00.3	47 07.7 -34.6	N 26 21.8 -06.8	20						
21	135 46.4 +00.1	N 15 38.9 +00.8	175 12.0 +00.9	N 01 13.6 +00.2	61 33.1 -34.5	N 26 15.0 -07.0	21						
22	150 46.5 +00.1	N 15 39.7 +00.7	190 12.9 +00.9	N 01 13.8 +00.2	75 58.6 -34.3	N 26 08.0 -07.1	22						
23	165 46.6 +00.0	N 15 40.4 +00.8	205 13.8 +01.0	N 01 14.0 +00.3	90 24.3 -34.2	N 26 00.9 -07.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 16'0 16'0 15'9 15'9 15'8 15'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 58'7 58'6 58'4 58'3 58'1 57'9								
	SHA 321° 320° 320° 320° 320° 320°		SHA 360° 360° 359° 359° 359° 359°		SHA 258° 255° 252° 250° 247° 245°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:19		Greenwich Culmination Time: 16:43								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	91 12.7 +01.3	N 20 40.4 -00.4	139 19.3 +01.9	N 22 56.1 +00.1	221 14.8 +02.3	S 02 39.2 +00.0	00						
01	106 14.0 +01.2	N 20 40.0 -00.3	154 21.2 +01.9	N 22 56.2 +00.0	236 17.1 +02.2	S 02 39.2 -00.1	01						
02	121 15.2 +01.3	N 20 39.7 -00.4	169 23.1 +02.0	N 22 56.2 +00.0	251 19.3 +02.2	S 02 39.1 -00.1	02						
03	136 16.5 +01.3	N 20 39.3 -00.3	184 25.1 +01.9	N 22 56.2 +00.1	266 21.5 +02.3	S 02 39.0 -00.1	03						
04	151 17.8 +01.3	N 20 39.0 -00.3	199 27.0 +01.9	N 22 56.3 +00.0	281 23.8 +02.2	S 02 38.9 -00.1	04						
05	166 19.1 +01.3	N 20 38.7 -00.4	214 28.9 +01.9	N 22 56.3 +00.0	296 26.0 +02.2	S 02 38.8 -00.1	05						
06	181 20.4 +01.2	N 20 38.3 -00.3	229 30.8 +01.9	N 22 56.3 +00.1	311 28.2 +02.2	S 02 38.7 -00.1	06						
07	196 21.6 +01.3	N 20 38.0 -00.3	244 32.7 +01.9	N 22 56.4 +00.0	326 30.4 +02.3	S 02 38.6 -00.1	07						
08	211 22.9 +01.3	N 20 37.7 -00.4	259 34.6 +02.0	N 22 56.4 +00.0	341 32.7 +02.2	S 02 38.5 -00.1	08						
09	226 24.2 +01.3	N 20 37.3 -00.3	274 36.6 +01.9	N 22 56.4 +00.1	356 34.9 +02.2	S 02 38.4 -00.1	09						
10	241 25.5 +01.3	N 20 37.0 -00.4	289 38.5 +01.9	N 22 56.5 +00.0	11 37.1 +02.3	S 02 38.3 -00.1	10						
11	256 26.8 +01.2	N 20 36.6 -00.3	304 40.4 +01.9	N 22 56.5 +00.1	26 39.4 +02.2	S 02 38.2 -00.1	11						
12	271 28.0 +01.3	N 20 36.3 -00.3	319 42.3 +01.9	N 22 56.6 +00.0	41 41.6 +02.2	S 02 38.1 -00.1	12						
13	286 29.3 +01.3	N 20 36.0 -00.4	334 44.2 +02.0	N 22 56.6 +00.0	56 43.8 +02.3	S 02 38.0 -00.1	13						
14	301 30.6 +01.3	N 20 35.6 -00.3	349 46.2 +01.9	N 22 56.6 +00.1	71 46.1 +02.2	S 02 37.9 +00.0	14						
15	316 31.9 +01.3	N 20 35.3 -00.3	4 48.1 +01.9	N 22 56.7 +00.0	86 48.3 +02.2	S 02 37.9 -00.1	15						
16	331 33.2 +01.2	N 20 35.0 -00.4	19 50.0 +01.9	N 22 56.7 +00.0	101 50.5 +02.3	S 02 37.8 -00.1	16						
17	346 34.4 +01.3	N 20 34.6 -00.3	34 51.9 +01.9	N 22 56.7 +00.1	116 52.8 +02.2	S 02 37.7 -00.1	17						
18	1 35.7 +01.3	N 20 34.3 -00.4	49 53.8 +01.9	N 22 56.8 +00.0	131 55.0 +02.2	S 02 37.6 -00.1	18						
19	16 37.0 +01.3	N 20 33.9 -00.3	64 55.7 +01.9	N 22 56.8 +00.0	146 57.2 +02.3	S 02 37.5 -00.1	19						
20	31 38.3 +01.3	N 20 33.6 -00.3	79 57.6 +02.0	N 22 56.8 +00.1	161 59.5 +02.2	S 02 37.4 -00.1	20						
21	46 39.6 +01.2	N 20 33.3 -00.4	94 59.6 +01.9	N 22 56.9 +00.0	177 01.7 +02.2	S 02 37.3 -00.1	21						
22	61 40.8 +01.3	N 20 32.9 -00.3	110 01.5 +01.9	N 22 56.9 +00.1	192 03.9 +02.3	S 02 37.2 -00.1	22						
23	76 42.1 +01.3	N 20 32.6 -00.4	125 03.4 +01.9	N 22 57.0 +00.0	207 06.2 +02.2	S 02 37.1 -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 00'1 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 231° 231° 231° 231° 231° 231°		SHA 279° 279° 279° 279° 279° 279°		SHA 001° 001° 001° 001° 001° 001°								
	Greenwich Culmination Time: 17:53		Greenwich Culmination Time: 14:40		Greenwich Culmination Time: 09:13								





UT	Sun				Venus				Moon <small>A: 26%</small>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 48.1 +00.0	N 15 58.7 +00.7	220 36.5 +00.9	N 01 20.5 +00.2	91 48.1 -31.0	N 22 20.7 -10.3							
01	195 48.1 +00.1	N 15 59.4 +00.7	235 37.4 +00.9	N 01 20.7 +00.3	106 17.1 -30.9	N 22 10.4 -10.4							
02	210 48.2 +00.1	N 16 00.1 +00.7	250 38.3 +00.8	N 01 21.0 +00.3	120 46.2 -30.7	N 21 60.0 -10.5							
03	225 48.3 +00.0	N 16 00.8 +00.8	265 39.1 +00.9	N 01 21.3 +00.3	135 15.5 -30.6	N 21 49.5 -10.6							
04	240 48.3 +00.1	N 16 01.6 +00.7	280 40.0 +00.9	N 01 21.6 +00.3	149 44.9 -30.5	N 21 38.9 -10.7							
05	255 48.4 +00.0	N 16 02.3 +00.7	295 40.9 +00.9	N 01 21.9 +00.2	164 14.4 -30.4	N 21 28.2 -10.8							
06	270 48.4 +00.1	N 16 03.0 +00.7	310 41.8 +00.9	N 01 22.1 +00.3	178 44.0 -30.2	N 21 17.4 -10.9							
07	285 48.5 +00.0	N 16 03.7 +00.7	325 42.7 +00.8	N 01 22.4 +00.3	193 13.8 -30.1	N 21 06.5 -11.0							
08	300 48.5 +00.1	N 16 04.4 +00.8	340 43.5 +00.9	N 01 22.7 +00.3	207 43.7 -30.0	N 20 55.5 -11.0							
09	315 48.6 +00.0	N 16 05.2 +00.7	355 44.4 +00.9	N 01 23.0 +00.3	222 13.7 -29.9	N 20 44.5 -11.2							
10	330 48.6 +00.1	N 16 05.9 +00.7	10 45.3 +00.8	N 01 23.3 +00.2	236 43.8 -29.8	N 20 33.3 -11.2							
11	345 48.7 +00.1	N 16 06.6 +00.7	25 46.1 +00.9	N 01 23.5 +00.3	251 14.0 -29.6	N 20 22.1 -11.3							
12	0 48.8 +00.0	N 16 07.3 +00.7	40 47.0 +00.9	N 01 23.8 +00.3	265 44.4 -29.6	N 20 10.8 -11.4							
13	15 48.8 +00.1	N 16 08.0 +00.7	55 47.9 +00.8	N 01 24.1 +00.3	280 14.8 -29.4	N 19 59.4 -11.5							
14	30 48.9 +00.0	N 16 08.7 +00.8	70 48.7 +00.9	N 01 24.4 +00.3	294 45.4 -29.3	N 19 47.9 -11.6							
15	45 48.9 +00.1	N 16 09.5 +00.7	85 49.6 +00.8	N 01 24.7 +00.3	309 16.1 -29.2	N 19 36.3 -11.6							
16	60 49.0 +00.0	N 16 10.2 +00.7	100 50.4 +00.9	N 01 25.0 +00.3	323 46.9 -29.0	N 19 24.7 -11.7							
17	75 49.0 +00.1	N 16 10.9 +00.7	115 51.3 +00.8	N 01 25.3 +00.3	338 17.9 -29.0	N 19 13.0 -11.8							
18	90 49.1 +00.0	N 16 11.6 +00.7	130 52.1 +00.9	N 01 25.6 +00.3	352 48.9 -28.8	N 19 01.2 -11.9							
19	105 49.1 +00.1	N 16 12.3 +00.7	145 53.0 +00.9	N 01 25.9 +00.3	7 20.1 -28.8	N 18 49.3 -11.9							
20	120 49.2 +00.0	N 16 13.0 +00.8	160 53.9 +00.8	N 01 26.2 +00.3	21 51.3 -28.6	N 18 37.4 -12.0							
21	135 49.2 +00.1	N 16 13.8 +00.7	175 54.7 +00.8	N 01 26.5 +00.3	36 22.7 -28.5	N 18 25.4 -12.1							
22	150 49.3 +00.1	N 16 14.5 +00.7	190 55.5 +00.9	N 01 26.8 +00.3	50 54.2 -28.5	N 18 13.3 -12.2							
23	165 49.4 +00.0	N 16 15.2 +00.7	205 56.4 +00.8	N 01 27.1 +00.3	65 25.7 -28.3	N 18 01.1 -12.2							
UT 02 06 10 14 18 22	SD 15'9 15'9 15'9 15'9 15'9 15'9	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 319° 318° 318° 318° 318° 318°	Greenwich Culmination Time: 11:56									
UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'3 00'3 00'3 00'3 00'3 00'3	SHA 358° 358° 358° 358° 358° 358°	Greenwich Culmination Time: 09:17									
UT 02 06 10 14 18 22	SD 15'5 15'5 15'4 15'4 15'3 15'3	HP 56'9 56'7 56'6 56'5 56'3 56'2	SHA 229° 226° 224° 222° 220° 218°	Greenwich Culmination Time: 18:29									

  

UT	Mars				Jupiter				Saturn				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	92 14.0 +01.2	N 20 24.0 -00.3	140 51.2 +02.0	N 22 57.9 +00.0	223 02.0 +02.2	S 02 34.8 -00.1							
01	107 15.2 +01.3	N 20 23.7 -00.4	155 53.2 +01.9	N 22 57.9 +00.0	238 04.2 +02.3	S 02 34.7 -00.1							
02	122 16.5 +01.3	N 20 23.3 -00.3	170 55.1 +01.9	N 22 57.9 +00.1	253 06.5 +02.2	S 02 34.6 -00.1							
03	137 17.8 +01.3	N 20 23.0 -00.4	185 57.0 +01.9	N 22 58.0 +00.0	268 08.7 +02.3	S 02 34.5 +00.0							
04	152 19.1 +01.2	N 20 22.6 -00.3	200 58.9 +01.9	N 22 58.0 +00.0	283 11.0 +02.2	S 02 34.5 -00.1							
05	167 20.3 +01.3	N 20 22.3 -00.4	216 00.8 +01.9	N 22 58.0 +00.1	298 13.2 +02.2	S 02 34.4 -00.1							
06	182 21.6 +01.3	N 20 21.9 -00.3	231 02.7 +01.9	N 22 58.1 +00.0	313 15.4 +02.3	S 02 34.3 -00.1							
07	197 22.9 +01.2	N 20 21.6 -00.3	246 04.6 +01.9	N 22 58.1 +00.0	328 17.7 +02.2	S 02 34.2 -00.1							
08	212 24.1 +01.3	N 20 21.3 -00.4	261 06.5 +02.0	N 22 58.1 +00.1	343 19.9 +02.2	S 02 34.1 -00.1							
09	227 25.4 +01.3	N 20 20.9 -00.3	276 08.5 +01.9	N 22 58.2 +00.0	358 22.1 +02.3	S 02 34.0 -00.1							
10	242 26.7 +01.2	N 20 20.6 -00.4	291 10.4 +01.9	N 22 58.2 +00.1	13 24.4 +02.2	S 02 33.9 -00.1							
11	257 27.9 +01.3	N 20 20.2 -00.3	306 12.3 +01.9	N 22 58.3 +00.0	28 26.6 +02.2	S 02 33.8 -00.1							
12	272 29.2 +01.3	N 20 19.9 -00.4	321 14.2 +01.9	N 22 58.3 +00.0	43 28.8 +02.3	S 02 33.7 -00.1							
13	287 30.5 +01.3	N 20 19.5 -00.3	336 16.1 +01.9	N 22 58.3 +00.1	58 31.1 +02.2	S 02 33.6 -00.1							
14	302 31.8 +01.2	N 20 19.2 -00.4	351 18.0 +01.9	N 22 58.4 +00.0	73 33.3 +02.2	S 02 33.5 +00.0							
15	317 33.0 +01.3	N 20 18.8 -00.3	6 19.9 +01.9	N 22 58.4 +00.0	88 35.5 +02.3	S 02 33.5 -00.1							
16	332 34.3 +01.3	N 20 18.5 -00.4	21 21.8 +01.9	N 22 58.4 +00.1	103 37.8 +02.2	S 02 33.4 -00.1							
17	347 35.6 +01.2	N 20 18.1 -00.3	36 23.7 +02.0	N 22 58.5 +00.0	118 40.0 +02.3	S 02 33.3 -00.1							
18	2 36.8 +01.3	N 20 17.8 -00.4	51 25.7 +01.9	N 22 58.5 +00.0	133 42.3 +02.2	S 02 33.2 -00.1							
19	17 38.1 +01.3	N 20 17.4 -00.3	66 27.6 +01.9	N 22 58.5 +00.1	148 44.5 +02.2	S 02 33.1 -00.1							
20	32 39.4 +01.2	N 20 17.1 -00.4	81 29.5 +01.9	N 22 58.6 +00.0	163 46.7 +02.3	S 02 33.0 -00.1							
21	47 40.6 +01.3	N 20 16.7 -00.3	96 31.4 +01.9	N 22 58.6 +00.0	178 49.0 +02.2	S 02 32.9 -00.1							
22	62 41.9 +01.3	N 20 16.4 -00.4	111 33.3 +01.9	N 22 58.6 +00.1	193 51.2 +02.2	S 02 32.8 -00.1							
23	77 43.2 +01.2	N 20 16.0 -00.3	126 35.2 +01.9	N 22 58.7 +00.0	208 53.4 +02.3	S 02 32.7 -00.1							
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 230° 230° 230° 230° 230° 230°	Greenwich Culmination Time: 17:49									
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 279° 279° 279° 279° 279° 279°	Greenwich Culmination Time: 14:34									
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 001° 001° 001° 001° 001° 001°	Greenwich Culmination Time: 09:06									

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 49.4 +00.1	N 16 15.9 +00.7	220 57.2 +00.9	N 01 27.4 +00.3	79 57.4 -28.2	N 17 48.9 -12.3	00						
01	195 49.5 +00.0	N 16 16.6 +00.7	235 58.1 +00.8	N 01 27.7 +00.3	94 29.2 -28.1	N 17 36.6 -12.3	01						
02	210 49.5 +00.1	N 16 17.3 +00.7	250 58.9 +00.9	N 01 28.0 +00.3	109 01.1 -28.0	N 17 24.3 -12.4	02						
03	225 49.6 +00.0	N 16 18.0 +00.7	265 59.8 +00.8	N 01 28.3 +00.3	123 33.1 -27.9	N 17 11.9 -12.5	03						
04	240 49.6 +00.1	N 16 18.7 +00.8	281 00.6 +00.8	N 01 28.6 +00.3	138 05.2 -27.8	N 16 59.4 -12.5	04						
05	255 49.7 +00.0	N 16 19.5 +00.7	296 01.4 +00.9	N 01 28.9 +00.3	152 37.4 -27.7	N 16 46.9 -12.6	05						
06	270 49.7 +00.1	N 16 20.2 +00.7	311 02.3 +00.8	N 01 29.2 +00.3	167 09.7 -27.6	N 16 34.3 -12.7	06						
07	285 49.8 +00.0	N 16 20.9 +00.7	326 03.1 +00.8	N 01 29.5 +00.3	181 42.1 -27.5	N 16 21.6 -12.7	07						
08	300 49.8 +00.1	N 16 21.6 +00.7	341 03.9 +00.9	N 01 29.8 +00.3	196 14.6 -27.4	N 16 08.9 -12.8	08						
09	315 49.9 +00.0	N 16 22.3 +00.7	356 04.8 +00.8	N 01 30.1 +00.3	210 47.2 -27.3	N 15 56.1 -12.8	09						
10	330 49.9 +00.1	N 16 23.0 +00.7	11 05.6 +00.8	N 01 30.4 +00.3	225 19.9 -27.2	N 15 43.3 -12.9	10						
11	345 50.0 +00.0	N 16 23.7 +00.7	26 06.4 +00.9	N 01 30.7 +00.3	239 52.7 -27.1	N 15 30.4 -12.9	11						
12	0 50.0 +00.1	N 16 24.4 +00.7	41 07.3 +00.8	N 01 31.0 +00.4	254 25.6 -27.1	N 15 17.5 -13.0	12						
13	15 50.1 +00.0	N 16 25.1 +00.7	56 08.1 +00.8	N 01 31.4 +00.3	268 58.5 -26.9	N 15 04.5 -13.0	13						
14	30 50.1 +00.1	N 16 25.8 +00.7	71 08.9 +00.8	N 01 31.7 +00.3	283 31.6 -26.9	N 14 51.5 -13.1	14						
15	45 50.2 +00.0	N 16 26.5 +00.7	86 09.7 +00.8	N 01 32.0 +00.3	298 04.7 -26.8	N 14 38.4 -13.1	15						
16	60 50.2 +00.1	N 16 27.2 +00.7	101 10.5 +00.9	N 01 32.3 +00.3	312 37.9 -26.7	N 14 25.3 -13.2	16						
17	75 50.3 +00.0	N 16 27.9 +00.7	116 11.4 +00.8	N 01 32.6 +00.4	327 11.2 -26.6	N 14 12.1 -13.2	17						
18	90 50.3 +00.1	N 16 28.6 +00.8	131 12.2 +00.8	N 01 33.0 +00.3	341 44.6 -26.5	N 13 58.9 -13.3	18						
19	105 50.4 +00.0	N 16 29.4 +00.7	146 13.0 +00.8	N 01 33.3 +00.3	356 18.1 -26.4	N 13 45.6 -13.3	19						
20	120 50.4 +00.0	N 16 30.1 +00.7	161 13.8 +00.8	N 01 33.6 +00.3	10 51.7 -26.4	N 13 32.3 -13.4	20						
21	135 50.4 +00.1	N 16 30.8 +00.7	176 14.6 +00.8	N 01 33.9 +00.3	25 25.3 -26.2	N 13 18.9 -13.4	21						
22	150 50.5 +00.0	N 16 31.5 +00.7	191 15.4 +00.8	N 01 34.2 +00.4	39 59.1 -26.2	N 13 05.5 -13.4	22						
23	165 50.5 +00.1	N 16 32.2 +00.7	206 16.2 +00.8	N 01 34.6 +00.3	54 32.9 -26.2	N 12 52.1 -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	15'9 15'9 15'9 15'9 15'9 15'9	SD	00'3 00'3 00'3 00'3 00'3 00'3	SD	15'3 15'2 15'2 15'2 15'1 15'1								
HP	00'1 00'1 00'1 00'1 00'1 00'1	HP	00'3 00'3 00'3 00'3 00'3 00'3	HP	56'1 55'9 55'8 55'7 55'6 55'5								
SHA	318° 317° 317° 317° 317° 317°	SHA	358° 358° 358° 357° 357° 357°	SHA	216° 214° 212° 210° 208° 206°								
Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 09:15			Greenwich Culmination Time: 19:15							

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	92 44.4 +01.3	N 20 15.7 -00.4	141 37.1 +01.9	N 22 58.7 +00.0	223 55.7 +02.2	S 02 32.6 -00.1	00						
01	107 45.7 +01.3	N 20 15.3 -00.3	156 39.0 +01.9	N 22 58.7 +00.1	238 57.9 +02.3	S 02 32.5 +00.0	01						
02	122 47.0 +01.2	N 20 15.0 -00.4	171 40.9 +01.9	N 22 58.8 +00.0	254 00.2 +02.2	S 02 32.5 -00.1	02						
03	137 48.2 +01.3	N 20 14.6 -00.3	186 42.8 +01.9	N 22 58.8 +00.1	269 02.4 +02.2	S 02 32.4 -00.1	03						
04	152 49.5 +01.2	N 20 14.3 -00.4	201 44.7 +02.0	N 22 58.9 +00.0	284 04.6 +02.3	S 02 32.3 -00.1	04						
05	167 50.7 +01.3	N 20 13.9 -00.3	216 46.7 +01.9	N 22 58.9 +00.0	299 06.9 +02.2	S 02 32.2 -00.1	05						
06	182 52.0 +01.3	N 20 13.6 -00.4	231 48.6 +01.9	N 22 58.9 +00.1	314 09.1 +02.2	S 02 32.1 -00.1	06						
07	197 53.3 +01.2	N 20 13.2 -00.3	246 50.5 +01.9	N 22 59.0 +00.0	329 11.3 +02.3	S 02 32.0 -00.1	07						
08	212 54.5 +01.3	N 20 12.9 -00.4	261 52.4 +01.9	N 22 59.0 +00.0	344 13.6 +02.2	S 02 31.9 -00.1	08						
09	227 55.8 +01.3	N 20 12.5 -00.3	276 54.3 +01.9	N 22 59.0 +00.1	359 15.8 +02.3	S 02 31.8 -00.1	09						
10	242 57.1 +01.2	N 20 12.2 -00.4	291 56.2 +01.9	N 22 59.1 +00.0	14 18.1 +02.2	S 02 31.7 -00.1	10						
11	257 58.3 +01.3	N 20 11.8 -00.3	306 58.1 +01.9	N 22 59.1 +00.0	29 20.3 +02.2	S 02 31.6 +00.0	11						
12	272 59.6 +01.3	N 20 11.5 -00.4	322 00.0 +01.9	N 22 59.1 +00.1	44 22.5 +02.3	S 02 31.6 -00.1	12						
13	288 00.9 +01.2	N 20 11.1 -00.3	337 01.9 +01.9	N 22 59.2 +00.0	59 24.8 +02.2	S 02 31.5 -00.1	13						
14	303 02.1 +01.3	N 20 10.8 -00.4	352 03.8 +01.9	N 22 59.2 +00.0	74 27.0 +02.2	S 02 31.4 -00.1	14						
15	318 03.4 +01.2	N 20 10.4 -00.3	7 05.7 +02.0	N 22 59.2 +00.1	89 29.2 +02.3	S 02 31.3 -00.1	15						
16	333 04.6 +01.3	N 20 10.1 -00.4	22 07.7 +01.9	N 22 59.3 +00.0	104 31.5 +02.2	S 02 31.2 -00.1	16						
17	348 05.9 +01.3	N 20 09.7 -00.3	37 09.6 +01.9	N 22 59.3 +00.0	119 33.7 +02.3	S 02 31.1 -00.1	17						
18	3 07.2 +01.2	N 20 09.4 -00.4	52 11.5 +01.9	N 22 59.3 +00.1	134 36.0 +02.2	S 02 31.0 -00.1	18						
19	18 08.4 +01.3	N 20 09.0 -00.3	67 13.4 +01.9	N 22 59.4 +00.0	149 38.2 +02.2	S 02 30.9 -00.1	19						
20	33 09.7 +01.3	N 20 08.7 -00.4	82 15.3 +01.9	N 22 59.4 +00.0	164 40.4 +02.3	S 02 30.8 +00.0	20						
21	48 11.0 +01.2	N 20 08.3 -00.3	97 17.2 +01.9	N 22 59.4 +00.1	179 42.7 +02.2	S 02 30.8 -00.1	21						
22	63 12.2 +01.3	N 20 08.0 -00.4	112 19.1 +01.9	N 22 59.5 +00.0	194 44.9 +02.3	S 02 30.7 -00.1	22						
23	78 13.5 +01.2	N 20 07.6 -00.3	127 21.0 +01.9	N 22 59.5 +00.1	209 47.2 +02.2	S 02 30.6 -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	230° 230° 229° 229° 229° 229°	SHA	278° 278° 278° 278° 278° 278°	SHA	001° 001° 001° 001° 001° 001°								
Greenwich Culmination Time: 17:47			Greenwich Culmination Time: 14:31			Greenwich Culmination Time: 09:02							









UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.0 +00.0	N 17 37.9 +00.7	222 27.4 +00.7	N 02 11.3 +00.5	30 12.7 -24.3	S 09 48.4 +13.4	00						
01	195 54.0 +00.0	N 17 38.6 +00.6	237 28.1 +00.7	N 02 11.8 +00.4	44 48.4 -24.4	S 10 01.8 +13.4	01						
02	210 54.0 +00.0	N 17 39.2 +00.7	252 28.8 +00.6	N 02 12.2 +00.4	59 24.0 -24.4	S 10 15.2 +13.3	02						
03	225 54.0 +00.1	N 17 39.9 +00.6	267 29.4 +00.7	N 02 12.6 +00.5	73 59.6 -24.4	S 10 28.5 +13.2	03						
04	240 54.1 +00.0	N 17 40.5 +00.7	282 30.1 +00.6	N 02 13.1 +00.4	88 35.2 -24.5	S 10 41.7 +13.3	04						
05	255 54.1 +00.0	N 17 41.2 +00.6	297 30.7 +00.7	N 02 13.5 +00.4	103 10.7 -24.5	S 10 55.0 +13.2	05						
06	270 54.1 +00.0	N 17 41.8 +00.7	312 31.4 +00.6	N 02 13.9 +00.5	117 46.2 -24.5	S 11 08.2 +13.1	06						
07	285 54.1 +00.0	N 17 42.5 +00.6	327 32.0 +00.7	N 02 14.4 +00.4	132 21.7 -24.6	S 11 21.3 +13.1	07						
08	300 54.1 +00.1	N 17 43.1 +00.7	342 32.7 +00.7	N 02 14.8 +00.4	146 57.1 -24.7	S 11 34.4 +13.1	08						
09	315 54.2 +00.0	N 17 43.8 +00.6	357 33.4 +00.6	N 02 15.2 +00.5	161 32.4 -24.6	S 11 47.5 +13.0	09						
10	330 54.2 +00.0	N 17 44.4 +00.7	12 34.0 +00.7	N 02 15.7 +00.4	176 07.8 -24.7	S 12 00.5 +13.0	10						
11	345 54.2 +00.0	N 17 45.1 +00.6	27 34.7 +00.6	N 02 16.1 +00.5	190 43.1 -24.8	S 12 13.5 +12.9	11						
12	0 54.2 +00.0	N 17 45.7 +00.7	42 35.3 +00.7	N 02 16.6 +00.4	205 18.3 -24.8	S 12 26.4 +12.9	12						
13	15 54.2 +00.1	N 17 46.4 +00.6	57 36.0 +00.6	N 02 17.0 +00.4	219 53.5 -24.9	S 12 39.3 +12.9	13						
14	30 54.3 +00.0	N 17 47.0 +00.7	72 36.6 +00.6	N 02 17.4 +00.5	234 28.6 -24.9	S 12 52.2 +12.8	14						
15	45 54.3 +00.0	N 17 47.7 +00.6	87 37.2 +00.7	N 02 17.9 +00.4	249 03.7 -24.9	S 13 05.0 +12.7	15						
16	60 54.3 +00.0	N 17 48.3 +00.7	102 37.9 +00.6	N 02 18.3 +00.5	263 38.8 -25.0	S 13 17.7 +12.7	16						
17	75 54.3 +00.0	N 17 49.0 +00.6	117 38.5 +00.7	N 02 18.8 +00.4	278 13.8 -25.0	S 13 30.4 +12.7	17						
18	90 54.3 +00.1	N 17 49.6 +00.6	132 39.2 +00.6	N 02 19.2 +00.5	292 48.8 -25.1	S 13 43.1 +12.6	18						
19	105 54.4 +00.0	N 17 50.2 +00.7	147 39.8 +00.7	N 02 19.7 +00.4	307 23.7 -25.2	S 13 55.7 +12.5	19						
20	120 54.4 +00.0	N 17 50.9 +00.6	162 40.5 +00.6	N 02 20.1 +00.5	321 58.5 -25.2	S 14 08.2 +12.5	20						
21	135 54.4 +00.0	N 17 51.5 +00.7	177 41.1 +00.6	N 02 20.6 +00.4	336 33.3 -25.2	S 14 20.7 +12.4	21						
22	150 54.4 +00.0	N 17 52.2 +00.6	192 41.7 +00.7	N 02 21.0 +00.5	351 08.1 -25.3	S 14 33.1 +12.4	22						
23	165 54.4 +00.1	N 17 52.8 +00.7	207 42.4 +00.6	N 02 21.5 +00.4	5 42.8 -25.3	S 14 45.5 +12.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'3 00'3 00'3 00'3 00'3 00'3		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 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'0 54'0 54'0 54'0 54'0 53'9								
	SHA 313° 313° 312° 312° 312° 312°		SHA 354° 354° 354° 354° 354° 354°		SHA 161° 159° 158° 156° 154° 152°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 22:36								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	95 14.8 +01.2	N 19 32.5 -00.4	145 25.5 +01.9	N 23 02.7 +00.1	228 24.8 +02.2	S 02 22.1 -00.1	00						
01	110 16.0 +01.3	N 19 32.1 -00.4	160 27.4 +01.8	N 23 02.8 +00.0	243 27.0 +02.3	S 02 22.0 +00.0	01						
02	125 17.3 +01.2	N 19 31.7 -00.4	175 29.2 +01.9	N 23 02.8 +00.0	258 29.3 +02.2	S 02 22.0 -00.1	02						
03	140 18.5 +01.2	N 19 31.3 -00.3	190 31.1 +01.9	N 23 02.8 +00.0	273 31.5 +02.3	S 02 21.9 -00.1	03						
04	155 19.7 +01.3	N 19 31.0 -00.4	205 33.0 +01.9	N 23 02.8 +00.1	288 33.8 +02.2	S 02 21.8 -00.1	04						
05	170 21.0 +01.2	N 19 30.6 -00.4	220 34.9 +01.9	N 23 02.9 +00.0	303 36.0 +02.3	S 02 21.7 -00.1	05						
06	185 22.2 +01.2	N 19 30.2 -00.3	235 36.8 +01.9	N 23 02.9 +00.0	318 38.3 +02.2	S 02 21.6 -00.1	06						
07	200 23.4 +01.3	N 19 29.9 -00.4	250 38.7 +01.9	N 23 02.9 +00.1	333 40.5 +02.3	S 02 21.5 +00.0	07						
08	215 24.7 +01.2	N 19 29.5 -00.4	265 40.6 +01.9	N 23 03.0 +00.0	348 42.8 +02.2	S 02 21.5 -00.1	08						
09	230 25.9 +01.3	N 19 29.1 -00.4	280 42.5 +01.9	N 23 03.0 +00.0	3 45.0 +02.3	S 02 21.4 -00.1	09						
10	245 27.2 +01.2	N 19 28.7 -00.3	295 44.4 +01.9	N 23 03.0 +00.1	18 47.3 +02.2	S 02 21.3 -00.1	10						
11	260 28.4 +01.2	N 19 28.4 -00.4	310 46.3 +01.9	N 23 03.1 +00.0	33 49.5 +02.3	S 02 21.2 -00.1	11						
12	275 29.6 +01.3	N 19 28.0 -00.4	325 48.2 +01.9	N 23 03.1 +00.0	48 51.8 +02.2	S 02 21.1 -00.1	12						
13	290 30.9 +01.2	N 19 27.6 -00.4	340 50.1 +01.9	N 23 03.1 +00.1	63 54.0 +02.3	S 02 21.0 -00.1	13						
14	305 32.1 +01.3	N 19 27.2 -00.3	355 52.0 +01.9	N 23 03.2 +00.0	78 56.3 +02.2	S 02 20.9 +00.0	14						
15	320 33.4 +01.2	N 19 26.9 -00.4	10 53.9 +01.9	N 23 03.2 +00.0	93 58.5 +02.3	S 02 20.9 -00.1	15						
16	335 34.6 +01.2	N 19 26.5 -00.4	25 55.8 +01.9	N 23 03.2 +00.1	109 00.8 +02.2	S 02 20.8 -00.1	16						
17	350 35.8 +01.3	N 19 26.1 -00.3	40 57.7 +01.9	N 23 03.3 +00.0	124 03.0 +02.3	S 02 20.7 -00.1	17						
18	5 37.1 +01.2	N 19 25.8 -00.4	55 59.6 +01.9	N 23 03.3 +00.0	139 05.3 +02.2	S 02 20.6 -00.1	18						
19	20 38.3 +01.2	N 19 25.4 -00.4	71 01.5 +01.9	N 23 03.3 +00.0	154 07.5 +02.3	S 02 20.5 -00.1	19						
20	35 39.5 +01.3	N 19 25.0 -00.4	86 03.4 +01.9	N 23 03.3 +00.1	169 09.8 +02.2	S 02 20.4 +00.0	20						
21	50 40.8 +01.2	N 19 24.6 -00.3	101 05.3 +01.9	N 23 03.4 +00.0	184 12.0 +02.3	S 02 20.4 -00.1	21						
22	65 42.0 +01.3	N 19 24.3 -00.4	116 07.2 +01.8	N 23 03.4 +00.0	199 14.3 +02.2	S 02 20.3 -00.1	22						
23	80 43.3 +01.2	N 19 23.9 -00.4	131 09.0 +01.9	N 23 03.4 +00.1	214 16.5 +02.3	S 02 20.2 -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 00'1 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 227° 227° 227° 227° 227° 227°		SHA 277° 277° 277° 277° 277° 277°		SHA 000° 000° 000° 000° 000° 000°								
	Greenwich Culmination Time: 17:37		Greenwich Culmination Time: 14:16		Greenwich Culmination Time: 08:45								



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 46%</span>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	180 54.5 +00.0	N 17 53.5 +00.6	222 43.0 +00.6	N 02 21.9 +00.5	20 17.5 -25.5	S 14 57.8 +12.3							
01	195 54.5 +00.0	N 17 54.1 +00.6	237 43.6 +00.7	N 02 22.4 +00.4	34 52.0 -25.4	S 15 10.1 +12.2							
02	210 54.5 +00.0	N 17 54.7 +00.7	252 44.3 +00.6	N 02 22.8 +00.5	49 26.6 -25.5	S 15 22.3 +12.2							
03	225 54.5 +00.0	N 17 55.4 +00.6	267 44.9 +00.6	N 02 23.3 +00.4	64 01.1 -25.6	S 15 34.5 +12.1							
04	240 54.5 +00.0	N 17 56.0 +00.6	282 45.5 +00.6	N 02 23.7 +00.5	78 35.5 -25.6	S 15 46.6 +12.0							
05	255 54.5 +00.1	N 17 56.6 +00.7	297 46.1 +00.7	N 02 24.2 +00.4	93 09.9 -25.7	S 15 58.6 +12.0							
06	270 54.6 +00.0	N 17 57.3 +00.6	312 46.8 +00.6	N 02 24.6 +00.5	107 44.2 -25.8	S 16 10.6 +11.9							
07	285 54.6 +00.0	N 17 57.9 +00.7	327 47.4 +00.6	N 02 25.1 +00.5	122 18.4 -25.8	S 16 22.5 +11.9							
08	300 54.6 +00.0	N 17 58.6 +00.6	342 48.0 +00.6	N 02 25.6 +00.4	136 52.6 -25.9	S 16 34.4 +11.8							
09	315 54.6 +00.0	N 17 59.2 +00.6	357 48.6 +00.7	N 02 26.0 +00.5	151 26.7 -25.9	S 16 46.2 +11.7							
10	330 54.6 +00.0	N 17 59.8 +00.7	12 49.3 +00.6	N 02 26.5 +00.4	166 00.8 -26.0	S 16 57.9 +11.7							
11	345 54.6 +00.0	N 18 00.5 +00.6	27 49.9 +00.6	N 02 26.9 +00.5	180 34.8 -26.1	S 17 09.6 +11.6							
12	0 54.6 +00.1	N 18 01.1 +00.6	42 50.5 +00.6	N 02 27.4 +00.5	195 08.7 -26.1	S 17 21.2 +11.5							
13	15 54.7 +00.0	N 18 01.7 +00.7	57 51.1 +00.6	N 02 27.9 +00.4	209 42.6 -26.2	S 17 32.7 +11.5							
14	30 54.7 +00.0	N 18 02.4 +00.6	72 51.7 +00.6	N 02 28.3 +00.5	224 16.4 -26.2	S 17 44.2 +11.4							
15	45 54.7 +00.0	N 18 03.0 +00.6	87 52.3 +00.7	N 02 28.8 +00.5	238 50.2 -26.3	S 17 55.6 +11.3							
16	60 54.7 +00.0	N 18 03.6 +00.7	102 53.0 +00.6	N 02 29.3 +00.4	253 23.9 -26.4	S 18 06.9 +11.3							
17	75 54.7 +00.0	N 18 04.3 +00.6	117 53.6 +00.6	N 02 29.7 +00.5	267 57.5 -26.4	S 18 18.2 +11.1							
18	90 54.7 +00.0	N 18 04.9 +00.6	132 54.2 +00.6	N 02 30.2 +00.5	282 31.1 -26.6	S 18 29.3 +11.2							
19	105 54.7 +00.1	N 18 05.5 +00.7	147 54.8 +00.6	N 02 30.7 +00.4	297 04.5 -26.5	S 18 40.5 +11.0							
20	120 54.8 +00.0	N 18 06.2 +00.6	162 55.4 +00.6	N 02 31.1 +00.5	311 38.0 -26.7	S 18 51.5 +11.0							
21	135 54.8 +00.0	N 18 06.8 +00.6	177 56.0 +00.6	N 02 31.6 +00.5	326 11.3 -26.7	S 19 02.5 +10.9							
22	150 54.8 +00.0	N 18 07.4 +00.7	192 56.6 +00.6	N 02 32.1 +00.4	340 44.6 -26.8	S 19 13.4 +10.8							
23	165 54.8 +00.0	N 18 08.1 +00.6	207 57.2 +00.6	N 02 32.5 +00.5	355 17.8 -26.8	S 19 24.2 +10.7							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'3 00'3 00'3 00'3 00'3 00'3		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 00'3 00'3 00'3 00'3 00'3 00'3		HP 53'9 54'0 54'0 54'0 54'0 54'0								
	SHA 312° 312° 311° 311° 311° 311°		SHA 354° 353° 353° 353° 353° 353°		SHA 150° 148° 147° 145° 143° 141°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:08		Greenwich Culmination Time: 23:19								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	95 44.5 +01.2	N 19 23.5 -00.4	146 10.9 +01.9	N 23 03.5 +00.0	229 18.8 +02.2	S 02 20.1 -00.1							
01	110 45.7 +01.3	N 19 23.1 -00.4	161 12.8 +01.9	N 23 03.5 +00.0	244 21.0 +02.3	S 02 20.0 -00.1							
02	125 47.0 +01.2	N 19 22.7 -00.3	176 14.7 +01.9	N 23 03.5 +00.1	259 23.3 +02.2	S 02 19.9 +00.0							
03	140 48.2 +01.2	N 19 22.4 -00.4	191 16.6 +01.9	N 23 03.6 +00.0	274 25.5 +02.3	S 02 19.9 -00.1							
04	155 49.4 +01.3	N 19 22.0 -00.4	206 18.5 +01.9	N 23 03.6 +00.0	289 27.8 +02.2	S 02 19.8 -00.1							
05	170 50.7 +01.2	N 19 21.6 -00.4	221 20.4 +01.9	N 23 03.6 +00.1	304 30.0 +02.3	S 02 19.7 -00.1							
06	185 51.9 +01.2	N 19 21.2 -00.3	236 22.3 +01.9	N 23 03.7 +00.0	319 32.3 +02.2	S 02 19.6 -00.1							
07	200 53.1 +01.3	N 19 20.9 -00.4	251 24.2 +01.9	N 23 03.7 +00.0	334 34.5 +02.3	S 02 19.5 -00.1							
08	215 54.4 +01.2	N 19 20.5 -00.4	266 26.1 +01.9	N 23 03.7 +00.0	349 36.8 +02.2	S 02 19.4 +00.0							
09	230 55.6 +01.2	N 19 20.1 -00.4	281 28.0 +01.9	N 23 03.7 +00.1	4 39.0 +02.3	S 02 19.4 -00.1							
10	245 56.8 +01.3	N 19 19.7 -00.3	296 29.9 +01.9	N 23 03.8 +00.0	19 41.3 +02.3	S 02 19.3 -00.1							
11	260 58.1 +01.2	N 19 19.4 -00.4	311 31.8 +01.9	N 23 03.8 +00.0	34 43.6 +02.2	S 02 19.2 -00.1							
12	275 59.3 +01.2	N 19 19.0 -00.4	326 33.7 +01.8	N 23 03.8 +00.1	49 45.8 +02.3	S 02 19.1 -00.1							
13	291 00.5 +01.3	N 19 18.6 -00.4	341 35.5 +01.9	N 23 03.9 +00.0	64 48.1 +02.2	S 02 19.0 -00.1							
14	306 01.8 +01.2	N 19 18.2 -00.4	356 37.4 +01.9	N 23 03.9 +00.0	79 50.3 +02.3	S 02 18.9 +00.0							
15	321 03.0 +01.3	N 19 17.8 -00.3	11 39.3 +01.9	N 23 03.9 +00.1	94 52.6 +02.2	S 02 18.9 -00.1							
16	336 04.3 +01.2	N 19 17.5 -00.4	26 41.2 +01.9	N 23 04.0 +00.0	109 54.8 +02.3	S 02 18.8 -00.1							
17	351 05.5 +01.2	N 19 17.1 -00.4	41 43.1 +01.9	N 23 04.0 +00.0	124 57.1 +02.2	S 02 18.7 -00.1							
18	6 06.7 +01.2	N 19 16.7 -00.4	56 45.0 +01.9	N 23 04.0 +00.1	139 59.3 +02.3	S 02 18.6 -00.1							
19	21 07.9 +01.3	N 19 16.3 -00.4	71 46.9 +01.9	N 23 04.1 +00.0	155 01.6 +02.2	S 02 18.5 -00.1							
20	36 09.2 +01.2	N 19 15.9 -00.3	86 48.8 +01.9	N 23 04.1 +00.0	170 03.8 +02.3	S 02 18.4 +00.0							
21	51 10.4 +01.2	N 19 15.6 -00.4	101 50.7 +01.9	N 23 04.1 +00.0	185 06.1 +02.2	S 02 18.4 -00.1							
22	66 11.6 +01.3	N 19 15.2 -00.4	116 52.6 +01.9	N 23 04.1 +00.1	200 08.3 +02.3	S 02 18.3 -00.1							
23	81 12.9 +01.2	N 19 14.8 -00.4	131 54.5 +01.9	N 23 04.2 +00.0	215 10.6 +02.2	S 02 18.2 -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 227° 227° 227° 226° 226° 226°		SHA 277° 277° 277° 277° 277° 277°		SHA 000° 000° 000° 000° 000° 000°								
	Greenwich Culmination Time: 17:35		Greenwich Culmination Time: 14:13		Greenwich Culmination Time: 08:41								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.8 +00.0	N 18 08.7 +00.6	222 57.8 +00.6	N 02 33.0 +00.5	9 51.0 -27.0	S 19 34.9 +10.7	00						
01	195 54.8 +00.0	N 18 09.3 +00.6	237 58.4 +00.6	N 02 33.5 +00.5	24 24.0 -27.0	S 19 45.6 +10.6	01						
02	210 54.8 +00.0	N 18 09.9 +00.7	252 59.0 +00.6	N 02 34.0 +00.4	38 57.0 -27.0	S 19 56.2 +10.5	02						
03	225 54.8 +00.0	N 18 10.6 +00.6	267 59.6 +00.6	N 02 34.4 +00.5	53 30.0 -27.2	S 20 06.7 +10.4	03						
04	240 54.8 +00.1	N 18 11.2 +00.6	283 00.2 +00.6	N 02 34.9 +00.5	68 02.8 -27.2	S 20 17.1 +10.3	04						
05	255 54.9 +00.0	N 18 11.8 +00.6	298 00.8 +00.6	N 02 35.4 +00.5	82 35.6 -27.2	S 20 27.4 +10.3	05						
06	270 54.9 +00.0	N 18 12.4 +00.7	313 01.4 +00.6	N 02 35.9 +00.5	97 08.4 -27.4	S 20 37.7 +10.1	06						
07	285 54.9 +00.0	N 18 13.1 +00.6	328 02.0 +00.6	N 02 36.4 +00.4	111 41.0 -27.4	S 20 47.8 +10.1	07						
08	300 54.9 +00.0	N 18 13.7 +00.6	343 02.6 +00.6	N 02 36.8 +00.5	126 13.6 -27.5	S 20 57.9 +10.0	08						
09	315 54.9 +00.0	N 18 14.3 +00.6	358 03.2 +00.6	N 02 37.3 +00.5	140 46.1 -27.6	S 21 07.9 +10.0	09						
10	330 54.9 +00.0	N 18 14.9 +00.7	13 03.8 +00.6	N 02 37.8 +00.5	155 18.5 -27.6	S 21 17.9 +09.8	10						
11	345 54.9 +00.0	N 18 15.6 +00.6	28 04.4 +00.6	N 02 38.3 +00.5	169 50.9 -27.8	S 21 27.7 +09.7	11						
12	0 54.9 +00.0	N 18 16.2 +00.6	43 05.0 +00.5	N 02 38.8 +00.5	184 23.1 -27.7	S 21 37.4 +09.7	12						
13	15 54.9 +00.0	N 18 16.8 +00.6	58 05.5 +00.6	N 02 39.3 +00.4	198 55.4 -27.9	S 21 47.1 +09.6	13						
14	30 54.9 +00.1	N 18 17.4 +00.7	73 06.1 +00.6	N 02 39.7 +00.5	213 27.5 -28.0	S 21 56.7 +09.4	14						
15	45 55.0 +00.0	N 18 18.1 +00.6	88 06.7 +00.6	N 02 40.2 +00.5	227 59.5 -28.0	S 22 06.1 +09.4	15						
16	60 55.0 +00.0	N 18 18.7 +00.6	103 07.3 +00.6	N 02 40.7 +00.5	242 31.5 -28.1	S 22 15.5 +09.3	16						
17	75 55.0 +00.0	N 18 19.3 +00.6	118 07.9 +00.6	N 02 41.2 +00.5	257 03.4 -28.1	S 22 24.8 +09.2	17						
18	90 55.0 +00.0	N 18 19.9 +00.6	133 08.5 +00.5	N 02 41.7 +00.5	271 35.3 -28.3	S 22 34.0 +09.1	18						
19	105 55.0 +00.0	N 18 20.5 +00.6	148 09.0 +00.6	N 02 42.2 +00.5	286 07.0 -28.3	S 22 43.1 +09.0	19						
20	120 55.0 +00.0	N 18 21.1 +00.7	163 09.6 +00.6	N 02 42.7 +00.5	300 38.7 -28.4	S 22 52.1 +08.9	20						
21	135 55.0 +00.0	N 18 21.8 +00.6	178 10.2 +00.6	N 02 43.2 +00.5	315 10.3 -28.4	S 23 01.0 +08.8	21						
22	150 55.0 +00.0	N 18 22.4 +00.6	193 10.8 +00.6	N 02 43.7 +00.5	329 41.9 -28.6	S 23 09.8 +08.7	22						
23	165 55.0 +00.0	N 18 23.0 +00.6	208 11.4 +00.5	N 02 44.2 +00.5	344 13.3 -28.6	S 23 18.5 +08.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'3 00'3 00'3 00'3 00'3 00'3		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 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'0 54'0 54'0 54'1 54'1 54'1								
	SHA 311° 311° 310° 310° 310° 310°		SHA 353° 353° 353° 353° 352° 352°		SHA 139° 137° 135° 133° 131° 129°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:07		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	96 14.1 +01.2	N 19 14.4 -00.4	146 56.4 +01.9	N 23 04.2 +00.0	230 12.8 +02.3	S 02 18.1 -00.1	00						
01	111 15.3 +01.3	N 19 14.0 -00.3	161 58.3 +01.8	N 23 04.2 +00.1	245 15.1 +02.2	S 02 18.0 -00.1	01						
02	126 16.6 +01.2	N 19 13.7 -00.4	177 00.1 +01.9	N 23 04.3 +00.0	260 17.3 +02.3	S 02 17.9 +00.0	02						
03	141 17.8 +01.2	N 19 13.3 -00.4	192 02.0 +01.9	N 23 04.3 +00.0	275 19.6 +02.2	S 02 17.9 -00.1	03						
04	156 19.0 +01.3	N 19 12.9 -00.4	207 03.9 +01.9	N 23 04.3 +00.1	290 21.8 +02.3	S 02 17.8 -00.1	04						
05	171 20.3 +01.2	N 19 12.5 -00.4	222 05.8 +01.9	N 23 04.4 +00.0	305 24.1 +02.3	S 02 17.7 -00.1	05						
06	186 21.5 +01.2	N 19 12.1 -00.3	237 07.7 +01.9	N 23 04.4 +00.0	320 26.4 +02.2	S 02 17.6 -00.1	06						
07	201 22.7 +01.3	N 19 11.8 -00.4	252 09.6 +01.9	N 23 04.4 +00.0	335 28.6 +02.3	S 02 17.5 +00.0	07						
08	216 24.0 +01.2	N 19 11.4 -00.4	267 11.5 +01.9	N 23 04.4 +00.1	350 30.9 +02.2	S 02 17.5 -00.1	08						
09	231 25.2 +01.2	N 19 11.0 -00.4	282 13.4 +01.9	N 23 04.5 +00.0	5 33.1 +02.3	S 02 17.4 -00.1	09						
10	246 26.4 +01.3	N 19 10.6 -00.4	297 15.3 +01.9	N 23 04.5 +00.0	20 35.4 +02.2	S 02 17.3 -00.1	10						
11	261 27.7 +01.2	N 19 10.2 -00.3	312 17.2 +01.9	N 23 04.5 +00.1	35 37.6 +02.3	S 02 17.2 -00.1	11						
12	276 28.9 +01.2	N 19 09.9 -00.4	327 19.1 +01.8	N 23 04.6 +00.0	50 39.9 +02.2	S 02 17.1 -00.1	12						
13	291 30.1 +01.2	N 19 09.5 -00.4	342 20.9 +01.9	N 23 04.6 +00.0	65 42.1 +02.3	S 02 17.0 +00.0	13						
14	306 31.3 +01.3	N 19 09.1 -00.4	357 22.8 +01.9	N 23 04.6 +00.1	80 44.4 +02.2	S 02 17.0 -00.1	14						
15	321 32.6 +01.2	N 19 08.7 -00.4	12 24.7 +01.9	N 23 04.7 +00.0	95 46.6 +02.3	S 02 16.9 -00.1	15						
16	336 33.8 +01.2	N 19 08.3 -00.4	27 26.6 +01.9	N 23 04.7 +00.0	110 48.9 +02.2	S 02 16.8 -00.1	16						
17	351 35.0 +01.3	N 19 07.9 -00.3	42 28.5 +01.9	N 23 04.7 +00.0	125 51.1 +02.3	S 02 16.7 -00.1	17						
18	6 36.3 +01.2	N 19 07.6 -00.4	57 30.4 +01.9	N 23 04.7 +00.1	140 53.4 +02.3	S 02 16.6 +00.0	18						
19	21 37.5 +01.2	N 19 07.2 -00.4	72 32.3 +01.9	N 23 04.8 +00.0	155 55.7 +02.2	S 02 16.6 -00.1	19						
20	36 38.7 +01.2	N 19 06.8 -00.4	87 34.2 +01.9	N 23 04.8 +00.0	170 57.9 +02.3	S 02 16.5 -00.1	20						
21	51 39.9 +01.3	N 19 06.4 -00.4	102 36.1 +01.8	N 23 04.8 +00.1	186 00.2 +02.2	S 02 16.4 -00.1	21						
22	66 41.2 +01.2	N 19 06.0 -00.4	117 37.9 +01.9	N 23 04.9 +00.0	201 02.4 +02.3	S 02 16.3 -00.1	22						
23	81 42.4 +01.2	N 19 05.6 -00.3	132 39.8 +01.9	N 23 04.9 +00.0	216 04.7 +02.2	S 02 16.2 -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 00'1 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 226° 226° 226° 226° 226° 226°		SHA 277° 277° 277° 277° 277° 277°		SHA 000° 000° 000° 000° 000° 000°								
	Greenwich Culmination Time: 17:33		Greenwich Culmination Time: 14:10		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	180 55.0 +00.0	N 18 23.6 +00.6	223 11.9 +00.6	N 02 44.7 +00.5	358 44.7 -28.7	S 23 27.1 +08.5	00							
01	195 55.0 +00.0	N 18 24.2 +00.6	238 12.5 +00.6	N 02 45.2 +00.5	13 16.0 -28.8	S 23 35.6 +08.4	01							
02	210 55.0 +00.0	N 18 24.8 +00.7	253 13.1 +00.5	N 02 45.7 +00.4	27 47.2 -28.8	S 23 44.0 +08.3	02							
03	225 55.0 +00.0	N 18 25.5 +00.6	268 13.6 +00.6	N 02 46.1 +00.5	42 18.4 -28.9	S 23 52.3 +08.2	03							
04	240 55.0 +00.0	N 18 26.1 +00.6	283 14.2 +00.6	N 02 46.6 +00.5	56 49.5 -29.0	S 24 00.5 +08.1	04							
05	255 55.0 +00.0	N 18 26.7 +00.6	298 14.8 +00.5	N 02 47.1 +00.5	71 20.5 -29.1	S 24 08.6 +08.0	05							
06	270 55.0 +00.0	N 18 27.3 +00.6	313 15.3 +00.6	N 02 47.6 +00.5	85 51.4 -29.1	S 24 16.6 +07.9	06							
07	285 55.0 +00.1	N 18 27.9 +00.6	328 15.9 +00.6	N 02 48.1 +00.5	100 22.3 -29.2	S 24 24.5 +07.7	07							
08	300 55.1 +00.0	N 18 28.5 +00.6	343 16.5 +00.5	N 02 48.6 +00.6	114 53.1 -29.3	S 24 32.2 +07.7	08							
09	315 55.1 +00.0	N 18 29.1 +00.6	358 17.0 +00.6	N 02 49.2 +00.5	129 23.8 -29.4	S 24 39.9 +07.6	09							
10	330 55.1 +00.0	N 18 29.7 +00.7	13 17.6 +00.6	N 02 49.7 +00.5	143 54.4 -29.4	S 24 47.5 +07.4	10							
11	345 55.1 +00.0	N 18 30.4 +00.6	28 18.2 +00.5	N 02 50.2 +00.5	158 25.0 -29.6	S 24 54.9 +07.3	11							
12	0 55.1 +00.0	N 18 31.0 +00.6	43 18.7 +00.6	N 02 50.7 +00.5	172 55.4 -29.5	S 25 02.2 +07.2	12							
13	15 55.1 +00.0	N 18 31.6 +00.6	58 19.3 +00.5	N 02 51.2 +00.5	187 25.9 -29.7	S 25 09.4 +07.1	13							
14	30 55.1 +00.0	N 18 32.2 +00.6	73 19.8 +00.6	N 02 51.7 +00.5	201 56.2 -29.7	S 25 16.5 +07.0	14							
15	45 55.1 +00.0	N 18 32.8 +00.6	88 20.4 +00.5	N 02 52.2 +00.5	216 26.5 -29.8	S 25 23.5 +06.9	15							
16	60 55.1 +00.0	N 18 33.4 +00.6	103 20.9 +00.6	N 02 52.7 +00.5	230 56.7 -29.9	S 25 30.4 +06.8	16							
17	75 55.1 +00.0	N 18 34.0 +00.6	118 21.5 +00.5	N 02 53.2 +00.5	245 26.8 -30.0	S 25 37.2 +06.6	17							
18	90 55.1 +00.0	N 18 34.6 +00.6	133 22.0 +00.6	N 02 53.7 +00.5	259 56.8 -30.0	S 25 43.8 +06.5	18							
19	105 55.1 +00.0	N 18 35.2 +00.6	148 22.6 +00.5	N 02 54.2 +00.5	274 26.8 -30.1	S 25 50.3 +06.4	19							
20	120 55.1 +00.0	N 18 35.8 +00.6	163 23.1 +00.6	N 02 54.7 +00.6	288 56.7 -30.1	S 25 56.7 +06.3	20							
21	135 55.1 +00.0	N 18 36.4 +00.6	178 23.7 +00.5	N 02 55.3 +00.5	303 26.6 -30.2	S 26 03.0 +06.2	21							
22	150 55.1 +00.0	N 18 37.0 +00.6	193 24.2 +00.6	N 02 55.8 +00.5	317 56.4 -30.3	S 26 09.2 +06.0	22							
23	165 55.1 +00.0	N 18 37.6 +00.6	208 24.8 +00.5	N 02 56.3 +00.5	332 26.1 -30.4	S 26 15.2 +06.0	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 310° 310° 310° 309° 309° 309°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'3 00'3 00'3 00'3 00'3 00'3	SHA 352° 352° 352° 352° 352° 351°	Greenwich Culmination Time: 09:06	UT 02 06 10 14 18 22	SD 14'8 14'8 14'8 14'8 14'8 14'8	HP 54'1 54'2 54'2 54'2 54'3 54'3	SHA 127° 125° 122° 120° 118° 116°	Greenwich Culmination Time: 00:05

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec		
00	96 43.6 +01.3	N 19 05.3 -00.4	147 41.7 +01.9	N 23 04.9 +00.0	231 06.9 +02.3	S 02 16.1 +00.0	00							
01	111 44.9 +01.2	N 19 04.9 -00.4	162 43.6 +01.9	N 23 04.9 +00.1	246 09.2 +02.2	S 02 16.1 -00.1	01							
02	126 46.1 +01.2	N 19 04.5 -00.4	177 45.5 +01.9	N 23 05.0 +00.0	261 11.4 +02.3	S 02 16.0 -00.1	02							
03	141 47.3 +01.2	N 19 04.1 -00.4	192 47.4 +01.9	N 23 05.0 +00.0	276 13.7 +02.3	S 02 15.9 -00.1	03							
04	156 48.5 +01.3	N 19 03.7 -00.4	207 49.3 +01.9	N 23 05.0 +00.1	291 16.0 +02.2	S 02 15.8 -00.1	04							
05	171 49.8 +01.2	N 19 03.3 -00.4	222 51.2 +01.9	N 23 05.1 +00.0	306 18.2 +02.3	S 02 15.7 +00.0	05							
06	186 51.0 +01.2	N 19 02.9 -00.3	237 53.1 +01.8	N 23 05.1 +00.0	321 20.5 +02.2	S 02 15.7 -00.1	06							
07	201 52.2 +01.2	N 19 02.6 -00.4	252 54.9 +01.9	N 23 05.1 +00.1	336 22.7 +02.3	S 02 15.6 -00.1	07							
08	216 53.4 +01.3	N 19 02.2 -00.4	267 56.8 +01.9	N 23 05.2 +00.0	351 25.0 +02.2	S 02 15.5 -00.1	08							
09	231 54.7 +01.2	N 19 01.8 -00.4	282 58.7 +01.9	N 23 05.2 +00.0	6 27.2 +02.3	S 02 15.4 -00.1	09							
10	246 55.9 +01.2	N 19 01.4 -00.4	298 00.6 +01.9	N 23 05.2 +00.0	21 29.5 +02.3	S 02 15.3 -00.1	10							
11	261 57.1 +01.2	N 19 01.0 -00.4	313 02.5 +01.9	N 23 05.2 +00.1	36 31.8 +02.2	S 02 15.2 +00.0	11							
12	276 58.3 +01.3	N 19 00.6 -00.4	328 04.4 +01.9	N 23 05.3 +00.0	51 34.0 +02.3	S 02 15.2 -00.1	12							
13	291 59.6 +01.2	N 19 00.2 -00.3	343 06.3 +01.9	N 23 05.3 +00.0	66 36.3 +02.2	S 02 15.1 -00.1	13							
14	307 00.8 +01.2	N 18 59.9 -00.4	358 08.2 +01.9	N 23 05.3 +00.1	81 38.5 +02.3	S 02 15.0 -00.1	14							
15	322 02.0 +01.2	N 18 59.5 -00.4	13 10.1 +01.8	N 23 05.4 +00.0	96 40.8 +02.2	S 02 14.9 -00.1	15							
16	337 03.2 +01.3	N 18 59.1 -00.4	28 11.9 +01.9	N 23 05.4 +00.0	111 43.0 +02.3	S 02 14.8 +00.0	16							
17	352 04.5 +01.2	N 18 58.7 -00.4	43 13.8 +01.9	N 23 05.4 +00.0	126 45.3 +02.2	S 02 14.8 -00.1	17							
18	7 05.7 +01.2	N 18 58.3 -00.4	58 15.7 +01.9	N 23 05.4 +00.1	141 47.5 +02.3	S 02 14.7 -00.1	18							
19	22 06.9 +01.2	N 18 57.9 -00.4	73 17.6 +01.9	N 23 05.5 +00.0	156 49.8 +02.3	S 02 14.6 -00.1	19							
20	37 08.1 +01.3	N 18 57.5 -00.4	88 19.5 +01.9	N 23 05.5 +00.0	171 52.1 +02.2	S 02 14.5 -00.1	20							
21	52 09.4 +01.2	N 18 57.1 -00.3	103 21.4 +01.9	N 23 05.5 +00.1	186 54.3 +02.3	S 02 14.4 +00.0	21							
22	67 10.6 +01.2	N 18 56.8 -00.4	118 23.3 +01.9	N 23 05.6 +00.0	201 56.6 +02.2	S 02 14.4 -00.1	22							
23	82 11.8 +01.2	N 18 56.4 -00.4	133 25.2 +01.8	N 23 05.6 +00.0	216 58.8 +02.3	S 02 14.3 -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 226° 226° 226° 225° 225° 225°	Greenwich Culmination Time: 17:31	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 277° 277° 277° 277° 277° 276°	Greenwich Culmination Time: 14:07	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 000° 000° 000° 000° 000° 000°	Greenwich Culmination Time: 08:34

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 55.1 +00.0	N 18 38.2 +00.6	223 25.3 +00.6	N 02 56.8 +00.5	346 55.7 -30.4	S 26 21.2 +05.8	00						
01	195 55.1 +00.0	N 18 38.8 +00.6	238 25.9 +00.5	N 02 57.3 +00.5	1 25.3 -30.5	S 26 27.0 +05.6	01						
02	210 55.1 +00.0	N 18 39.4 +00.6	253 26.4 +00.6	N 02 57.8 +00.5	15 54.8 -30.6	S 26 32.6 +05.6	02						
03	225 55.1 +00.0	N 18 40.0 +00.6	268 27.0 +00.5	N 02 58.3 +00.6	30 24.2 -30.6	S 26 38.2 +05.4	03						
04	240 55.1 +00.0	N 18 40.6 +00.6	283 27.5 +00.5	N 02 58.9 +00.5	44 53.6 -30.7	S 26 43.6 +05.3	04						
05	255 55.1 +00.0	N 18 41.2 +00.6	298 28.0 +00.6	N 02 59.4 +00.5	59 22.9 -30.8	S 26 48.9 +05.2	05						
06	270 55.1 +00.0	N 18 41.8 +00.6	313 28.6 +00.5	N 02 59.9 +00.5	73 52.1 -30.8	S 26 54.1 +05.0	06						
07	285 55.1 +00.0	N 18 42.4 +00.6	328 29.1 +00.5	N 03 00.4 +00.5	88 21.3 -30.9	S 26 59.1 +04.9	07						
08	300 55.1 +00.0	N 18 43.0 +00.6	343 29.6 +00.6	N 03 00.9 +00.6	102 50.4 -30.9	S 27 04.0 +04.8	08						
09	315 55.1 +00.0	N 18 43.6 +00.6	358 30.2 +00.5	N 03 01.5 +00.5	117 19.5 -31.0	S 27 08.8 +04.7	09						
10	330 55.1 +00.0	N 18 44.2 +00.6	13 30.7 +00.5	N 03 02.0 +00.5	131 48.5 -31.1	S 27 13.5 +04.5	10						
11	345 55.1 +00.0	N 18 44.8 +00.6	28 31.2 +00.6	N 03 02.5 +00.5	146 17.4 -31.1	S 27 18.0 +04.4	11						
12	0 55.1 +00.0	N 18 45.4 +00.6	43 31.8 +00.5	N 03 03.0 +00.6	160 46.3 -31.2	S 27 22.4 +04.2	12						
13	15 55.1 -00.1	N 18 46.0 +00.6	58 32.3 +00.5	N 03 03.6 +00.5	175 15.1 -31.2	S 27 26.6 +04.1	13						
14	30 55.0 +00.0	N 18 46.6 +00.6	73 32.8 +00.6	N 03 04.1 +00.5	189 43.9 -31.3	S 27 30.7 +04.0	14						
15	45 55.0 +00.0	N 18 47.2 +00.6	88 33.4 +00.5	N 03 04.6 +00.6	204 12.6 -31.3	S 27 34.7 +03.9	15						
16	60 55.0 +00.0	N 18 47.8 +00.6	103 33.9 +00.5	N 03 05.2 +00.5	218 41.3 -31.4	S 27 38.6 +03.7	16						
17	75 55.0 +00.0	N 18 48.4 +00.6	118 34.4 +00.5	N 03 05.7 +00.5	233 09.9 -31.5	S 27 42.3 +03.6	17						
18	90 55.0 +00.0	N 18 49.0 +00.6	133 34.9 +00.6	N 03 06.2 +00.5	247 38.4 -31.5	S 27 45.9 +03.4	18						
19	105 55.0 +00.0	N 18 49.6 +00.6	148 35.5 +00.5	N 03 06.7 +00.6	262 06.9 -31.5	S 27 49.3 +03.3	19						
20	120 55.0 +00.0	N 18 50.2 +00.6	163 36.0 +00.5	N 03 07.3 +00.5	276 35.4 -31.6	S 27 52.6 +03.2	20						
21	135 55.0 +00.0	N 18 50.8 +00.6	178 36.5 +00.5	N 03 07.8 +00.5	291 03.8 -31.6	S 27 55.8 +03.0	21						
22	150 55.0 +00.0	N 18 51.4 +00.6	193 37.0 +00.5	N 03 08.3 +00.6	305 32.2 -31.7	S 27 58.8 +02.9	22						
23	165 55.0 +00.0	N 18 52.0 +00.5	208 37.5 +00.6	N 03 08.9 +00.5	320 00.5 -31.8	S 28 01.7 +02.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'3 00'2 00'2 00'2 00'2 00'2		SD 14'8 14'8 14'8 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'4 54'4 54'5 54'5 54'6 54'6								
	SHA 309° 309° 309° 308° 308° 308°		SHA 351° 351° 351° 351° 351° 351°		SHA 114° 112° 109° 107° 105° 103°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:05		Greenwich Culmination Time: 00:54								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	97 13.0 +01.3	N 18 56.0 -00.4	148 27.0 +01.9	N 23 05.6 +00.0	232 01.1 +02.3	S 02 14.2 -00.1	00						
01	112 14.3 +01.2	N 18 55.6 -00.4	163 28.9 +01.9	N 23 05.6 +00.1	247 03.4 +02.2	S 02 14.1 -00.1	01						
02	127 15.5 +01.2	N 18 55.2 -00.4	178 30.8 +01.9	N 23 05.7 +00.0	262 05.6 +02.3	S 02 14.0 +00.0	02						
03	142 16.7 +01.2	N 18 54.8 -00.4	193 32.7 +01.9	N 23 05.7 +00.0	277 07.9 +02.2	S 02 14.0 -00.1	03						
04	157 17.9 +01.3	N 18 54.4 -00.4	208 34.6 +01.9	N 23 05.7 +00.1	292 10.1 +02.3	S 02 13.9 -00.1	04						
05	172 19.2 +01.2	N 18 54.0 -00.4	223 36.5 +01.9	N 23 05.8 +00.0	307 12.4 +02.2	S 02 13.8 -00.1	05						
06	187 20.4 +01.2	N 18 53.6 -00.4	238 38.4 +01.8	N 23 05.8 +00.0	322 14.6 +02.3	S 02 13.7 -00.1	06						
07	202 21.6 +01.2	N 18 53.2 -00.3	253 40.2 +01.9	N 23 05.8 +00.0	337 16.9 +02.3	S 02 13.6 +00.0	07						
08	217 22.8 +01.2	N 18 52.9 -00.4	268 42.1 +01.9	N 23 05.8 +00.1	352 19.2 +02.2	S 02 13.6 -00.1	08						
09	232 24.0 +01.3	N 18 52.5 -00.4	283 44.0 +01.9	N 23 05.9 +00.0	7 21.4 +02.3	S 02 13.5 -00.1	09						
10	247 25.3 +01.2	N 18 52.1 -00.4	298 45.9 +01.9	N 23 05.9 +00.0	22 23.7 +02.2	S 02 13.4 -00.1	10						
11	262 26.5 +01.2	N 18 51.7 -00.4	313 47.8 +01.9	N 23 05.9 +00.1	37 25.9 +02.3	S 02 13.3 -00.1	11						
12	277 27.7 +01.2	N 18 51.3 -00.4	328 49.7 +01.9	N 23 06.0 +00.0	52 28.2 +02.3	S 02 13.2 +00.0	12						
13	292 28.9 +01.3	N 18 50.9 -00.4	343 51.6 +01.8	N 23 06.0 +00.0	67 30.5 +02.2	S 02 13.2 -00.1	13						
14	307 30.2 +01.2	N 18 50.5 -00.4	358 53.4 +01.9	N 23 06.0 +00.0	82 32.7 +02.3	S 02 13.1 -00.1	14						
15	322 31.4 +01.2	N 18 50.1 -00.4	13 55.3 +01.9	N 23 06.0 +00.1	97 35.0 +02.2	S 02 13.0 -00.1	15						
16	337 32.6 +01.2	N 18 49.7 -00.4	28 57.2 +01.9	N 23 06.1 +00.0	112 37.2 +02.3	S 02 12.9 -00.1	16						
17	352 33.8 +01.2	N 18 49.3 -00.4	43 59.1 +01.9	N 23 06.1 +00.0	127 39.5 +02.3	S 02 12.8 +00.0	17						
18	7 35.0 +01.3	N 18 48.9 -00.3	59 01.0 +01.9	N 23 06.1 +00.0	142 41.8 +02.2	S 02 12.8 -00.1	18						
19	22 36.3 +01.2	N 18 48.6 -00.4	74 02.9 +01.9	N 23 06.1 +00.1	157 44.0 +02.3	S 02 12.7 -00.1	19						
20	37 37.5 +01.2	N 18 48.2 -00.4	89 04.8 +01.8	N 23 06.2 +00.0	172 46.3 +02.2	S 02 12.6 -00.1	20						
21	52 38.7 +01.2	N 18 47.8 -00.4	104 06.6 +01.9	N 23 06.2 +00.0	187 48.5 +02.3	S 02 12.5 -00.1	21						
22	67 39.9 +01.2	N 18 47.4 -00.4	119 08.5 +01.9	N 23 06.2 +00.1	202 50.8 +02.3	S 02 12.4 +00.0	22						
23	82 41.1 +01.3	N 18 47.0 -00.4	134 10.4 +01.9	N 23 06.3 +00.0	217 53.1 +02.2	S 02 12.4 -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 225° 225° 225° 225° 225° 225°		SHA 276° 276° 276° 276° 276° 276°		SHA 000° 000° 360° 360° 360° 360°								
	Greenwich Culmination Time: 17:29		Greenwich Culmination Time: 14:04		Greenwich Culmination Time: 08:30								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float: right;">A: 59%</span>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 55.0 +00.0	N 18 52.5 +00.6	223 38.1 +00.5	N 03 09.4 +00.6	334 28.7 -31.7	S 28 04.5 +02.6							
01	195 55.0 +00.0	N 18 53.1 +00.6	238 38.6 +00.5	N 03 10.0 +00.5	348 57.0 -31.9	S 28 07.1 +02.5							
02	210 55.0 +00.0	N 18 53.7 +00.6	253 39.1 +00.5	N 03 10.5 +00.5	3 25.1 -31.8	S 28 09.6 +02.3							
03	225 55.0 +00.0	N 18 54.3 +00.6	268 39.6 +00.5	N 03 11.0 +00.6	17 53.3 -31.9	S 28 11.9 +02.2							
04	240 55.0 +00.0	N 18 54.9 +00.6	283 40.1 +00.5	N 03 11.6 +00.5	32 21.4 -32.0	S 28 14.1 +02.0							
05	255 55.0 +00.0	N 18 55.5 +00.6	298 40.6 +00.5	N 03 12.1 +00.5	46 49.4 -32.0	S 28 16.1 +01.9							
06	270 55.0 +00.0	N 18 56.1 +00.6	313 41.1 +00.6	N 03 12.6 +00.6	61 17.4 -32.0	S 28 18.0 +01.8							
07	285 55.0 -00.1	N 18 56.7 +00.5	328 41.7 +00.5	N 03 13.2 +00.5	75 45.4 -32.0	S 28 19.8 +01.6							
08	300 54.9 +00.0	N 18 57.2 +00.6	343 42.2 +00.5	N 03 13.7 +00.6	90 13.4 -32.1	S 28 21.4 +01.4							
09	315 54.9 +00.0	N 18 57.8 +00.6	358 42.7 +00.5	N 03 14.3 +00.5	104 41.3 -32.1	S 28 22.8 +01.4							
10	330 54.9 +00.0	N 18 58.4 +00.6	13 43.2 +00.5	N 03 14.8 +00.6	119 09.2 -32.2	S 28 24.2 +01.1							
11	345 54.9 +00.0	N 18 59.0 +00.6	28 43.7 +00.5	N 03 15.4 +00.5	133 37.0 -32.2	S 28 25.3 +01.1							
12	0 54.9 +00.0	N 18 59.6 +00.6	43 44.2 +00.5	N 03 15.9 +00.5	148 04.8 -32.2	S 28 26.4 +00.9							
13	15 54.9 +00.0	N 19 00.2 +00.5	58 44.7 +00.5	N 03 16.4 +00.6	162 32.6 -32.2	S 28 27.3 +00.7							
14	30 54.9 +00.0	N 19 00.7 +00.6	73 45.2 +00.5	N 03 17.0 +00.5	177 00.4 -32.3	S 28 28.0 +00.6							
15	45 54.9 +00.0	N 19 01.3 +00.6	88 45.7 +00.5	N 03 17.5 +00.6	191 28.1 -32.2	S 28 28.6 +00.4							
16	60 54.9 +00.0	N 19 01.9 +00.6	103 46.2 +00.5	N 03 18.1 +00.5	205 55.9 -32.4	S 28 29.0 +00.3							
17	75 54.9 -00.1	N 19 02.5 +00.6	118 46.7 +00.5	N 03 18.6 +00.6	220 23.5 -32.3	S 28 29.3 +00.2							
18	90 54.8 +00.0	N 19 03.1 +00.5	133 47.2 +00.5	N 03 19.2 +00.5	234 51.2 -32.3	S 28 29.5 +00.0							
19	105 54.8 +00.0	N 19 03.6 +00.6	148 47.7 +00.5	N 03 19.7 +00.6	249 18.9 -32.4	S 28 29.5 -00.2							
20	120 54.8 +00.0	N 19 04.2 +00.6	163 48.2 +00.5	N 03 20.3 +00.5	263 46.5 -32.4	S 28 29.3 -00.3							
21	135 54.8 +00.0	N 19 04.8 +00.6	178 48.7 +00.5	N 03 20.8 +00.6	278 14.1 -32.4	S 28 29.0 -00.4							
22	150 54.8 +00.0	N 19 05.4 +00.6	193 49.2 +00.5	N 03 21.4 +00.5	292 41.7 -32.4	S 28 28.6 -00.6							
23	165 54.8 +00.0	N 19 06.0 +00.5	208 49.7 +00.5	N 03 21.9 +00.6	307 09.3 -32.4	S 28 28.0 -00.8							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 14'9 14'9 14'9 14'9 15'0 15'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 54'7 54'7 54'8 54'9 54'9 55'0								
	SHA 308° 308° 308° 307° 307° 307°		SHA 351° 350° 350° 350° 350° 350°		SHA 100° 098° 096° 093° 091° 089°								
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 09:05			Greenwich Culmination Time: 01:45						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	97 42.4 +01.2	N 18 46.6 -00.4	149 12.3 +01.9	N 23 06.3 +00.0	232 55.3 +02.3	S 02 12.3 -00.1							
01	112 43.6 +01.2	N 18 46.2 -00.4	164 14.2 +01.9	N 23 06.3 +00.0	247 57.6 +02.2	S 02 12.2 -00.1							
02	127 44.8 +01.2	N 18 45.8 -00.4	179 16.1 +01.8	N 23 06.3 +00.1	262 59.8 +02.3	S 02 12.1 -00.1							
03	142 46.0 +01.2	N 18 45.4 -00.4	194 17.9 +01.9	N 23 06.4 +00.0	278 02.1 +02.3	S 02 12.0 +00.0							
04	157 47.2 +01.3	N 18 45.0 -00.4	209 19.8 +01.9	N 23 06.4 +00.0	293 04.4 +02.2	S 02 12.0 -00.1							
05	172 48.5 +01.2	N 18 44.6 -00.4	224 21.7 +01.9	N 23 06.4 +00.1	308 06.6 +02.3	S 02 11.9 -00.1							
06	187 49.7 +01.2	N 18 44.2 -00.4	239 23.6 +01.9	N 23 06.5 +00.0	323 08.9 +02.2	S 02 11.8 -00.1							
07	202 50.9 +01.2	N 18 43.8 -00.4	254 25.5 +01.9	N 23 06.5 +00.0	338 11.1 +02.3	S 02 11.7 +00.0							
08	217 52.1 +01.2	N 18 43.4 -00.4	269 27.4 +01.9	N 23 06.5 +00.0	353 13.4 +02.3	S 02 11.7 -00.1							
09	232 53.3 +01.2	N 18 43.0 -00.4	284 29.3 +01.8	N 23 06.5 +00.1	8 15.7 +02.2	S 02 11.6 -00.1							
10	247 54.5 +01.3	N 18 42.6 -00.3	299 31.1 +01.9	N 23 06.6 +00.0	23 17.9 +02.3	S 02 11.5 -00.1							
11	262 55.8 +01.2	N 18 42.3 -00.4	314 33.0 +01.9	N 23 06.6 +00.0	38 20.2 +02.2	S 02 11.4 -00.1							
12	277 57.0 +01.2	N 18 41.9 -00.4	329 34.9 +01.9	N 23 06.6 +00.0	53 22.4 +02.3	S 02 11.3 +00.0							
13	292 58.2 +01.2	N 18 41.5 -00.4	344 36.8 +01.9	N 23 06.6 +00.1	68 24.7 +02.3	S 02 11.3 -00.1							
14	307 59.4 +01.2	N 18 41.1 -00.4	359 38.7 +01.9	N 23 06.7 +00.0	83 27.0 +02.2	S 02 11.2 -00.1							
15	323 00.6 +01.3	N 18 40.7 -00.4	14 40.6 +01.8	N 23 06.7 +00.0	98 29.2 +02.3	S 02 11.1 -00.1							
16	338 01.9 +01.2	N 18 40.3 -00.4	29 42.4 +01.9	N 23 06.7 +00.1	113 31.5 +02.3	S 02 11.0 -00.1							
17	353 03.1 +01.2	N 18 39.9 -00.4	44 44.3 +01.9	N 23 06.8 +00.0	128 33.8 +02.2	S 02 10.9 +00.0							
18	8 04.3 +01.2	N 18 39.5 -00.4	59 46.2 +01.9	N 23 06.8 +00.0	143 36.0 +02.3	S 02 10.9 -00.1							
19	23 05.5 +01.2	N 18 39.1 -00.4	74 48.1 +01.9	N 23 06.8 +00.0	158 38.3 +02.2	S 02 10.8 -00.1							
20	38 06.7 +01.2	N 18 38.7 -00.4	89 50.0 +01.8	N 23 06.8 +00.1	173 40.5 +02.3	S 02 10.7 -00.1							
21	53 07.9 +01.3	N 18 38.3 -00.4	104 51.8 +01.9	N 23 06.9 +00.0	188 42.8 +02.3	S 02 10.6 +00.0							
22	68 09.2 +01.2	N 18 37.9 -00.4	119 53.7 +01.9	N 23 06.9 +00.0	203 45.1 +02.2	S 02 10.6 -00.1							
23	83 10.4 +01.2	N 18 37.5 -00.4	134 55.6 +01.9	N 23 06.9 +00.0	218 47.3 +02.3	S 02 10.5 -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 225° 225° 225° 224° 224° 224°		SHA 276° 276° 276° 276° 276° 276°		SHA 360° 360° 360° 360° 360° 360°								
	Greenwich Culmination Time: 17:27			Greenwich Culmination Time: 14:01			Greenwich Culmination Time: 08:27						

UT	Sun				Venus				Moon <span style="float:right">A: 62%</span>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 54.8 +00.0	N 19 06.5 +00.6	223 50.2 +00.4	N 03 22.5 +00.6	321 36.9 -32.4	S 28 27.2 -00.9	00							
01	195 54.8 +00.0	N 19 07.1 +00.6	238 50.6 +00.5	N 03 23.1 +00.5	336 04.5 -32.5	S 28 26.3 -01.0	01							
02	210 54.8 -00.1	N 19 07.7 +00.6	253 51.1 +00.5	N 03 23.6 +00.6	350 32.0 -32.4	S 28 25.3 -01.2	02							
03	225 54.7 +00.0	N 19 08.3 +00.5	268 51.6 +00.5	N 03 24.2 +00.5	4 59.6 -32.5	S 28 24.1 -01.3	03							
04	240 54.7 +00.0	N 19 08.8 +00.6	283 52.1 +00.5	N 03 24.7 +00.6	19 27.1 -32.4	S 28 22.8 -01.5	04							
05	255 54.7 +00.0	N 19 09.4 +00.6	298 52.6 +00.5	N 03 25.3 +00.5	33 54.7 -32.5	S 28 21.3 -01.7	05							
06	270 54.7 +00.0	N 19 10.0 +00.6	313 53.1 +00.5	N 03 25.8 +00.6	48 22.2 -32.5	S 28 19.6 -01.7	06							
07	285 54.7 +00.0	N 19 10.6 +00.5	328 53.6 +00.4	N 03 26.4 +00.6	62 49.7 -32.4	S 28 17.9 -02.0	07							
08	300 54.7 +00.0	N 19 11.1 +00.6	343 54.0 +00.5	N 03 27.0 +00.5	77 17.3 -32.5	S 28 15.9 -02.1	08							
09	315 54.7 -00.1	N 19 11.7 +00.6	358 54.5 +00.5	N 03 27.5 +00.6	91 44.8 -32.5	S 28 13.8 -02.2	09							
10	330 54.6 +00.0	N 19 12.3 +00.5	13 55.0 +00.5	N 03 28.1 +00.5	106 12.3 -32.4	S 28 11.6 -02.4	10							
11	345 54.6 +00.0	N 19 12.8 +00.6	28 55.5 +00.5	N 03 28.6 +00.6	120 39.9 -32.5	S 28 09.2 -02.5	11							
12	0 54.6 +00.0	N 19 13.4 +00.6	43 56.0 +00.4	N 03 29.2 +00.6	135 07.4 -32.4	S 28 06.7 -02.7	12							
13	15 54.6 +00.0	N 19 14.0 +00.5	58 56.4 +00.5	N 03 29.8 +00.5	149 35.0 -32.5	S 28 04.0 -02.8	13							
14	30 54.6 +00.0	N 19 14.5 +00.6	73 56.9 +00.5	N 03 30.3 +00.6	164 02.5 -32.4	S 28 01.2 -03.0	14							
15	45 54.6 +00.0	N 19 15.1 +00.6	88 57.4 +00.5	N 03 30.9 +00.6	178 30.1 -32.4	S 27 58.2 -03.2	15							
16	60 54.6 -00.1	N 19 15.7 +00.5	103 57.9 +00.4	N 03 31.5 +00.5	192 57.7 -32.4	S 27 55.0 -03.2	16							
17	75 54.5 +00.0	N 19 16.2 +00.6	118 58.3 +00.5	N 03 32.0 +00.6	207 25.3 -32.4	S 27 51.8 -03.5	17							
18	90 54.5 +00.0	N 19 16.8 +00.6	133 58.8 +00.5	N 03 32.6 +00.6	221 52.9 -32.4	S 27 48.3 -03.6	18							
19	105 54.5 +00.0	N 19 17.4 +00.5	148 59.3 +00.4	N 03 33.2 +00.5	236 20.5 -32.4	S 27 44.7 -03.7	19							
20	120 54.5 +00.0	N 19 17.9 +00.6	163 59.7 +00.5	N 03 33.7 +00.6	250 48.1 -32.3	S 27 41.0 -03.9	20							
21	135 54.5 +00.0	N 19 18.5 +00.6	179 00.2 +00.5	N 03 34.3 +00.6	265 15.8 -32.4	S 27 37.1 -04.0	21							
22	150 54.5 -00.1	N 19 19.1 +00.5	194 00.7 +00.5	N 03 34.9 +00.6	279 43.4 -32.3	S 27 33.1 -04.1	22							
23	165 54.4 +00.0	N 19 19.6 +00.6	209 01.2 +00.4	N 03 35.5 +00.5	294 11.1 -32.3	S 27 29.0 -04.4	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 307° 307° 307° 306° 306° 306°	Greenwich Culmination Time: 11:56	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'3 00'3 00'3 00'3 00'3 00'3	SHA 350° 350° 350° 349° 349° 349°	Greenwich Culmination Time: 09:04	UT 02 06 10 14 18 22	SD 15'0 15'0 15'0 15'1 15'1 15'1	HP 55'1 55'1 55'2 55'3 55'4 55'5	SHA 086° 084° 082° 080° 077° 075°	Greenwich Culmination Time: 02:39

  

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	98 11.6 +01.2	N 18 37.1 -00.4	149 57.5 +01.9	N 23 06.9 +00.1	233 49.6 +02.3	S 02 10.4 -00.1	00							
01	113 12.8 +01.2	N 18 36.7 -00.4	164 59.4 +01.9	N 23 07.0 +00.0	248 51.9 +02.2	S 02 10.3 -00.1	01							
02	128 14.0 +01.2	N 18 36.3 -00.4	180 01.3 +01.8	N 23 07.0 +00.0	263 54.1 +02.3	S 02 10.2 +00.0	02							
03	143 15.2 +01.2	N 18 35.9 -00.4	195 03.1 +01.9	N 23 07.0 +00.1	278 56.4 +02.2	S 02 10.2 -00.1	03							
04	158 16.4 +01.3	N 18 35.5 -00.4	210 05.0 +01.9	N 23 07.1 +00.0	293 58.6 +02.3	S 02 10.1 -00.1	04							
05	173 17.7 +01.2	N 18 35.1 -00.4	225 06.9 +01.9	N 23 07.1 +00.0	309 00.9 +02.3	S 02 10.0 -00.1	05							
06	188 18.9 +01.2	N 18 34.7 -00.4	240 08.8 +01.9	N 23 07.1 +00.0	324 03.2 +02.2	S 02 09.9 +00.0	06							
07	203 20.1 +01.2	N 18 34.3 -00.4	255 10.7 +01.9	N 23 07.1 +00.1	339 05.4 +02.3	S 02 09.9 -00.1	07							
08	218 21.3 +01.2	N 18 33.9 -00.4	270 12.6 +01.8	N 23 07.2 +00.0	354 07.7 +02.3	S 02 09.8 -00.1	08							
09	233 22.5 +01.2	N 18 33.5 -00.4	285 14.4 +01.9	N 23 07.2 +00.0	9 10.0 +02.2	S 02 09.7 -00.1	09							
10	248 23.7 +01.3	N 18 33.1 -00.4	300 16.3 +01.9	N 23 07.2 +00.0	24 12.2 +02.3	S 02 09.6 -00.1	10							
11	263 25.0 +01.2	N 18 32.7 -00.4	315 18.2 +01.9	N 23 07.2 +00.1	39 14.5 +02.3	S 02 09.5 +00.0	11							
12	278 26.2 +01.2	N 18 32.3 -00.4	330 20.1 +01.9	N 23 07.3 +00.0	54 16.8 +02.2	S 02 09.5 -00.1	12							
13	293 27.4 +01.2	N 18 31.9 -00.4	345 22.0 +01.8	N 23 07.3 +00.0	69 19.0 +02.3	S 02 09.4 -00.1	13							
14	308 28.6 +01.2	N 18 31.5 -00.4	0 23.8 +01.9	N 23 07.3 +00.0	84 21.3 +02.2	S 02 09.3 -00.1	14							
15	323 29.8 +01.2	N 18 31.1 -00.4	15 25.7 +01.9	N 23 07.3 +00.1	99 23.5 +02.3	S 02 09.2 +00.0	15							
16	338 31.0 +01.2	N 18 30.7 -00.4	30 27.6 +01.9	N 23 07.4 +00.0	114 25.8 +02.3	S 02 09.2 -00.1	16							
17	353 32.2 +01.2	N 18 30.3 -00.4	45 29.5 +01.9	N 23 07.4 +00.0	129 28.1 +02.2	S 02 09.1 -00.1	17							
18	8 33.4 +01.3	N 18 29.9 -00.4	60 31.4 +01.8	N 23 07.4 +00.1	144 30.3 +02.3	S 02 09.0 -00.1	18							
19	23 34.7 +01.2	N 18 29.5 -00.4	75 33.2 +01.9	N 23 07.5 +00.0	159 32.6 +02.3	S 02 08.9 -00.1	19							
20	38 35.9 +01.2	N 18 29.1 -00.4	90 35.1 +01.9	N 23 07.5 +00.0	174 34.9 +02.2	S 02 08.8 +00.0	20							
21	53 37.1 +01.2	N 18 28.7 -00.4	105 37.0 +01.9	N 23 07.5 +00.0	189 37.1 +02.3	S 02 08.8 -00.1	21							
22	68 38.3 +01.2	N 18 28.3 -00.4	120 38.9 +01.9	N 23 07.5 +00.1	204 39.4 +02.3	S 02 08.7 -00.1	22							
23	83 39.5 +01.2	N 18 27.9 -00.4	135 40.8 +01.8	N 23 07.6 +00.0	219 41.7 +02.2	S 02 08.6 -00.1	23							
UT 02 06 10 14 18 22	SD 00'1 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 224° 224° 224° 224° 224° 224°	Greenwich Culmination Time: 17:25	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 276° 276° 276° 276° 276° 276°	Greenwich Culmination Time: 13:58	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 360° 360° 360° 360° 360° 360°	Greenwich Culmination Time: 08:23

Table with columns for planet (Sun, Venus, Moon, Mars, Jupiter, Saturn) and rows for Universal Time (UT) from 00 to 23. Each row contains data for GHA, ddGHA, Dec, and dDec. Summary statistics (SD, HP, SHA) and Greenwich Culmination Time are provided at the bottom of each planet's section.

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 69%</span>				UT
	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	
00	180 53.9 +00.0	N 19 33.5 +00.6	224 12.5 +00.4	N 03 50.0 +00.6	295 52.7 -31.4	S 24 57.9 -07.8							
01	195 53.9 +00.0	N 19 34.1 +00.5	239 12.9 +00.5	N 03 50.6 +00.6	310 21.3 -31.4	S 24 50.1 -08.0							
02	210 53.9 -00.1	N 19 34.6 +00.6	254 13.4 +00.4	N 03 51.2 +00.5	324 49.9 -31.4	S 24 42.1 -08.2							
03	225 53.8 +00.0	N 19 35.2 +00.5	269 13.8 +00.4	N 03 51.7 +00.6	339 18.5 -31.3	S 24 33.9 -08.2							
04	240 53.8 +00.0	N 19 35.7 +00.6	284 14.2 +00.5	N 03 52.3 +00.6	353 47.2 -31.3	S 24 25.7 -08.4							
05	255 53.8 +00.0	N 19 36.3 +00.5	299 14.7 +00.4	N 03 52.9 +00.6	8 15.9 -31.2	S 24 17.3 -08.5							
06	270 53.8 -00.1	N 19 36.8 +00.6	314 15.1 +00.4	N 03 53.5 +00.6	22 44.7 -31.2	S 24 08.8 -08.7							
07	285 53.7 +00.0	N 19 37.4 +00.5	329 15.5 +00.5	N 03 54.1 +00.6	37 13.5 -31.1	S 24 00.1 -08.7							
08	300 53.7 +00.0	N 19 37.9 +00.6	344 16.0 +00.4	N 03 54.7 +00.6	51 42.4 -31.1	S 23 51.4 -09.0							
09	315 53.7 +00.0	N 19 38.5 +00.5	359 16.4 +00.4	N 03 55.3 +00.6	66 11.3 -31.0	S 23 42.4 -09.0							
10	330 53.7 -00.1	N 19 39.0 +00.5	14 16.8 +00.5	N 03 55.9 +00.6	80 40.3 -31.0	S 23 33.4 -09.2							
11	345 53.6 +00.0	N 19 39.5 +00.6	29 17.3 +00.4	N 03 56.5 +00.6	95 09.3 -31.0	S 23 24.2 -09.3							
12	0 53.6 +00.0	N 19 40.1 +00.5	44 17.7 +00.4	N 03 57.1 +00.6	109 38.3 -30.9	S 23 14.9 -09.4							
13	15 53.6 -00.1	N 19 40.6 +00.6	59 18.1 +00.4	N 03 57.7 +00.6	124 07.4 -30.8	S 23 05.5 -09.5							
14	30 53.5 +00.0	N 19 41.2 +00.5	74 18.5 +00.5	N 03 58.3 +00.6	138 36.6 -30.8	S 22 56.0 -09.7							
15	45 53.5 +00.0	N 19 41.7 +00.6	89 19.0 +00.4	N 03 58.9 +00.6	153 05.8 -30.8	S 22 46.3 -09.8							
16	60 53.5 +00.0	N 19 42.3 +00.5	104 19.4 +00.4	N 03 59.5 +00.6	167 35.0 -30.7	S 22 36.5 -09.9							
17	75 53.5 -00.1	N 19 42.8 +00.5	119 19.8 +00.4	N 04 00.1 +00.6	182 04.3 -30.7	S 22 26.6 -10.0							
18	90 53.4 +00.0	N 19 43.3 +00.6	134 20.2 +00.5	N 04 00.7 +00.6	196 33.6 -30.6	S 22 16.6 -10.2							
19	105 53.4 +00.0	N 19 43.9 +00.5	149 20.7 +00.4	N 04 01.3 +00.6	211 03.0 -30.5	S 22 06.4 -10.3							
20	120 53.4 -00.1	N 19 44.4 +00.5	164 21.1 +00.4	N 04 01.9 +00.6	225 32.5 -30.5	S 21 56.1 -10.4							
21	135 53.3 +00.0	N 19 44.9 +00.6	179 21.5 +00.4	N 04 02.5 +00.6	240 02.0 -30.5	S 21 45.7 -10.5							
22	150 53.3 +00.0	N 19 45.5 +00.5	194 21.9 +00.4	N 04 03.1 +00.6	254 31.5 -30.4	S 21 35.2 -10.6							
23	165 53.3 +00.0	N 19 46.0 +00.5	209 22.3 +00.5	N 04 03.7 +00.6	269 01.1 -30.4	S 21 24.6 -10.8							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'3 15'3 15'3 15'4 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 56'1 56'2 56'3 56'4 56'5 56'7								
	SHA 305° 305° 305° 304° 304° 304°		SHA 348° 348° 348° 348° 348° 348°		SHA 059° 057° 054° 052° 050° 048°								
	Greenwich Culmination Time: 11:56		Greenwich Culmination Time: 09:02		Greenwich Culmination Time: 04:25								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	GHA ° / ' / ''	ddGHA	Dec ° / ' / ''	dDec	
00	99 09.8 +01.2	N 18 17.8 -00.4	151 27.7 +01.9	N 23 08.2 +00.0	235 38.3 +02.3	S 02 06.7 -00.1							
01	114 11.0 +01.2	N 18 17.4 -00.4	166 29.6 +01.9	N 23 08.2 +00.1	250 40.6 +02.3	S 02 06.6 +00.0							
02	129 12.2 +01.2	N 18 17.0 -00.4	181 31.5 +01.9	N 23 08.3 +00.0	265 42.9 +02.2	S 02 06.6 -00.1							
03	144 13.4 +01.2	N 18 16.6 -00.4	196 33.4 +01.9	N 23 08.3 +00.0	280 45.1 +02.3	S 02 06.5 -00.1							
04	159 14.6 +01.2	N 18 16.2 -00.4	211 35.3 +01.8	N 23 08.3 +00.0	295 47.4 +02.3	S 02 06.4 -00.1							
05	174 15.8 +01.2	N 18 15.8 -00.4	226 37.1 +01.9	N 23 08.3 +00.1	310 49.7 +02.2	S 02 06.3 +00.0							
06	189 17.0 +01.2	N 18 15.4 -00.4	241 39.0 +01.9	N 23 08.4 +00.0	325 51.9 +02.3	S 02 06.3 -00.1							
07	204 18.2 +01.2	N 18 15.0 -00.4	256 40.9 +01.9	N 23 08.4 +00.0	340 54.2 +02.3	S 02 06.2 -00.1							
08	219 19.4 +01.2	N 18 14.6 -00.5	271 42.8 +01.8	N 23 08.4 +00.0	355 56.5 +02.3	S 02 06.1 -00.1							
09	234 20.6 +01.2	N 18 14.1 -00.4	286 44.6 +01.9	N 23 08.4 +00.1	10 58.8 +02.2	S 02 06.0 +00.0							
10	249 21.8 +01.3	N 18 13.7 -00.4	301 46.5 +01.9	N 23 08.5 +00.0	26 01.0 +02.3	S 02 06.0 -00.1							
11	264 23.1 +01.2	N 18 13.3 -00.4	316 48.4 +01.9	N 23 08.5 +00.0	41 03.3 +02.3	S 02 05.9 -00.1							
12	279 24.3 +01.2	N 18 12.9 -00.4	331 50.3 +01.9	N 23 08.5 +00.0	56 05.6 +02.2	S 02 05.8 -00.1							
13	294 25.5 +01.2	N 18 12.5 -00.4	346 52.2 +01.8	N 23 08.5 +00.1	71 07.8 +02.3	S 02 05.7 +00.0							
14	309 26.7 +01.2	N 18 12.1 -00.4	1 54.0 +01.9	N 23 08.6 +00.0	86 10.1 +02.3	S 02 05.7 -00.1							
15	324 27.9 +01.2	N 18 11.7 -00.4	16 55.9 +01.9	N 23 08.6 +00.0	101 12.4 +02.2	S 02 05.6 -00.1							
16	339 29.1 +01.2	N 18 11.3 -00.4	31 57.8 +01.9	N 23 08.6 +00.0	116 14.6 +02.3	S 02 05.5 -00.1							
17	354 30.3 +01.2	N 18 10.9 -00.4	46 59.7 +01.8	N 23 08.6 +00.1	131 16.9 +02.3	S 02 05.4 +00.0							
18	9 31.5 +01.2	N 18 10.5 -00.4	62 01.5 +01.9	N 23 08.7 +00.0	146 19.2 +02.2	S 02 05.4 -00.1							
19	24 32.7 +01.2	N 18 10.1 -00.5	77 03.4 +01.9	N 23 08.7 +00.0	161 21.4 +02.3	S 02 05.3 -00.1							
20	39 33.9 +01.2	N 18 09.6 -00.4	92 05.3 +01.9	N 23 08.7 +00.0	176 23.7 +02.3	S 02 05.2 -00.1							
21	54 35.1 +01.2	N 18 09.2 -00.4	107 07.2 +01.8	N 23 08.7 +00.1	191 26.0 +02.3	S 02 05.1 +00.0							
22	69 36.3 +01.2	N 18 08.8 -00.4	122 09.0 +01.9	N 23 08.8 +00.0	206 28.3 +02.2	S 02 05.1 -00.1							
23	84 37.5 +01.2	N 18 08.4 -00.4	137 10.9 +01.9	N 23 08.8 +00.0	221 30.5 +02.3	S 02 05.0 -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 223° 223° 223° 223° 223° 223°		SHA 276° 275° 275° 275° 275° 275°		SHA 360° 360° 360° 360° 360° 360°								
	Greenwich Culmination Time: 17:21		Greenwich Culmination Time: 13:52		Greenwich Culmination Time: 08:16								



UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	180	53.3	-00.1	N 19 46.5	+00.6	224	22.8	+00.4	N 04 04.3	+00.6	283	30.7	-30.3	S 21 13.8	-10.9	00
01	195	53.2	+00.0	N 19 47.1	+00.5	239	23.2	+00.4	N 04 04.9	+00.6	298	00.4	-30.3	S 21 02.9	-11.0	01
02	210	53.2	+00.0	N 19 47.6	+00.6	254	23.6	+00.4	N 04 05.5	+00.6	312	30.1	-30.2	S 20 51.9	-11.1	02
03	225	53.2	-00.1	N 19 48.2	+00.5	269	24.0	+00.4	N 04 06.1	+00.7	326	59.9	-30.2	S 20 40.8	-11.2	03
04	240	53.1	+00.0	N 19 48.7	+00.5	284	24.4	+00.4	N 04 06.8	+00.6	341	29.7	-30.1	S 20 29.6	-11.3	04
05	255	53.1	+00.0	N 19 49.2	+00.5	299	24.8	+00.4	N 04 07.4	+00.6	355	59.6	-30.1	S 20 18.3	-11.4	05
06	270	53.1	-00.1	N 19 49.7	+00.6	314	25.2	+00.4	N 04 08.0	+00.6	10	29.5	-30.0	S 20 06.9	-11.6	06
07	285	53.0	+00.0	N 19 50.3	+00.5	329	25.6	+00.4	N 04 08.6	+00.6	24	59.5	-30.0	S 19 55.3	-11.7	07
08	300	53.0	+00.0	N 19 50.8	+00.5	344	26.0	+00.5	N 04 09.2	+00.6	39	29.5	-30.0	S 19 43.6	-11.7	08
09	315	53.0	-00.1	N 19 51.3	+00.6	359	26.5	+00.4	N 04 09.8	+00.6	53	59.5	-29.9	S 19 31.9	-11.9	09
10	330	52.9	+00.0	N 19 51.9	+00.5	14	26.9	+00.4	N 04 10.4	+00.6	68	29.6	-29.8	S 19 20.0	-12.0	10
11	345	52.9	+00.0	N 19 52.4	+00.5	29	27.3	+00.4	N 04 11.0	+00.6	82	59.8	-29.8	S 19 08.0	-12.1	11
12	0	52.9	-00.1	N 19 52.9	+00.6	44	27.7	+00.4	N 04 11.6	+00.7	97	30.0	-29.8	S 18 55.9	-12.2	12
13	15	52.8	+00.0	N 19 53.5	+00.5	59	28.1	+00.4	N 04 12.3	+00.6	112	00.2	-29.7	S 18 43.7	-12.3	13
14	30	52.8	+00.0	N 19 54.0	+00.5	74	28.5	+00.4	N 04 12.9	+00.6	126	30.5	-29.7	S 18 31.4	-12.4	14
15	45	52.8	-00.1	N 19 54.5	+00.5	89	28.9	+00.4	N 04 13.5	+00.6	141	00.8	-29.6	S 18 19.0	-12.5	15
16	60	52.7	+00.0	N 19 55.0	+00.6	104	29.3	+00.4	N 04 14.1	+00.6	155	31.2	-29.6	S 18 06.5	-12.6	16
17	75	52.7	+00.0	N 19 55.6	+00.5	119	29.7	+00.4	N 04 14.7	+00.6	170	01.6	-29.5	S 17 53.9	-12.7	17
18	90	52.7	-00.1	N 19 56.1	+00.5	134	30.1	+00.4	N 04 15.3	+00.7	184	32.1	-29.5	S 17 41.2	-12.9	18
19	105	52.6	+00.0	N 19 56.6	+00.5	149	30.5	+00.4	N 04 16.0	+00.6	199	02.6	-29.5	S 17 28.3	-12.9	19
20	120	52.6	+00.0	N 19 57.1	+00.6	164	30.9	+00.4	N 04 16.6	+00.6	213	33.1	-29.4	S 17 15.4	-13.0	20
21	135	52.6	-00.1	N 19 57.7	+00.5	179	31.3	+00.4	N 04 17.2	+00.6	228	03.7	-29.4	S 17 02.4	-13.1	21
22	150	52.5	+00.0	N 19 58.2	+00.5	194	31.7	+00.4	N 04 17.8	+00.6	242	34.3	-29.4	S 16 49.3	-13.2	22
23	165	52.5	+00.0	N 19 58.7	+00.5	209	32.1	+00.4	N 04 18.4	+00.7	257	04.9	-29.3	S 16 36.1	-13.3	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 15'8 15'8 15'8 15'8 15'8 15'8					SD 00'2 00'2 00'2 00'2 00'2 00'2					SD 15'5 15'5 15'5 15'6 15'6 15'6					
	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 56'8 56'9 57'0 57'1 57'3 57'4					
	SHA 304° 304° 304° 303° 303° 303°					SHA 347° 347° 347° 347° 347° 347°					SHA 046° 043° 041° 039° 037° 035°					
	Greenwich Culmination Time: 11:56					Greenwich Culmination Time: 09:02					Greenwich Culmination Time: 05:16					
UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	99	38.7	+01.2	N 18 08.0	-00.4	152	12.8	+01.9	N 23 08.8	+00.0	236	32.8	+02.3	S 02 04.9	-00.1	00
01	114	39.9	+01.2	N 18 07.6	-00.4	167	14.7	+01.8	N 23 08.8	+00.1	251	35.1	+02.2	S 02 04.8	+00.0	01
02	129	41.1	+01.2	N 18 07.2	-00.4	182	16.5	+01.9	N 23 08.9	+00.0	266	37.3	+02.3	S 02 04.8	-00.1	02
03	144	42.3	+01.2	N 18 06.8	-00.4	197	18.4	+01.9	N 23 08.9	+00.0	281	39.6	+02.3	S 02 04.7	-00.1	03
04	159	43.5	+01.2	N 18 06.4	-00.4	212	20.3	+01.9	N 23 08.9	+00.0	296	41.9	+02.3	S 02 04.6	-00.1	04
05	174	44.7	+01.3	N 18 06.0	-00.5	227	22.2	+01.9	N 23 08.9	+00.0	311	44.2	+02.2	S 02 04.5	+00.0	05
06	189	46.0	+01.2	N 18 05.5	-00.4	242	24.1	+01.8	N 23 08.9	+00.1	326	46.4	+02.3	S 02 04.5	-00.1	06
07	204	47.2	+01.2	N 18 05.1	-00.4	257	25.9	+01.9	N 23 09.0	+00.0	341	48.7	+02.3	S 02 04.4	-00.1	07
08	219	48.4	+01.2	N 18 04.7	-00.4	272	27.8	+01.9	N 23 09.0	+00.0	356	51.0	+02.2	S 02 04.3	-00.1	08
09	234	49.6	+01.2	N 18 04.3	-00.4	287	29.7	+01.9	N 23 09.0	+00.0	11	53.2	+02.3	S 02 04.2	+00.0	09
10	249	50.8	+01.2	N 18 03.9	-00.4	302	31.6	+01.8	N 23 09.0	+00.1	26	55.5	+02.3	S 02 04.2	-00.1	10
11	264	52.0	+01.2	N 18 03.5	-00.4	317	33.4	+01.9	N 23 09.1	+00.0	41	57.8	+02.3	S 02 04.1	-00.1	11
12	279	53.2	+01.2	N 18 03.1	-00.4	332	35.3	+01.9	N 23 09.1	+00.0	57	00.1	+02.2	S 02 04.0	+00.0	12
13	294	54.4	+01.2	N 18 02.7	-00.5	347	37.2	+01.9	N 23 09.1	+00.0	72	02.3	+02.3	S 02 04.0	-00.1	13
14	309	55.6	+01.2	N 18 02.2	-00.4	2	39.1	+01.8	N 23 09.1	+00.1	87	04.6	+02.3	S 02 03.9	-00.1	14
15	324	56.8	+01.2	N 18 01.8	-00.4	17	40.9	+01.9	N 23 09.2	+00.0	102	06.9	+02.2	S 02 03.8	-00.1	15
16	339	58.0	+01.2	N 18 01.4	-00.4	32	42.8	+01.9	N 23 09.2	+00.0	117	09.1	+02.3	S 02 03.7	+00.0	16
17	354	59.2	+01.2	N 18 01.0	-00.4	47	44.7	+01.9	N 23 09.2	+00.0	132	11.4	+02.3	S 02 03.7	-00.1	17
18	10	00.4	+01.2	N 18 00.6	-00.4	62	46.6	+01.8	N 23 09.2	+00.1	147	13.7	+02.3	S 02 03.6	-00.1	18
19	25	01.6	+01.2	N 18 00.2	-00.4	77	48.4	+01.9	N 23 09.3	+00.0	162	16.0	+02.2	S 02 03.5	-00.1	19
20	40	02.8	+01.2	N 17 59.8	-00.5	92	50.3	+01.9	N 23 09.3	+00.0	177	18.2	+02.3	S 02 03.4	+00.0	20
21	55	04.0	+01.2	N 17 59.3	-00.4	107	52.2	+01.8	N 23 09.3	+00.0	192	20.5	+02.3	S 02 03.4	-00.1	21
22	70	05.2	+01.2	N 17 58.9	-00.4	122	54.0	+01.9	N 23 09.3	+00.1	207	22.8	+02.3	S 02 03.3	-00.1	22
23	85	06.4	+01.2	N 17 58.5	-00.4	137	55.9	+01.9	N 23 09.4	+00.0	222	25.1	+02.2	S 02 03.2	-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 223° 223° 223° 222° 222° 222°					SHA 275° 275° 275° 275° 275° 275°					SHA 360° 360° 360° 360° 360° 360°					
	Greenwich Culmination Time: 17:20					Greenwich Culmination Time: 13:49					Greenwich Culmination Time: 08:12					

UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "				
00	180	52.5	-00.1	N 19 59.2	+00.5	224	32.5	+00.4	N 04 19.1	+00.6	271	35.6	-29.2	S 16 22.8	-13.4	00
01	195	52.4	+00.0	N 19 59.7	+00.6	239	32.9	+00.3	N 04 19.7	+00.6	286	06.4	-29.3	S 16 09.4	-13.5	01
02	210	52.4	+00.0	N 20 00.3	+00.5	254	33.2	+00.4	N 04 20.3	+00.6	300	37.1	-29.2	S 15 55.9	-13.5	02
03	225	52.4	-00.1	N 20 00.8	+00.5	269	33.6	+00.4	N 04 20.9	+00.6	315	07.9	-29.1	S 15 42.4	-13.7	03
04	240	52.3	+00.0	N 20 01.3	+00.5	284	34.0	+00.4	N 04 21.5	+00.7	329	38.8	-29.2	S 15 28.7	-13.8	04
05	255	52.3	-00.1	N 20 01.8	+00.5	299	34.4	+00.4	N 04 22.2	+00.6	344	09.6	-29.1	S 15 14.9	-13.8	05
06	270	52.2	+00.0	N 20 02.3	+00.6	314	34.8	+00.4	N 04 22.8	+00.6	358	40.5	-29.0	S 15 01.1	-14.0	06
07	285	52.2	+00.0	N 20 02.9	+00.5	329	35.2	+00.4	N 04 23.4	+00.6	13	11.5	-29.0	S 14 47.1	-14.0	07
08	300	52.2	-00.1	N 20 03.4	+00.5	344	35.6	+00.4	N 04 24.0	+00.7	27	42.5	-29.0	S 14 33.1	-14.1	08
09	315	52.1	+00.0	N 20 03.9	+00.5	359	36.0	+00.3	N 04 24.7	+00.6	42	13.5	-29.0	S 14 19.0	-14.2	09
10	330	52.1	+00.0	N 20 04.4	+00.5	14	36.3	+00.4	N 04 25.3	+00.6	56	44.5	-28.9	S 14 04.8	-14.3	10
11	345	52.1	-00.1	N 20 04.9	+00.5	29	36.7	+00.4	N 04 25.9	+00.7	71	15.6	-28.9	S 13 50.5	-14.3	11
12	0	52.0	+00.0	N 20 05.4	+00.5	44	37.1	+00.4	N 04 26.6	+00.6	85	46.7	-28.9	S 13 36.2	-14.5	12
13	15	52.0	-00.1	N 20 05.9	+00.6	59	37.5	+00.4	N 04 27.2	+00.6	100	17.8	-28.9	S 13 21.7	-14.5	13
14	30	51.9	+00.0	N 20 06.5	+00.5	74	37.9	+00.4	N 04 27.8	+00.7	114	48.9	-28.8	S 13 07.2	-14.6	14
15	45	51.9	+00.0	N 20 07.0	+00.5	89	38.3	+00.3	N 04 28.5	+00.6	129	20.1	-28.8	S 12 52.6	-14.7	15
16	60	51.9	-00.1	N 20 07.5	+00.5	104	38.6	+00.4	N 04 29.1	+00.6	143	51.3	-28.8	S 12 37.9	-14.7	16
17	75	51.8	+00.0	N 20 08.0	+00.5	119	39.0	+00.4	N 04 29.7	+00.6	158	22.5	-28.7	S 12 23.2	-14.9	17
18	90	51.8	-00.1	N 20 08.5	+00.5	134	39.4	+00.4	N 04 30.3	+00.7	172	53.8	-28.8	S 12 08.3	-14.9	18
19	105	51.7	+00.0	N 20 09.0	+00.5	149	39.8	+00.3	N 04 31.0	+00.6	187	25.0	-28.7	S 11 53.4	-15.0	19
20	120	51.7	+00.0	N 20 09.5	+00.5	164	40.1	+00.4	N 04 31.6	+00.6	201	56.3	-28.7	S 11 38.4	-15.0	20
21	135	51.7	-00.1	N 20 10.0	+00.5	179	40.5	+00.4	N 04 32.2	+00.7	216	27.6	-28.7	S 11 23.4	-15.1	21
22	150	51.6	+00.0	N 20 10.5	+00.5	194	40.9	+00.4	N 04 32.9	+00.6	230	58.9	-28.6	S 11 08.3	-15.2	22
23	165	51.6	-00.1	N 20 11.0	+00.6	209	41.3	+00.3	N 04 33.5	+00.7	245	30.3	-28.7	S 10 53.1	-15.3	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 15'8 15'8 15'8 15'8 15'8 15'8					SD 00'2 00'2 00'2 00'2 00'2 00'2					SD 15'7 15'7 15'7 15'8 15'8 15'9					
	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 57'5 57'6 57'8 57'9 58'0 58'2					
	SHA 303° 303° 303° 302° 302° 302°					SHA 347° 346° 346° 346° 346° 346°					SHA 033° 031° 028° 026° 024° 022°					
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 09:01				Greenwich Culmination Time: 06:05							

  

UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "				
00	100	07.6	+01.2	N 17 58.1	-00.4	152	57.8	+01.9	N 23 09.4	+00.0	237	27.3	+02.3	S 02 03.1	+00.0	00
01	115	08.8	+01.2	N 17 57.7	-00.4	167	59.7	+01.8	N 23 09.4	+00.0	252	29.6	+02.3	S 02 03.1	-00.1	01
02	130	10.0	+01.2	N 17 57.3	-00.4	183	01.5	+01.9	N 23 09.4	+00.1	267	31.9	+02.2	S 02 03.0	-00.1	02
03	145	11.2	+01.2	N 17 56.9	-00.5	198	03.4	+01.9	N 23 09.5	+00.0	282	34.1	+02.3	S 02 02.9	+00.0	03
04	160	12.4	+01.2	N 17 56.4	-00.4	213	05.3	+01.9	N 23 09.5	+00.0	297	36.4	+02.3	S 02 02.9	-00.1	04
05	175	13.6	+01.2	N 17 56.0	-00.4	228	07.2	+01.8	N 23 09.5	+00.0	312	38.7	+02.3	S 02 02.8	-00.1	05
06	190	14.8	+01.2	N 17 55.6	-00.4	243	09.0	+01.9	N 23 09.5	+00.0	327	41.0	+02.2	S 02 02.7	-00.1	06
07	205	16.0	+01.2	N 17 55.2	-00.4	258	10.9	+01.9	N 23 09.5	+00.1	342	43.2	+02.3	S 02 02.6	+00.0	07
08	220	17.2	+01.2	N 17 54.8	-00.4	273	12.8	+01.9	N 23 09.6	+00.0	357	45.5	+02.3	S 02 02.6	-00.1	08
09	235	18.4	+01.2	N 17 54.4	-00.5	288	14.7	+01.8	N 23 09.6	+00.0	12	47.8	+02.3	S 02 02.5	-00.1	09
10	250	19.6	+01.2	N 17 53.9	-00.4	303	16.5	+01.9	N 23 09.6	+00.0	27	50.1	+02.2	S 02 02.4	-00.1	10
11	265	20.8	+01.2	N 17 53.5	-00.4	318	18.4	+01.9	N 23 09.6	+00.1	42	52.3	+02.3	S 02 02.3	+00.0	11
12	280	22.0	+01.2	N 17 53.1	-00.4	333	20.3	+01.9	N 23 09.7	+00.0	57	54.6	+02.3	S 02 02.3	-00.1	12
13	295	23.2	+01.2	N 17 52.7	-00.4	348	22.2	+01.8	N 23 09.7	+00.0	72	56.9	+02.3	S 02 02.2	-00.1	13
14	310	24.4	+01.2	N 17 52.3	-00.4	3	24.0	+01.9	N 23 09.7	+00.0	87	59.2	+02.2	S 02 02.1	+00.0	14
15	325	25.6	+01.2	N 17 51.9	-00.5	18	25.9	+01.9	N 23 09.7	+00.1	103	01.4	+02.3	S 02 02.1	-00.1	15
16	340	26.8	+01.2	N 17 51.4	-00.4	33	27.8	+01.8	N 23 09.8	+00.0	118	03.7	+02.3	S 02 02.0	-00.1	16
17	355	28.0	+01.2	N 17 51.0	-00.4	48	29.6	+01.9	N 23 09.8	+00.0	133	06.0	+02.3	S 02 01.9	-00.1	17
18	10	29.2	+01.2	N 17 50.6	-00.4	63	31.5	+01.9	N 23 09.8	+00.0	148	08.3	+02.2	S 02 01.8	+00.0	18
19	25	30.4	+01.2	N 17 50.2	-00.4	78	33.4	+01.9	N 23 09.8	+00.0	163	10.5	+02.3	S 02 01.8	-00.1	19
20	40	31.6	+01.2	N 17 49.8	-00.5	93	35.3	+01.8	N 23 09.8	+00.1	178	12.8	+02.3	S 02 01.7	-00.1	20
21	55	32.8	+01.2	N 17 49.3	-00.4	108	37.1	+01.9	N 23 09.9	+00.0	193	15.1	+02.3	S 02 01.6	+00.0	21
22	70	34.0	+01.2	N 17 48.9	-00.4	123	39.0	+01.9	N 23 09.9	+00.0	208	17.4	+02.2	S 02 01.6	-00.1	22
23	85	35.2	+01.2	N 17 48.5	-00.4	138	40.9	+01.9	N 23 09.9	+00.0	223	19.6	+02.3	S 02 01.5	-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 00'0 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 222° 222° 222° 222° 222° 222°					SHA 275° 275° 275° 275° 275° 275°					SHA 360° 360° 360° 360° 359° 359°					
	Greenwich Culmination Time: 17:18				Greenwich Culmination Time: 13:46				Greenwich Culmination Time: 08:08							

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	51.5 +00.0	N 20 11.6 +00.5		224	41.6 +00.4	N 04 34.2 +00.6		260	01.6 -28.6	S 10 37.8 -15.4		00
01	195	51.5 +00.0	N 20 12.1 +00.5		239	42.0 +00.4	N 04 34.8 +00.6		274	33.0 -28.6	S 10 22.4 -15.4		01
02	210	51.5 -00.1	N 20 12.6 +00.5		254	42.4 +00.3	N 04 35.4 +00.7		289	04.4 -28.6	S 10 07.0 -15.4		02
03	225	51.4 +00.0	N 20 13.1 +00.5		269	42.7 +00.4	N 04 36.1 +00.6		303	35.8 -28.6	S 09 51.6 -15.6		03
04	240	51.4 -00.1	N 20 13.6 +00.5		284	43.1 +00.4	N 04 36.7 +00.6		318	07.2 -28.5	S 09 36.0 -15.6		04
05	255	51.3 +00.0	N 20 14.1 +00.5		299	43.5 +00.3	N 04 37.3 +00.7		332	38.7 -28.6	S 09 20.4 -15.7		05
06	270	51.3 -00.1	N 20 14.6 +00.5		314	43.8 +00.4	N 04 38.0 +00.6		347	10.1 -28.6	S 09 04.7 -15.7		06
07	285	51.2 +00.0	N 20 15.1 +00.5		329	44.2 +00.4	N 04 38.6 +00.7		1	41.5 -28.5	S 08 49.0 -15.8		07
08	300	51.2 +00.0	N 20 15.6 +00.5		344	44.6 +00.3	N 04 39.3 +00.6		16	13.0 -28.5	S 08 33.2 -15.8		08
09	315	51.2 -00.1	N 20 16.1 +00.5		359	44.9 +00.4	N 04 39.9 +00.6		30	44.5 -28.6	S 08 17.4 -15.9		09
10	330	51.1 +00.0	N 20 16.6 +00.5		14	45.3 +00.3	N 04 40.5 +00.7		45	15.9 -28.5	S 08 01.5 -16.0		10
11	345	51.1 -00.1	N 20 17.1 +00.5		29	45.6 +00.4	N 04 41.2 +00.6		59	47.4 -28.5	S 07 45.5 -16.0		11
12	0	51.0 +00.0	N 20 17.6 +00.5		44	46.0 +00.4	N 04 41.8 +00.7		74	18.9 -28.6	S 07 29.5 -16.1		12
13	15	51.0 -00.1	N 20 18.1 +00.5		59	46.4 +00.3	N 04 42.5 +00.6		88	50.3 -28.5	S 07 13.4 -16.1		13
14	30	50.9 +00.0	N 20 18.6 +00.5		74	46.7 +00.4	N 04 43.1 +00.7		103	21.8 -28.5	S 06 57.3 -16.2		14
15	45	50.9 -00.1	N 20 19.1 +00.5		89	47.1 +00.3	N 04 43.8 +00.6		117	53.3 -28.6	S 06 41.1 -16.3		15
16	60	50.8 +00.0	N 20 19.6 +00.5		104	47.4 +00.4	N 04 44.4 +00.7		132	24.7 -28.5	S 06 24.8 -16.2		16
17	75	50.8 -00.1	N 20 20.1 +00.5		119	47.8 +00.4	N 04 45.1 +00.6		146	56.2 -28.5	S 06 08.6 -16.4		17
18	90	50.7 +00.0	N 20 20.6 +00.5		134	48.2 +00.3	N 04 45.7 +00.7		161	27.7 -28.6	S 05 52.2 -16.4		18
19	105	50.7 +00.0	N 20 21.1 +00.5		149	48.5 +00.4	N 04 46.4 +00.6		175	59.1 -28.5	S 05 35.8 -16.4		19
20	120	50.7 -00.1	N 20 21.6 +00.5		164	48.9 +00.3	N 04 47.0 +00.7		190	30.6 -28.6	S 05 19.4 -16.5		20
21	135	50.6 +00.0	N 20 22.1 +00.5		179	49.2 +00.4	N 04 47.7 +00.6		205	02.0 -28.6	S 05 02.9 -16.5		21
22	150	50.6 -00.1	N 20 22.6 +00.5		194	49.6 +00.3	N 04 48.3 +00.6		219	33.4 -28.5	S 04 46.4 -16.5		22
23	165	50.5 +00.0	N 20 23.1 +00.4		209	49.9 +00.4	N 04 48.9 +00.7		234	04.9 -28.6	S 04 29.9 -16.6		23
<b>UT 02 06 10 14 18 22</b> SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 302° 302° 302° 301° 301° 301° Greenwich Culmination Time: 11:56				<b>UT 02 06 10 14 18 22</b> 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 346° 346° 345° 345° 345° 345° Greenwich Culmination Time: 09:01				<b>UT 02 06 10 14 18 22</b> SD 15'9 15'9 16'0 16'0 16'0 16'1 HP 58'3 58'4 58'6 58'7 58'9 59'0 SHA 020° 018° 016° 014° 012° 010° Greenwich Culmination Time: 06:53					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	100	36.4 +01.2	N 17 48.1 -00.4		153	42.8 +01.8	N 23 09.9 +00.1		238	21.9 +02.3	S 02 01.4 -00.1		00
01	115	37.6 +01.2	N 17 47.7 -00.4		168	44.6 +01.9	N 23 10.0 +00.0		253	24.2 +02.3	S 02 01.3 +00.0		01
02	130	38.8 +01.2	N 17 47.3 -00.5		183	46.5 +01.9	N 23 10.0 +00.0		268	26.5 +02.2	S 02 01.3 -00.1		02
03	145	40.0 +01.2	N 17 46.8 -00.4		198	48.4 +01.8	N 23 10.0 +00.0		283	28.7 +02.3	S 02 01.2 -00.1		03
04	160	41.2 +01.2	N 17 46.4 -00.4		213	50.2 +01.9	N 23 10.0 +00.1		298	31.0 +02.3	S 02 01.1 -00.1		04
05	175	42.4 +01.2	N 17 46.0 -00.4		228	52.1 +01.9	N 23 10.1 +00.0		313	33.3 +02.3	S 02 01.0 +00.0		05
06	190	43.6 +01.2	N 17 45.6 -00.4		243	54.0 +01.9	N 23 10.1 +00.0		328	35.6 +02.2	S 02 01.0 -00.1		06
07	205	44.8 +01.2	N 17 45.2 -00.5		258	55.9 +01.8	N 23 10.1 +00.0		343	37.8 +02.3	S 02 00.9 -00.1		07
08	220	46.0 +01.2	N 17 44.7 -00.4		273	57.7 +01.9	N 23 10.1 +00.0		358	40.1 +02.3	S 02 00.8 +00.0		08
09	235	47.2 +01.2	N 17 44.3 -00.4		288	59.6 +01.9	N 23 10.1 +00.1		13	42.4 +02.3	S 02 00.8 -00.1		09
10	250	48.4 +01.2	N 17 43.9 -00.4		304	01.5 +01.8	N 23 10.2 +00.0		28	44.7 +02.3	S 02 00.7 -00.1		10
11	265	49.6 +01.2	N 17 43.5 -00.5		319	03.3 +01.9	N 23 10.2 +00.0		43	47.0 +02.2	S 02 00.6 -00.1		11
12	280	50.8 +01.2	N 17 43.0 -00.4		334	05.2 +01.9	N 23 10.2 +00.0		58	49.2 +02.3	S 02 00.5 +00.0		12
13	295	52.0 +01.2	N 17 42.6 -00.4		349	07.1 +01.9	N 23 10.2 +00.1		73	51.5 +02.3	S 02 00.5 -00.1		13
14	310	53.2 +01.2	N 17 42.2 -00.4		4	09.0 +01.8	N 23 10.3 +00.0		88	53.8 +02.3	S 02 00.4 -00.1		14
15	325	54.4 +01.1	N 17 41.8 -00.4		19	10.8 +01.9	N 23 10.3 +00.0		103	56.1 +02.2	S 02 00.3 +00.0		15
16	340	55.5 +01.2	N 17 41.4 -00.5		34	12.7 +01.9	N 23 10.3 +00.0		118	58.3 +02.3	S 02 00.3 -00.1		16
17	355	56.7 +01.2	N 17 40.9 -00.4		49	14.6 +01.8	N 23 10.3 +00.0		134	00.6 +02.3	S 02 00.2 -00.1		17
18	10	57.9 +01.2	N 17 40.5 -00.4		64	16.4 +01.9	N 23 10.3 +00.1		149	02.9 +02.3	S 02 00.1 +00.0		18
19	25	59.1 +01.2	N 17 40.1 -00.4		79	18.3 +01.9	N 23 10.4 +00.0		164	05.2 +02.3	S 02 00.1 -00.1		19
20	41	00.3 +01.2	N 17 39.7 -00.5		94	20.2 +01.9	N 23 10.4 +00.0		179	07.5 +02.2	S 01 60.0 -00.1		20
21	56	01.5 +01.2	N 17 39.2 -00.4		109	22.1 +01.8	N 23 10.4 +00.0		194	09.7 +02.3	S 01 59.9 -00.1		21
22	71	02.7 +01.2	N 17 38.8 -00.4		124	23.9 +01.9	N 23 10.4 +00.1		209	12.0 +02.3	S 01 59.8 +00.0		22
23	86	03.9 +01.2	N 17 38.4 -00.4		139	25.8 +01.9	N 23 10.5 +00.0		224	14.3 +02.3	S 01 59.8 -00.1		23
<b>UT 02 06 10 14 18 22</b> 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 222° 222° 222° 221° 221° 221° Greenwich Culmination Time: 17:16				<b>UT 02 06 10 14 18 22</b> 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 275° 275° 275° 275° 275° 275° Greenwich Culmination Time: 13:43				<b>UT 02 06 10 14 18 22</b> 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 359° 359° 359° 359° 359° 359° Greenwich Culmination Time: 08:05					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 82%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 50.5 -00.1	N 20	23.5 +00.5		224 50.3 +00.3	N 04	49.6 +00.7		248 36.3 -28.6	S 04	13.3 -16.7		00
01	195 50.4 +00.0	N 20	24.0 +00.5		239 50.6 +00.4	N 04	50.3 +00.6		263 07.7 -28.7	S 03	56.6 -16.6		01
02	210 50.4 -00.1	N 20	24.5 +00.5		254 51.0 +00.3	N 04	50.9 +00.7		277 39.0 -28.6	S 03	40.0 -16.8		02
03	225 50.3 +00.0	N 20	25.0 +00.5		269 51.3 +00.3	N 04	51.6 +00.6		292 10.4 -28.7	S 03	23.2 -16.7		03
04	240 50.3 -00.1	N 20	25.5 +00.5		284 51.6 +00.4	N 04	52.2 +00.7		306 41.7 -28.6	S 03	06.5 -16.8		04
05	255 50.2 +00.0	N 20	26.0 +00.5		299 52.0 +00.3	N 04	52.9 +00.6		321 13.1 -28.7	S 02	49.7 -16.8		05
06	270 50.2 -00.1	N 20	26.5 +00.5		314 52.3 +00.4	N 04	53.5 +00.7		335 44.4 -28.8	S 02	32.9 -16.9		06
07	285 50.1 +00.0	N 20	27.0 +00.5		329 52.7 +00.3	N 04	54.2 +00.6		350 15.6 -28.7	S 02	16.0 -16.9		07
08	300 50.1 -00.1	N 20	27.5 +00.5		344 53.0 +00.4	N 04	54.8 +00.7		4 46.9 -28.8	S 01	59.1 -16.9		08
09	315 50.0 +00.0	N 20	28.0 +00.4		359 53.4 +00.3	N 04	55.5 +00.6		19 18.1 -28.8	S 01	42.2 -16.9		09
10	330 50.0 -00.1	N 20	28.4 +00.5		14 53.7 +00.3	N 04	56.1 +00.7		33 49.3 -28.8	S 01	25.3 -17.0		10
11	345 49.9 +00.0	N 20	28.9 +00.5		29 54.0 +00.4	N 04	56.8 +00.6		48 20.5 -28.8	S 01	08.3 -17.0		11
12	0 49.9 -00.1	N 20	29.4 +00.5		44 54.4 +00.3	N 04	57.4 +00.7		62 51.7 -28.9	S 00	51.3 -17.0		12
13	15 49.8 +00.0	N 20	29.9 +00.5		59 54.7 +00.4	N 04	58.1 +00.7		77 22.8 -28.9	S 00	34.3 -17.0		13
14	30 49.8 -00.1	N 20	30.4 +00.5		74 55.1 +00.3	N 04	58.8 +00.6		91 53.9 -29.0	S 00	17.3 -17.0		14
15	45 49.7 +00.0	N 20	30.9 +00.4		89 55.4 +00.3	N 04	59.4 +00.7		106 24.9 -29.0	S 00	00.3 -17.1		15
16	60 49.7 -00.1	N 20	31.3 +00.5		104 55.7 +00.4	N 05	00.1 +00.6		120 55.9 -29.0	N 00	16.8 +17.1		16
17	75 49.6 +00.0	N 20	31.8 +00.5		119 56.1 +00.3	N 05	00.7 +00.7		135 26.9 -29.1	N 00	33.9 +17.1		17
18	90 49.6 -00.1	N 20	32.3 +00.5		134 56.4 +00.3	N 05	01.4 +00.7		149 57.8 -29.1	N 00	51.0 +17.1		18
19	105 49.5 +00.0	N 20	32.8 +00.5		149 56.7 +00.4	N 05	02.1 +00.6		164 28.7 -29.1	N 01	08.1 +17.2		19
20	120 49.5 -00.1	N 20	33.3 +00.4		164 57.1 +00.3	N 05	02.7 +00.7		178 59.6 -29.2	N 01	25.3 +17.1		20
21	135 49.4 +00.0	N 20	33.7 +00.5		179 57.4 +00.3	N 05	03.4 +00.6		193 30.4 -29.2	N 01	42.4 +17.2		21
22	150 49.4 -00.1	N 20	34.2 +00.5		194 57.7 +00.4	N 05	04.0 +00.7		208 01.2 -29.3	N 01	59.6 +17.1		22
23	165 49.3 +00.0	N 20	34.7 +00.5		209 58.1 +00.3	N 05	04.7 +00.7		222 31.9 -29.3	N 02	16.7 +17.2		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'1 16'1 16'2 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 00'2				HP 59'1 59'2 59'4 59'5 59'6 59'7				
	SHA 301° 301° 301° 300° 300° 300°				SHA 345° 345° 345° 344° 344° 344°				SHA 008° 006° 004° 001° 359° 357°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 09:00				Greenwich Culmination Time: 07:40				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	101 05.1 +01.2	N 17	38.0 -00.4		154 27.7 +01.8	N 23	10.5 +00.0		239 16.6 +02.3	S 01	59.7 -00.1		00
01	116 06.3 +01.2	N 17	37.6 -00.5		169 29.5 +01.9	N 23	10.5 +00.0		254 18.9 +02.2	S 01	59.6 +00.0		01
02	131 07.5 +01.2	N 17	37.1 -00.4		184 31.4 +01.9	N 23	10.5 +00.0		269 21.1 +02.3	S 01	59.6 -00.1		02
03	146 08.7 +01.2	N 17	36.7 -00.4		199 33.3 +01.8	N 23	10.5 +00.1		284 23.4 +02.3	S 01	59.5 -00.1		03
04	161 09.9 +01.2	N 17	36.3 -00.4		214 35.1 +01.9	N 23	10.6 +00.0		299 25.7 +02.3	S 01	59.4 -00.1		04
05	176 11.1 +01.2	N 17	35.9 -00.5		229 37.0 +01.9	N 23	10.6 +00.0		314 28.0 +02.2	S 01	59.3 +00.0		05
06	191 12.3 +01.2	N 17	35.4 -00.4		244 38.9 +01.9	N 23	10.6 +00.0		329 30.2 +02.3	S 01	59.3 -00.1		06
07	206 13.5 +01.2	N 17	35.0 -00.4		259 40.8 +01.8	N 23	10.6 +00.1		344 32.5 +02.3	S 01	59.2 -00.1		07
08	221 14.7 +01.2	N 17	34.6 -00.4		274 42.6 +01.9	N 23	10.7 +00.0		359 34.8 +02.3	S 01	59.1 +00.0		08
09	236 15.9 +01.2	N 17	34.2 -00.5		289 44.5 +01.9	N 23	10.7 +00.0		14 37.1 +02.3	S 01	59.1 -00.1		09
10	251 17.1 +01.1	N 17	33.7 -00.4		304 46.4 +01.8	N 23	10.7 +00.0		29 39.4 +02.2	S 01	59.0 -00.1		10
11	266 18.2 +01.2	N 17	33.3 -00.4		319 48.2 +01.9	N 23	10.7 +00.0		44 41.6 +02.3	S 01	58.9 +00.0		11
12	281 19.4 +01.2	N 17	32.9 -00.4		334 50.1 +01.9	N 23	10.7 +00.1		59 43.9 +02.3	S 01	58.9 -00.1		12
13	296 20.6 +01.2	N 17	32.5 -00.5		349 52.0 +01.8	N 23	10.8 +00.0		74 46.2 +02.3	S 01	58.8 -00.1		13
14	311 21.8 +01.2	N 17	32.0 -00.4		4 53.8 +01.9	N 23	10.8 +00.0		89 48.5 +02.3	S 01	58.7 -00.1		14
15	326 23.0 +01.2	N 17	31.6 -00.4		19 55.7 +01.9	N 23	10.8 +00.0		104 50.8 +02.2	S 01	58.6 +00.0		15
16	341 24.2 +01.2	N 17	31.2 -00.4		34 57.6 +01.9	N 23	10.8 +00.0		119 53.0 +02.3	S 01	58.6 -00.1		16
17	356 25.4 +01.2	N 17	30.8 -00.5		49 59.5 +01.8	N 23	10.8 +00.1		134 55.3 +02.3	S 01	58.5 -00.1		17
18	11 26.6 +01.2	N 17	30.3 -00.4		65 01.3 +01.9	N 23	10.9 +00.0		149 57.6 +02.3	S 01	58.4 +00.0		18
19	26 27.8 +01.2	N 17	29.9 -00.4		80 03.2 +01.9	N 23	10.9 +00.0		164 59.9 +02.3	S 01	58.4 -00.1		19
20	41 29.0 +01.2	N 17	29.5 -00.5		95 05.1 +01.8	N 23	10.9 +00.0		180 02.2 +02.2	S 01	58.3 -00.1		20
21	56 30.2 +01.2	N 17	29.0 -00.4		110 06.9 +01.9	N 23	10.9 +00.1		195 04.4 +02.3	S 01	58.2 +00.0		21
22	71 31.4 +01.2	N 17	28.6 -00.4		125 08.8 +01.9	N 23	11.0 +00.0		210 06.7 +02.3	S 01	58.2 -00.1		22
23	86 32.6 +01.1	N 17	28.2 -00.4		140 10.7 +01.8	N 23	11.0 +00.0		225 09.0 +02.3	S 01	58.1 -00.1		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 221° 221° 221° 221° 221° 221°				SHA 275° 275° 274° 274° 274° 274°				SHA 359° 359° 359° 359° 359° 359°				
	Greenwich Culmination Time: 17:14				Greenwich Culmination Time: 13:40				Greenwich Culmination Time: 08:01				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 49.3 -00.1	N 20 35.2 +00.5			224 58.4 +00.3	N 05 05.4 +00.6			237 02.6 -29.3	N 02 33.9 +17.2			00
01	195 49.2 +00.0	N 20 35.7 +00.4			239 58.7 +00.3	N 05 06.0 +00.7			251 33.3 -29.4	N 02 51.1 +17.1			01
02	210 49.2 -00.1	N 20 36.1 +00.5			254 59.0 +00.4	N 05 06.7 +00.7			266 03.9 -29.5	N 03 08.2 +17.2			02
03	225 49.1 -00.1	N 20 36.6 +00.5			269 59.4 +00.3	N 05 07.4 +00.6			280 34.4 -29.5	N 03 25.4 +17.2			03
04	240 49.0 +00.0	N 20 37.1 +00.5			284 59.7 +00.3	N 05 08.0 +00.7			295 04.9 -29.6	N 03 42.6 +17.2			04
05	255 49.0 -00.1	N 20 37.6 +00.4			300 00.0 +00.3	N 05 08.7 +00.7			309 35.3 -29.6	N 03 59.8 +17.1			05
06	270 48.9 +00.0	N 20 38.0 +00.5			315 00.3 +00.4	N 05 09.4 +00.6			324 05.7 -29.7	N 04 16.9 +17.2			06
07	285 48.9 -00.1	N 20 38.5 +00.5			330 00.7 +00.3	N 05 10.0 +00.7			338 36.0 -29.7	N 04 34.1 +17.1			07
08	300 48.8 +00.0	N 20 39.0 +00.5			345 01.0 +00.3	N 05 10.7 +00.7			353 06.3 -29.8	N 04 51.2 +17.2			08
09	315 48.8 -00.1	N 20 39.5 +00.4			0 01.3 +00.3	N 05 11.4 +00.6			7 36.5 -29.9	N 05 08.4 +17.1			09
10	330 48.7 +00.0	N 20 39.9 +00.5			15 01.6 +00.3	N 05 12.0 +00.7			22 06.6 -29.9	N 05 25.5 +17.2			10
11	345 48.7 -00.1	N 20 40.4 +00.5			30 01.9 +00.4	N 05 12.7 +00.7			36 36.7 -30.0	N 05 42.7 +17.1			11
12	0 48.6 +00.0	N 20 40.9 +00.4			45 02.3 +00.3	N 05 13.4 +00.6			51 06.7 -30.0	N 05 59.8 +17.1			12
13	15 48.6 -00.1	N 20 41.3 +00.5			60 02.6 +00.3	N 05 14.0 +00.7			65 36.7 -30.2	N 06 16.9 +17.0			13
14	30 48.5 -00.1	N 20 41.8 +00.5			75 02.9 +00.3	N 05 14.7 +00.7			80 06.5 -30.1	N 06 33.9 +17.1			14
15	45 48.4 +00.0	N 20 42.3 +00.4			90 03.2 +00.3	N 05 15.4 +00.7			94 36.4 -30.3	N 06 51.0 +17.0			15
16	60 48.4 -00.1	N 20 42.7 +00.5			105 03.5 +00.3	N 05 16.1 +00.6			109 06.1 -30.3	N 07 08.0 +17.1			16
17	75 48.3 +00.0	N 20 43.2 +00.5			120 03.8 +00.3	N 05 16.7 +00.7			123 35.8 -30.4	N 07 25.1 +17.0			17
18	90 48.3 -00.1	N 20 43.7 +00.4			135 04.1 +00.4	N 05 17.4 +00.7			138 05.4 -30.5	N 07 42.1 +16.9			18
19	105 48.2 +00.0	N 20 44.1 +00.5			150 04.5 +00.3	N 05 18.1 +00.6			152 34.9 -30.5	N 07 59.0 +16.9			19
20	120 48.2 -00.1	N 20 44.6 +00.5			165 04.8 +00.3	N 05 18.7 +00.7			167 04.4 -30.6	N 08 15.9 +17.0			20
21	135 48.1 -00.1	N 20 45.1 +00.4			180 05.1 +00.3	N 05 19.4 +00.7			181 33.8 -30.7	N 08 32.9 +16.8			21
22	150 48.0 +00.0	N 20 45.5 +00.5			195 05.4 +00.3	N 05 20.1 +00.7			196 03.1 -30.8	N 08 49.7 +16.9			22
23	165 48.0 -00.1	N 20 46.0 +00.5			210 05.7 +00.3	N 05 20.8 +00.6			210 32.3 -30.9	N 09 06.6 +16.8			23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				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 00'2 00'2 00'2 00'2 00'2 00'2				HP 59'9 60'0 60'1 60'2 60'3 60'4				
	SHA 300° 300° 300° 299° 299° 299°				SHA 344° 344° 344° 344° 343° 343°				SHA 355° 353° 351° 349° 346° 344°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 08:59				Greenwich Culmination Time: 08:28				

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	101 33.7 +01.2	N 17 27.8 -00.5			155 12.5 +01.9	N 23 11.0 +00.0			240 11.3 +02.3	S 01 58.0 +00.0			00
01	116 34.9 +01.2	N 17 27.3 -00.4			170 14.4 +01.9	N 23 11.0 +00.0			255 13.6 +02.3	S 01 58.0 -00.1			01
02	131 36.1 +01.2	N 17 26.9 -00.4			185 16.3 +01.8	N 23 11.0 +00.1			270 15.9 +02.2	S 01 57.9 -00.1			02
03	146 37.3 +01.2	N 17 26.5 -00.4			200 18.1 +01.9	N 23 11.1 +00.0			285 18.1 +02.3	S 01 57.8 -00.1			03
04	161 38.5 +01.2	N 17 26.1 -00.5			215 20.0 +01.9	N 23 11.1 +00.0			300 20.4 +02.3	S 01 57.7 +00.0			04
05	176 39.7 +01.2	N 17 25.6 -00.4			230 21.9 +01.8	N 23 11.1 +00.0			315 22.7 +02.3	S 01 57.7 -00.1			05
06	191 40.9 +01.2	N 17 25.2 -00.4			245 23.7 +01.9	N 23 11.1 +00.0			330 25.0 +02.3	S 01 57.6 -00.1			06
07	206 42.1 +01.2	N 17 24.8 -00.5			260 25.6 +01.9	N 23 11.1 +00.1			345 27.3 +02.2	S 01 57.5 +00.0			07
08	221 43.3 +01.2	N 17 24.3 -00.4			275 27.5 +01.8	N 23 11.2 +00.0			0 29.5 +02.3	S 01 57.5 -00.1			08
09	236 44.5 +01.2	N 17 23.9 -00.4			290 29.3 +01.9	N 23 11.2 +00.0			15 31.8 +02.3	S 01 57.4 -00.1			09
10	251 45.7 +01.1	N 17 23.5 -00.5			305 31.2 +01.9	N 23 11.2 +00.0			30 34.1 +02.3	S 01 57.3 +00.0			10
11	266 46.8 +01.2	N 17 23.0 -00.4			320 33.1 +01.8	N 23 11.2 +00.0			45 36.4 +02.3	S 01 57.3 -00.1			11
12	281 48.0 +01.2	N 17 22.6 -00.4			335 34.9 +01.9	N 23 11.2 +00.1			60 38.7 +02.3	S 01 57.2 -00.1			12
13	296 49.2 +01.2	N 17 22.2 -00.4			350 36.8 +01.9	N 23 11.3 +00.0			75 41.0 +02.2	S 01 57.1 +00.0			13
14	311 50.4 +01.2	N 17 21.8 -00.5			5 38.7 +01.9	N 23 11.3 +00.0			90 43.2 +02.3	S 01 57.1 -00.1			14
15	326 51.6 +01.2	N 17 21.3 -00.4			20 40.6 +01.8	N 23 11.3 +00.0			105 45.5 +02.3	S 01 57.0 -00.1			15
16	341 52.8 +01.2	N 17 20.9 -00.4			35 42.4 +01.9	N 23 11.3 +00.0			120 47.8 +02.3	S 01 56.9 +00.0			16
17	356 54.0 +01.2	N 17 20.5 -00.5			50 44.3 +01.9	N 23 11.3 +00.1			135 50.1 +02.3	S 01 56.9 -00.1			17
18	11 55.2 +01.2	N 17 20.0 -00.4			65 46.2 +01.8	N 23 11.4 +00.0			150 52.4 +02.3	S 01 56.8 -00.1			18
19	26 56.4 +01.1	N 17 19.6 -00.4			80 48.0 +01.9	N 23 11.4 +00.0			165 54.7 +02.2	S 01 56.7 -00.1			19
20	41 57.5 +01.2	N 17 19.2 -00.5			95 49.9 +01.9	N 23 11.4 +00.0			180 56.9 +02.3	S 01 56.6 +00.0			20
21	56 58.7 +01.2	N 17 18.7 -00.4			110 51.8 +01.8	N 23 11.4 +00.1			195 59.2 +02.3	S 01 56.6 -00.1			21
22	71 59.9 +01.2	N 17 18.3 -00.4			125 53.6 +01.9	N 23 11.5 +00.0			211 01.5 +02.3	S 01 56.5 -00.1			22
23	87 01.1 +01.2	N 17 17.9 -00.5			140 55.5 +01.9	N 23 11.5 +00.0			226 03.8 +02.3	S 01 56.4 +00.0			23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 221° 221° 220° 220° 220° 220°				SHA 274° 274° 274° 274° 274° 274°				SHA 359° 359° 359° 359° 359° 359°				
	Greenwich Culmination Time: 17:12				Greenwich Culmination Time: 13:37				Greenwich Culmination Time: 07:58				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 89%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	180	47.9 +00.0	N 20 46.5 +00.4		225	06.0 +00.3	N 05 21.4 +00.7		225	01.4 -30.9	N 09 23.4 +16.7		00
01	195	47.9 -00.1	N 20 46.9 +00.5		240	06.3 +00.3	N 05 22.1 +00.7		239	30.5 -31.0	N 09 40.1 +16.7		01
02	210	47.8 -00.1	N 20 47.4 +00.5		255	06.6 +00.3	N 05 22.8 +00.7		253	59.5 -31.1	N 09 56.8 +16.7		02
03	225	47.7 +00.0	N 20 47.9 +00.4		270	06.9 +00.3	N 05 23.5 +00.7		268	28.4 -31.2	N 10 13.5 +16.7		03
04	240	47.7 -00.1	N 20 48.3 +00.5		285	07.2 +00.3	N 05 24.2 +00.6		282	57.2 -31.3	N 10 30.2 +16.5		04
05	255	47.6 +00.0	N 20 48.8 +00.4		300	07.5 +00.3	N 05 24.8 +00.7		297	25.9 -31.3	N 10 46.7 +16.6		05
06	270	47.6 -00.1	N 20 49.2 +00.5		315	07.8 +00.3	N 05 25.5 +00.7		311	54.6 -31.5	N 11 03.3 +16.5		06
07	285	47.5 -00.1	N 20 49.7 +00.5		330	08.1 +00.3	N 05 26.2 +00.7		326	23.1 -31.5	N 11 19.8 +16.4		07
08	300	47.4 +00.0	N 20 50.2 +00.4		345	08.4 +00.3	N 05 26.9 +00.7		340	51.6 -31.7	N 11 36.2 +16.4		08
09	315	47.4 -00.1	N 20 50.6 +00.5		0	08.7 +00.3	N 05 27.6 +00.6		355	19.9 -31.7	N 11 52.6 +16.3		09
10	330	47.3 +00.0	N 20 51.1 +00.4		15	09.0 +00.3	N 05 28.2 +00.7		9	48.2 -31.8	N 12 08.9 +16.3		10
11	345	47.3 -00.1	N 20 51.5 +00.5		30	09.3 +00.3	N 05 28.9 +00.7		24	16.4 -31.9	N 12 25.2 +16.2		11
12	0	47.2 -00.1	N 20 52.0 +00.4		45	09.6 +00.3	N 05 29.6 +00.7		38	44.5 -32.0	N 12 41.4 +16.1		12
13	15	47.1 +00.0	N 20 52.4 +00.5		60	09.9 +00.3	N 05 30.3 +00.7		53	12.5 -32.2	N 12 57.5 +16.1		13
14	30	47.1 -00.1	N 20 52.9 +00.4		75	10.2 +00.3	N 05 31.0 +00.6		67	40.3 -32.2	N 13 13.6 +16.0		14
15	45	47.0 +00.0	N 20 53.3 +00.5		90	10.5 +00.3	N 05 31.6 +00.7		82	08.1 -32.3	N 13 29.6 +15.9		15
16	60	47.0 -00.1	N 20 53.8 +00.4		105	10.8 +00.3	N 05 32.3 +00.7		96	35.8 -32.4	N 13 45.5 +15.9		16
17	75	46.9 -00.1	N 20 54.2 +00.5		120	11.1 +00.3	N 05 33.0 +00.7		111	03.4 -32.5	N 14 01.4 +15.8		17
18	90	46.8 +00.0	N 20 54.7 +00.5		135	11.4 +00.3	N 05 33.7 +00.7		125	30.9 -32.6	N 14 17.2 +15.7		18
19	105	46.8 -00.1	N 20 55.2 +00.4		150	11.7 +00.3	N 05 34.4 +00.7		139	58.3 -32.7	N 14 32.9 +15.6		19
20	120	46.7 -00.1	N 20 55.6 +00.5		165	12.0 +00.3	N 05 35.1 +00.7		154	25.6 -32.8	N 14 48.5 +15.6		20
21	135	46.6 +00.0	N 20 56.1 +00.4		180	12.3 +00.3	N 05 35.8 +00.6		168	52.8 -32.9	N 15 04.1 +15.4		21
22	150	46.6 -00.1	N 20 56.5 +00.5		195	12.6 +00.3	N 05 36.4 +00.7		183	19.9 -33.1	N 15 19.5 +15.4		22
23	165	46.5 +00.0	N 20 57.0 +00.4		210	12.9 +00.3	N 05 37.1 +00.7		197	46.8 -33.1	N 15 34.9 +15.3		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'5 16'5 16'5 16'5 16'6 16'6				
	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 60'6 60'7 60'7 60'8 60'9				
	SHA 299° 299° 299° 298° 298° 298°				SHA 343° 343° 343° 343° 343° 342°				SHA 342° 340° 338° 335° 333° 331°				
	Greenwich Culmination Time: 11:56				Greenwich Culmination Time: 08:59				Greenwich Culmination Time: 09:19				

  

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	02.3 +01.2	N 17 17.4 -00.4		155	57.4 +01.8	N 23 11.5 +00.0		241	06.1 +02.3	S 01 56.4 -00.1		00
01	117	03.5 +01.2	N 17 17.0 -00.4		170	59.2 +01.9	N 23 11.5 +00.0		256	08.4 +02.3	S 01 56.3 -00.1		01
02	132	04.7 +01.2	N 17 16.6 -00.5		186	01.1 +01.9	N 23 11.5 +00.1		271	10.7 +02.2	S 01 56.2 +00.0		02
03	147	05.9 +01.2	N 17 16.1 -00.4		201	03.0 +01.8	N 23 11.6 +00.0		286	12.9 +02.3	S 01 56.2 -00.1		03
04	162	07.1 +01.1	N 17 15.7 -00.4		216	04.8 +01.9	N 23 11.6 +00.0		301	15.2 +02.3	S 01 56.1 -00.1		04
05	177	08.2 +01.2	N 17 15.3 -00.5		231	06.7 +01.9	N 23 11.6 +00.0		316	17.5 +02.3	S 01 56.0 +00.0		05
06	192	09.4 +01.2	N 17 14.8 -00.4		246	08.6 +01.8	N 23 11.6 +00.0		331	19.8 +02.3	S 01 56.0 -00.1		06
07	207	10.6 +01.2	N 17 14.4 -00.4		261	10.4 +01.9	N 23 11.6 +00.1		346	22.1 +02.3	S 01 55.9 -00.1		07
08	222	11.8 +01.2	N 17 14.0 -00.5		276	12.3 +01.9	N 23 11.7 +00.0		1	24.4 +02.2	S 01 55.8 +00.0		08
09	237	13.0 +01.2	N 17 13.5 -00.4		291	14.2 +01.8	N 23 11.7 +00.0		16	26.6 +02.3	S 01 55.8 -00.1		09
10	252	14.2 +01.2	N 17 13.1 -00.4		306	16.0 +01.9	N 23 11.7 +00.0		31	28.9 +02.3	S 01 55.7 -00.1		10
11	267	15.4 +01.2	N 17 12.7 -00.5		321	17.9 +01.9	N 23 11.7 +00.0		46	31.2 +02.3	S 01 55.6 +00.0		11
12	282	16.6 +01.1	N 17 12.2 -00.4		336	19.8 +01.8	N 23 11.7 +00.0		61	33.5 +02.3	S 01 55.6 -00.1		12
13	297	17.7 +01.2	N 17 11.8 -00.4		351	21.6 +01.9	N 23 11.7 +00.1		76	35.8 +02.3	S 01 55.5 -00.1		13
14	312	18.9 +01.2	N 17 11.4 -00.5		6	23.5 +01.9	N 23 11.8 +00.0		91	38.1 +02.3	S 01 55.4 +00.0		14
15	327	20.1 +01.2	N 17 10.9 -00.4		21	25.4 +01.8	N 23 11.8 +00.0		106	40.4 +02.2	S 01 55.4 -00.1		15
16	342	21.3 +01.2	N 17 10.5 -00.4		36	27.2 +01.9	N 23 11.8 +00.0		121	42.6 +02.3	S 01 55.3 -00.1		16
17	357	22.5 +01.2	N 17 10.1 -00.5		51	29.1 +01.8	N 23 11.8 +00.0		136	44.9 +02.3	S 01 55.2 +00.0		17
18	12	23.7 +01.2	N 17 09.6 -00.4		66	30.9 +01.9	N 23 11.8 +00.1		151	47.2 +02.3	S 01 55.2 -00.1		18
19	27	24.9 +01.1	N 17 09.2 -00.4		81	32.8 +01.9	N 23 11.9 +00.0		166	49.5 +02.3	S 01 55.1 -00.1		19
20	42	26.0 +01.2	N 17 08.8 -00.5		96	34.7 +01.8	N 23 11.9 +00.0		181	51.8 +02.3	S 01 55.0 +00.0		20
21	57	27.2 +01.2	N 17 08.3 -00.4		111	36.5 +01.9	N 23 11.9 +00.0		196	54.1 +02.3	S 01 55.0 -00.1		21
22	72	28.4 +01.2	N 17 07.9 -00.4		126	38.4 +01.9	N 23 11.9 +00.0		211	56.4 +02.3	S 01 54.9 -00.1		22
23	87	29.6 +01.2	N 17 07.5 -00.5		141	40.3 +01.8	N 23 11.9 +00.1		226	58.7 +02.2	S 01 54.8 +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 220° 220° 220° 220° 220° 220°				SHA 274° 274° 274° 274° 274° 274°				SHA 359° 359° 359° 359° 359° 359°				
	Greenwich Culmination Time: 17:10				Greenwich Culmination Time: 13:34				Greenwich Culmination Time: 07:54				

	Sun				Venus				Moon				A: 93%	
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "		
00	180 46.5 -00.1	N 20	57.4 +00.4		225 13.2 +00.2	N 05	37.8 +00.7		212 13.7 -33.2	N 15	50.2 +15.2		00	
01	195 46.4 -00.1	N 20	57.8 +00.5		240 13.4 +00.3	N 05	38.5 +00.7		226 40.5 -33.4	N 16	05.4 +15.1		01	
02	210 46.3 +00.0	N 20	58.3 +00.4		255 13.7 +00.3	N 05	39.2 +00.7		241 07.1 -33.4	N 16	20.5 +15.1		02	
03	225 46.3 -00.1	N 20	58.7 +00.5		270 14.0 +00.3	N 05	39.9 +00.7		255 33.7 -33.6	N 16	35.6 +14.9		03	
04	240 46.2 -00.1	N 20	59.2 +00.4		285 14.3 +00.3	N 05	40.6 +00.7		270 00.1 -33.7	N 16	50.5 +14.8		04	
05	255 46.1 +00.0	N 20	59.6 +00.5		300 14.6 +00.3	N 05	41.3 +00.6		284 26.4 -33.8	N 17	05.3 +14.7		05	
06	270 46.1 -00.1	N 21	00.1 +00.4		315 14.9 +00.2	N 05	41.9 +00.7		298 52.6 -33.9	N 17	20.0 +14.6		06	
07	285 46.0 -00.1	N 21	00.5 +00.5		330 15.1 +00.3	N 05	42.6 +00.7		313 18.7 -34.0	N 17	34.6 +14.6		07	
08	300 45.9 +00.0	N 21	01.0 +00.4		345 15.4 +00.3	N 05	43.3 +00.7		327 44.7 -34.1	N 17	49.2 +14.4		08	
09	315 45.9 -00.1	N 21	01.4 +00.4		0 15.7 +00.3	N 05	44.0 +00.7		342 10.6 -34.2	N 18	03.6 +14.3		09	
10	330 45.8 -00.1	N 21	01.8 +00.5		15 16.0 +00.3	N 05	44.7 +00.7		356 36.4 -34.4	N 18	17.9 +14.1		10	
11	345 45.7 +00.0	N 21	02.3 +00.4		30 16.3 +00.2	N 05	45.4 +00.7		11 02.0 -34.4	N 18	32.0 +14.1		11	
12	0 45.7 -00.1	N 21	02.7 +00.5		45 16.5 +00.3	N 05	46.1 +00.7		25 27.6 -34.6	N 18	46.1 +13.9		12	
13	15 45.6 -00.1	N 21	03.2 +00.4		60 16.8 +00.3	N 05	46.8 +00.7		39 53.0 -34.7	N 19	00.0 +13.9		13	
14	30 45.5 +00.0	N 21	03.6 +00.4		75 17.1 +00.3	N 05	47.5 +00.7		54 18.3 -34.8	N 19	13.9 +13.7		14	
15	45 45.5 -00.1	N 21	04.0 +00.5		90 17.4 +00.3	N 05	48.2 +00.7		68 43.5 -34.9	N 19	27.6 +13.6		15	
16	60 45.4 -00.1	N 21	04.5 +00.4		105 17.7 +00.2	N 05	48.9 +00.7		83 08.6 -35.0	N 19	41.2 +13.4		16	
17	75 45.3 +00.0	N 21	04.9 +00.5		120 17.9 +00.3	N 05	49.6 +00.7		97 33.6 -35.1	N 19	54.6 +13.3		17	
18	90 45.3 -00.1	N 21	05.4 +00.4		135 18.2 +00.3	N 05	50.3 +00.7		111 58.5 -35.3	N 20	07.9 +13.2		18	
19	105 45.2 -00.1	N 21	05.8 +00.4		150 18.5 +00.2	N 05	51.0 +00.7		126 23.2 -35.3	N 20	21.1 +13.1		19	
20	120 45.1 +00.0	N 21	06.2 +00.5		165 18.7 +00.3	N 05	51.7 +00.7		140 47.9 -35.5	N 20	34.2 +12.9		20	
21	135 45.1 -00.1	N 21	06.7 +00.4		180 19.0 +00.3	N 05	52.4 +00.7		155 12.4 -35.6	N 20	47.1 +12.8		21	
22	150 45.0 -00.1	N 21	07.1 +00.4		195 19.3 +00.3	N 05	53.1 +00.7		169 36.8 -35.7	N 20	59.9 +12.6		22	
23	165 44.9 +00.0	N 21	07.5 +00.5		210 19.6 +00.2	N 05	53.8 +00.7		184 01.1 -35.8	N 21	12.5 +12.6		23	
<b>UT</b>	<b>02 06 10 14 18 22</b>				<b>UT</b>	<b>02 06 10 14 18 22</b>			<b>UT</b>	<b>02 06 10 14 18 22</b>				
SD	15'8 15'8 15'8 15'8 15'8 15'8				SD	00'2 00'2 00'2 00'2 00'2 00'2			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	00'2 00'2 00'2 00'2 00'2 00'2			HP	60'9 60'9 61'0 61'0 61'0 61'0				
SHA	298° 298° 298° 297° 297° 297°				SHA	342° 342° 342° 342° 342° 342°			SHA	328° 326° 323° 321° 318° 316°				
Greenwich Culmination Time: 11:56					Greenwich Culmination Time: 08:58					Greenwich Culmination Time: 10:14				
<hr/>														
	Mars				Jupiter				Saturn					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "		
00	102 30.8 +01.2	N 17	07.0 -00.4		156 42.1 +01.9	N 23	12.0 +00.0		242 00.9 +02.3	S 01	54.8 -00.1		00	
01	117 32.0 +01.2	N 17	06.6 -00.5		171 44.0 +01.9	N 23	12.0 +00.0		257 03.2 +02.3	S 01	54.7 -00.1		01	
02	132 33.2 +01.1	N 17	06.1 -00.4		186 45.9 +01.8	N 23	12.0 +00.0		272 05.5 +02.3	S 01	54.6 +00.0		02	
03	147 34.3 +01.2	N 17	05.7 -00.4		201 47.7 +01.9	N 23	12.0 +00.0		287 07.8 +02.3	S 01	54.6 -00.1		03	
04	162 35.5 +01.2	N 17	05.3 -00.5		216 49.6 +01.9	N 23	12.0 +00.1		302 10.1 +02.3	S 01	54.5 -00.1		04	
05	177 36.7 +01.2	N 17	04.8 -00.4		231 51.5 +01.8	N 23	12.1 +00.0		317 12.4 +02.3	S 01	54.4 +00.0		05	
06	192 37.9 +01.2	N 17	04.4 -00.4		246 53.3 +01.9	N 23	12.1 +00.0		332 14.7 +02.3	S 01	54.4 -00.1		06	
07	207 39.1 +01.2	N 17	04.0 -00.5		261 55.2 +01.9	N 23	12.1 +00.0		347 17.0 +02.2	S 01	54.3 -00.1		07	
08	222 40.3 +01.2	N 17	03.5 -00.4		276 57.1 +01.8	N 23	12.1 +00.0		2 19.2 +02.3	S 01	54.2 +00.0		08	
09	237 41.5 +01.1	N 17	03.1 -00.5		291 58.9 +01.9	N 23	12.1 +00.1		17 21.5 +02.3	S 01	54.2 -00.1		09	
10	252 42.6 +01.2	N 17	02.6 -00.4		307 00.8 +01.9	N 23	12.2 +00.0		32 23.8 +02.3	S 01	54.1 -00.1		10	
11	267 43.8 +01.2	N 17	02.2 -00.4		322 02.7 +01.8	N 23	12.2 +00.0		47 26.1 +02.3	S 01	54.0 +00.0		11	
12	282 45.0 +01.2	N 17	01.8 -00.5		337 04.5 +01.9	N 23	12.2 +00.0		62 28.4 +02.3	S 01	54.0 -00.1		12	
13	297 46.2 +01.2	N 17	01.3 -00.4		352 06.4 +01.8	N 23	12.2 +00.0		77 30.7 +02.3	S 01	53.9 -00.1		13	
14	312 47.4 +01.2	N 17	00.9 -00.4		7 08.2 +01.9	N 23	12.2 +00.0		92 33.0 +02.3	S 01	53.8 +00.0		14	
15	327 48.6 +01.1	N 17	00.5 -00.5		22 10.1 +01.9	N 23	12.2 +00.1		107 35.3 +02.3	S 01	53.8 -00.1		15	
16	342 49.7 +01.2	N 17	00.0 -00.4		37 12.0 +01.8	N 23	12.3 +00.0		122 37.6 +02.2	S 01	53.7 -00.1		16	
17	357 50.9 +01.2	N 16	59.6 -00.5		52 13.8 +01.9	N 23	12.3 +00.0		137 39.8 +02.3	S 01	53.6 +00.0		17	
18	12 52.1 +01.2	N 16	59.1 -00.4		67 15.7 +01.9	N 23	12.3 +00.0		152 42.1 +02.3	S 01	53.6 -00.1		18	
19	27 53.3 +01.2	N 16	58.7 -00.4		82 17.6 +01.8	N 23	12.3 +00.0		167 44.4 +02.3	S 01	53.5 -00.1		19	
20	42 54.5 +01.2	N 16	58.3 -00.5		97 19.4 +01.9	N 23	12.3 +00.1		182 46.7 +02.3	S 01	53.4 +00.0		20	
21	57 55.7 +01.1	N 16	57.8 -00.4		112 21.3 +01.9	N 23	12.4 +00.0		197 49.0 +02.3	S 01	53.4 -00.1		21	
22	72 56.8 +01.2	N 16	57.4 -00.5		127 23.2 +01.8	N 23	12.4 +00.0		212 51.3 +02.3	S 01	53.3 -00.1		22	
23	87 58.0 +01.2	N 16	56.9 -00.4		142 25.0 +01.9	N 23	12.4 +00.0		227 53.6 +02.3	S 01	53.2 +00.0		23	
<b>UT</b>	<b>02 06 10 14 18 22</b>				<b>UT</b>	<b>02 06 10 14 18 22</b>			<b>UT</b>	<b>02 06 10 14 18 22</b>				
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	220° 220° 219° 219° 219° 219°				SHA	274° 274° 274° 274° 274° 274°			SHA	359° 359° 359° 359° 359° 359°				
Greenwich Culmination Time: 17:08					Greenwich Culmination Time: 13:31					Greenwich Culmination Time: 07:50				

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 44.9 -00.1		N 21 08.0 +00.4		225 19.8 +00.3		N 05 54.5 +00.7		198 25.3 -35.9		N 21 25.1 +12.3		00
01	195 44.8 -00.1		N 21 08.4 +00.4		240 20.1 +00.3		N 05 55.2 +00.7		212 49.4 -36.1		N 21 37.4 +12.2		01
02	210 44.7 -00.1		N 21 08.8 +00.5		255 20.4 +00.2		N 05 55.9 +00.7		227 13.3 -36.1		N 21 49.6 +12.1		02
03	225 44.6 +00.0		N 21 09.3 +00.4		270 20.6 +00.3		N 05 56.6 +00.7		241 37.2 -36.3		N 22 01.7 +11.9		03
04	240 44.6 -00.1		N 21 09.7 +00.4		285 20.9 +00.3		N 05 57.3 +00.7		256 00.9 -36.3		N 22 13.6 +11.7		04
05	255 44.5 -00.1		N 21 10.1 +00.5		300 21.2 +00.2		N 05 58.0 +00.7		270 24.6 -36.5		N 22 25.3 +11.6		05
06	270 44.4 +00.0		N 21 10.6 +00.4		315 21.4 +00.3		N 05 58.7 +00.7		284 48.1 -36.6		N 22 36.9 +11.5		06
07	285 44.4 -00.1		N 21 11.0 +00.4		330 21.7 +00.3		N 05 59.4 +00.7		299 11.5 -36.7		N 22 48.4 +11.3		07
08	300 44.3 -00.1		N 21 11.4 +00.4		345 22.0 +00.2		N 06 00.1 +00.7		313 34.8 -36.7		N 22 59.7 +11.1		08
09	315 44.2 +00.0		N 21 11.8 +00.5		0 22.2 +00.3		N 06 00.8 +00.7		327 58.1 -36.9		N 23 10.8 +10.9		09
10	330 44.2 -00.1		N 21 12.3 +00.4		15 22.5 +00.2		N 06 01.5 +00.7		342 21.2 -37.0		N 23 21.7 +10.8		10
11	345 44.1 -00.1		N 21 12.7 +00.4		30 22.7 +00.3		N 06 02.2 +00.7		356 44.2 -37.1		N 23 32.5 +10.7		11
12	0 44.0 -00.1		N 21 13.1 +00.4		45 23.0 +00.3		N 06 02.9 +00.7		11 07.1 -37.2		N 23 43.2 +10.4		12
13	15 43.9 +00.0		N 21 13.5 +00.5		60 23.3 +00.2		N 06 03.6 +00.7		25 29.9 -37.3		N 23 53.6 +10.3		13
14	30 43.9 -00.1		N 21 14.0 +00.4		75 23.5 +00.3		N 06 04.3 +00.7		39 52.6 -37.4		N 24 03.9 +10.1		14
15	45 43.8 -00.1		N 21 14.4 +00.4		90 23.8 +00.2		N 06 05.0 +00.7		54 15.2 -37.5		N 24 14.0 +09.9		15
16	60 43.7 +00.0		N 21 14.8 +00.4		105 24.0 +00.3		N 06 05.7 +00.7		68 37.7 -37.6		N 24 23.9 +09.8		16
17	75 43.7 -00.1		N 21 15.2 +00.5		120 24.3 +00.2		N 06 06.4 +00.7		83 00.1 -37.6		N 24 33.7 +09.5		17
18	90 43.6 -00.1		N 21 15.7 +00.4		135 24.5 +00.3		N 06 07.1 +00.7		97 22.5 -37.8		N 24 43.2 +09.4		18
19	105 43.5 -00.1		N 21 16.1 +00.4		150 24.8 +00.2		N 06 07.8 +00.7		111 44.7 -37.9		N 24 52.6 +09.2		19
20	120 43.4 +00.0		N 21 16.5 +00.4		165 25.0 +00.3		N 06 08.5 +00.7		126 06.8 -37.9		N 25 01.8 +09.1		20
21	135 43.4 -00.1		N 21 16.9 +00.4		180 25.3 +00.3		N 06 09.2 +00.7		140 28.9 -38.0		N 25 10.9 +08.8		21
22	150 43.3 -00.1		N 21 17.3 +00.5		195 25.6 +00.2		N 06 09.9 +00.7		154 50.9 -38.2		N 25 19.7 +08.7		22
23	165 43.2 -00.1		N 21 17.8 +00.4		210 25.8 +00.3		N 06 10.6 +00.7		169 12.7 -38.2		N 25 28.4 +08.4		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				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 00'2 00'2 00'2 00'2 00'2 00'2				HP 61'0 61'0 61'0 61'0 61'0 60'9				
	SHA 297° 297° 297° 296° 296° 296°				SHA 341° 341° 341° 341° 341° 341°				SHA 313° 311° 308° 305° 303° 300°				
	Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 08:58				Greenwich Culmination Time: 11:13				

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	102 59.2 +01.2		N 16 56.5 -00.4		157 26.9 +01.8		N 23 12.4 +00.0		242 55.9 +02.3		S 01 53.2 -00.1		00
01	118 00.4 +01.2		N 16 56.1 -00.5		172 28.7 +01.9		N 23 12.4 +00.1		257 58.2 +02.2		S 01 53.1 +00.0		01
02	133 01.6 +01.1		N 16 55.6 -00.4		187 30.6 +01.9		N 23 12.5 +00.0		273 00.4 +02.3		S 01 53.1 -00.1		02
03	148 02.7 +01.2		N 16 55.2 -00.5		202 32.5 +01.8		N 23 12.5 +00.0		288 02.7 +02.3		S 01 53.0 -00.1		03
04	163 03.9 +01.2		N 16 54.7 -00.4		217 34.3 +01.9		N 23 12.5 +00.0		303 05.0 +02.3		S 01 52.9 +00.0		04
05	178 05.1 +01.2		N 16 54.3 -00.5		232 36.2 +01.9		N 23 12.5 +00.0		318 07.3 +02.3		S 01 52.9 -00.1		05
06	193 06.3 +01.2		N 16 53.8 -00.4		247 38.1 +01.8		N 23 12.5 +00.0		333 09.6 +02.3		S 01 52.8 -00.1		06
07	208 07.5 +01.2		N 16 53.4 -00.4		262 39.9 +01.9		N 23 12.5 +00.1		348 11.9 +02.3		S 01 52.7 +00.0		07
08	223 08.7 +01.1		N 16 53.0 -00.5		277 41.8 +01.9		N 23 12.6 +00.0		3 14.2 +02.3		S 01 52.7 -00.1		08
09	238 09.8 +01.2		N 16 52.5 -00.4		292 43.7 +01.8		N 23 12.6 +00.0		18 16.5 +02.3		S 01 52.6 -00.1		09
10	253 11.0 +01.2		N 16 52.1 -00.5		307 45.5 +01.9		N 23 12.6 +00.0		33 18.8 +02.3		S 01 52.5 +00.0		10
11	268 12.2 +01.2		N 16 51.6 -00.4		322 47.4 +01.8		N 23 12.6 +00.0		48 21.1 +02.3		S 01 52.5 -00.1		11
12	283 13.4 +01.2		N 16 51.2 -00.5		337 49.2 +01.9		N 23 12.6 +00.1		63 23.4 +02.2		S 01 52.4 -00.1		12
13	298 14.6 +01.1		N 16 50.7 -00.4		352 51.1 +01.9		N 23 12.7 +00.0		78 25.6 +02.3		S 01 52.3 +00.0		13
14	313 15.7 +01.2		N 16 50.3 -00.4		7 53.0 +01.8		N 23 12.7 +00.0		93 27.9 +02.3		S 01 52.3 -00.1		14
15	328 16.9 +01.2		N 16 49.9 -00.5		22 54.8 +01.9		N 23 12.7 +00.0		108 30.2 +02.3		S 01 52.2 -00.1		15
16	343 18.1 +01.2		N 16 49.4 -00.4		37 56.7 +01.9		N 23 12.7 +00.0		123 32.5 +02.3		S 01 52.1 +00.0		16
17	358 19.3 +01.2		N 16 49.0 -00.5		52 58.6 +01.8		N 23 12.7 +00.0		138 34.8 +02.3		S 01 52.1 -00.1		17
18	13 20.5 +01.1		N 16 48.5 -00.4		68 00.4 +01.9		N 23 12.7 +00.1		153 37.1 +02.3		S 01 52.0 +00.0		18
19	28 21.6 +01.2		N 16 48.1 -00.5		83 02.3 +01.8		N 23 12.8 +00.0		168 39.4 +02.3		S 01 52.0 -00.1		19
20	43 22.8 +01.2		N 16 47.6 -00.4		98 04.1 +01.9		N 23 12.8 +00.0		183 41.7 +02.3		S 01 51.9 -00.1		20
21	58 24.0 +01.2		N 16 47.2 -00.4		113 06.0 +01.9		N 23 12.8 +00.0		198 44.0 +02.3		S 01 51.8 +00.0		21
22	73 25.2 +01.2		N 16 46.8 -00.5		128 07.9 +01.8		N 23 12.8 +00.0		213 46.3 +02.3		S 01 51.8 -00.1		22
23	88 26.4 +01.1		N 16 46.3 -00.4		143 09.7 +01.9		N 23 12.8 +00.0		228 48.6 +02.3		S 01 51.7 -00.1		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 219° 219° 219° 219° 219° 219°				SHA 274° 274° 274° 273° 273° 273°				SHA 359° 359° 359° 359° 359° 359°				
	Greenwich Culmination Time: 17:06				Greenwich Culmination Time: 13:28				Greenwich Culmination Time: 07:47				



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	180 43.1 +00.0	N 21 18.2 +00.4		225 26.1 +00.2	N 06 11.3 +00.8		183 34.5 -38.2	N 25 36.8 +08.3		00			
01	195 43.1 -00.1	N 21 18.6 +00.4		240 26.3 +00.3	N 06 12.1 +00.7		197 56.3 -38.4	N 25 45.1 +08.0		01			
02	210 43.0 -00.1	N 21 19.0 +00.4		255 26.6 +00.2	N 06 12.8 +00.7		212 17.9 -38.4	N 25 53.1 +07.9		02			
03	225 42.9 -00.1	N 21 19.4 +00.4		270 26.8 +00.2	N 06 13.5 +00.7		226 39.5 -38.5	N 26 01.0 +07.7		03			
04	240 42.8 +00.0	N 21 19.8 +00.4		285 27.0 +00.3	N 06 14.2 +00.7		241 01.0 -38.6	N 26 08.7 +07.5		04			
05	255 42.8 -00.1	N 21 20.2 +00.5		300 27.3 +00.2	N 06 14.9 +00.7		255 22.4 -38.6	N 26 16.2 +07.3		05			
06	270 42.7 -00.1	N 21 20.7 +00.4		315 27.5 +00.3	N 06 15.6 +00.7		269 43.8 -38.7	N 26 23.5 +07.1		06			
07	285 42.6 -00.1	N 21 21.1 +00.4		330 27.8 +00.2	N 06 16.3 +00.7		284 05.1 -38.8	N 26 30.6 +06.9		07			
08	300 42.5 +00.0	N 21 21.5 +00.4		345 28.0 +00.3	N 06 17.0 +00.7		298 26.3 -38.8	N 26 37.5 +06.6		08			
09	315 42.5 -00.1	N 21 21.9 +00.4		0 28.3 +00.2	N 06 17.7 +00.8		312 47.5 -38.9	N 26 44.1 +06.5		09			
10	330 42.4 -00.1	N 21 22.3 +00.4		15 28.5 +00.3	N 06 18.5 +00.7		327 08.6 -38.9	N 26 50.6 +06.3		10			
11	345 42.3 -00.1	N 21 22.7 +00.4		30 28.8 +00.2	N 06 19.2 +00.7		341 29.7 -39.0	N 26 56.9 +06.1		11			
12	0 42.2 +00.0	N 21 23.1 +00.4		45 29.0 +00.2	N 06 19.9 +00.7		355 50.7 -39.0	N 27 03.0 +05.8		12			
13	15 42.2 -00.1	N 21 23.5 +00.5		60 29.2 +00.3	N 06 20.6 +00.7		10 11.7 -39.1	N 27 08.8 +05.7		13			
14	30 42.1 -00.1	N 21 24.0 +00.4		75 29.5 +00.2	N 06 21.3 +00.7		24 32.6 -39.1	N 27 14.5 +05.4		14			
15	45 42.0 -00.1	N 21 24.4 +00.4		90 29.7 +00.3	N 06 22.0 +00.7		38 53.5 -39.2	N 27 19.9 +05.3		15			
16	60 41.9 -00.1	N 21 24.8 +00.4		105 30.0 +00.2	N 06 22.7 +00.8		53 14.3 -39.2	N 27 25.2 +05.0		16			
17	75 41.8 +00.0	N 21 25.2 +00.4		120 30.2 +00.2	N 06 23.5 +00.7		67 35.1 -39.2	N 27 30.2 +04.8		17			
18	90 41.8 -00.1	N 21 25.6 +00.4		135 30.4 +00.3	N 06 24.2 +00.7		81 55.9 -39.3	N 27 35.0 +04.6		18			
19	105 41.7 -00.1	N 21 26.0 +00.4		150 30.7 +00.2	N 06 24.9 +00.7		96 16.6 -39.3	N 27 39.6 +04.4		19			
20	120 41.6 -00.1	N 21 26.4 +00.4		165 30.9 +00.2	N 06 25.6 +00.7		110 37.3 -39.3	N 27 44.0 +04.2		20			
21	135 41.5 +00.0	N 21 26.8 +00.4		180 31.1 +00.3	N 06 26.3 +00.7		124 58.0 -39.3	N 27 48.2 +03.9		21			
22	150 41.5 -00.1	N 21 27.2 +00.4		195 31.4 +00.2	N 06 27.0 +00.8		139 18.7 -39.3	N 27 52.1 +03.8		22			
23	165 41.4 -00.1	N 21 27.6 +00.4		210 31.6 +00.2	N 06 27.8 +00.7		153 39.4 -39.4	N 27 55.9 +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 15'8 15'8 15'8 15'8 15'8 15'8			SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'6 16'6 16'6 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 60'9 60'8 60'8 60'7 60'6 60'5					
	SHA 296° 296° 295° 295° 295° 295°			SHA 341° 340° 340° 340° 340° 340°				SHA 297° 295° 292° 289° 286° 284°					
	Greenwich Culmination Time: 11:57			Greenwich Culmination Time: 08:58				Greenwich Culmination Time: 12:17					

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	103 27.5 +01.2	N 16 45.9 -00.5		158 11.6 +01.8	N 23 12.8 +00.1		243 50.9 +02.3	S 01 51.6 +00.0		00			
01	118 28.7 +01.2	N 16 45.4 -00.4		173 13.4 +01.9	N 23 12.9 +00.0		258 53.2 +02.2	S 01 51.6 -00.1		01			
02	133 29.9 +01.2	N 16 45.0 -00.5		188 15.3 +01.9	N 23 12.9 +00.0		273 55.4 +02.3	S 01 51.5 -00.1		02			
03	148 31.1 +01.2	N 16 44.5 -00.4		203 17.2 +01.8	N 23 12.9 +00.0		288 57.7 +02.3	S 01 51.4 +00.0		03			
04	163 32.3 +01.1	N 16 44.1 -00.5		218 19.0 +01.9	N 23 12.9 +00.0		304 00.0 +02.3	S 01 51.4 -00.1		04			
05	178 33.4 +01.2	N 16 43.6 -00.4		233 20.9 +01.9	N 23 12.9 +00.0		319 02.3 +02.3	S 01 51.3 -00.1		05			
06	193 34.6 +01.2	N 16 43.2 -00.5		248 22.8 +01.8	N 23 12.9 +00.1		334 04.6 +02.3	S 01 51.2 +00.0		06			
07	208 35.8 +01.2	N 16 42.7 -00.4		263 24.6 +01.9	N 23 13.0 +00.0		349 06.9 +02.3	S 01 51.2 -00.1		07			
08	223 37.0 +01.2	N 16 42.3 -00.4		278 26.5 +01.8	N 23 13.0 +00.0		4 09.2 +02.3	S 01 51.1 +00.0		08			
09	238 38.2 +01.1	N 16 41.9 -00.5		293 28.3 +01.9	N 23 13.0 +00.0		19 11.5 +02.3	S 01 51.1 -00.1		09			
10	253 39.3 +01.2	N 16 41.4 -00.4		308 30.2 +01.9	N 23 13.0 +00.0		34 13.8 +02.3	S 01 51.0 -00.1		10			
11	268 40.5 +01.2	N 16 41.0 -00.5		323 32.1 +01.8	N 23 13.0 +00.1		49 16.1 +02.3	S 01 50.9 +00.0		11			
12	283 41.7 +01.2	N 16 40.5 -00.4		338 33.9 +01.9	N 23 13.1 +00.0		64 18.4 +02.3	S 01 50.9 -00.1		12			
13	298 42.9 +01.1	N 16 40.1 -00.5		353 35.8 +01.8	N 23 13.1 +00.0		79 20.7 +02.3	S 01 50.8 -00.1		13			
14	313 44.0 +01.2	N 16 39.6 -00.4		8 37.6 +01.9	N 23 13.1 +00.0		94 23.0 +02.3	S 01 50.7 +00.0		14			
15	328 45.2 +01.2	N 16 39.2 -00.5		23 39.5 +01.9	N 23 13.1 +00.0		109 25.3 +02.3	S 01 50.7 -00.1		15			
16	343 46.4 +01.2	N 16 38.7 -00.4		38 41.4 +01.8	N 23 13.1 +00.0		124 27.6 +02.3	S 01 50.6 +00.0		16			
17	358 47.6 +01.2	N 16 38.3 -00.5		53 43.2 +01.9	N 23 13.1 +00.1		139 29.9 +02.3	S 01 50.6 -00.1		17			
18	13 48.8 +01.1	N 16 37.8 -00.4		68 45.1 +01.9	N 23 13.2 +00.0		154 32.2 +02.3	S 01 50.5 -00.1		18			
19	28 49.9 +01.2	N 16 37.4 -00.5		83 47.0 +01.8	N 23 13.2 +00.0		169 34.5 +02.2	S 01 50.4 +00.0		19			
20	43 51.1 +01.2	N 16 36.9 -00.4		98 48.8 +01.9	N 23 13.2 +00.0		184 36.7 +02.3	S 01 50.4 -00.1		20			
21	58 52.3 +01.2	N 16 36.5 -00.5		113 50.7 +01.8	N 23 13.2 +00.0		199 39.0 +02.3	S 01 50.3 -00.1		21			
22	73 53.5 +01.1	N 16 36.0 -00.4		128 52.5 +01.9	N 23 13.2 +00.0		214 41.3 +02.3	S 01 50.2 +00.0		22			
23	88 54.6 +01.2	N 16 35.6 -00.5		143 54.4 +01.9	N 23 13.2 +00.1		229 43.6 +02.3	S 01 50.2 -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 219° 219° 218° 218° 218° 218°			SHA 273° 273° 273° 273° 273° 273°				SHA 359° 359° 359° 359° 359° 359°					
	Greenwich Culmination Time: 17:04			Greenwich Culmination Time: 13:25				Greenwich Culmination Time: 07:43					



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	180 39.4 -00.1	N 21 37.5 +00.4	225 37.2 +00.2	N 06 45.8 +00.7	152 19.8 -38.7	N 28 20.3 -01.7	00							
01	195 39.3 -00.1	N 21 37.9 +00.3	240 37.4 +00.2	N 06 46.5 +00.8	166 41.1 -38.5	N 28 18.6 -02.0	01							
02	210 39.2 -00.1	N 21 38.2 +00.4	255 37.6 +00.2	N 06 47.3 +00.7	181 02.6 -38.5	N 28 16.6 -02.1	02							
03	225 39.1 -00.1	N 21 38.6 +00.4	270 37.8 +00.2	N 06 48.0 +00.7	195 24.1 -38.4	N 28 14.5 -02.4	03							
04	240 39.0 -00.1	N 21 39.0 +00.4	285 38.0 +00.2	N 06 48.7 +00.8	209 45.7 -38.4	N 28 12.1 -02.5	04							
05	255 38.9 -00.1	N 21 39.4 +00.4	300 38.2 +00.2	N 06 49.5 +00.7	224 07.3 -38.2	N 28 09.6 -02.8	05							
06	270 38.8 +00.0	N 21 39.8 +00.4	315 38.4 +00.3	N 06 50.2 +00.7	238 29.1 -38.2	N 28 06.8 -03.0	06							
07	285 38.8 -00.1	N 21 40.2 +00.3	330 38.7 +00.2	N 06 50.9 +00.7	252 50.9 -38.0	N 28 03.8 -03.1	07							
08	300 38.7 -00.1	N 21 40.5 +00.4	345 38.9 +00.2	N 06 51.6 +00.8	267 12.9 -38.0	N 28 00.7 -03.3	08							
09	315 38.6 -00.1	N 21 40.9 +00.4	0 39.1 +00.2	N 06 52.4 +00.7	281 34.9 -37.9	N 27 57.4 -03.6	09							
10	330 38.5 -00.1	N 21 41.3 +00.4	15 39.3 +00.2	N 06 53.1 +00.7	295 57.0 -37.8	N 27 53.8 -03.7	10							
11	345 38.4 -00.1	N 21 41.7 +00.4	30 39.5 +00.2	N 06 53.8 +00.8	310 19.2 -37.7	N 27 50.1 -03.9	11							
12	0 38.3 +00.0	N 21 42.1 +00.3	45 39.7 +00.2	N 06 54.6 +00.7	324 41.5 -37.6	N 27 46.2 -04.1	12							
13	15 38.3 -00.1	N 21 42.4 +00.4	60 39.9 +00.2	N 06 55.3 +00.7	339 03.9 -37.5	N 27 42.1 -04.3	13							
14	30 38.2 -00.1	N 21 42.8 +00.4	75 40.1 +00.2	N 06 56.0 +00.8	353 26.4 -37.4	N 27 37.8 -04.5	14							
15	45 38.1 -00.1	N 21 43.2 +00.4	90 40.3 +00.2	N 06 56.8 +00.7	7 49.0 -37.3	N 27 33.3 -04.7	15							
16	60 38.0 -00.1	N 21 43.6 +00.3	105 40.5 +00.2	N 06 57.5 +00.7	22 11.7 -37.2	N 27 28.6 -04.8	16							
17	75 37.9 -00.1	N 21 43.9 +00.4	120 40.7 +00.2	N 06 58.2 +00.8	36 34.5 -37.0	N 27 23.8 -05.0	17							
18	90 37.8 -00.1	N 21 44.3 +00.4	135 40.9 +00.2	N 06 59.0 +00.7	50 57.5 -37.0	N 27 18.8 -05.2	18							
19	105 37.7 -00.1	N 21 44.7 +00.4	150 41.1 +00.2	N 06 59.7 +00.7	65 20.5 -36.8	N 27 13.6 -05.4	19							
20	120 37.6 +00.0	N 21 45.1 +00.3	165 41.3 +00.2	N 07 00.4 +00.8	79 43.7 -36.8	N 27 08.2 -05.6	20							
21	135 37.6 -00.1	N 21 45.4 +00.4	180 41.5 +00.2	N 07 01.2 +00.7	94 06.9 -36.6	N 27 02.6 -05.7	21							
22	150 37.5 -00.1	N 21 45.8 +00.4	195 41.7 +00.2	N 07 01.9 +00.7	108 30.3 -36.5	N 26 56.9 -05.9	22							
23	165 37.4 -00.1	N 21 46.2 +00.4	210 41.9 +00.2	N 07 02.6 +00.8	122 53.8 -36.3	N 26 51.0 -06.0	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 294° 294° 293° 293° 293° 293°	Greenwich Culmination Time: 11:57	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 339° 339° 338° 338° 338° 338°	Greenwich Culmination Time: 08:57	UT 02 06 10 14 18 22	SD 16'3 16'2 16'2 16'2 16'1 16'1	HP 59'7 59'6 59'5 59'3 59'2 59'0	SHA 264° 261° 259° 256° 253° 251°	Greenwich Culmination Time: 14:27

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	104 24.0 +01.2	N 16 24.3 -00.5	159 40.9 +01.8	N 23 13.6 +00.1	245 41.1 +02.3	S 01 48.6 +00.0	00							
01	119 25.2 +01.2	N 16 23.8 -00.4	174 42.7 +01.9	N 23 13.7 +00.0	260 43.4 +02.3	S 01 48.6 -00.1	01							
02	134 26.4 +01.1	N 16 23.4 -00.5	189 44.6 +01.9	N 23 13.7 +00.0	275 45.7 +02.3	S 01 48.5 -00.1	02							
03	149 27.5 +01.2	N 16 22.9 -00.4	204 46.5 +01.8	N 23 13.7 +00.0	290 48.0 +02.3	S 01 48.4 +00.0	03							
04	164 28.7 +01.2	N 16 22.5 -00.5	219 48.3 +01.9	N 23 13.7 +00.0	305 50.3 +02.3	S 01 48.4 -00.1	04							
05	179 29.9 +01.2	N 16 22.0 -00.4	234 50.2 +01.8	N 23 13.7 +00.0	320 52.6 +02.3	S 01 48.3 +00.0	05							
06	194 31.1 +01.1	N 16 21.6 -00.5	249 52.0 +01.9	N 23 13.7 +00.0	335 54.9 +02.3	S 01 48.3 -00.1	06							
07	209 32.2 +01.2	N 16 21.1 -00.4	264 53.9 +01.9	N 23 13.7 +00.1	350 57.2 +02.3	S 01 48.2 -00.1	07							
08	224 33.4 +01.2	N 16 20.7 -00.5	279 55.8 +01.8	N 23 13.8 +00.0	5 59.5 +02.3	S 01 48.1 +00.0	08							
09	239 34.6 +01.2	N 16 20.2 -00.4	294 57.6 +01.9	N 23 13.8 +00.0	21 01.8 +02.3	S 01 48.1 -00.1	09							
10	254 35.8 +01.1	N 16 19.8 -00.5	309 59.5 +01.8	N 23 13.8 +00.0	36 04.1 +02.3	S 01 48.0 +00.0	10							
11	269 36.9 +01.2	N 16 19.3 -00.5	325 01.3 +01.9	N 23 13.8 +00.0	51 06.4 +02.3	S 01 48.0 -00.1	11							
12	284 38.1 +01.2	N 16 18.8 -00.4	340 03.2 +01.9	N 23 13.8 +00.0	66 08.7 +02.3	S 01 47.9 -00.1	12							
13	299 39.3 +01.1	N 16 18.4 -00.5	355 05.1 +01.8	N 23 13.8 +00.1	81 11.0 +02.3	S 01 47.8 +00.0	13							
14	314 40.4 +01.2	N 16 17.9 -00.4	10 06.9 +01.9	N 23 13.9 +00.0	96 13.3 +02.3	S 01 47.8 -00.1	14							
15	329 41.6 +01.2	N 16 17.5 -00.5	25 08.8 +01.8	N 23 13.9 +00.0	111 15.6 +02.3	S 01 47.7 +00.0	15							
16	344 42.8 +01.2	N 16 17.0 -00.4	40 10.6 +01.9	N 23 13.9 +00.0	126 17.9 +02.3	S 01 47.7 -00.1	16							
17	359 44.0 +01.1	N 16 16.6 -00.5	55 12.5 +01.8	N 23 13.9 +00.0	141 20.2 +02.3	S 01 47.6 -00.1	17							
18	14 45.1 +01.2	N 16 16.1 -00.4	70 14.3 +01.9	N 23 13.9 +00.0	156 22.5 +02.3	S 01 47.5 +00.0	18							
19	29 46.3 +01.2	N 16 15.7 -00.5	85 16.2 +01.9	N 23 13.9 +00.0	171 24.8 +02.3	S 01 47.5 -00.1	19							
20	44 47.5 +01.1	N 16 15.2 -00.5	100 18.1 +01.8	N 23 13.9 +00.1	186 27.1 +02.3	S 01 47.4 +00.0	20							
21	59 48.6 +01.2	N 16 14.7 -00.4	115 19.9 +01.9	N 23 14.0 +00.0	201 29.4 +02.3	S 01 47.4 -00.1	21							
22	74 49.8 +01.2	N 16 14.3 -00.5	130 21.8 +01.8	N 23 14.0 +00.0	216 31.7 +02.3	S 01 47.3 -00.1	22							
23	89 51.0 +01.2	N 16 13.8 -00.4	145 23.6 +01.9	N 23 14.0 +00.0	231 34.0 +02.3	S 01 47.2 +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 218° 217° 217° 217° 217° 217°	Greenwich Culmination Time: 17:01	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 273° 273° 273° 273° 273° 273°	Greenwich Culmination Time: 13:19	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 359° 359° 359° 359° 359° 359°	Greenwich Culmination Time: 07:36

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 37.3 -00.1	N 21 46.6 +00.3			225 42.1 +00.2	N 07 03.4 +00.7			137 17.5 -36.3	N 26 45.0 -06.3			00
01	195 37.2 -00.1	N 21 46.9 +00.4			240 42.3 +00.2	N 07 04.1 +00.7			151 41.2 -36.1	N 26 38.7 -06.4			01
02	210 37.1 -00.1	N 21 47.3 +00.4			255 42.5 +00.2	N 07 04.8 +00.8			166 05.1 -36.0	N 26 32.3 -06.5			02
03	225 37.0 -00.1	N 21 47.7 +00.3			270 42.7 +00.2	N 07 05.6 +00.7			180 29.1 -35.9	N 26 25.8 -06.8			03
04	240 36.9 +00.0	N 21 48.0 +00.4			285 42.9 +00.2	N 07 06.3 +00.7			194 53.2 -35.7	N 26 19.0 -06.9			04
05	255 36.9 -00.1	N 21 48.4 +00.4			300 43.1 +00.2	N 07 07.0 +00.8			209 17.5 -35.6	N 26 12.1 -07.0			05
06	270 36.8 -00.1	N 21 48.8 +00.3			315 43.3 +00.2	N 07 07.8 +00.7			223 41.9 -35.5	N 26 05.1 -07.2			06
07	285 36.7 -00.1	N 21 49.1 +00.4			330 43.5 +00.1	N 07 08.5 +00.8			238 06.4 -35.4	N 25 57.9 -07.4			07
08	300 36.6 -00.1	N 21 49.5 +00.4			345 43.6 +00.2	N 07 09.3 +00.7			252 31.0 -35.2	N 25 50.5 -07.5			08
09	315 36.5 -00.1	N 21 49.9 +00.3			0 43.8 +00.2	N 07 10.0 +00.7			266 55.8 -35.1	N 25 43.0 -07.6			09
10	330 36.4 -00.1	N 21 50.2 +00.4			15 44.0 +00.2	N 07 10.7 +00.8			281 20.7 -34.9	N 25 35.4 -07.8			10
11	345 36.3 -00.1	N 21 50.6 +00.4			30 44.2 +00.2	N 07 11.5 +00.7			295 45.8 -34.9	N 25 27.6 -08.0			11
12	0 36.2 -00.1	N 21 51.0 +00.3			45 44.4 +00.2	N 07 12.2 +00.7			310 10.9 -34.7	N 25 19.6 -08.1			12
13	15 36.1 -00.1	N 21 51.3 +00.4			60 44.6 +00.2	N 07 12.9 +00.8			324 36.2 -34.5	N 25 11.5 -08.2			13
14	30 36.0 +00.0	N 21 51.7 +00.3			75 44.8 +00.2	N 07 13.7 +00.7			339 01.7 -34.4	N 25 03.3 -08.4			14
15	45 36.0 -00.1	N 21 52.0 +00.4			90 45.0 +00.2	N 07 14.4 +00.8			353 27.3 -34.3	N 24 54.9 -08.6			15
16	60 35.9 -00.1	N 21 52.4 +00.4			105 45.2 +00.1	N 07 15.2 +00.7			7 53.0 -34.2	N 24 46.3 -08.6			16
17	75 35.8 -00.1	N 21 52.8 +00.3			120 45.3 +00.2	N 07 15.9 +00.7			22 18.8 -34.0	N 24 37.7 -08.8			17
18	90 35.7 -00.1	N 21 53.1 +00.4			135 45.5 +00.2	N 07 16.6 +00.8			36 44.8 -33.9	N 24 28.9 -08.9			18
19	105 35.6 -00.1	N 21 53.5 +00.3			150 45.7 +00.2	N 07 17.4 +00.7			51 10.9 -33.7	N 24 20.0 -09.1			19
20	120 35.5 -00.1	N 21 53.8 +00.4			165 45.9 +00.2	N 07 18.1 +00.8			65 37.2 -33.6	N 24 10.9 -09.2			20
21	135 35.4 -00.1	N 21 54.2 +00.3			180 46.1 +00.1	N 07 18.9 +00.7			80 03.6 -33.4	N 24 01.7 -09.3			21
22	150 35.3 -00.1	N 21 54.5 +00.4			195 46.2 +00.2	N 07 19.6 +00.8			94 30.2 -33.4	N 23 52.4 -09.4			22
23	165 35.2 -00.1	N 21 54.9 +00.4			210 46.4 +00.2	N 07 20.4 +00.7			108 56.8 -33.2	N 23 43.0 -09.6			23
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'0 16'0 16'0 15'9 15'9 15'8					
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 58'9 58'7 58'6 58'4 58'3 58'1					
SHA 293° 293° 292° 292° 292° 292°				SHA 338° 338° 338° 337° 337° 337°				SHA 248° 246° 243° 241° 238° 236°					
Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 08:57				Greenwich Culmination Time: 15:27					
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	104 52.2 +01.1	N 16 13.4 -00.5			160 25.5 +01.8	N 23 14.0 +00.0			246 36.3 +02.3	S 01 47.2 -00.1			00
01	119 53.3 +01.2	N 16 12.9 -00.4			175 27.3 +01.9	N 23 14.0 +00.0			261 38.6 +02.3	S 01 47.1 +00.0			01
02	134 54.5 +01.2	N 16 12.5 -00.5			190 29.2 +01.9	N 23 14.0 +00.0			276 40.9 +02.3	S 01 47.1 -00.1			02
03	149 55.7 +01.1	N 16 12.0 -00.5			205 31.1 +01.8	N 23 14.0 +00.1			291 43.2 +02.3	S 01 47.0 -00.1			03
04	164 56.8 +01.2	N 16 11.5 -00.4			220 32.9 +01.9	N 23 14.1 +00.0			306 45.5 +02.3	S 01 46.9 +00.0			04
05	179 58.0 +01.2	N 16 11.1 -00.5			235 34.8 +01.8	N 23 14.1 +00.0			321 47.8 +02.3	S 01 46.9 -00.1			05
06	194 59.2 +01.2	N 16 10.6 -00.4			250 36.6 +01.9	N 23 14.1 +00.0			336 50.1 +02.3	S 01 46.8 +00.0			06
07	210 00.4 +01.1	N 16 10.2 -00.5			265 38.5 +01.9	N 23 14.1 +00.0			351 52.4 +02.3	S 01 46.8 -00.1			07
08	225 01.5 +01.2	N 16 09.7 -00.5			280 40.4 +01.8	N 23 14.1 +00.0			6 54.7 +02.3	S 01 46.7 -00.1			08
09	240 02.7 +01.2	N 16 09.2 -00.4			295 42.2 +01.9	N 23 14.1 +00.0			21 57.0 +02.3	S 01 46.6 +00.0			09
10	255 03.9 +01.1	N 16 08.8 -00.5			310 44.1 +01.8	N 23 14.1 +00.1			36 59.3 +02.3	S 01 46.6 -00.1			10
11	270 05.0 +01.2	N 16 08.3 -00.4			325 45.9 +01.9	N 23 14.2 +00.0			52 01.6 +02.3	S 01 46.5 +00.0			11
12	285 06.2 +01.2	N 16 07.9 -00.5			340 47.8 +01.8	N 23 14.2 +00.0			67 03.9 +02.3	S 01 46.5 -00.1			12
13	300 07.4 +01.1	N 16 07.4 -00.5			355 49.6 +01.9	N 23 14.2 +00.0			82 06.2 +02.3	S 01 46.4 -00.1			13
14	315 08.5 +01.2	N 16 06.9 -00.4			10 51.5 +01.9	N 23 14.2 +00.0			97 08.5 +02.3	S 01 46.3 +00.0			14
15	330 09.7 +01.2	N 16 06.5 -00.5			25 53.4 +01.8	N 23 14.2 +00.0			112 10.8 +02.3	S 01 46.3 -00.1			15
16	345 10.9 +01.2	N 16 06.0 -00.4			40 55.2 +01.9	N 23 14.2 +00.0			127 13.1 +02.3	S 01 46.2 +00.0			16
17	0 12.1 +01.1	N 16 05.6 -00.5			55 57.1 +01.8	N 23 14.2 +00.1			142 15.4 +02.3	S 01 46.2 -00.1			17
18	15 13.2 +01.2	N 16 05.1 -00.5			70 58.9 +01.9	N 23 14.3 +00.0			157 17.7 +02.3	S 01 46.1 +00.0			18
19	30 14.4 +01.2	N 16 04.6 -00.4			86 00.8 +01.8	N 23 14.3 +00.0			172 20.0 +02.3	S 01 46.1 -00.1			19
20	45 15.6 +01.1	N 16 04.2 -00.5			101 02.6 +01.9	N 23 14.3 +00.0			187 22.3 +02.3	S 01 46.0 -00.1			20
21	60 16.7 +01.2	N 16 03.7 -00.4			116 04.5 +01.8	N 23 14.3 +00.0			202 24.6 +02.4	S 01 45.9 +00.0			21
22	75 17.9 +01.2	N 16 03.3 -00.5			131 06.3 +01.9	N 23 14.3 +00.0			217 27.0 +02.3	S 01 45.9 -00.1			22
23	90 19.1 +01.1	N 16 02.8 -00.5			146 08.2 +01.9	N 23 14.3 +00.0			232 29.3 +02.3	S 01 45.8 +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 217° 217° 217° 217° 217° 217°				SHA 273° 273° 273° 273° 272° 272°				SHA 359° 359° 359° 359° 359° 359°					
Greenwich Culmination Time: 16:59				Greenwich Culmination Time: 13:16				Greenwich Culmination Time: 07:32					

<i>Sun</i>					<i>Venus</i>				<i>Moon</i>				A: 17%	UT						
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		UT						
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	180	35.1 -00.1	N 21 55.3 +00.3		225	46.6 +00.2	N 07 21.1 +00.7		123	23.6 -33.0	N 23 33.4 -09.7			00						
01	195	35.0 -00.1	N 21 55.6 +00.4		240	46.8 +00.2	N 07 21.8 +00.8		137	50.6 -32.9	N 23 23.7 -09.8			01						
02	210	34.9 +00.0	N 21 56.0 +00.3		255	47.0 +00.1	N 07 22.6 +00.7		152	17.7 -32.8	N 23 13.9 -09.9			02						
03	225	34.9 -00.1	N 21 56.3 +00.4		270	47.1 +00.2	N 07 23.3 +00.8		166	44.9 -32.6	N 23 04.0 -10.1			03						
04	240	34.8 -00.1	N 21 56.7 +00.3		285	47.3 +00.2	N 07 24.1 +00.7		181	12.3 -32.5	N 22 53.9 -10.1			04						
05	255	34.7 -00.1	N 21 57.0 +00.4		300	47.5 +00.2	N 07 24.8 +00.8		195	39.8 -32.4	N 22 43.8 -10.3			05						
06	270	34.6 -00.1	N 21 57.4 +00.3		315	47.7 +00.1	N 07 25.6 +00.7		210	07.4 -32.2	N 22 33.5 -10.4			06						
07	285	34.5 -00.1	N 21 57.7 +00.4		330	47.8 +00.2	N 07 26.3 +00.7		224	35.2 -32.1	N 22 23.1 -10.4			07						
08	300	34.4 -00.1	N 21 58.1 +00.3		345	48.0 +00.2	N 07 27.0 +00.8		239	03.1 -32.0	N 22 12.7 -10.6			08						
09	315	34.3 -00.1	N 21 58.4 +00.4		0	48.2 +00.2	N 07 27.8 +00.7		253	31.1 -31.8	N 22 02.1 -10.7			09						
10	330	34.2 -00.1	N 21 58.8 +00.3		15	48.4 +00.1	N 07 28.5 +00.8		267	59.3 -31.7	N 21 51.4 -10.8			10						
11	345	34.1 -00.1	N 21 59.1 +00.4		30	48.5 +00.2	N 07 29.3 +00.7		282	27.6 -31.5	N 21 40.6 -10.9			11						
12	0	34.0 -00.1	N 21 59.5 +00.3		45	48.7 +00.2	N 07 30.0 +00.8		296	56.1 -31.4	N 21 29.7 -11.0			12						
13	15	33.9 -00.1	N 21 59.8 +00.4		60	48.9 +00.1	N 07 30.8 +00.7		311	24.7 -31.3	N 21 18.7 -11.1			13						
14	30	33.8 -00.1	N 22 00.2 +00.3		75	49.0 +00.2	N 07 31.5 +00.8		325	53.4 -31.2	N 21 07.6 -11.2			14						
15	45	33.7 -00.1	N 22 00.5 +00.3		90	49.2 +00.2	N 07 32.3 +00.7		340	22.2 -31.0	N 20 56.4 -11.3			15						
16	60	33.6 -00.1	N 22 00.8 +00.4		105	49.4 +00.2	N 07 33.0 +00.8		354	51.2 -30.9	N 20 45.1 -11.4			16						
17	75	33.5 -00.1	N 22 01.2 +00.3		120	49.6 +00.1	N 07 33.8 +00.7		9	20.3 -30.8	N 20 33.7 -11.4			17						
18	90	33.4 +00.0	N 22 01.5 +00.4		135	49.7 +00.2	N 07 34.5 +00.8		23	49.5 -30.6	N 20 22.3 -11.6			18						
19	105	33.4 -00.1	N 22 01.9 +00.3		150	49.9 +00.2	N 07 35.3 +00.7		38	18.9 -30.5	N 20 10.7 -11.6			19						
20	120	33.3 -00.1	N 22 02.2 +00.4		165	50.1 +00.1	N 07 36.0 +00.8		52	48.4 -30.4	N 19 59.1 -11.7			20						
21	135	33.2 -00.1	N 22 02.6 +00.3		180	50.2 +00.2	N 07 36.8 +00.7		67	18.0 -30.2	N 19 47.4 -11.9			21						
22	150	33.1 -00.1	N 22 02.9 +00.3		195	50.4 +00.1	N 07 37.5 +00.7		81	47.8 -30.2	N 19 35.5 -11.8			22						
23	165	33.0 -00.1	N 22 03.2 +00.4		210	50.5 +00.2	N 07 38.2 +00.8		96	17.6 -30.0	N 19 23.7 -12.0			23						
UT	02	06	10	14	18	22			UT	02	06	10	14	18	22					
SD	15'8	15'8	15'8	15'8	15'8	15'8			SD	00'2	00'2	00'2	00'2	00'2	00'2					
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					
SHA	292°	292°	291°	291°	291°	291°			SHA	337°	337°	337°	336°	336°	336°					
Greenwich Culmination Time: 11:57							Greenwich Culmination Time: 08:56							Greenwich Culmination Time: 16:21						

  

<i>Mars</i>					<i>Jupiter</i>				<i>Saturn</i>				UT							
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	105	20.2 +01.2	N 16 02.3 -00.4		161	10.1 +01.8	N 23 14.3 +00.1		247	31.6 +02.3	S 01 45.8 -00.1		00							
01	120	21.4 +01.2	N 16 01.9 -00.5		176	11.9 +01.9	N 23 14.4 +00.0		262	33.9 +02.3	S 01 45.7 -00.1		01							
02	135	22.6 +01.1	N 16 01.4 -00.4		191	13.8 +01.8	N 23 14.4 +00.0		277	36.2 +02.3	S 01 45.6 +00.0		02							
03	150	23.7 +01.2	N 16 01.0 -00.5		206	15.6 +01.9	N 23 14.4 +00.0		292	38.5 +02.3	S 01 45.6 -00.1		03							
04	165	24.9 +01.2	N 16 00.5 -00.5		221	17.5 +01.8	N 23 14.4 +00.0		307	40.8 +02.3	S 01 45.5 +00.0		04							
05	180	26.1 +01.2	N 16 00.0 -00.4		236	19.3 +01.9	N 23 14.4 +00.0		322	43.1 +02.3	S 01 45.5 -00.1		05							
06	195	27.3 +01.1	N 15 59.6 -00.5		251	21.2 +01.9	N 23 14.4 +00.0		337	45.4 +02.3	S 01 45.4 +00.0		06							
07	210	28.4 +01.2	N 15 59.1 -00.5		266	23.1 +01.8	N 23 14.4 +00.1		352	47.7 +02.3	S 01 45.4 -00.1		07							
08	225	29.6 +01.2	N 15 58.6 -00.4		281	24.9 +01.9	N 23 14.5 +00.0		7	50.0 +02.3	S 01 45.3 -00.1		08							
09	240	30.8 +01.1	N 15 58.2 -00.5		296	26.8 +01.8	N 23 14.5 +00.0		22	52.3 +02.3	S 01 45.2 +00.0		09							
10	255	31.9 +01.2	N 15 57.7 -00.4		311	28.6 +01.9	N 23 14.5 +00.0		37	54.6 +02.3	S 01 45.2 -00.1		10							
11	270	33.1 +01.2	N 15 57.3 -00.5		326	30.5 +01.8	N 23 14.5 +00.0		52	56.9 +02.3	S 01 45.1 +00.0		11							
12	285	34.3 +01.1	N 15 56.8 -00.5		341	32.3 +01.9	N 23 14.5 +00.0		67	59.2 +02.3	S 01 45.1 -00.1		12							
13	300	35.4 +01.2	N 15 56.3 -00.4		356	34.2 +01.8	N 23 14.5 +00.0		83	01.5 +02.3	S 01 45.0 +00.0		13							
14	315	36.6 +01.2	N 15 55.9 -00.5		11	36.0 +01.9	N 23 14.5 +00.0		98	03.8 +02.4	S 01 45.0 -00.1		14							
15	330	37.8 +01.1	N 15 55.4 -00.5		26	37.9 +01.9	N 23 14.5 +00.1		113	06.2 +02.3	S 01 44.9 -00.1		15							
16	345	38.9 +01.2	N 15 54.9 -00.4		41	39.8 +01.8	N 23 14.6 +00.0		128	08.5 +02.3	S 01 44.8 +00.0		16							
17	0	40.1 +01.2	N 15 54.5 -00.5		56	41.6 +01.9	N 23 14.6 +00.0		143	10.8 +02.3	S 01 44.8 -00.1		17							
18	15	41.3 +01.1	N 15 54.0 -00.5		71	43.5 +01.8	N 23 14.6 +00.0		158	13.1 +02.3	S 01 44.7 +00.0		18							
19	30	42.4 +01.2	N 15 53.5 -00.4		86	45.3 +01.9	N 23 14.6 +00.0		173	15.4 +02.3	S 01 44.7 -00.1		19							
20	45	43.6 +01.2	N 15 53.1 -00.5		101	47.2 +01.8	N 23 14.6 +00.0		188	17.7 +02.3	S 01 44.6 +00.0		20							
21	60	44.8 +01.1	N 15 52.6 -00.5		116	49.0 +01.9	N 23 14.6 +00.0		203	20.0 +02.3	S 01 44.6 -00.1		21							
22	75	45.9 +01.2	N 15 52.1 -00.4		131	50.9 +01.8	N 23 14.6 +00.1		218	22.3 +02.3	S 01 44.5 -00.1		22							
23	90	47.1 +01.2	N 15 51.7 -00.5		146	52.7 +01.9	N 23 14.7 +00.0		233	24.6 +02.3	S 01 44.4 +00.0		23							
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					
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					
SHA	217°	216°	216°	216°	216°	216°			SHA	359°	359°	359°	359°	359°	359°					
Greenwich Culmination Time: 16:57							Greenwich Culmination Time: 13:13							Greenwich Culmination Time: 07:28						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <small>A: 20%</small>				UT							
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "								
00	180 32.9 -00.1		N 22 03.6 +00.3		225 50.7 +00.2		N 07 39.0 +00.7		110 47.6 -29.8		N 19 11.7 -12.1		00							
01	195 32.8 -00.1		N 22 03.9 +00.4		240 50.9 +00.1		N 07 39.7 +00.8		125 17.8 -29.8		N 18 59.6 -12.1		01							
02	210 32.7 -00.1		N 22 04.3 +00.3		255 51.0 +00.2		N 07 40.5 +00.7		139 48.0 -29.6		N 18 47.5 -12.2		02							
03	225 32.6 -00.1		N 22 04.6 +00.3		270 51.2 +00.1		N 07 41.2 +00.8		154 18.4 -29.6		N 18 35.3 -12.3		03							
04	240 32.5 -00.1		N 22 04.9 +00.4		285 51.3 +00.2		N 07 42.0 +00.7		168 48.8 -29.3		N 18 23.0 -12.3		04							
05	255 32.4 -00.1		N 22 05.3 +00.3		300 51.5 +00.2		N 07 42.7 +00.8		183 19.5 -29.3		N 18 10.7 -12.4		05							
06	270 32.3 -00.1		N 22 05.6 +00.3		315 51.7 +00.1		N 07 43.5 +00.7		197 50.2 -29.2		N 17 58.3 -12.5		06							
07	285 32.2 -00.1		N 22 05.9 +00.4		330 51.8 +00.2		N 07 44.2 +00.8		212 21.0 -29.0		N 17 45.8 -12.6		07							
08	300 32.1 -00.1		N 22 06.3 +00.3		345 52.0 +00.1		N 07 45.0 +00.8		226 52.0 -29.0		N 17 33.2 -12.6		08							
09	315 32.0 -00.1		N 22 06.6 +00.3		0 52.1 +00.2		N 07 45.8 +00.7		241 23.0 -28.8		N 17 20.6 -12.7		09							
10	330 31.9 -00.1		N 22 06.9 +00.4		15 52.3 +00.1		N 07 46.5 +00.8		255 54.2 -28.7		N 17 07.9 -12.7		10							
11	345 31.8 -00.1		N 22 07.3 +00.3		30 52.4 +00.2		N 07 47.3 +00.7		270 25.5 -28.6		N 16 55.2 -12.8		11							
12	0 31.7 -00.1		N 22 07.6 +00.3		45 52.6 +00.2		N 07 48.0 +00.8		284 56.9 -28.4		N 16 42.4 -12.9		12							
13	15 31.6 -00.1		N 22 07.9 +00.4		60 52.8 +00.1		N 07 48.8 +00.7		299 28.5 -28.4		N 16 29.5 -12.9		13							
14	30 31.5 -00.1		N 22 08.3 +00.3		75 52.9 +00.2		N 07 49.5 +00.8		314 00.1 -28.3		N 16 16.6 -13.0		14							
15	45 31.4 -00.1		N 22 08.6 +00.3		90 53.1 +00.1		N 07 50.3 +00.7		328 31.8 -28.1		N 16 03.6 -13.1		15							
16	60 31.3 -00.1		N 22 08.9 +00.3		105 53.2 +00.2		N 07 51.0 +00.8		343 03.7 -28.1		N 15 50.5 -13.1		16							
17	75 31.2 -00.1		N 22 09.2 +00.4		120 53.4 +00.1		N 07 51.8 +00.7		357 35.6 -27.9		N 15 37.4 -13.1		17							
18	90 31.1 -00.1		N 22 09.6 +00.3		135 53.5 +00.2		N 07 52.5 +00.8		12 07.7 -27.9		N 15 24.3 -13.2		18							
19	105 31.0 -00.1		N 22 09.9 +00.3		150 53.7 +00.1		N 07 53.3 +00.7		26 39.8 -27.7		N 15 11.1 -13.3		19							
20	120 30.9 -00.1		N 22 10.2 +00.3		165 53.8 +00.2		N 07 54.0 +00.8		41 12.1 -27.7		N 14 57.8 -13.3		20							
21	135 30.8 -00.1		N 22 10.5 +00.4		180 54.0 +00.1		N 07 54.8 +00.7		55 44.4 -27.5		N 14 44.5 -13.3		21							
22	150 30.7 -00.1		N 22 10.9 +00.3		195 54.1 +00.2		N 07 55.5 +00.8		70 16.9 -27.5		N 14 31.2 -13.4		22							
23	165 30.6 -00.1		N 22 11.2 +00.3		210 54.3 +00.1		N 07 56.3 +00.8		84 49.4 -27.3		N 14 17.8 -13.5		23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	15'8	15'8	15'8	15'8	15'8	15'8	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD	15'5	15'5	15'5	15'4	15'4	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	57'0	56'9	56'7	56'6	56'5	56'3
SHA	291°	291°	290°	290°	290°	290°	SHA	336°	336°	336°	336°	335°	335°	SHA	220°	218°	216°	214°	212°	210°
Greenwich Culmination Time: 11:57							Greenwich Culmination Time: 08:56							Greenwich Culmination Time: 17:09						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "								
00	105 48.3 +01.1		N 15 51.2 -00.5		161 54.6 +01.9		N 23 14.7 +00.0		248 26.9 +02.3		S 01 44.4 -00.1		00							
01	120 49.4 +01.2		N 15 50.7 -00.4		176 56.5 +01.8		N 23 14.7 +00.0		263 29.2 +02.3		S 01 44.3 +00.0		01							
02	135 50.6 +01.2		N 15 50.3 -00.5		191 58.3 +01.9		N 23 14.7 +00.0		278 31.5 +02.3		S 01 44.3 -00.1		02							
03	150 51.8 +01.1		N 15 49.8 -00.5		207 00.2 +01.8		N 23 14.7 +00.0		293 33.8 +02.4		S 01 44.2 +00.0		03							
04	165 52.9 +01.2		N 15 49.3 -00.4		222 02.0 +01.9		N 23 14.7 +00.0		308 36.2 +02.3		S 01 44.2 -00.1		04							
05	180 54.1 +01.2		N 15 48.9 -00.5		237 03.9 +01.8		N 23 14.7 +00.0		323 38.5 +02.3		S 01 44.1 -00.1		05							
06	195 55.3 +01.1		N 15 48.4 -00.5		252 05.7 +01.9		N 23 14.7 +00.1		338 40.8 +02.3		S 01 44.0 +00.0		06							
07	210 56.4 +01.2		N 15 47.9 -00.4		267 07.6 +01.8		N 23 14.8 +00.0		353 43.1 +02.3		S 01 44.0 -00.1		07							
08	225 57.6 +01.2		N 15 47.5 -00.5		282 09.4 +01.9		N 23 14.8 +00.0		8 45.4 +02.3		S 01 43.9 +00.0		08							
09	240 58.8 +01.1		N 15 47.0 -00.5		297 11.3 +01.9		N 23 14.8 +00.0		23 47.7 +02.3		S 01 43.9 -00.1		09							
10	255 59.9 +01.2		N 15 46.5 -00.4		312 13.2 +01.8		N 23 14.8 +00.0		38 50.0 +02.3		S 01 43.8 +00.0		10							
11	271 01.1 +01.2		N 15 46.1 -00.5		327 15.0 +01.9		N 23 14.8 +00.0		53 52.3 +02.3		S 01 43.8 -00.1		11							
12	286 02.3 +01.1		N 15 45.6 -00.5		342 16.9 +01.8		N 23 14.8 +00.0		68 54.6 +02.3		S 01 43.7 -00.1		12							
13	301 03.4 +01.2		N 15 45.1 -00.4		357 18.7 +01.9		N 23 14.8 +00.0		83 56.9 +02.3		S 01 43.6 +00.0		13							
14	316 04.6 +01.2		N 15 44.7 -00.5		12 20.6 +01.8		N 23 14.8 +00.1		98 59.2 +02.4		S 01 43.6 -00.1		14							
15	331 05.8 +01.1		N 15 44.2 -00.5		27 22.4 +01.9		N 23 14.9 +00.0		114 01.6 +02.3		S 01 43.5 +00.0		15							
16	346 06.9 +01.2		N 15 43.7 -00.4		42 24.3 +01.8		N 23 14.9 +00.0		129 03.9 +02.3		S 01 43.5 -00.1		16							
17	1 08.1 +01.1		N 15 43.3 -00.5		57 26.1 +01.9		N 23 14.9 +00.0		144 06.2 +02.3		S 01 43.4 +00.0		17							
18	16 09.2 +01.2		N 15 42.8 -00.5		72 28.0 +01.8		N 23 14.9 +00.0		159 08.5 +02.3		S 01 43.4 -00.1		18							
19	31 10.4 +01.2		N 15 42.3 -00.4		87 29.8 +01.9		N 23 14.9 +00.0		174 10.8 +02.3		S 01 43.3 +00.0		19							
20	46 11.6 +01.1		N 15 41.9 -00.5		102 31.7 +01.9		N 23 14.9 +00.0		189 13.1 +02.3		S 01 43.3 -00.1		20							
21	61 12.7 +01.2		N 15 41.4 -00.5		117 33.6 +01.8		N 23 14.9 +00.0		204 15.4 +02.3		S 01 43.2 -00.1		21							
22	76 13.9 +01.2		N 15 40.9 -00.4		132 35.4 +01.9		N 23 14.9 +00.1		219 17.7 +02.3		S 01 43.1 +00.0		22							
23	91 15.1 +01.1		N 15 40.5 -00.5		147 37.3 +01.8		N 23 15.0 +00.0		234 20.0 +02.4		S 01 43.1 -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	216°	216°	216°	216°	216°	216°	SHA	272°	272°	272°	272°	272°	272°	SHA	359°	359°	359°	359°	359°	359°
Greenwich Culmination Time: 16:55							Greenwich Culmination Time: 13:10							Greenwich Culmination Time: 07:25						

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 30.5 -00.1	N 22 11.5 +00.3			225 54.4 +00.1	N 07 57.1 +00.7			99 22.1 -27.3	N 14 04.3 -13.5			00
01	195 30.4 -00.1	N 22 11.8 +00.4			240 54.5 +00.2	N 07 57.8 +00.8			113 54.8 -27.1	N 13 50.8 -13.5			01
02	210 30.3 -00.1	N 22 12.2 +00.3			255 54.7 +00.1	N 07 58.6 +00.7			128 27.7 -27.1	N 13 37.3 -13.6			02
03	225 30.2 -00.1	N 22 12.5 +00.3			270 54.8 +00.2	N 07 59.3 +00.8			143 00.6 -27.0	N 13 23.7 -13.6			03
04	240 30.1 -00.1	N 22 12.8 +00.3			285 55.0 +00.1	N 08 00.1 +00.7			157 33.6 -26.8	N 13 10.1 -13.6			04
05	255 30.0 -00.1	N 22 13.1 +00.3			300 55.1 +00.2	N 08 00.8 +00.8			172 06.8 -26.8	N 12 56.5 -13.7			05
06	270 29.9 -00.1	N 22 13.4 +00.4			315 55.3 +00.1	N 08 01.6 +00.7			186 40.0 -26.8	N 12 42.8 -13.7			06
07	285 29.8 -00.1	N 22 13.8 +00.3			330 55.4 +00.1	N 08 02.3 +00.8			201 13.2 -26.6	N 12 29.1 -13.8			07
08	300 29.7 -00.1	N 22 14.1 +00.3			345 55.5 +00.2	N 08 03.1 +00.8			215 46.6 -26.5	N 12 15.3 -13.8			08
09	315 29.6 -00.1	N 22 14.4 +00.3			0 55.7 +00.1	N 08 03.9 +00.7			230 20.1 -26.5	N 12 01.5 -13.8			09
10	330 29.5 -00.1	N 22 14.7 +00.3			15 55.8 +00.2	N 08 04.6 +00.8			244 53.6 -26.4	N 11 47.7 -13.9			10
11	345 29.4 -00.1	N 22 15.0 +00.3			30 56.0 +00.1	N 08 05.4 +00.7			259 27.2 -26.2	N 11 33.8 -13.9			11
12	0 29.3 -00.1	N 22 15.3 +00.4			45 56.1 +00.1	N 08 06.1 +00.8			274 01.0 -26.3	N 11 19.9 -13.9			12
13	15 29.2 -00.1	N 22 15.7 +00.3			60 56.2 +00.2	N 08 06.9 +00.7			288 34.7 -26.1	N 11 06.0 -14.0			13
14	30 29.1 -00.1	N 22 16.0 +00.3			75 56.4 +00.1	N 08 07.6 +00.8			303 08.6 -26.1	N 10 52.0 -14.0			14
15	45 29.0 -00.1	N 22 16.3 +00.3			90 56.5 +00.1	N 08 08.4 +00.8			317 42.5 -26.0	N 10 38.0 -14.0			15
16	60 28.9 -00.1	N 22 16.6 +00.3			105 56.6 +00.2	N 08 09.2 +00.7			332 16.5 -25.9	N 10 24.0 -14.0			16
17	75 28.8 -00.1	N 22 16.9 +00.3			120 56.8 +00.1	N 08 09.9 +00.8			346 50.6 -25.8	N 10 10.0 -14.1			17
18	90 28.7 -00.1	N 22 17.2 +00.3			135 56.9 +00.1	N 08 10.7 +00.7			1 24.8 -25.8	N 09 55.9 -14.1			18
19	105 28.6 -00.1	N 22 17.5 +00.3			150 57.0 +00.2	N 08 11.4 +00.8			15 59.0 -25.7	N 09 41.8 -14.1			19
20	120 28.5 -00.1	N 22 17.8 +00.3			165 57.2 +00.1	N 08 12.2 +00.8			30 33.3 -25.6	N 09 27.7 -14.1			20
21	135 28.4 -00.1	N 22 18.1 +00.4			180 57.3 +00.1	N 08 13.0 +00.7			45 07.7 -25.6	N 09 13.6 -14.2			21
22	150 28.3 -00.1	N 22 18.5 +00.3			195 57.4 +00.2	N 08 13.7 +00.8			59 42.1 -25.5	N 08 59.4 -14.2			22
23	165 28.2 -00.1	N 22 18.8 +00.3			210 57.6 +00.1	N 08 14.5 +00.7			74 16.6 -25.4	N 08 45.2 -14.2			23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 15'3 15'3 15'2 15'2 15'2 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 56'2 56'0 55'9 55'8 55'7 55'6				
	SHA 290° 290° 289° 289° 289° 289°				SHA 335° 335° 335° 335° 334° 334°				SHA 208° 206° 204° 202° 200° 198°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 08:56				Greenwich Culmination Time: 17:54				

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 16.2 +01.2	N 15 40.0 -00.5			162 39.1 +01.9	N 23 15.0 +00.0			249 22.4 +02.3	S 01 43.0 +00.0			00
01	121 17.4 +01.2	N 15 39.5 -00.5			177 41.0 +01.8	N 23 15.0 +00.0			264 24.7 +02.3	S 01 43.0 -00.1			01
02	136 18.6 +01.1	N 15 39.0 -00.4			192 42.8 +01.9	N 23 15.0 +00.0			279 27.0 +02.3	S 01 42.9 +00.0			02
03	151 19.7 +01.2	N 15 38.6 -00.5			207 44.7 +01.8	N 23 15.0 +00.0			294 29.3 +02.3	S 01 42.9 -00.1			03
04	166 20.9 +01.2	N 15 38.1 -00.5			222 46.5 +01.9	N 23 15.0 +00.0			309 31.6 +02.3	S 01 42.8 +00.0			04
05	181 22.1 +01.1	N 15 37.6 -00.4			237 48.4 +01.8	N 23 15.0 +00.0			324 33.9 +02.3	S 01 42.8 -00.1			05
06	196 23.2 +01.2	N 15 37.2 -00.5			252 50.2 +01.9	N 23 15.0 +00.0			339 36.2 +02.3	S 01 42.7 -00.1			06
07	211 24.4 +01.1	N 15 36.7 -00.5			267 52.1 +01.8	N 23 15.0 +00.1			354 38.5 +02.3	S 01 42.6 +00.0			07
08	226 25.5 +01.2	N 15 36.2 -00.4			282 53.9 +01.9	N 23 15.1 +00.0			9 40.8 +02.4	S 01 42.6 -00.1			08
09	241 26.7 +01.2	N 15 35.8 -00.5			297 55.8 +01.9	N 23 15.1 +00.0			24 43.2 +02.3	S 01 42.5 +00.0			09
10	256 27.9 +01.1	N 15 35.3 -00.5			312 57.7 +01.8	N 23 15.1 +00.0			39 45.5 +02.3	S 01 42.5 -00.1			10
11	271 29.0 +01.2	N 15 34.8 -00.5			327 59.5 +01.9	N 23 15.1 +00.0			54 47.8 +02.3	S 01 42.4 +00.0			11
12	286 30.2 +01.2	N 15 34.3 -00.4			343 01.4 +01.8	N 23 15.1 +00.0			69 50.1 +02.3	S 01 42.4 -00.1			12
13	301 31.4 +01.1	N 15 33.9 -00.5			358 03.2 +01.9	N 23 15.1 +00.0			84 52.4 +02.3	S 01 42.3 +00.0			13
14	316 32.5 +01.2	N 15 33.4 -00.5			13 05.1 +01.8	N 23 15.1 +00.0			99 54.7 +02.3	S 01 42.3 -00.1			14
15	331 33.7 +01.2	N 15 32.9 -00.4			28 06.9 +01.9	N 23 15.1 +00.0			114 57.0 +02.3	S 01 42.2 +00.0			15
16	346 34.9 +01.1	N 15 32.5 -00.5			43 08.8 +01.8	N 23 15.1 +00.1			129 59.3 +02.4	S 01 42.2 -00.1			16
17	1 36.0 +01.2	N 15 32.0 -00.5			58 10.6 +01.9	N 23 15.2 +00.0			145 01.7 +02.3	S 01 42.1 -00.1			17
18	16 37.2 +01.1	N 15 31.5 -00.5			73 12.5 +01.8	N 23 15.2 +00.0			160 04.0 +02.3	S 01 42.0 +00.0			18
19	31 38.3 +01.2	N 15 31.0 -00.4			88 14.3 +01.9	N 23 15.2 +00.0			175 06.3 +02.3	S 01 42.0 -00.1			19
20	46 39.5 +01.2	N 15 30.6 -00.5			103 16.2 +01.8	N 23 15.2 +00.0			190 08.6 +02.3	S 01 41.9 +00.0			20
21	61 40.7 +01.1	N 15 30.1 -00.5			118 18.0 +01.9	N 23 15.2 +00.0			205 10.9 +02.3	S 01 41.9 -00.1			21
22	76 41.8 +01.2	N 15 29.6 -00.5			133 19.9 +01.8	N 23 15.2 +00.0			220 13.2 +02.3	S 01 41.8 +00.0			22
23	91 43.0 +01.1	N 15 29.1 -00.4			148 21.7 +01.9	N 23 15.2 +00.0			235 15.5 +02.4	S 01 41.8 -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 216° 215° 215° 215° 215° 215°				SHA 272° 272° 272° 272° 272° 272°				SHA 359° 359° 359° 359° 359° 359°				
	Greenwich Culmination Time: 16:53				Greenwich Culmination Time: 13:07				Greenwich Culmination Time: 07:21				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 28.1 -00.1	N 22 19.1 +00.3			225 57.7 +00.1	N 08 15.2 +00.8			88 51.2 -25.4	N 08 31.0 -14.2			00
01	195 28.0 -00.1	N 22 19.4 +00.3			240 57.8 +00.2	N 08 16.0 +00.8			103 25.8 -25.3	N 08 16.8 -14.2			01
02	210 27.9 -00.1	N 22 19.7 +00.3			255 58.0 +00.1	N 08 16.8 +00.7			118 00.5 -25.3	N 08 02.6 -14.3			02
03	225 27.8 -00.1	N 22 20.0 +00.3			270 58.1 +00.1	N 08 17.5 +00.8			132 35.2 -25.1	N 07 48.3 -14.2			03
04	240 27.7 -00.1	N 22 20.3 +00.3			285 58.2 +00.1	N 08 18.3 +00.8			147 10.1 -25.2	N 07 34.1 -14.3			04
05	255 27.6 -00.2	N 22 20.6 +00.3			300 58.3 +00.2	N 08 19.1 +00.7			161 44.9 -25.1	N 07 19.8 -14.3			05
06	270 27.4 -00.1	N 22 20.9 +00.3			315 58.5 +00.1	N 08 19.8 +00.8			176 19.8 -25.0	N 07 05.5 -14.3			06
07	285 27.3 -00.1	N 22 21.2 +00.3			330 58.6 +00.1	N 08 20.6 +00.7			190 54.8 -25.0	N 06 51.2 -14.3			07
08	300 27.2 -00.1	N 22 21.5 +00.3			345 58.7 +00.1	N 08 21.3 +00.8			205 29.8 -24.9	N 06 36.9 -14.4			08
09	315 27.1 -00.1	N 22 21.8 +00.3			0 58.8 +00.2	N 08 22.1 +00.8			220 04.9 -24.8	N 06 22.5 -14.3			09
10	330 27.0 -00.1	N 22 22.1 +00.3			15 59.0 +00.1	N 08 22.9 +00.7			234 40.1 -24.9	N 06 08.2 -14.4			10
11	345 26.9 -00.1	N 22 22.4 +00.3			30 59.1 +00.1	N 08 23.6 +00.8			249 15.2 -24.7	N 05 53.8 -14.3			11
12	0 26.8 -00.1	N 22 22.7 +00.3			45 59.2 +00.1	N 08 24.4 +00.8			263 50.5 -24.8	N 05 39.5 -14.4			12
13	15 26.7 -00.1	N 22 23.0 +00.3			60 59.3 +00.1	N 08 25.2 +00.7			278 25.7 -24.6	N 05 25.1 -14.4			13
14	30 26.6 -00.1	N 22 23.3 +00.3			75 59.4 +00.2	N 08 25.9 +00.8			293 01.1 -24.7	N 05 10.7 -14.4			14
15	45 26.5 -00.1	N 22 23.6 +00.3			90 59.6 +00.1	N 08 26.7 +00.7			307 36.4 -24.6	N 04 56.3 -14.3			15
16	60 26.4 -00.1	N 22 23.9 +00.3			105 59.7 +00.1	N 08 27.4 +00.8			322 11.8 -24.5	N 04 42.0 -14.4			16
17	75 26.3 -00.1	N 22 24.2 +00.3			120 59.8 +00.1	N 08 28.2 +00.8			336 47.3 -24.5	N 04 27.6 -14.4			17
18	90 26.2 -00.1	N 22 24.5 +00.3			135 59.9 +00.1	N 08 29.0 +00.7			351 22.8 -24.5	N 04 13.2 -14.4			18
19	105 26.1 -00.1	N 22 24.8 +00.3			151 00.0 +00.2	N 08 29.7 +00.8			5 58.3 -24.4	N 03 58.8 -14.5			19
20	120 26.0 -00.1	N 22 25.1 +00.2			166 00.2 +00.1	N 08 30.5 +00.8			20 33.9 -24.4	N 03 44.3 -14.4			20
21	135 25.9 -00.1	N 22 25.3 +00.3			181 00.3 +00.1	N 08 31.3 +00.7			35 09.5 -24.4	N 03 29.9 -14.4			21
22	150 25.8 -00.2	N 22 25.6 +00.3			196 00.4 +00.1	N 08 32.0 +00.8			49 45.1 -24.3	N 03 15.5 -14.4			22
23	165 25.6 -00.1	N 22 25.9 +00.3			211 00.5 +00.1	N 08 32.8 +00.8			64 20.8 -24.3	N 03 01.1 -14.4			23
UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 289° 289° 288° 288° 288° 288° Greenwich Culmination Time: 11:58				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 334° 334° 334° 334° 334° 333° Greenwich Culmination Time: 08:56				UT 02 06 10 14 18 22 SD 15'1 15'1 15'0 15'0 15'0 15'0 HP 55'4 55'3 55'2 55'1 55'0 54'9 SHA 196° 194° 193° 191° 189° 187° Greenwich Culmination Time: 18:35					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	106 44.1 +01.2	N 15 28.7 -00.5			163 23.6 +01.9	N 23 15.2 +00.0			250 17.9 +02.3	S 01 41.7 +00.0			00
01	121 45.3 +01.2	N 15 28.2 -00.5			178 25.5 +01.8	N 23 15.2 +00.1			265 20.2 +02.3	S 01 41.7 -00.1			01
02	136 46.5 +01.1	N 15 27.7 -00.5			193 27.3 +01.9	N 23 15.3 +00.0			280 22.5 +02.3	S 01 41.6 +00.0			02
03	151 47.6 +01.2	N 15 27.2 -00.4			208 29.2 +01.8	N 23 15.3 +00.0			295 24.8 +02.3	S 01 41.6 -00.1			03
04	166 48.8 +01.2	N 15 26.8 -00.5			223 31.0 +01.9	N 23 15.3 +00.0			310 27.1 +02.3	S 01 41.5 +00.0			04
05	181 50.0 +01.1	N 15 26.3 -00.5			238 32.9 +01.8	N 23 15.3 +00.0			325 29.4 +02.3	S 01 41.5 -00.1			05
06	196 51.1 +01.2	N 15 25.8 -00.5			253 34.7 +01.9	N 23 15.3 +00.0			340 31.7 +02.4	S 01 41.4 -00.1			06
07	211 52.3 +01.1	N 15 25.3 -00.4			268 36.6 +01.8	N 23 15.3 +00.0			355 34.1 +02.3	S 01 41.3 +00.0			07
08	226 53.4 +01.2	N 15 24.9 -00.5			283 38.4 +01.9	N 23 15.3 +00.0			10 36.4 +02.3	S 01 41.3 -00.1			08
09	241 54.6 +01.2	N 15 24.4 -00.5			298 40.3 +01.8	N 23 15.3 +00.0			25 38.7 +02.3	S 01 41.2 +00.0			09
10	256 55.8 +01.1	N 15 23.9 -00.5			313 42.1 +01.9	N 23 15.3 +00.1			40 41.0 +02.3	S 01 41.2 -00.1			10
11	271 56.9 +01.2	N 15 23.4 -00.4			328 44.0 +01.8	N 23 15.4 +00.0			55 43.3 +02.3	S 01 41.1 +00.0			11
12	286 58.1 +01.1	N 15 23.0 -00.5			343 45.8 +01.9	N 23 15.4 +00.0			70 45.6 +02.4	S 01 41.1 -00.1			12
13	301 59.2 +01.2	N 15 22.5 -00.5			358 47.7 +01.8	N 23 15.4 +00.0			85 48.0 +02.3	S 01 41.0 +00.0			13
14	317 00.4 +01.2	N 15 22.0 -00.5			13 49.5 +01.9	N 23 15.4 +00.0			100 50.3 +02.3	S 01 41.0 -00.1			14
15	332 01.6 +01.1	N 15 21.5 -00.4			28 51.4 +01.8	N 23 15.4 +00.0			115 52.6 +02.3	S 01 40.9 +00.0			15
16	347 02.7 +01.2	N 15 21.1 -00.5			43 53.2 +01.9	N 23 15.4 +00.0			130 54.9 +02.3	S 01 40.9 -00.1			16
17	2 03.9 +01.2	N 15 20.6 -00.5			58 55.1 +01.9	N 23 15.4 +00.0			145 57.2 +02.3	S 01 40.8 +00.0			17
18	17 05.1 +01.1	N 15 20.1 -00.5			73 57.0 +01.8	N 23 15.4 +00.0			160 59.5 +02.4	S 01 40.8 -00.1			18
19	32 06.2 +01.2	N 15 19.6 -00.4			88 58.8 +01.9	N 23 15.4 +00.0			176 01.9 +02.3	S 01 40.7 +00.0			19
20	47 07.4 +01.1	N 15 19.2 -00.5			104 00.7 +01.8	N 23 15.4 +00.1			191 04.2 +02.3	S 01 40.7 -00.1			20
21	62 08.5 +01.2	N 15 18.7 -00.5			119 02.5 +01.9	N 23 15.5 +00.0			206 06.5 +02.3	S 01 40.6 -00.1			21
22	77 09.7 +01.2	N 15 18.2 -00.5			134 04.4 +01.8	N 23 15.5 +00.0			221 08.8 +02.3	S 01 40.5 +00.0			22
23	92 10.9 +01.1	N 15 17.7 -00.4			149 06.2 +01.9	N 23 15.5 +00.0			236 11.1 +02.3	S 01 40.5 -00.1			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 215° 215° 215° 215° 215° 215° Greenwich Culmination Time: 16:51				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 272° 272° 272° 272° 272° 271° Greenwich Culmination Time: 13:04				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 359° 359° 359° 359° 359° 359° Greenwich Culmination Time: 07:17					



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180	25.5 -00.1	N 22 26.2 +00.3		226	00.6 +00.1	N 08 33.6 +00.7		78	56.5 -24.3	N 02 46.7 -14.4		00
01	195	25.4 -00.1	N 22 26.5 +00.3		241	00.7 +00.1	N 08 34.3 +00.8		93	32.2 -24.2	N 02 32.3 -14.4		01
02	210	25.3 -00.1	N 22 26.8 +00.3		256	00.8 +00.1	N 08 35.1 +00.8		108	08.0 -24.2	N 02 17.9 -14.4		02
03	225	25.2 -00.1	N 22 27.1 +00.3		271	00.9 +00.2	N 08 35.9 +00.7		122	43.8 -24.2	N 02 03.5 -14.4		03
04	240	25.1 -00.1	N 22 27.4 +00.3		286	01.1 +00.1	N 08 36.6 +00.8		137	19.6 -24.1	N 01 49.1 -14.4		04
05	255	25.0 -00.1	N 22 27.7 +00.2		301	01.2 +00.1	N 08 37.4 +00.8		151	55.5 -24.2	N 01 34.7 -14.4		05
06	270	24.9 -00.1	N 22 27.9 +00.3		316	01.3 +00.1	N 08 38.2 +00.7		166	31.3 -24.1	N 01 20.3 -14.4		06
07	285	24.8 -00.1	N 22 28.2 +00.3		331	01.4 +00.1	N 08 38.9 +00.8		181	07.2 -24.1	N 01 05.9 -14.4		07
08	300	24.7 -00.1	N 22 28.5 +00.3		346	01.5 +00.1	N 08 39.7 +00.8		195	43.1 -24.0	N 00 51.5 -14.4		08
09	315	24.6 -00.1	N 22 28.8 +00.3		1	01.6 +00.1	N 08 40.5 +00.7		210	19.1 -24.1	N 00 37.1 -14.3		09
10	330	24.5 -00.1	N 22 29.1 +00.3		16	01.7 +00.1	N 08 41.2 +00.8		224	55.0 -24.0	N 00 22.8 -14.4		10
11	345	24.4 -00.2	N 22 29.4 +00.3		31	01.8 +00.1	N 08 42.0 +00.8		239	31.0 -24.0	N 00 08.4 -14.3		11
12	0	24.2 -00.1	N 22 29.7 +00.2		46	01.9 +00.1	N 08 42.8 +00.7		254	07.0 -24.0	S 00 05.9 +14.4		12
13	15	24.1 -00.1	N 22 29.9 +00.3		61	02.0 +00.1	N 08 43.5 +00.8		268	43.0 -23.9	S 00 20.3 +14.3		13
14	30	24.0 -00.1	N 22 30.2 +00.3		76	02.1 +00.1	N 08 44.3 +00.8		283	19.1 -24.0	S 00 34.6 +14.3		14
15	45	23.9 -00.1	N 22 30.5 +00.3		91	02.2 +00.1	N 08 45.1 +00.7		297	55.1 -24.0	S 00 48.9 +14.3		15
16	60	23.8 -00.1	N 22 30.8 +00.3		106	02.3 +00.1	N 08 45.8 +00.8		312	31.1 -23.9	S 01 03.2 +14.3		16
17	75	23.7 -00.1	N 22 31.1 +00.2		121	02.4 +00.1	N 08 46.6 +00.8		327	07.2 -23.9	S 01 17.5 +14.3		17
18	90	23.6 -00.1	N 22 31.3 +00.3		136	02.5 +00.1	N 08 47.4 +00.7		341	43.3 -23.9	S 01 31.8 +14.3		18
19	105	23.5 -00.1	N 22 31.6 +00.3		151	02.6 +00.1	N 08 48.1 +00.8		356	19.4 -23.9	S 01 46.1 +14.2		19
20	120	23.4 -00.1	N 22 31.9 +00.3		166	02.7 +00.1	N 08 48.9 +00.8		10	55.5 -23.9	S 02 00.3 +14.3		20
21	135	23.3 -00.1	N 22 32.2 +00.2		181	02.8 +00.1	N 08 49.7 +00.8		25	31.6 -23.9	S 02 14.6 +14.2		21
22	150	23.2 -00.2	N 22 32.4 +00.3		196	02.9 +00.1	N 08 50.5 +00.7		40	07.7 -23.9	S 02 28.8 +14.2		22
23	165	23.0 -00.1	N 22 32.7 +00.3		211	03.0 +00.1	N 08 51.2 +00.8		54	43.8 -23.9	S 02 43.0 +14.2		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				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 54'9 54'8 54'7 54'6 54'6 54'5				
	SHA 288° 287° 287° 287° 287° 287°				SHA 333° 333° 333° 333° 333° 332°				SHA 185° 184° 182° 180° 178° 177°				
	Greenwich Culmination Time: 11:58				Greenwich Culmination Time: 08:55				Greenwich Culmination Time: 19:15				

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	107	12.0 +01.2	N 15 17.3 -00.5		164	08.1 +01.8	N 23 15.5 +00.0		251	13.4 +02.4	S 01 40.4 +00.0		00
01	122	13.2 +01.1	N 15 16.8 -00.5		179	09.9 +01.9	N 23 15.5 +00.0		266	15.8 +02.3	S 01 40.4 -00.1		01
02	137	14.3 +01.2	N 15 16.3 -00.5		194	11.8 +01.8	N 23 15.5 +00.0		281	18.1 +02.3	S 01 40.3 +00.0		02
03	152	15.5 +01.2	N 15 15.8 -00.5		209	13.6 +01.9	N 23 15.5 +00.0		296	20.4 +02.3	S 01 40.3 -00.1		03
04	167	16.7 +01.1	N 15 15.3 -00.4		224	15.5 +01.8	N 23 15.5 +00.0		311	22.7 +02.3	S 01 40.2 +00.0		04
05	182	17.8 +01.2	N 15 14.9 -00.5		239	17.3 +01.9	N 23 15.5 +00.0		326	25.0 +02.4	S 01 40.2 -00.1		05
06	197	19.0 +01.1	N 15 14.4 -00.5		254	19.2 +01.8	N 23 15.5 +00.1		341	27.4 +02.3	S 01 40.1 +00.0		06
07	212	20.1 +01.2	N 15 13.9 -00.5		269	21.0 +01.9	N 23 15.6 +00.0		356	29.7 +02.3	S 01 40.1 -00.1		07
08	227	21.3 +01.1	N 15 13.4 -00.5		284	22.9 +01.8	N 23 15.6 +00.0		11	32.0 +02.3	S 01 40.0 +00.0		08
09	242	22.4 +01.2	N 15 12.9 -00.4		299	24.7 +01.9	N 23 15.6 +00.0		26	34.3 +02.3	S 01 40.0 -00.1		09
10	257	23.6 +01.2	N 15 12.5 -00.5		314	26.6 +01.8	N 23 15.6 +00.0		41	36.6 +02.3	S 01 39.9 +00.0		10
11	272	24.8 +01.1	N 15 12.0 -00.5		329	28.4 +01.9	N 23 15.6 +00.0		56	38.9 +02.4	S 01 39.9 -00.1		11
12	287	25.9 +01.2	N 15 11.5 -00.5		344	30.3 +01.8	N 23 15.6 +00.0		71	41.3 +02.3	S 01 39.8 +00.0		12
13	302	27.1 +01.1	N 15 11.0 -00.5		359	32.1 +01.9	N 23 15.6 +00.0		86	43.6 +02.3	S 01 39.8 -00.1		13
14	317	28.2 +01.2	N 15 10.5 -00.4		14	34.0 +01.8	N 23 15.6 +00.0		101	45.9 +02.3	S 01 39.7 +00.0		14
15	332	29.4 +01.2	N 15 10.1 -00.5		29	35.8 +01.9	N 23 15.6 +00.0		116	48.2 +02.3	S 01 39.7 -00.1		15
16	347	30.6 +01.1	N 15 09.6 -00.5		44	37.7 +01.8	N 23 15.6 +00.0		131	50.5 +02.4	S 01 39.6 +00.0		16
17	2	31.7 +01.2	N 15 09.1 -00.5		59	39.5 +01.9	N 23 15.6 +00.1		146	52.9 +02.3	S 01 39.6 -00.1		17
18	17	32.9 +01.1	N 15 08.6 -00.5		74	41.4 +01.8	N 23 15.7 +00.0		161	55.2 +02.3	S 01 39.5 +00.0		18
19	32	34.0 +01.2	N 15 08.1 -00.4		89	43.2 +01.9	N 23 15.7 +00.0		176	57.5 +02.3	S 01 39.5 -00.1		19
20	47	35.2 +01.2	N 15 07.7 -00.5		104	45.1 +01.8	N 23 15.7 +00.0		191	59.8 +02.3	S 01 39.4 +00.0		20
21	62	36.4 +01.1	N 15 07.2 -00.5		119	46.9 +01.9	N 23 15.7 +00.0		207	02.1 +02.4	S 01 39.4 -00.1		21
22	77	37.5 +01.2	N 15 06.7 -00.5		134	48.8 +01.9	N 23 15.7 +00.0		222	04.5 +02.3	S 01 39.3 +00.0		22
23	92	38.7 +01.1	N 15 06.2 -00.5		149	50.7 +01.8	N 23 15.7 +00.0		237	06.8 +02.3	S 01 39.3 -00.1		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 214° 214° 214° 214° 214° 214°				SHA 271° 271° 271° 271° 271° 271°				SHA 359° 359° 359° 359° 358° 358°				
	Greenwich Culmination Time: 16:49				Greenwich Culmination Time: 13:01				Greenwich Culmination Time: 07:13				

UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	180	22.9	-00.1	N 22 33.0	+00.3	226	03.1	+00.1	N 08 52.0	+00.8	69	19.9	-23.9	S 02 57.2	+14.2	00
01	195	22.8	-00.1	N 22 33.3	+00.2	241	03.2	+00.1	N 08 52.8	+00.7	83	56.0	-23.9	S 03 11.4	+14.1	01
02	210	22.7	-00.1	N 22 33.5	+00.3	256	03.3	+00.1	N 08 53.5	+00.8	98	32.1	-23.9	S 03 25.5	+14.2	02
03	225	22.6	-00.1	N 22 33.8	+00.3	271	03.4	+00.1	N 08 54.3	+00.8	113	08.2	-23.9	S 03 39.7	+14.1	03
04	240	22.5	-00.1	N 22 34.1	+00.2	286	03.5	+00.1	N 08 55.1	+00.7	127	44.3	-23.9	S 03 53.8	+14.1	04
05	255	22.4	-00.1	N 22 34.3	+00.3	301	03.6	+00.1	N 08 55.8	+00.8	142	20.4	-23.9	S 04 07.9	+14.1	05
06	270	22.3	-00.1	N 22 34.6	+00.3	316	03.7	+00.1	N 08 56.6	+00.8	156	56.5	-23.9	S 04 22.0	+14.0	06
07	285	22.2	-00.2	N 22 34.9	+00.3	331	03.8	+00.1	N 08 57.4	+00.8	171	32.6	-23.9	S 04 36.0	+14.1	07
08	300	22.0	-00.1	N 22 35.2	+00.2	346	03.9	+00.1	N 08 58.2	+00.7	186	08.7	-23.9	S 04 50.1	+14.0	08
09	315	21.9	-00.1	N 22 35.4	+00.3	1	04.0	+00.1	N 08 58.9	+00.8	200	44.8	-23.9	S 05 04.1	+14.0	09
10	330	21.8	-00.1	N 22 35.7	+00.3	16	04.1	+00.1	N 08 59.7	+00.8	215	20.9	-24.0	S 05 18.1	+13.9	10
11	345	21.7	-00.1	N 22 36.0	+00.2	31	04.2	+00.0	N 09 00.5	+00.7	229	56.9	-23.9	S 05 32.0	+14.0	11
12	0	21.6	-00.1	N 22 36.2	+00.3	46	04.2	+00.1	N 09 01.2	+00.8	244	33.0	-24.0	S 05 46.0	+13.9	12
13	15	21.5	-00.1	N 22 36.5	+00.2	61	04.3	+00.1	N 09 02.0	+00.8	259	09.0	-23.9	S 05 59.9	+13.9	13
14	30	21.4	-00.1	N 22 36.7	+00.3	76	04.4	+00.1	N 09 02.8	+00.8	273	45.1	-24.0	S 06 13.8	+13.8	14
15	45	21.3	-00.2	N 22 37.0	+00.3	91	04.5	+00.1	N 09 03.6	+00.7	288	21.1	-24.0	S 06 27.6	+13.9	15
16	60	21.1	-00.1	N 22 37.3	+00.2	106	04.6	+00.1	N 09 04.3	+00.8	302	57.1	-24.0	S 06 41.5	+13.8	16
17	75	21.0	-00.1	N 22 37.5	+00.3	121	04.7	+00.1	N 09 05.1	+00.8	317	33.1	-24.1	S 06 55.3	+13.7	17
18	90	20.9	-00.1	N 22 37.8	+00.3	136	04.8	+00.0	N 09 05.9	+00.7	332	09.0	-24.0	S 07 09.0	+13.8	18
19	105	20.8	-00.1	N 22 38.1	+00.2	151	04.8	+00.1	N 09 06.6	+00.8	346	45.0	-24.1	S 07 22.8	+13.7	19
20	120	20.7	-00.1	N 22 38.3	+00.3	166	04.9	+00.1	N 09 07.4	+00.8	1	20.9	-24.1	S 07 36.5	+13.7	20
21	135	20.6	-00.1	N 22 38.6	+00.2	181	05.0	+00.1	N 09 08.2	+00.8	15	56.8	-24.1	S 07 50.2	+13.6	21
22	150	20.5	-00.1	N 22 38.8	+00.3	196	05.1	+00.1	N 09 09.0	+00.7	30	32.7	-24.2	S 08 03.8	+13.7	22
23	165	20.4	-00.2	N 22 39.1	+00.3	211	05.2	+00.1	N 09 09.7	+00.8	45	08.5	-24.1	S 08 17.5	+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 15'8 15'8 15'8 15'8 15'8 15'8					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 54'2 54'2					
	SHA 287° 286° 286° 286° 286° 286°					SHA 332° 332° 332° 332° 332° 332°					SHA 175° 173° 171° 170° 168° 166°					
	Greenwich Culmination Time: 11:58					Greenwich Culmination Time: 08:55					Greenwich Culmination Time: 19:54					

  

UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	107	39.8	+01.2	N 15 05.7	-00.4	164	52.5	+01.9	N 23 15.7	+00.0	252	09.1	+02.3	S 01 39.2	-00.1	00
01	122	41.0	+01.1	N 15 05.3	-00.5	179	54.4	+01.8	N 23 15.7	+00.0	267	11.4	+02.3	S 01 39.1	+00.0	01
02	137	42.1	+01.2	N 15 04.8	-00.5	194	56.2	+01.9	N 23 15.7	+00.0	282	13.7	+02.4	S 01 39.1	-00.1	02
03	152	43.3	+01.2	N 15 04.3	-00.5	209	58.1	+01.8	N 23 15.7	+00.0	297	16.1	+02.3	S 01 39.0	+00.0	03
04	167	44.5	+01.1	N 15 03.8	-00.5	224	59.9	+01.9	N 23 15.7	+00.1	312	18.4	+02.3	S 01 39.0	-00.1	04
05	182	45.6	+01.2	N 15 03.3	-00.5	240	01.8	+01.8	N 23 15.8	+00.0	327	20.7	+02.3	S 01 38.9	+00.0	05
06	197	46.8	+01.1	N 15 02.8	-00.4	255	03.6	+01.9	N 23 15.8	+00.0	342	23.0	+02.4	S 01 38.9	-00.1	06
07	212	47.9	+01.2	N 15 02.4	-00.5	270	05.5	+01.8	N 23 15.8	+00.0	357	25.4	+02.3	S 01 38.8	+00.0	07
08	227	49.1	+01.1	N 15 01.9	-00.5	285	07.3	+01.9	N 23 15.8	+00.0	12	27.7	+02.3	S 01 38.8	-00.1	08
09	242	50.2	+01.2	N 15 01.4	-00.5	300	09.2	+01.8	N 23 15.8	+00.0	27	30.0	+02.3	S 01 38.7	+00.0	09
10	257	51.4	+01.2	N 15 00.9	-00.5	315	11.0	+01.9	N 23 15.8	+00.0	42	32.3	+02.3	S 01 38.7	-00.1	10
11	272	52.6	+01.1	N 15 00.4	-00.5	330	12.9	+01.8	N 23 15.8	+00.0	57	34.6	+02.4	S 01 38.6	+00.0	11
12	287	53.7	+01.2	N 14 59.9	-00.4	345	14.7	+01.9	N 23 15.8	+00.0	72	37.0	+02.3	S 01 38.6	-00.1	12
13	302	54.9	+01.1	N 14 59.5	-00.5	0	16.6	+01.8	N 23 15.8	+00.0	87	39.3	+02.3	S 01 38.5	+00.0	13
14	317	56.0	+01.2	N 14 59.0	-00.5	15	18.4	+01.9	N 23 15.8	+00.0	102	41.6	+02.3	S 01 38.5	-00.1	14
15	332	57.2	+01.1	N 14 58.5	-00.5	30	20.3	+01.8	N 23 15.8	+00.1	117	43.9	+02.4	S 01 38.4	+00.0	15
16	347	58.3	+01.2	N 14 58.0	-00.5	45	22.1	+01.9	N 23 15.9	+00.0	132	46.3	+02.3	S 01 38.4	-00.1	16
17	2	59.5	+01.2	N 14 57.5	-00.5	60	24.0	+01.8	N 23 15.9	+00.0	147	48.6	+02.3	S 01 38.3	+00.0	17
18	18	00.7	+01.1	N 14 57.0	-00.4	75	25.8	+01.9	N 23 15.9	+00.0	162	50.9	+02.3	S 01 38.3	-00.1	18
19	33	01.8	+01.2	N 14 56.6	-00.5	90	27.7	+01.8	N 23 15.9	+00.0	177	53.2	+02.3	S 01 38.2	+00.0	19
20	48	03.0	+01.1	N 14 56.1	-00.5	105	29.5	+01.9	N 23 15.9	+00.0	192	55.5	+02.4	S 01 38.2	-00.1	20
21	63	04.1	+01.2	N 14 55.6	-00.5	120	31.4	+01.8	N 23 15.9	+00.0	207	57.9	+02.3	S 01 38.1	+00.0	21
22	78	05.3	+01.1	N 14 55.1	-00.5	135	33.2	+01.9	N 23 15.9	+00.0	223	00.2	+02.3	S 01 38.1	-00.1	22
23	93	06.4	+01.2	N 14 54.6	-00.5	150	35.1	+01.8	N 23 15.9	+00.0	238	02.5	+02.3	S 01 38.0	+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 214° 214° 214° 214° 214° 214°					SHA 271° 271° 271° 271° 271° 271°					SHA 358° 358° 358° 358° 358° 358°					
	Greenwich Culmination Time: 16:48					Greenwich Culmination Time: 12:58					Greenwich Culmination Time: 07:10					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 20.2 -00.1	N	22 39.4 +00.2	226 05.3 +00.0	N	09 10.5 +00.8	59 44.4 -24.2	S	08 31.1 +13.5				
01	195 20.1 -00.1	N	22 39.6 +00.3	241 05.3 +00.1	N	09 11.3 +00.8	74 20.2 -24.2	S	08 44.6 +13.5				
02	210 20.0 -00.1	N	22 39.9 +00.2	256 05.4 +00.1	N	09 12.1 +00.7	88 56.0 -24.3	S	08 58.1 +13.5				
03	225 19.9 -00.1	N	22 40.1 +00.3	271 05.5 +00.1	N	09 12.8 +00.8	103 31.7 -24.2	S	09 11.6 +13.5				
04	240 19.8 -00.1	N	22 40.4 +00.2	286 05.6 +00.1	N	09 13.6 +00.8	118 07.5 -24.4	S	09 25.1 +13.4				
05	255 19.7 -00.1	N	22 40.6 +00.3	301 05.7 +00.0	N	09 14.4 +00.8	132 43.1 -24.3	S	09 38.5 +13.3				
06	270 19.6 -00.2	N	22 40.9 +00.2	316 05.7 +00.1	N	09 15.2 +00.7	147 18.8 -24.3	S	09 51.8 +13.4				
07	285 19.4 -00.1	N	22 41.1 +00.3	331 05.8 +00.1	N	09 15.9 +00.8	161 54.5 -24.4	S	10 05.2 +13.3				
08	300 19.3 -00.1	N	22 41.4 +00.2	346 05.9 +00.1	N	09 16.7 +00.8	176 30.1 -24.5	S	10 18.5 +13.2				
09	315 19.2 -00.1	N	22 41.6 +00.3	1 06.0 +00.0	N	09 17.5 +00.8	191 05.6 -24.4	S	10 31.7 +13.3				
10	330 19.1 -00.1	N	22 41.9 +00.2	16 06.0 +00.1	N	09 18.3 +00.7	205 41.2 -24.5	S	10 45.0 +13.1				
11	345 19.0 -00.1	N	22 42.1 +00.3	31 06.1 +00.1	N	09 19.0 +00.8	220 16.7 -24.6	S	10 58.1 +13.2				
12	0 18.9 -00.1	N	22 42.4 +00.2	46 06.2 +00.1	N	09 19.8 +00.8	234 52.1 -24.6	S	11 11.3 +13.1				
13	15 18.8 -00.2	N	22 42.6 +00.3	61 06.3 +00.0	N	09 20.6 +00.8	249 27.5 -24.6	S	11 24.4 +13.0				
14	30 18.6 -00.1	N	22 42.9 +00.2	76 06.3 +00.1	N	09 21.4 +00.7	264 02.9 -24.6	S	11 37.4 +13.0				
15	45 18.5 -00.1	N	22 43.1 +00.3	91 06.4 +00.1	N	09 22.1 +00.8	278 38.3 -24.7	S	11 50.4 +13.0				
16	60 18.4 -00.1	N	22 43.4 +00.2	106 06.5 +00.0	N	09 22.9 +00.8	293 13.6 -24.8	S	12 03.4 +12.9				
17	75 18.3 -00.1	N	22 43.6 +00.3	121 06.5 +00.1	N	09 23.7 +00.8	307 48.8 -24.7	S	12 16.3 +12.9				
18	90 18.2 -00.1	N	22 43.9 +00.2	136 06.6 +00.1	N	09 24.5 +00.7	322 24.1 -24.9	S	12 29.2 +12.8				
19	105 18.1 -00.2	N	22 44.1 +00.3	151 06.7 +00.0	N	09 25.2 +00.8	336 59.2 -24.8	S	12 42.0 +12.8				
20	120 17.9 -00.1	N	22 44.4 +00.2	166 06.7 +00.1	N	09 26.0 +00.8	351 34.4 -24.9	S	12 54.8 +12.7				
21	135 17.8 -00.1	N	22 44.6 +00.2	181 06.8 +00.1	N	09 26.8 +00.8	6 09.5 -25.0	S	13 07.5 +12.7				
22	150 17.7 -00.1	N	22 44.8 +00.3	196 06.9 +00.0	N	09 27.6 +00.7	20 44.5 -25.0	S	13 20.2 +12.6				
23	165 17.6 -00.1	N	22 45.1 +00.2	211 06.9 +00.1	N	09 28.3 +00.8	35 19.5 -25.0	S	13 32.8 +12.6				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'8 15'8 15'8 15'8 15'8 15'8			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 14'8 14'8 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 54'2 54'1 54'1 54'1 54'1 54'1						
	SHA 286° 285° 285° 285° 285° 285°			SHA 331° 331° 331° 331° 331° 331°			SHA 164° 162° 161° 159° 157° 155°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 08:55			Greenwich Culmination Time: 20:34						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 07.6 +01.1	N	14 54.1 -00.5	165 36.9 +01.9	N	23 15.9 +00.0	253 04.8 +02.4	S	01 38.0 -00.1				
01	123 08.7 +01.2	N	14 53.6 -00.4	180 38.8 +01.8	N	23 15.9 +00.0	268 07.2 +02.3	S	01 37.9 +00.0				
02	138 09.9 +01.2	N	14 53.2 -00.5	195 40.6 +01.9	N	23 15.9 +00.0	283 09.5 +02.3	S	01 37.9 -00.1				
03	153 11.1 +01.1	N	14 52.7 -00.5	210 42.5 +01.8	N	23 15.9 +00.0	298 11.8 +02.3	S	01 37.8 +00.0				
04	168 12.2 +01.2	N	14 52.2 -00.5	225 44.3 +01.9	N	23 15.9 +00.1	313 14.1 +02.4	S	01 37.8 -00.1				
05	183 13.4 +01.1	N	14 51.7 -00.5	240 46.2 +01.8	N	23 16.0 +00.0	328 16.5 +02.3	S	01 37.7 +00.0				
06	198 14.5 +01.2	N	14 51.2 -00.5	255 48.0 +01.9	N	23 16.0 +00.0	343 18.8 +02.3	S	01 37.7 -00.1				
07	213 15.7 +01.1	N	14 50.7 -00.5	270 49.9 +01.8	N	23 16.0 +00.0	358 21.1 +02.3	S	01 37.6 +00.0				
08	228 16.8 +01.2	N	14 50.2 -00.4	285 51.7 +01.9	N	23 16.0 +00.0	13 23.4 +02.4	S	01 37.6 +00.0				
09	243 18.0 +01.1	N	14 49.8 -00.5	300 53.6 +01.8	N	23 16.0 +00.0	28 25.8 +02.3	S	01 37.6 -00.1				
10	258 19.1 +01.2	N	14 49.3 -00.5	315 55.4 +01.9	N	23 16.0 +00.0	43 28.1 +02.3	S	01 37.5 +00.0				
11	273 20.3 +01.2	N	14 48.8 -00.5	330 57.3 +01.8	N	23 16.0 +00.0	58 30.4 +02.3	S	01 37.5 -00.1				
12	288 21.5 +01.1	N	14 48.3 -00.5	345 59.1 +01.9	N	23 16.0 +00.0	73 32.7 +02.4	S	01 37.4 +00.0				
13	303 22.6 +01.2	N	14 47.8 -00.5	1 01.0 +01.8	N	23 16.0 +00.0	88 35.1 +02.3	S	01 37.4 -00.1				
14	318 23.8 +01.1	N	14 47.3 -00.5	16 02.8 +01.9	N	23 16.0 +00.0	103 37.4 +02.3	S	01 37.3 +00.0				
15	333 24.9 +01.2	N	14 46.8 -00.5	31 04.7 +01.8	N	23 16.0 +00.0	118 39.7 +02.3	S	01 37.3 -00.1				
16	348 26.1 +01.1	N	14 46.3 -00.4	46 06.5 +01.9	N	23 16.0 +00.0	133 42.0 +02.4	S	01 37.2 +00.0				
17	3 27.2 +01.2	N	14 45.9 -00.5	61 08.4 +01.8	N	23 16.0 +00.1	148 44.4 +02.3	S	01 37.2 -00.1				
18	18 28.4 +01.1	N	14 45.4 -00.5	76 10.2 +01.9	N	23 16.1 +00.0	163 46.7 +02.3	S	01 37.1 +00.0				
19	33 29.5 +01.2	N	14 44.9 -00.5	91 12.1 +01.8	N	23 16.1 +00.0	178 49.0 +02.3	S	01 37.1 -00.1				
20	48 30.7 +01.1	N	14 44.4 -00.5	106 13.9 +01.9	N	23 16.1 +00.0	193 51.3 +02.4	S	01 37.0 +00.0				
21	63 31.8 +01.2	N	14 43.9 -00.5	121 15.8 +01.8	N	23 16.1 +00.0	208 53.7 +02.3	S	01 37.0 -00.1				
22	78 33.0 +01.2	N	14 43.4 -00.5	136 17.6 +01.9	N	23 16.1 +00.0	223 56.0 +02.3	S	01 36.9 +00.0				
23	93 34.2 +01.1	N	14 42.9 -00.5	151 19.5 +01.8	N	23 16.1 +00.0	238 58.3 +02.4	S	01 36.9 -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 213° 213° 213° 213° 213° 213°			SHA 271° 271° 271° 271° 271° 271°			SHA 358° 358° 358° 358° 358° 358°						
	Greenwich Culmination Time: 16:46			Greenwich Culmination Time: 12:55			Greenwich Culmination Time: 07:06						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 17.5 -00.1	N 22	45.3 +00.3	226 07.0 +00.1	N 09	29.1 +00.8	49 54.5 -25.2	S 13	45.4 +12.6	00			
01	195 17.4 -00.2	N 22	45.6 +00.2	241 07.1 +00.0	N 09	29.9 +00.8	64 29.3 -25.1	S 13	58.0 +12.4	01			
02	210 17.2 -00.1	N 22	45.8 +00.2	256 07.1 +00.1	N 09	30.7 +00.7	79 04.2 -25.2	S 14	10.4 +12.5	02			
03	225 17.1 -00.1	N 22	46.0 +00.3	271 07.2 +00.1	N 09	31.4 +00.8	93 39.0 -25.3	S 14	22.9 +12.3	03			
04	240 17.0 -00.1	N 22	46.3 +00.2	286 07.3 +00.0	N 09	32.2 +00.8	108 13.7 -25.3	S 14	35.2 +12.3	04			
05	255 16.9 -00.1	N 22	46.5 +00.3	301 07.3 +00.1	N 09	33.0 +00.8	122 48.4 -25.3	S 14	47.5 +12.3	05			
06	270 16.8 -00.1	N 22	46.8 +00.2	316 07.4 +00.1	N 09	33.8 +00.8	137 23.1 -25.5	S 14	59.8 +12.2	06			
07	285 16.7 -00.2	N 22	47.0 +00.2	331 07.5 +00.0	N 09	34.6 +00.7	151 57.6 -25.4	S 15	12.0 +12.2	07			
08	300 16.5 -00.1	N 22	47.2 +00.3	346 07.5 +00.1	N 09	35.3 +00.8	166 32.2 -25.6	S 15	24.2 +12.1	08			
09	315 16.4 -00.1	N 22	47.5 +00.2	1 07.6 +00.0	N 09	36.1 +00.8	181 06.6 -25.5	S 15	36.3 +12.0	09			
10	330 16.3 -00.1	N 22	47.7 +00.2	16 07.6 +00.1	N 09	36.9 +00.8	195 41.1 -25.7	S 15	48.3 +12.0	10			
11	345 16.2 -00.1	N 22	47.9 +00.3	31 07.7 +00.0	N 09	37.7 +00.7	210 15.4 -25.7	S 16	00.3 +11.9	11			
12	0 16.1 -00.1	N 22	48.2 +00.2	46 07.7 +00.1	N 09	38.4 +00.8	224 49.7 -25.8	S 16	12.2 +11.8	12			
13	15 16.0 -00.2	N 22	48.4 +00.2	61 07.8 +00.1	N 09	39.2 +00.8	239 23.9 -25.8	S 16	24.0 +11.8	13			
14	30 15.8 -00.1	N 22	48.6 +00.3	76 07.9 +00.0	N 09	40.0 +00.8	253 58.1 -25.9	S 16	35.8 +11.7	14			
15	45 15.7 -00.1	N 22	48.9 +00.2	91 07.9 +00.1	N 09	40.8 +00.8	268 32.2 -25.9	S 16	47.5 +11.7	15			
16	60 15.6 -00.1	N 22	49.1 +00.2	106 08.0 +00.0	N 09	41.6 +00.7	283 06.3 -26.0	S 16	59.2 +11.6	16			
17	75 15.5 -00.1	N 22	49.3 +00.2	121 08.0 +00.1	N 09	42.3 +00.8	297 40.3 -26.1	S 17	10.8 +11.5	17			
18	90 15.4 -00.2	N 22	49.5 +00.3	136 08.1 +00.0	N 09	43.1 +00.8	312 14.2 -26.1	S 17	22.3 +11.5	18			
19	105 15.2 -00.1	N 22	49.8 +00.2	151 08.1 +00.1	N 09	43.9 +00.8	326 48.1 -26.2	S 17	33.8 +11.4	19			
20	120 15.1 -00.1	N 22	50.0 +00.2	166 08.2 +00.0	N 09	44.7 +00.7	341 21.9 -26.3	S 17	45.2 +11.3	20			
21	135 15.0 -00.1	N 22	50.2 +00.2	181 08.2 +00.1	N 09	45.4 +00.8	355 55.6 -26.3	S 17	56.5 +11.3	21			
22	150 14.9 -00.1	N 22	50.4 +00.3	196 08.3 +00.0	N 09	46.2 +00.8	10 29.3 -26.4	S 18	07.8 +11.2	22			
23	165 14.8 -00.1	N 22	50.7 +00.2	211 08.3 +00.1	N 09	47.0 +00.8	25 02.9 -26.5	S 18	19.0 +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 15'8 15'8 15'8 15'8 15'8 15'8			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 54'1						
	SHA 285° 284° 284° 284° 284° 284°			SHA 330° 330° 330° 330° 330° 330°			SHA 153° 151° 150° 148° 146° 144°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 08:55			Greenwich Culmination Time: 21:16						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	108 35.3 +01.2	N 14	42.4 -00.5	166 21.3 +01.9	N 23	16.1 +00.0	254 00.7 +02.3	S 01	36.8 +00.0	00			
01	123 36.5 +01.1	N 14	41.9 -00.4	181 23.2 +01.8	N 23	16.1 +00.0	269 03.0 +02.3	S 01	36.8 -00.1	01			
02	138 37.6 +01.2	N 14	41.5 -00.5	196 25.0 +01.9	N 23	16.1 +00.0	284 05.3 +02.3	S 01	36.7 +00.0	02			
03	153 38.8 +01.1	N 14	41.0 -00.5	211 26.9 +01.8	N 23	16.1 +00.0	299 07.6 +02.4	S 01	36.7 -00.1	03			
04	168 39.9 +01.2	N 14	40.5 -00.5	226 28.7 +01.9	N 23	16.1 +00.0	314 10.0 +02.3	S 01	36.6 +00.0	04			
05	183 41.1 +01.1	N 14	40.0 -00.5	241 30.6 +01.8	N 23	16.1 +00.0	329 12.3 +02.3	S 01	36.6 -00.1	05			
06	198 42.2 +01.2	N 14	39.5 -00.5	256 32.4 +01.9	N 23	16.1 +00.0	344 14.6 +02.3	S 01	36.5 +00.0	06			
07	213 43.4 +01.1	N 14	39.0 -00.5	271 34.3 +01.8	N 23	16.1 +00.1	359 16.9 +02.4	S 01	36.5 -00.1	07			
08	228 44.5 +01.2	N 14	38.5 -00.5	286 36.1 +01.9	N 23	16.2 +00.0	14 19.3 +02.3	S 01	36.4 +00.0	08			
09	243 45.7 +01.1	N 14	38.0 -00.5	301 38.0 +01.8	N 23	16.2 +00.0	29 21.6 +02.3	S 01	36.4 -00.1	09			
10	258 46.8 +01.2	N 14	37.5 -00.5	316 39.8 +01.9	N 23	16.2 +00.0	44 23.9 +02.4	S 01	36.3 +00.0	10			
11	273 48.0 +01.2	N 14	37.0 -00.5	331 41.7 +01.8	N 23	16.2 +00.0	59 26.3 +02.3	S 01	36.3 -00.1	11			
12	288 49.2 +01.1	N 14	36.5 -00.4	346 43.5 +01.9	N 23	16.2 +00.0	74 28.6 +02.3	S 01	36.2 +00.0	12			
13	303 50.3 +01.2	N 14	36.1 -00.5	1 45.4 +01.8	N 23	16.2 +00.0	89 30.9 +02.4	S 01	36.2 +00.0	13			
14	318 51.5 +01.1	N 14	35.6 -00.5	16 47.2 +01.8	N 23	16.2 +00.0	104 33.3 +02.3	S 01	36.2 -00.1	14			
15	333 52.6 +01.2	N 14	35.1 -00.5	31 49.0 +01.9	N 23	16.2 +00.0	119 35.6 +02.3	S 01	36.1 +00.0	15			
16	348 53.8 +01.1	N 14	34.6 -00.5	46 50.9 +01.8	N 23	16.2 +00.0	134 37.9 +02.3	S 01	36.1 -00.1	16			
17	3 54.9 +01.2	N 14	34.1 -00.5	61 52.7 +01.9	N 23	16.2 +00.0	149 40.2 +02.4	S 01	36.0 +00.0	17			
18	18 56.1 +01.1	N 14	33.6 -00.5	76 54.6 +01.8	N 23	16.2 +00.0	164 42.6 +02.3	S 01	36.0 -00.1	18			
19	33 57.2 +01.2	N 14	33.1 -00.5	91 56.4 +01.9	N 23	16.2 +00.0	179 44.9 +02.3	S 01	35.9 +00.0	19			
20	48 58.4 +01.1	N 14	32.6 -00.5	106 58.3 +01.8	N 23	16.2 +00.0	194 47.2 +02.4	S 01	35.9 -00.1	20			
21	63 59.5 +01.2	N 14	32.1 -00.5	122 00.1 +01.9	N 23	16.2 +00.0	209 49.6 +02.3	S 01	35.8 +00.0	21			
22	79 00.7 +01.1	N 14	31.6 -00.5	137 02.0 +01.8	N 23	16.2 +00.0	224 51.9 +02.3	S 01	35.8 -00.1	22			
23	94 01.8 +01.2	N 14	31.1 -00.5	152 03.8 +01.9	N 23	16.2 +00.1	239 54.2 +02.3	S 01	35.7 +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 213° 213° 213° 213° 213° 212°			SHA 271° 271° 271° 271° 271° 270°			SHA 358° 358° 358° 358° 358° 358°						
	Greenwich Culmination Time: 16:44			Greenwich Culmination Time: 12:52			Greenwich Culmination Time: 07:02						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 14.7 -00.2	N 22 50.9 +00.2	226 08.4 +00.0	N 09 47.8 +00.8	39 36.4 -26.5	S 18 30.1 +11.0	00						
01	195 14.5 -00.1	N 22 51.1 +00.2	241 08.4 +00.1	N 09 48.6 +00.7	54 09.9 -26.6	S 18 41.1 +11.0	01						
02	210 14.4 -00.1	N 22 51.3 +00.3	256 08.5 +00.0	N 09 49.3 +00.8	68 43.3 -26.7	S 18 52.1 +10.9	02						
03	225 14.3 -00.1	N 22 51.6 +00.2	271 08.5 +00.1	N 09 50.1 +00.8	83 16.6 -26.7	S 19 03.0 +10.9	03						
04	240 14.2 -00.1	N 22 51.8 +00.2	286 08.6 +00.0	N 09 50.9 +00.8	97 49.9 -26.8	S 19 13.9 +10.7	04						
05	255 14.1 -00.2	N 22 52.0 +00.2	301 08.6 +00.1	N 09 51.7 +00.8	112 23.1 -26.9	S 19 24.6 +10.7	05						
06	270 13.9 -00.1	N 22 52.2 +00.2	316 08.7 +00.0	N 09 52.5 +00.7	126 56.2 -27.0	S 19 35.3 +10.6	06						
07	285 13.8 -00.1	N 22 52.4 +00.3	331 08.7 +00.1	N 09 53.2 +00.8	141 29.2 -27.0	S 19 45.9 +10.5	07						
08	300 13.7 -00.1	N 22 52.7 +00.2	346 08.8 +00.0	N 09 54.0 +00.8	156 02.2 -27.1	S 19 56.4 +10.5	08						
09	315 13.6 -00.1	N 22 52.9 +00.2	1 08.8 +00.0	N 09 54.8 +00.8	170 35.1 -27.2	S 20 06.9 +10.3	09						
10	330 13.5 -00.2	N 22 53.1 +00.2	16 08.8 +00.1	N 09 55.6 +00.8	185 07.9 -27.2	S 20 17.2 +10.3	10						
11	345 13.3 -00.1	N 22 53.3 +00.2	31 08.9 +00.0	N 09 56.4 +00.7	199 40.7 -27.3	S 20 27.5 +10.2	11						
12	0 13.2 -00.1	N 22 53.5 +00.2	46 08.9 +00.1	N 09 57.1 +00.8	214 13.4 -27.4	S 20 37.7 +10.1	12						
13	15 13.1 -00.1	N 22 53.7 +00.3	61 09.0 +00.0	N 09 57.9 +00.8	228 46.0 -27.5	S 20 47.8 +10.1	13						
14	30 13.0 -00.1	N 22 54.0 +00.2	76 09.0 +00.1	N 09 58.7 +00.8	243 18.5 -27.5	S 20 57.9 +09.9	14						
15	45 12.9 -00.2	N 22 54.2 +00.2	91 09.1 +00.0	N 09 59.5 +00.8	257 51.0 -27.7	S 21 07.8 +09.9	15						
16	60 12.7 -00.1	N 22 54.4 +00.2	106 09.1 +00.0	N 10 00.3 +00.7	272 23.3 -27.7	S 21 17.7 +09.7	16						
17	75 12.6 -00.1	N 22 54.6 +00.2	121 09.1 +00.1	N 10 01.0 +00.8	286 55.6 -27.7	S 21 27.4 +09.7	17						
18	90 12.5 -00.1	N 22 54.8 +00.2	136 09.2 +00.0	N 10 01.8 +00.8	301 27.9 -27.9	S 21 37.1 +09.6	18						
19	105 12.4 -00.2	N 22 55.0 +00.2	151 09.2 +00.0	N 10 02.6 +00.8	316 00.0 -27.9	S 21 46.7 +09.5	19						
20	120 12.2 -00.1	N 22 55.2 +00.2	166 09.2 +00.1	N 10 03.4 +00.8	330 32.1 -28.0	S 21 56.2 +09.5	20						
21	135 12.1 -00.1	N 22 55.4 +00.2	181 09.3 +00.0	N 10 04.2 +00.7	345 04.1 -28.1	S 22 05.7 +09.3	21						
22	150 12.0 -00.1	N 22 55.6 +00.3	196 09.3 +00.0	N 10 04.9 +00.8	359 36.0 -28.1	S 22 15.0 +09.2	22						
23	165 11.9 -00.1	N 22 55.9 +00.2	211 09.3 +00.1	N 10 05.7 +00.8	14 07.9 -28.3	S 22 24.2 +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 15'8 15'8 15'8 15'8 15'8 15'8		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 54'1 54'1 54'1 54'1 54'1 54'2								
	SHA 284° 283° 283° 283° 283° 283°		SHA 329° 329° 329° 329° 329° 329°		SHA 142° 140° 138° 136° 134° 132°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 22:01								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	109 03.0 +01.1	N 14 30.6 -00.5	167 05.7 +01.8	N 23 16.3 +00.0	254 56.5 +02.4	S 01 35.7 -00.1	00						
01	124 04.1 +01.2	N 14 30.1 -00.4	182 07.5 +01.9	N 23 16.3 +00.0	269 58.9 +02.3	S 01 35.6 +00.0	01						
02	139 05.3 +01.1	N 14 29.7 -00.5	197 09.4 +01.8	N 23 16.3 +00.0	285 01.2 +02.3	S 01 35.6 -00.1	02						
03	154 06.4 +01.2	N 14 29.2 -00.5	212 11.2 +01.9	N 23 16.3 +00.0	300 03.5 +02.4	S 01 35.5 +00.0	03						
04	169 07.6 +01.1	N 14 28.7 -00.5	227 13.1 +01.8	N 23 16.3 +00.0	315 05.9 +02.3	S 01 35.5 +00.0	04						
05	184 08.7 +01.2	N 14 28.2 -00.5	242 14.9 +01.9	N 23 16.3 +00.0	330 08.2 +02.3	S 01 35.5 -00.1	05						
06	199 09.9 +01.1	N 14 27.7 -00.5	257 16.8 +01.8	N 23 16.3 +00.0	345 10.5 +02.4	S 01 35.4 +00.0	06						
07	214 11.0 +01.2	N 14 27.2 -00.5	272 18.6 +01.9	N 23 16.3 +00.0	0 12.9 +02.3	S 01 35.4 -00.1	07						
08	229 12.2 +01.1	N 14 26.7 -00.5	287 20.5 +01.8	N 23 16.3 +00.0	15 15.2 +02.3	S 01 35.3 +00.0	08						
09	244 13.3 +01.2	N 14 26.2 -00.5	302 22.3 +01.9	N 23 16.3 +00.0	30 17.5 +02.4	S 01 35.3 -00.1	09						
10	259 14.5 +01.2	N 14 25.7 -00.5	317 24.2 +01.8	N 23 16.3 +00.0	45 19.9 +02.3	S 01 35.2 +00.0	10						
11	274 15.7 +01.1	N 14 25.2 -00.5	332 26.0 +01.9	N 23 16.3 +00.0	60 22.2 +02.3	S 01 35.2 -00.1	11						
12	289 16.8 +01.2	N 14 24.7 -00.5	347 27.9 +01.8	N 23 16.3 +00.0	75 24.5 +02.4	S 01 35.1 +00.0	12						
13	304 18.0 +01.1	N 14 24.2 -00.5	2 29.7 +01.9	N 23 16.3 +00.0	90 26.9 +02.3	S 01 35.1 -00.1	13						
14	319 19.1 +01.2	N 14 23.7 -00.5	17 31.6 +01.8	N 23 16.3 +00.0	105 29.2 +02.3	S 01 35.0 +00.0	14						
15	334 20.3 +01.1	N 14 23.2 -00.5	32 33.4 +01.9	N 23 16.3 +00.0	120 31.5 +02.4	S 01 35.0 -00.1	15						
16	349 21.4 +01.2	N 14 22.7 -00.5	47 35.3 +01.8	N 23 16.3 +00.0	135 33.9 +02.3	S 01 34.9 +00.0	16						
17	4 22.6 +01.1	N 14 22.2 -00.5	62 37.1 +01.9	N 23 16.3 +00.1	150 36.2 +02.3	S 01 34.9 +00.0	17						
18	19 23.7 +01.2	N 14 21.7 -00.5	77 39.0 +01.8	N 23 16.4 +00.0	165 38.5 +02.4	S 01 34.9 -00.1	18						
19	34 24.9 +01.1	N 14 21.2 -00.5	92 40.8 +01.9	N 23 16.4 +00.0	180 40.9 +02.3	S 01 34.8 +00.0	19						
20	49 26.0 +01.2	N 14 20.7 -00.4	107 42.7 +01.8	N 23 16.4 +00.0	195 43.2 +02.3	S 01 34.8 -00.1	20						
21	64 27.2 +01.1	N 14 20.3 -00.5	122 44.5 +01.8	N 23 16.4 +00.0	210 45.5 +02.4	S 01 34.7 +00.0	21						
22	79 28.3 +01.2	N 14 19.8 -00.5	137 46.3 +01.9	N 23 16.4 +00.0	225 47.9 +02.3	S 01 34.7 -00.1	22						
23	94 29.5 +01.1	N 14 19.3 -00.5	152 48.2 +01.8	N 23 16.4 +00.0	240 50.2 +02.3	S 01 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 212° 212° 212° 212° 212° 212°		SHA 270° 270° 270° 270° 270° 270°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:42		Greenwich Culmination Time: 12:50		Greenwich Culmination Time: 06:59								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	180 11.8 -00.2	N	22 56.1 +00.2	226 09.4 +00.0	N	10 06.5 +00.8	28 39.6 -28.3	S	22 33.4 +09.0				
01	195 11.6 -00.1	N	22 56.3 +00.2	241 09.4 +00.0	N	10 07.3 +00.8	43 11.3 -28.4	S	22 42.4 +08.9				
02	210 11.5 -00.1	N	22 56.5 +00.2	256 09.4 +00.1	N	10 08.1 +00.7	57 42.9 -28.5	S	22 51.3 +08.9				
03	225 11.4 -00.1	N	22 56.7 +00.2	271 09.5 +00.0	N	10 08.8 +00.8	72 14.4 -28.5	S	23 00.2 +08.8				
04	240 11.3 -00.1	N	22 56.9 +00.2	286 09.5 +00.0	N	10 09.6 +00.8	86 45.9 -28.6	S	23 09.0 +08.6				
05	255 11.2 -00.2	N	22 57.1 +00.2	301 09.5 +00.1	N	10 10.4 +00.8	101 17.3 -28.7	S	23 17.6 +08.6				
06	270 11.0 -00.1	N	22 57.3 +00.2	316 09.6 +00.0	N	10 11.2 +00.8	115 48.6 -28.8	S	23 26.2 +08.4				
07	285 10.9 -00.1	N	22 57.5 +00.2	331 09.6 +00.0	N	10 12.0 +00.7	130 19.8 -28.9	S	23 34.6 +08.4				
08	300 10.8 -00.1	N	22 57.7 +00.2	346 09.6 +00.1	N	10 12.7 +00.8	144 50.9 -28.9	S	23 43.0 +08.2				
09	315 10.7 -00.2	N	22 57.9 +00.2	1 09.7 +00.0	N	10 13.5 +00.8	159 22.0 -29.0	S	23 51.2 +08.2				
10	330 10.5 -00.1	N	22 58.1 +00.2	16 09.7 +00.0	N	10 14.3 +00.8	173 53.0 -29.1	S	23 59.4 +08.0				
11	345 10.4 -00.1	N	22 58.3 +00.2	31 09.7 +00.0	N	10 15.1 +00.8	188 23.9 -29.2	S	24 07.4 +08.0				
12	0 10.3 -00.1	N	22 58.5 +00.2	46 09.7 +00.1	N	10 15.9 +00.8	202 54.7 -29.3	S	24 15.4 +07.8				
13	15 10.2 -00.2	N	22 58.7 +00.2	61 09.8 +00.0	N	10 16.7 +00.7	217 25.4 -29.3	S	24 23.2 +07.7				
14	30 10.0 -00.1	N	22 58.9 +00.2	76 09.8 +00.0	N	10 17.4 +00.8	231 56.1 -29.4	S	24 30.9 +07.6				
15	45 09.9 -00.1	N	22 59.1 +00.2	91 09.8 +00.0	N	10 18.2 +00.8	246 26.7 -29.5	S	24 38.5 +07.6				
16	60 09.8 -00.1	N	22 59.3 +00.2	106 09.8 +00.1	N	10 19.0 +00.8	260 57.2 -29.6	S	24 46.1 +07.3				
17	75 09.7 -00.1	N	22 59.5 +00.2	121 09.9 +00.0	N	10 19.8 +00.8	275 27.6 -29.6	S	24 53.4 +07.3				
18	90 09.6 -00.2	N	22 59.7 +00.2	136 09.9 +00.0	N	10 20.6 +00.7	289 58.0 -29.7	S	25 00.7 +07.2				
19	105 09.4 -00.1	N	22 59.9 +00.2	151 09.9 +00.0	N	10 21.3 +00.8	304 28.3 -29.8	S	25 07.9 +07.1				
20	120 09.3 -00.1	N	23 00.1 +00.2	166 09.9 +00.0	N	10 22.1 +00.8	318 58.5 -29.9	S	25 15.0 +06.9				
21	135 09.2 -00.1	N	23 00.3 +00.1	181 09.9 +00.1	N	10 22.9 +00.8	333 28.6 -30.0	S	25 21.9 +06.8				
22	150 09.1 -00.2	N	23 00.4 +00.2	196 10.0 +00.0	N	10 23.7 +00.8	347 58.6 -30.0	S	25 28.7 +06.8				
23	165 08.9 -00.1	N	23 00.6 +00.2	211 10.0 +00.0	N	10 24.5 +00.7	2 28.6 -30.1	S	25 35.5 +06.5				
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	SD 15'8 15'8 15'8 15'8 15'8 15'8			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 54'2 54'2 54'3 54'3 54'3 54'4						
	SHA 282° 282° 282° 282° 282° 282°			SHA 328° 328° 328° 328° 328° 328°			SHA 130° 128° 126° 124° 122° 119°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 08:55			Greenwich Culmination Time: 22:49						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	109 30.6 +01.2	N	14 18.8 -00.5	167 50.0 +01.9	N	23 16.4 +00.0	255 52.5 +02.4	S	01 34.6 -00.1				
01	124 31.8 +01.1	N	14 18.3 -00.5	182 51.9 +01.8	N	23 16.4 +00.0	270 54.9 +02.3	S	01 34.5 +00.0				
02	139 32.9 +01.2	N	14 17.8 -00.5	197 53.7 +01.9	N	23 16.4 +00.0	285 57.2 +02.3	S	01 34.5 -00.1				
03	154 34.1 +01.1	N	14 17.3 -00.5	212 55.6 +01.8	N	23 16.4 +00.0	300 59.5 +02.4	S	01 34.4 +00.0				
04	169 35.2 +01.2	N	14 16.8 -00.5	227 57.4 +01.9	N	23 16.4 +00.0	316 01.9 +02.3	S	01 34.4 +00.0				
05	184 36.4 +01.1	N	14 16.3 -00.5	242 59.3 +01.8	N	23 16.4 +00.0	331 04.2 +02.3	S	01 34.4 -00.1				
06	199 37.5 +01.2	N	14 15.8 -00.5	258 01.1 +01.9	N	23 16.4 +00.0	346 06.5 +02.4	S	01 34.3 +00.0				
07	214 38.7 +01.1	N	14 15.3 -00.5	273 03.0 +01.8	N	23 16.4 +00.0	1 08.9 +02.3	S	01 34.3 -00.1				
08	229 39.8 +01.2	N	14 14.8 -00.5	288 04.8 +01.9	N	23 16.4 +00.0	16 11.2 +02.3	S	01 34.2 +00.0				
09	244 41.0 +01.1	N	14 14.3 -00.5	303 06.7 +01.8	N	23 16.4 +00.0	31 13.5 +02.4	S	01 34.2 -00.1				
10	259 42.1 +01.2	N	14 13.8 -00.5	318 08.5 +01.9	N	23 16.4 +00.0	46 15.9 +02.3	S	01 34.1 +00.0				
11	274 43.3 +01.1	N	14 13.3 -00.5	333 10.4 +01.8	N	23 16.4 +00.0	61 18.2 +02.3	S	01 34.1 -00.1				
12	289 44.4 +01.2	N	14 12.8 -00.5	348 12.2 +01.9	N	23 16.4 +00.0	76 20.5 +02.4	S	01 34.0 +00.0				
13	304 45.6 +01.1	N	14 12.3 -00.5	3 14.1 +01.8	N	23 16.4 +00.1	91 22.9 +02.3	S	01 34.0 +00.0				
14	319 46.7 +01.2	N	14 11.8 -00.5	18 15.9 +01.9	N	23 16.5 +00.0	106 25.2 +02.3	S	01 34.0 -00.1				
15	334 47.9 +01.1	N	14 11.3 -00.5	33 17.8 +01.8	N	23 16.5 +00.0	121 27.5 +02.4	S	01 33.9 +00.0				
16	349 49.0 +01.2	N	14 10.8 -00.5	48 19.6 +01.8	N	23 16.5 +00.0	136 29.9 +02.3	S	01 33.9 -00.1				
17	4 50.2 +01.1	N	14 10.3 -00.5	63 21.4 +01.9	N	23 16.5 +00.0	151 32.2 +02.4	S	01 33.8 +00.0				
18	19 51.3 +01.2	N	14 09.8 -00.5	78 23.3 +01.8	N	23 16.5 +00.0	166 34.6 +02.3	S	01 33.8 -00.1				
19	34 52.5 +01.1	N	14 09.3 -00.5	93 25.1 +01.9	N	23 16.5 +00.0	181 36.9 +02.3	S	01 33.7 +00.0				
20	49 53.6 +01.2	N	14 08.8 -00.5	108 27.0 +01.8	N	23 16.5 +00.0	196 39.2 +02.4	S	01 33.7 +00.0				
21	64 54.8 +01.1	N	14 08.3 -00.5	123 28.8 +01.9	N	23 16.5 +00.0	211 41.6 +02.3	S	01 33.7 -00.1				
22	79 55.9 +01.2	N	14 07.8 -00.5	138 30.7 +01.8	N	23 16.5 +00.0	226 43.9 +02.3	S	01 33.6 +00.0				
23	94 57.1 +01.1	N	14 07.3 -00.5	153 32.5 +01.9	N	23 16.5 +00.0	241 46.2 +02.4	S	01 33.6 -00.1				
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 212° 212° 212° 212° 211° 211°			SHA 270° 270° 270° 270° 270° 270°			SHA 358° 358° 358° 358° 358° 358°						
	Greenwich Culmination Time: 16:40			Greenwich Culmination Time: 12:47			Greenwich Culmination Time: 06:55						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 08.8 -00.1	N 23 00.8 +00.2	226 10.0 +00.0	N 10 25.2 +00.8	16 58.5 -30.2	S 25 42.0 +06.5	00						
01	195 08.7 -00.1	N 23 01.0 +00.2	241 10.0 +00.0	N 10 26.0 +00.8	31 28.3 -30.2	S 25 48.5 +06.4	01						
02	210 08.6 -00.2	N 23 01.2 +00.2	256 10.0 +00.1	N 10 26.8 +00.8	45 58.1 -30.3	S 25 54.9 +06.2	02						
03	225 08.4 -00.1	N 23 01.4 +00.2	271 10.1 +00.0	N 10 27.6 +00.8	60 27.8 -30.4	S 26 01.1 +06.1	03						
04	240 08.3 -00.1	N 23 01.6 +00.2	286 10.1 +00.0	N 10 28.4 +00.8	74 57.4 -30.5	S 26 07.2 +06.0	04						
05	255 08.2 -00.1	N 23 01.8 +00.2	301 10.1 +00.0	N 10 29.2 +00.7	89 26.9 -30.5	S 26 13.2 +05.9	05						
06	270 08.1 -00.2	N 23 02.0 +00.1	316 10.1 +00.0	N 10 29.9 +00.8	103 56.4 -30.6	S 26 19.1 +05.7	06						
07	285 07.9 -00.1	N 23 02.1 +00.2	331 10.1 +00.0	N 10 30.7 +00.8	118 25.8 -30.7	S 26 24.8 +05.7	07						
08	300 07.8 -00.1	N 23 02.3 +00.2	346 10.1 +00.0	N 10 31.5 +00.8	132 55.1 -30.8	S 26 30.5 +05.5	08						
09	315 07.7 -00.1	N 23 02.5 +00.2	1 10.1 +00.0	N 10 32.3 +00.8	147 24.3 -30.8	S 26 36.0 +05.3	09						
10	330 07.6 -00.2	N 23 02.7 +00.2	16 10.1 +00.1	N 10 33.1 +00.8	161 53.5 -30.9	S 26 41.3 +05.3	10						
11	345 07.4 -00.1	N 23 02.9 +00.2	31 10.2 +00.0	N 10 33.9 +00.7	176 22.6 -30.9	S 26 46.6 +05.1	11						
12	0 07.3 -00.1	N 23 03.1 +00.1	46 10.2 +00.0	N 10 34.6 +00.8	190 51.7 -31.0	S 26 51.7 +05.0	12						
13	15 07.2 -00.1	N 23 03.2 +00.2	61 10.2 +00.0	N 10 35.4 +00.8	205 20.7 -31.1	S 26 56.7 +04.8	13						
14	30 07.1 -00.2	N 23 03.4 +00.2	76 10.2 +00.0	N 10 36.2 +00.8	219 49.6 -31.2	S 27 01.5 +04.8	14						
15	45 06.9 -00.1	N 23 03.6 +00.2	91 10.2 +00.0	N 10 37.0 +00.8	234 18.4 -31.2	S 27 06.3 +04.6	15						
16	60 06.8 -00.1	N 23 03.8 +00.2	106 10.2 +00.0	N 10 37.8 +00.7	248 47.2 -31.3	S 27 10.9 +04.4	16						
17	75 06.7 -00.1	N 23 04.0 +00.1	121 10.2 +00.0	N 10 38.5 +00.8	263 15.9 -31.3	S 27 15.3 +04.3	17						
18	90 06.6 -00.2	N 23 04.1 +00.2	136 10.2 +00.0	N 10 39.3 +00.8	277 44.6 -31.4	S 27 19.6 +04.2	18						
19	105 06.4 -00.1	N 23 04.3 +00.2	151 10.2 +00.0	N 10 40.1 +00.8	292 13.2 -31.5	S 27 23.8 +04.1	19						
20	120 06.3 -00.1	N 23 04.5 +00.2	166 10.2 +00.0	N 10 40.9 +00.8	306 41.7 -31.5	S 27 27.9 +03.9	20						
21	135 06.2 -00.1	N 23 04.7 +00.1	181 10.2 +00.0	N 10 41.7 +00.8	321 10.2 -31.6	S 27 31.8 +03.8	21						
22	150 06.1 -00.2	N 23 04.8 +00.2	196 10.2 +00.0	N 10 42.5 +00.7	335 38.6 -31.6	S 27 35.6 +03.7	22						
23	165 05.9 -00.1	N 23 05.0 +00.2	211 10.2 +00.0	N 10 43.2 +00.8	350 07.0 -31.7	S 27 39.3 +03.5	23						
	UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 281° 281° 281° 281° 281° 281° Greenwich Culmination Time: 11:59	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 327° 327° 327° 327° 327° 327° Greenwich Culmination Time: 08:55	UT 02 06 10 14 18 22 SD 14'8 14'8 14'9 14'9 14'9 14'9 HP 54'4 54'5 54'5 54'6 54'6 54'7 SHA 117° 115° 113° 111° 108° 106° Greenwich Culmination Time: 23:40										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	109 58.2 +01.1	N 14 06.8 -00.5	168 34.4 +01.8	N 23 16.5 +00.0	256 48.6 +02.3	S 01 33.5 +00.0	00						
01	124 59.3 +01.2	N 14 06.3 -00.5	183 36.2 +01.9	N 23 16.5 +00.0	271 50.9 +02.3	S 01 33.5 -00.1	01						
02	140 00.5 +01.1	N 14 05.8 -00.5	198 38.1 +01.8	N 23 16.5 +00.0	286 53.2 +02.4	S 01 33.4 +00.0	02						
03	155 01.6 +01.2	N 14 05.3 -00.5	213 39.9 +01.9	N 23 16.5 +00.0	301 55.6 +02.3	S 01 33.4 -00.1	03						
04	170 02.8 +01.1	N 14 04.8 -00.5	228 41.8 +01.8	N 23 16.5 +00.0	316 57.9 +02.4	S 01 33.3 +00.0	04						
05	185 03.9 +01.2	N 14 04.3 -00.5	243 43.6 +01.9	N 23 16.5 +00.0	332 00.3 +02.3	S 01 33.3 +00.0	05						
06	200 05.1 +01.1	N 14 03.8 -00.5	258 45.5 +01.8	N 23 16.5 +00.0	347 02.6 +02.3	S 01 33.3 -00.1	06						
07	215 06.2 +01.2	N 14 03.3 -00.5	273 47.3 +01.9	N 23 16.5 +00.0	2 04.9 +02.4	S 01 33.2 +00.0	07						
08	230 07.4 +01.1	N 14 02.8 -00.5	288 49.2 +01.8	N 23 16.5 +00.0	17 07.3 +02.3	S 01 33.2 -00.1	08						
09	245 08.5 +01.2	N 14 02.3 -00.5	303 51.0 +01.8	N 23 16.5 +00.0	32 09.6 +02.4	S 01 33.1 +00.0	09						
10	260 09.7 +01.1	N 14 01.8 -00.5	318 52.8 +01.9	N 23 16.5 +00.0	47 12.0 +02.3	S 01 33.1 -00.1	10						
11	275 10.8 +01.2	N 14 01.3 -00.5	333 54.7 +01.8	N 23 16.5 +00.0	62 14.3 +02.3	S 01 33.0 +00.0	11						
12	290 12.0 +01.1	N 14 00.8 -00.5	348 56.5 +01.9	N 23 16.5 +00.0	77 16.6 +02.4	S 01 33.0 +00.0	12						
13	305 13.1 +01.2	N 14 00.3 -00.5	3 58.4 +01.8	N 23 16.5 +00.0	92 19.0 +02.3	S 01 33.0 -00.1	13						
14	320 14.3 +01.1	N 13 59.8 -00.5	19 00.2 +01.9	N 23 16.5 +00.0	107 21.3 +02.3	S 01 32.9 +00.0	14						
15	335 15.4 +01.2	N 13 59.3 -00.5	34 02.1 +01.8	N 23 16.5 +00.1	122 23.6 +02.4	S 01 32.9 -00.1	15						
16	350 16.6 +01.1	N 13 58.8 -00.5	49 03.9 +01.9	N 23 16.6 +00.0	137 26.0 +02.3	S 01 32.8 +00.0	16						
17	5 17.7 +01.2	N 13 58.3 -00.6	64 05.8 +01.8	N 23 16.6 +00.0	152 28.3 +02.4	S 01 32.8 -00.1	17						
18	20 18.9 +01.1	N 13 57.7 -00.5	79 07.6 +01.9	N 23 16.6 +00.0	167 30.7 +02.3	S 01 32.7 +00.0	18						
19	35 20.0 +01.2	N 13 57.2 -00.5	94 09.5 +01.8	N 23 16.6 +00.0	182 33.0 +02.3	S 01 32.7 +00.0	19						
20	50 21.2 +01.1	N 13 56.7 -00.5	109 11.3 +01.9	N 23 16.6 +00.0	197 35.3 +02.4	S 01 32.7 -00.1	20						
21	65 22.3 +01.2	N 13 56.2 -00.5	124 13.2 +01.8	N 23 16.6 +00.0	212 37.7 +02.3	S 01 32.6 +00.0	21						
22	80 23.5 +01.1	N 13 55.7 -00.5	139 15.0 +01.9	N 23 16.6 +00.0	227 40.0 +02.4	S 01 32.6 -00.1	22						
23	95 24.6 +01.1	N 13 55.2 -00.5	154 16.9 +01.8	N 23 16.6 +00.0	242 42.4 +02.3	S 01 32.5 +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 211° 211° 211° 211° 211° 211° Greenwich Culmination Time: 16:38	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 270° 270° 270° 270° 270° 270° Greenwich Culmination Time: 12:44	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 358° 358° 358° 358° 358° 358° Greenwich Culmination Time: 06:51										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 50%</span>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	180 05.8 -00.1	N 23	05.2 +00.2		226 10.2 +00.0	N 10	44.0 +00.8		4 35.3 -31.7	S 27	42.8 +03.3		00
01	195 05.7 -00.1	N 23	05.4 +00.1		241 10.2 +00.1	N 10	44.8 +00.8		19 03.6 -31.8	S 27	46.1 +03.3		01
02	210 05.6 -00.2	N 23	05.5 +00.2		256 10.3 +00.0	N 10	45.6 +00.8		33 31.8 -31.8	S 27	49.4 +03.1		02
03	225 05.4 -00.1	N 23	05.7 +00.2		271 10.3 +00.0	N 10	46.4 +00.8		47 60.0 -31.9	S 27	52.5 +02.9		03
04	240 05.3 -00.1	N 23	05.9 +00.1		286 10.3 +00.0	N 10	47.2 +00.7		62 28.1 -32.0	S 27	55.4 +02.8		04
05	255 05.2 -00.2	N 23	06.0 +00.2		301 10.3 +00.0	N 10	47.9 +00.8		76 56.1 -32.0	S 27	58.2 +02.7		05
06	270 05.0 -00.1	N 23	06.2 +00.2		316 10.3 -00.1	N 10	48.7 +00.8		91 24.1 -32.0	S 28	00.9 +02.5		06
07	285 04.9 -00.1	N 23	06.4 +00.2		331 10.2 +00.0	N 10	49.5 +00.8		105 52.1 -32.1	S 28	03.4 +02.4		07
08	300 04.8 -00.1	N 23	06.6 +00.1		346 10.2 +00.0	N 10	50.3 +00.8		120 20.0 -32.1	S 28	05.8 +02.3		08
09	315 04.7 -00.2	N 23	06.7 +00.2		1 10.2 +00.0	N 10	51.1 +00.8		134 47.9 -32.2	S 28	08.1 +02.1		09
10	330 04.5 -00.1	N 23	06.9 +00.2		16 10.2 +00.0	N 10	51.9 +00.7		149 15.7 -32.2	S 28	10.2 +01.9		10
11	345 04.4 -00.1	N 23	07.1 +00.1		31 10.2 +00.0	N 10	52.6 +00.8		163 43.5 -32.3	S 28	12.1 +01.8		11
12	0 04.3 -00.1	N 23	07.2 +00.2		46 10.2 +00.0	N 10	53.4 +00.8		178 11.2 -32.3	S 28	13.9 +01.7		12
13	15 04.2 -00.2	N 23	07.4 +00.1		61 10.2 +00.0	N 10	54.2 +00.8		192 38.9 -32.3	S 28	15.6 +01.5		13
14	30 04.0 -00.1	N 23	07.5 +00.2		76 10.2 +00.0	N 10	55.0 +00.8		207 06.6 -32.3	S 28	17.1 +01.4		14
15	45 03.9 -00.1	N 23	07.7 +00.2		91 10.2 +00.0	N 10	55.8 +00.7		221 34.3 -32.4	S 28	18.5 +01.2		15
16	60 03.8 -00.2	N 23	07.9 +00.1		106 10.2 +00.0	N 10	56.5 +00.8		236 01.9 -32.5	S 28	19.7 +01.1		16
17	75 03.6 -00.1	N 23	08.0 +00.2		121 10.2 +00.0	N 10	57.3 +00.8		250 29.4 -32.4	S 28	20.8 +00.9		17
18	90 03.5 -00.1	N 23	08.2 +00.2		136 10.2 +00.0	N 10	58.1 +00.8		264 57.0 -32.5	S 28	21.7 +00.8		18
19	105 03.4 -00.1	N 23	08.4 +00.1		151 10.2 +00.0	N 10	58.9 +00.8		279 24.5 -32.5	S 28	22.5 +00.6		19
20	120 03.3 -00.2	N 23	08.5 +00.2		166 10.2 +00.0	N 10	59.7 +00.8		293 52.0 -32.6	S 28	23.1 +00.5		20
21	135 03.1 -00.1	N 23	08.7 +00.1		181 10.2 -00.1	N 11	00.5 +00.7		308 19.4 -32.5	S 28	23.6 +00.3		21
22	150 03.0 -00.1	N 23	08.8 +00.2		196 10.1 +00.0	N 11	01.2 +00.8		322 46.9 -32.6	S 28	23.9 +00.2		22
23	165 02.9 -00.2	N 23	09.0 +00.1		211 10.1 +00.0	N 11	02.0 +00.8		337 14.3 -32.6	S 28	24.1 +00.0		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 14'9 14'9 14'9 15'0 15'0 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 54'7 54'8 54'9 54'9 55'0 55'1				
	SHA 280° 280° 280° 280° 280° 280°				SHA 326° 326° 326° 326° 326° 326°				SHA 104° 102° 099° 097° 095° 092°				
	Greenwich Culmination Time: 11:59				Greenwich Culmination Time: 08:55				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	110 25.7 +01.2	N 13	54.7 -00.5		169 18.7 +01.8	N 23	16.6 +00.0		257 44.7 +02.3	S 01	32.5 -00.1		00
01	125 26.9 +01.1	N 13	54.2 -00.5		184 20.5 +01.9	N 23	16.6 +00.0		272 47.0 +02.4	S 01	32.4 +00.0		01
02	140 28.0 +01.2	N 13	53.7 -00.5		199 22.4 +01.8	N 23	16.6 +00.0		287 49.4 +02.3	S 01	32.4 +00.0		02
03	155 29.2 +01.1	N 13	53.2 -00.5		214 24.2 +01.9	N 23	16.6 +00.0		302 51.7 +02.4	S 01	32.4 -00.1		03
04	170 30.3 +01.2	N 13	52.7 -00.5		229 26.1 +01.8	N 23	16.6 +00.0		317 54.1 +02.3	S 01	32.3 +00.0		04
05	185 31.5 +01.1	N 13	52.2 -00.5		244 27.9 +01.9	N 23	16.6 +00.0		332 56.4 +02.3	S 01	32.3 -00.1		05
06	200 32.6 +01.2	N 13	51.7 -00.5		259 29.8 +01.8	N 23	16.6 +00.0		347 58.7 +02.4	S 01	32.2 +00.0		06
07	215 33.8 +01.1	N 13	51.2 -00.5		274 31.6 +01.9	N 23	16.6 +00.0		3 01.1 +02.3	S 01	32.2 +00.0		07
08	230 34.9 +01.2	N 13	50.7 -00.5		289 33.5 +01.8	N 23	16.6 +00.0		18 03.4 +02.4	S 01	32.2 -00.1		08
09	245 36.1 +01.1	N 13	50.2 -00.5		304 35.3 +01.9	N 23	16.6 +00.0		33 05.8 +02.3	S 01	32.1 +00.0		09
10	260 37.2 +01.2	N 13	49.7 -00.5		319 37.2 +01.8	N 23	16.6 +00.0		48 08.1 +02.4	S 01	32.1 -00.1		10
11	275 38.4 +01.1	N 13	49.2 -00.5		334 39.0 +01.9	N 23	16.6 +00.0		63 10.5 +02.3	S 01	32.0 +00.0		11
12	290 39.5 +01.2	N 13	48.7 -00.5		349 40.9 +01.8	N 23	16.6 +00.0		78 12.8 +02.3	S 01	32.0 -00.1		12
13	305 40.7 +01.1	N 13	48.2 -00.6		4 42.7 +01.8	N 23	16.6 +00.0		93 15.1 +02.4	S 01	31.9 +00.0		13
14	320 41.8 +01.1	N 13	47.6 -00.5		19 44.5 +01.9	N 23	16.6 +00.0		108 17.5 +02.3	S 01	31.9 +00.0		14
15	335 42.9 +01.2	N 13	47.1 -00.5		34 46.4 +01.8	N 23	16.6 +00.0		123 19.8 +02.4	S 01	31.9 -00.1		15
16	350 44.1 +01.1	N 13	46.6 -00.5		49 48.2 +01.9	N 23	16.6 +00.0		138 22.2 +02.3	S 01	31.8 +00.0		16
17	5 45.2 +01.2	N 13	46.1 -00.5		64 50.1 +01.8	N 23	16.6 +00.0		153 24.5 +02.4	S 01	31.8 -00.1		17
18	20 46.4 +01.1	N 13	45.6 -00.5		79 51.9 +01.9	N 23	16.6 +00.0		168 26.9 +02.3	S 01	31.7 +00.0		18
19	35 47.5 +01.2	N 13	45.1 -00.5		94 53.8 +01.8	N 23	16.6 +00.0		183 29.2 +02.3	S 01	31.7 +00.0		19
20	50 48.7 +01.1	N 13	44.6 -00.5		109 55.6 +01.9	N 23	16.6 +00.0		198 31.5 +02.4	S 01	31.7 -00.1		20
21	65 49.8 +01.2	N 13	44.1 -00.5		124 57.5 +01.8	N 23	16.6 +00.0		213 33.9 +02.3	S 01	31.6 +00.0		21
22	80 51.0 +01.1	N 13	43.6 -00.5		139 59.3 +01.9	N 23	16.6 +00.0		228 36.2 +02.4	S 01	31.6 -00.1		22
23	95 52.1 +01.2	N 13	43.1 -00.5		155 01.2 +01.8	N 23	16.6 +00.0		243 38.6 +02.3	S 01	31.5 +00.0		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 211° 211° 211° 211° 210° 210°				SHA 270° 270° 270° 270° 270° 269°				SHA 358° 358° 358° 358° 358° 358°				
	Greenwich Culmination Time: 16:37				Greenwich Culmination Time: 12:41				Greenwich Culmination Time: 06:47				



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 02.7 -00.1	N 23 09.1 +00.2	226 10.1 +00.0	N 11 02.8 +00.8	351 41.7 -32.7	S 28 24.1 -00.1	00						
01	195 02.6 -00.1	N 23 09.3 +00.2	241 10.1 +00.0	N 11 03.6 +00.8	6 09.0 -32.6	S 28 24.0 -00.3	01						
02	210 02.5 -00.1	N 23 09.5 +00.1	256 10.1 +00.0	N 11 04.4 +00.8	20 36.4 -32.7	S 28 23.7 -00.4	02						
03	225 02.4 -00.2	N 23 09.6 +00.2	271 10.1 +00.0	N 11 05.2 +00.7	35 03.7 -32.7	S 28 23.3 -00.6	03						
04	240 02.2 -00.1	N 23 09.8 +00.1	286 10.1 -00.1	N 11 05.9 +00.8	49 31.0 -32.6	S 28 22.7 -00.7	04						
05	255 02.1 -00.1	N 23 09.9 +00.2	301 10.0 +00.0	N 11 06.7 +00.8	63 58.4 -32.8	S 28 22.0 -00.9	05						
06	270 02.0 -00.2	N 23 10.1 +00.1	316 10.0 +00.0	N 11 07.5 +00.8	78 25.6 -32.7	S 28 21.1 -01.0	06						
07	285 01.8 -00.1	N 23 10.2 +00.2	331 10.0 +00.0	N 11 08.3 +00.8	92 52.9 -32.7	S 28 20.1 -01.2	07						
08	300 01.7 -00.1	N 23 10.4 +00.1	346 10.0 +00.0	N 11 09.1 +00.7	107 20.2 -32.7	S 28 18.9 -01.3	08						
09	315 01.6 -00.1	N 23 10.5 +00.2	1 10.0 +00.0	N 11 09.8 +00.8	121 47.5 -32.8	S 28 17.6 -01.5	09						
10	330 01.5 -00.2	N 23 10.7 +00.1	16 10.0 -00.1	N 11 10.6 +00.8	136 14.7 -32.7	S 28 16.1 -01.6	10						
11	345 01.3 -00.1	N 23 10.8 +00.2	31 09.9 +00.0	N 11 11.4 +00.8	150 42.0 -32.8	S 28 14.5 -01.8	11						
12	0 01.2 -00.1	N 23 11.0 +00.1	46 09.9 +00.0	N 11 12.2 +00.8	165 09.2 -32.7	S 28 12.7 -01.9	12						
13	15 01.1 -00.2	N 23 11.1 +00.2	61 09.9 +00.0	N 11 13.0 +00.8	179 36.5 -32.7	S 28 10.8 -02.1	13						
14	30 00.9 -00.1	N 23 11.3 +00.1	76 09.9 +00.0	N 11 13.8 +00.7	194 03.8 -32.8	S 28 08.7 -02.2	14						
15	45 00.8 -00.1	N 23 11.4 +00.2	91 09.9 -00.1	N 11 14.5 +00.8	208 31.0 -32.7	S 28 06.5 -02.4	15						
16	60 00.7 -00.1	N 23 11.6 +00.1	106 09.8 +00.0	N 11 15.3 +00.8	222 58.3 -32.8	S 28 04.1 -02.6	16						
17	75 00.6 -00.2	N 23 11.7 +00.1	121 09.8 +00.0	N 11 16.1 +00.8	237 25.5 -32.7	S 28 01.5 -02.7	17						
18	90 00.4 -00.1	N 23 11.8 +00.2	136 09.8 +00.0	N 11 16.9 +00.8	251 52.8 -32.7	S 27 58.8 -02.8	18						
19	105 00.3 -00.1	N 23 12.0 +00.1	151 09.8 -00.1	N 11 17.7 +00.8	266 20.1 -32.7	S 27 56.0 -03.0	19						
20	120 00.2 -00.2	N 23 12.1 +00.2	166 09.7 +00.0	N 11 18.5 +00.7	280 47.4 -32.7	S 27 53.0 -03.2	20						
21	135 00.0 -00.1	N 23 12.3 +00.1	181 09.7 +00.0	N 11 19.2 +00.8	295 14.7 -32.7	S 27 49.8 -03.2	21						
22	149 59.9 -00.1	N 23 12.4 +00.2	196 09.7 +00.0	N 11 20.0 +00.8	309 42.0 -32.7	S 27 46.6 -03.5	22						
23	164 59.8 -00.2	N 23 12.6 +00.1	211 09.7 -00.1	N 11 20.8 +00.8	324 09.3 -32.6	S 27 43.1 -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 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'0 15'0 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 55'1 55'2 55'3 55'3 55'4 55'5								
	SHA 279° 279° 279° 279° 279° 279°		SHA 326° 325° 325° 325° 325° 325°		SHA 090° 088° 085° 083° 081° 078°								
	Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 00:34								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	110 53.3 +01.1	N 13 42.6 -00.5	170 03.0 +01.9	N 23 16.6 +00.0	258 40.9 +02.4	S 01 31.5 +00.0	00						
01	125 54.4 +01.1	N 13 42.1 -00.5	185 04.9 +01.8	N 23 16.6 +00.0	273 43.3 +02.3	S 01 31.5 -00.1	01						
02	140 55.5 +01.2	N 13 41.6 -00.6	200 06.7 +01.8	N 23 16.6 +00.0	288 45.6 +02.3	S 01 31.4 +00.0	02						
03	155 56.7 +01.1	N 13 41.0 -00.5	215 08.5 +01.9	N 23 16.6 +00.0	303 47.9 +02.4	S 01 31.4 -00.1	03						
04	170 57.8 +01.2	N 13 40.5 -00.5	230 10.4 +01.8	N 23 16.6 +00.0	318 50.3 +02.3	S 01 31.3 +00.0	04						
05	185 59.0 +01.1	N 13 40.0 -00.5	245 12.2 +01.9	N 23 16.6 +00.1	333 52.6 +02.4	S 01 31.3 +00.0	05						
06	201 00.1 +01.2	N 13 39.5 -00.5	260 14.1 +01.8	N 23 16.7 +00.0	348 55.0 +02.3	S 01 31.3 -00.1	06						
07	216 01.3 +01.1	N 13 39.0 -00.5	275 15.9 +01.9	N 23 16.7 +00.0	3 57.3 +02.4	S 01 31.2 +00.0	07						
08	231 02.4 +01.2	N 13 38.5 -00.5	290 17.8 +01.8	N 23 16.7 +00.0	18 59.7 +02.3	S 01 31.2 -00.1	08						
09	246 03.6 +01.1	N 13 38.0 -00.5	305 19.6 +01.9	N 23 16.7 +00.0	34 02.0 +02.4	S 01 31.1 +00.0	09						
10	261 04.7 +01.1	N 13 37.5 -00.5	320 21.5 +01.8	N 23 16.7 +00.0	49 04.4 +02.3	S 01 31.1 +00.0	10						
11	276 05.8 +01.2	N 13 37.0 -00.5	335 23.3 +01.9	N 23 16.7 +00.0	64 06.7 +02.4	S 01 31.1 -00.1	11						
12	291 07.0 +01.1	N 13 36.5 -00.5	350 25.2 +01.8	N 23 16.7 +00.0	79 09.1 +02.3	S 01 31.0 +00.0	12						
13	306 08.1 +01.2	N 13 36.0 -00.6	5 27.0 +01.8	N 23 16.7 +00.0	94 11.4 +02.3	S 01 31.0 -00.1	13						
14	321 09.3 +01.1	N 13 35.4 -00.5	20 28.8 +01.9	N 23 16.7 +00.0	109 13.7 +02.4	S 01 30.9 +00.0	14						
15	336 10.4 +01.2	N 13 34.9 -00.5	35 30.7 +01.8	N 23 16.7 +00.0	124 16.1 +02.3	S 01 30.9 +00.0	15						
16	351 11.6 +01.1	N 13 34.4 -00.5	50 32.5 +01.9	N 23 16.7 +00.0	139 18.4 +02.4	S 01 30.9 -00.1	16						
17	6 12.7 +01.2	N 13 33.9 -00.5	65 34.4 +01.8	N 23 16.7 +00.0	154 20.8 +02.3	S 01 30.8 +00.0	17						
18	21 13.9 +01.1	N 13 33.4 -00.5	80 36.2 +01.9	N 23 16.7 +00.0	169 23.1 +02.4	S 01 30.8 -00.1	18						
19	36 15.0 +01.1	N 13 32.9 -00.5	95 38.1 +01.8	N 23 16.7 +00.0	184 25.5 +02.3	S 01 30.7 +00.0	19						
20	51 16.1 +01.2	N 13 32.4 -00.5	110 39.9 +01.9	N 23 16.7 +00.0	199 27.8 +02.4	S 01 30.7 +00.0	20						
21	66 17.3 +01.1	N 13 31.9 -00.5	125 41.8 +01.8	N 23 16.7 +00.0	214 30.2 +02.3	S 01 30.7 -00.1	21						
22	81 18.4 +01.2	N 13 31.4 -00.6	140 43.6 +01.9	N 23 16.7 +00.0	229 32.5 +02.4	S 01 30.6 +00.0	22						
23	96 19.6 +01.1	N 13 30.8 -00.5	155 45.5 +01.8	N 23 16.7 +00.0	244 34.9 +02.3	S 01 30.6 -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 210° 210° 210° 210° 210° 210°		SHA 269° 269° 269° 269° 269° 269°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:35		Greenwich Culmination Time: 12:38		Greenwich Culmination Time: 06:44								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 59.6 -00.1	N 23 12.7 +00.1	226 09.6 +00.0	N 11 21.6 +00.8	338 36.7 -32.6	S 27 39.5 -03.7	00						
01	194 59.5 -00.1	N 23 12.8 +00.2	241 09.6 +00.0	N 11 22.4 +00.7	353 04.1 -32.7	S 27 35.8 -03.9	01						
02	209 59.4 -00.1	N 23 13.0 +00.1	256 09.6 -00.1	N 11 23.1 +00.8	7 31.4 -32.6	S 27 31.9 -04.1	02						
03	224 59.3 -00.2	N 23 13.1 +00.1	271 09.5 +00.0	N 11 23.9 +00.8	21 58.8 -32.5	S 27 27.8 -04.2	03						
04	239 59.1 -00.1	N 23 13.2 +00.2	286 09.5 +00.0	N 11 24.7 +00.8	36 26.3 -32.6	S 27 23.6 -04.3	04						
05	254 59.0 -00.1	N 23 13.4 +00.1	301 09.5 -00.1	N 11 25.5 +00.8	50 53.7 -32.5	S 27 19.3 -04.5	05						
06	269 58.9 -00.2	N 23 13.5 +00.2	316 09.4 +00.0	N 11 26.3 +00.8	65 21.2 -32.5	S 27 14.8 -04.7	06						
07	284 58.7 -00.1	N 23 13.7 +00.1	331 09.4 +00.0	N 11 27.1 +00.7	79 48.7 -32.5	S 27 10.1 -04.8	07						
08	299 58.6 -00.1	N 23 13.8 +00.1	346 09.4 -00.1	N 11 27.8 +00.8	94 16.2 -32.4	S 27 05.3 -04.9	08						
09	314 58.5 -00.2	N 23 13.9 +00.2	1 09.3 +00.0	N 11 28.6 +00.8	108 43.8 -32.4	S 27 00.4 -05.1	09						
10	329 58.3 -00.1	N 23 14.1 +00.1	16 09.3 +00.0	N 11 29.4 +00.8	123 11.4 -32.4	S 26 55.3 -05.2	10						
11	344 58.2 -00.1	N 23 14.2 +00.1	31 09.3 -00.1	N 11 30.2 +00.8	137 39.0 -32.4	S 26 50.1 -05.4	11						
12	359 58.1 -00.2	N 23 14.3 +00.1	46 09.2 +00.0	N 11 31.0 +00.7	152 06.6 -32.3	S 26 44.7 -05.5	12						
13	14 57.9 -00.1	N 23 14.4 +00.2	61 09.2 +00.0	N 11 31.7 +00.8	166 34.3 -32.3	S 26 39.2 -05.7	13						
14	29 57.8 -00.1	N 23 14.6 +00.1	76 09.2 -00.1	N 11 32.5 +00.8	181 02.0 -32.2	S 26 33.5 -05.8	14						
15	44 57.7 -00.1	N 23 14.7 +00.1	91 09.1 +00.0	N 11 33.3 +00.8	195 29.8 -32.2	S 26 27.7 -06.0	15						
16	59 57.6 -00.2	N 23 14.8 +00.2	106 09.1 -00.1	N 11 34.1 +00.8	209 57.6 -32.2	S 26 21.7 -06.1	16						
17	74 57.4 -00.1	N 23 15.0 +00.1	121 09.0 +00.0	N 11 34.9 +00.8	224 25.4 -32.1	S 26 15.6 -06.2	17						
18	89 57.3 -00.1	N 23 15.1 +00.1	136 09.0 +00.0	N 11 35.7 +00.7	238 53.3 -32.1	S 26 09.4 -06.4	18						
19	104 57.2 -00.2	N 23 15.2 +00.1	151 09.0 -00.1	N 11 36.4 +00.8	253 21.2 -32.1	S 26 03.0 -06.5	19						
20	119 57.0 -00.1	N 23 15.3 +00.2	166 08.9 +00.0	N 11 37.2 +00.8	267 49.1 -32.0	S 25 56.5 -06.7	20						
21	134 56.9 -00.1	N 23 15.5 +00.1	181 08.9 -00.1	N 11 38.0 +00.8	282 17.1 -32.0	S 25 49.8 -06.8	21						
22	149 56.8 -00.2	N 23 15.6 +00.1	196 08.8 +00.0	N 11 38.8 +00.8	296 45.1 -31.9	S 25 43.0 -06.9	22						
23	164 56.6 -00.1	N 23 15.7 +00.1	211 08.8 +00.0	N 11 39.6 +00.7	311 13.2 -31.9	S 25 36.1 -07.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'1 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 55'5 55'6 55'7 55'8 55'9 55'9								
	SHA 278° 278° 278° 278° 278° 277°		SHA 325° 324° 324° 324° 324° 324°		SHA 076° 074° 071° 069° 067° 064°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 01:28								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111 20.7 +01.2	N 13 30.3 -00.5	170 47.3 +01.8	N 23 16.7 +00.0	259 37.2 +02.4	S 01 30.5 +00.0	00						
01	126 21.9 +01.1	N 13 29.8 -00.5	185 49.1 +01.9	N 23 16.7 +00.0	274 39.6 +02.3	S 01 30.5 +00.0	01						
02	141 23.0 +01.1	N 13 29.3 -00.5	200 51.0 +01.8	N 23 16.7 +00.0	289 41.9 +02.4	S 01 30.5 -00.1	02						
03	156 24.1 +01.2	N 13 28.8 -00.5	215 52.8 +01.9	N 23 16.7 +00.0	304 44.3 +02.3	S 01 30.4 +00.0	03						
04	171 25.3 +01.1	N 13 28.3 -00.5	230 54.7 +01.8	N 23 16.7 +00.0	319 46.6 +02.3	S 01 30.4 -00.1	04						
05	186 26.4 +01.2	N 13 27.8 -00.5	245 56.5 +01.9	N 23 16.7 +00.0	334 48.9 +02.4	S 01 30.3 +00.0	05						
06	201 27.6 +01.1	N 13 27.3 -00.6	260 58.4 +01.8	N 23 16.7 +00.0	349 51.3 +02.3	S 01 30.3 +00.0	06						
07	216 28.7 +01.2	N 13 26.7 -00.5	276 00.2 +01.9	N 23 16.7 +00.0	4 53.6 +02.4	S 01 30.3 -00.1	07						
08	231 29.9 +01.1	N 13 26.2 -00.5	291 02.1 +01.8	N 23 16.7 +00.0	19 56.0 +02.3	S 01 30.2 +00.0	08						
09	246 31.0 +01.2	N 13 25.7 -00.5	306 03.9 +01.9	N 23 16.7 +00.0	34 58.3 +02.4	S 01 30.2 +00.0	09						
10	261 32.2 +01.1	N 13 25.2 -00.5	321 05.8 +01.8	N 23 16.7 +00.0	50 00.7 +02.3	S 01 30.2 -00.1	10						
11	276 33.3 +01.1	N 13 24.7 -00.5	336 07.6 +01.8	N 23 16.7 +00.0	65 03.0 +02.4	S 01 30.1 +00.0	11						
12	291 34.4 +01.2	N 13 24.2 -00.5	351 09.4 +01.9	N 23 16.7 +00.0	80 05.4 +02.3	S 01 30.1 -00.1	12						
13	306 35.6 +01.1	N 13 23.7 -00.5	6 11.3 +01.8	N 23 16.7 +00.0	95 07.7 +02.4	S 01 30.0 +00.0	13						
14	321 36.7 +01.2	N 13 23.2 -00.6	21 13.1 +01.9	N 23 16.7 +00.0	110 10.1 +02.3	S 01 30.0 +00.0	14						
15	336 37.9 +01.1	N 13 22.6 -00.5	36 15.0 +01.8	N 23 16.7 +00.0	125 12.4 +02.4	S 01 30.0 -00.1	15						
16	351 39.0 +01.1	N 13 22.1 -00.5	51 16.8 +01.9	N 23 16.7 +00.0	140 14.8 +02.3	S 01 29.9 +00.0	16						
17	6 40.1 +01.2	N 13 21.6 -00.5	66 18.7 +01.8	N 23 16.7 +00.0	155 17.1 +02.4	S 01 29.9 +00.0	17						
18	21 41.3 +01.1	N 13 21.1 -00.5	81 20.5 +01.9	N 23 16.7 +00.0	170 19.5 +02.3	S 01 29.9 -00.1	18						
19	36 42.4 +01.2	N 13 20.6 -00.5	96 22.4 +01.8	N 23 16.7 +00.0	185 21.8 +02.4	S 01 29.8 +00.0	19						
20	51 43.6 +01.1	N 13 20.1 -00.5	111 24.2 +01.8	N 23 16.7 +00.0	200 24.2 +02.3	S 01 29.8 -00.1	20						
21	66 44.7 +01.2	N 13 19.6 -00.6	126 26.0 +01.9	N 23 16.7 +00.0	215 26.5 +02.4	S 01 29.7 +00.0	21						
22	81 45.9 +01.1	N 13 19.0 -00.5	141 27.9 +01.8	N 23 16.7 +00.0	230 28.9 +02.3	S 01 29.7 +00.0	22						
23	96 47.0 +01.1	N 13 18.5 -00.5	156 29.7 +01.9	N 23 16.7 +00.0	245 31.2 +02.4	S 01 29.7 -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 210° 210° 210° 209° 209° 209°		SHA 269° 269° 269° 269° 269° 269°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:33		Greenwich Culmination Time: 12:35		Greenwich Culmination Time: 06:40								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 56.5 -00.1	N 23 15.8 +00.2	226 08.8 -00.1	N 11 40.3 +00.8	325 41.3 -31.8	S 25 29.0 -07.2	00						
01	194 56.4 -00.2	N 23 16.0 +00.1	241 08.7 +00.0	N 11 41.1 +00.8	340 09.5 -31.8	S 25 21.8 -07.4	01						
02	209 56.2 -00.1	N 23 16.1 +00.1	256 08.7 -00.1	N 11 41.9 +00.8	354 37.7 -31.8	S 25 14.4 -07.5	02						
03	224 56.1 -00.1	N 23 16.2 +00.1	271 08.6 +00.0	N 11 42.7 +00.8	9 05.9 -31.6	S 25 06.9 -07.6	03						
04	239 56.0 -00.2	N 23 16.3 +00.1	286 08.6 -00.1	N 11 43.5 +00.7	23 34.3 -31.7	S 24 59.3 -07.8	04						
05	254 55.8 -00.1	N 23 16.4 +00.2	301 08.5 +00.0	N 11 44.2 +00.8	38 02.6 -31.6	S 24 51.5 -07.9	05						
06	269 55.7 -00.1	N 23 16.6 +00.1	316 08.5 -00.1	N 11 45.0 +00.8	52 31.0 -31.5	S 24 43.6 -08.0	06						
07	284 55.6 -00.2	N 23 16.7 +00.1	331 08.4 +00.0	N 11 45.8 +00.8	66 59.5 -31.5	S 24 35.6 -08.2	07						
08	299 55.4 -00.1	N 23 16.8 +00.1	346 08.4 -00.1	N 11 46.6 +00.8	81 28.0 -31.5	S 24 27.4 -08.3	08						
09	314 55.3 -00.1	N 23 16.9 +00.1	1 08.3 +00.0	N 11 47.4 +00.7	95 56.5 -31.4	S 24 19.1 -08.4	09						
10	329 55.2 -00.1	N 23 17.0 +00.1	16 08.3 -00.1	N 11 48.1 +00.8	110 25.1 -31.3	S 24 10.7 -08.6	10						
11	344 55.1 -00.2	N 23 17.1 +00.2	31 08.2 +00.0	N 11 48.9 +00.8	124 53.8 -31.3	S 24 02.1 -08.7	11						
12	359 54.9 -00.1	N 23 17.3 +00.1	46 08.2 -00.1	N 11 49.7 +00.8	139 22.5 -31.2	S 23 53.4 -08.8	12						
13	14 54.8 -00.1	N 23 17.4 +00.1	61 08.1 +00.0	N 11 50.5 +00.8	153 51.3 -31.2	S 23 44.6 -09.0	13						
14	29 54.7 -00.2	N 23 17.5 +00.1	76 08.1 -00.1	N 11 51.3 +00.7	168 20.1 -31.1	S 23 35.6 -09.0	14						
15	44 54.5 -00.1	N 23 17.6 +00.1	91 08.0 +00.0	N 11 52.0 +00.8	182 49.0 -31.1	S 23 26.6 -09.3	15						
16	59 54.4 -00.1	N 23 17.7 +00.1	106 08.0 -00.1	N 11 52.8 +00.8	197 17.9 -31.0	S 23 17.3 -09.3	16						
17	74 54.3 -00.2	N 23 17.8 +00.1	121 07.9 +00.0	N 11 53.6 +00.8	211 46.9 -31.0	S 23 08.0 -09.4	17						
18	89 54.1 -00.1	N 23 17.9 +00.1	136 07.9 -00.1	N 11 54.4 +00.8	226 15.9 -30.9	S 22 58.6 -09.6	18						
19	104 54.0 -00.1	N 23 18.0 +00.1	151 07.8 +00.0	N 11 55.2 +00.7	240 45.0 -30.9	S 22 49.0 -09.7	19						
20	119 53.9 -00.2	N 23 18.1 +00.1	166 07.8 -00.1	N 11 55.9 +00.8	255 14.1 -30.8	S 22 39.3 -09.8	20						
21	134 53.7 -00.1	N 23 18.2 +00.2	181 07.7 -00.1	N 11 56.7 +00.8	269 43.3 -30.7	S 22 29.5 -10.0	21						
22	149 53.6 -00.1	N 23 18.4 +00.1	196 07.6 +00.0	N 11 57.5 +00.8	284 12.6 -30.7	S 22 19.5 -10.0	22						
23	164 53.5 -00.2	N 23 18.5 +00.1	211 07.6 -00.1	N 11 58.3 +00.8	298 41.9 -30.6	S 22 09.5 -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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'3 15'3 15'3 15'3 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 56'0 56'1 56'2 56'3 56'4 56'4								
	SHA 277° 277° 277° 277° 277° 276°		SHA 324° 323° 323° 323° 323° 323°		SHA 062° 060° 057° 055° 053° 051°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 02:22								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	111 48.1 +01.2	N 13 18.0 -00.5	171 31.6 +01.8	N 23 16.7 +00.0	260 33.6 +02.3	S 01 29.6 +00.0	00						
01	126 49.3 +01.1	N 13 17.5 -00.5	186 33.4 +01.9	N 23 16.7 +00.0	275 35.9 +02.4	S 01 29.6 +00.0	01						
02	141 50.4 +01.2	N 13 17.0 -00.5	201 35.3 +01.8	N 23 16.7 +00.0	290 38.3 +02.3	S 01 29.6 -00.1	02						
03	156 51.6 +01.1	N 13 16.5 -00.6	216 37.1 +01.9	N 23 16.7 +00.0	305 40.6 +02.4	S 01 29.5 +00.0	03						
04	171 52.7 +01.2	N 13 15.9 -00.5	231 39.0 +01.8	N 23 16.7 +00.0	320 43.0 +02.3	S 01 29.5 -00.1	04						
05	186 53.9 +01.1	N 13 15.4 -00.5	246 40.8 +01.9	N 23 16.7 +00.0	335 45.3 +02.4	S 01 29.4 +00.0	05						
06	201 55.0 +01.1	N 13 14.9 -00.5	261 42.7 +01.8	N 23 16.7 +00.0	350 47.7 +02.3	S 01 29.4 +00.0	06						
07	216 56.1 +01.2	N 13 14.4 -00.5	276 44.5 +01.8	N 23 16.7 +00.0	5 50.0 +02.4	S 01 29.4 -00.1	07						
08	231 57.3 +01.1	N 13 13.9 -00.5	291 46.3 +01.9	N 23 16.7 +00.0	20 52.4 +02.3	S 01 29.3 +00.0	08						
09	246 58.4 +01.2	N 13 13.4 -00.6	306 48.2 +01.8	N 23 16.7 +00.0	35 54.7 +02.4	S 01 29.3 +00.0	09						
10	261 59.6 +01.1	N 13 12.8 -00.5	321 50.0 +01.9	N 23 16.7 +00.0	50 57.1 +02.4	S 01 29.3 -00.1	10						
11	277 00.7 +01.1	N 13 12.3 -00.5	336 51.9 +01.8	N 23 16.7 +00.0	65 59.5 +02.3	S 01 29.2 +00.0	11						
12	292 01.8 +01.2	N 13 11.8 -00.5	351 53.7 +01.9	N 23 16.7 +00.0	81 01.8 +02.4	S 01 29.2 -00.1	12						
13	307 03.0 +01.1	N 13 11.3 -00.5	6 55.6 +01.8	N 23 16.7 +00.0	96 04.2 +02.3	S 01 29.1 +00.0	13						
14	322 04.1 +01.2	N 13 10.8 -00.5	21 57.4 +01.9	N 23 16.7 +00.0	111 06.5 +02.4	S 01 29.1 +00.0	14						
15	337 05.3 +01.1	N 13 10.3 -00.6	36 59.3 +01.8	N 23 16.7 +00.0	126 08.9 +02.3	S 01 29.1 -00.1	15						
16	352 06.4 +01.1	N 13 09.7 -00.5	52 01.1 +01.8	N 23 16.7 +00.0	141 11.2 +02.4	S 01 29.0 +00.0	16						
17	7 07.5 +01.2	N 13 09.2 -00.5	67 02.9 +01.9	N 23 16.7 +00.0	156 13.6 +02.3	S 01 29.0 +00.0	17						
18	22 08.7 +01.1	N 13 08.7 -00.5	82 04.8 +01.8	N 23 16.7 +00.0	171 15.9 +02.4	S 01 29.0 -00.1	18						
19	37 09.8 +01.2	N 13 08.2 -00.5	97 06.6 +01.9	N 23 16.7 +00.0	186 18.3 +02.3	S 01 28.9 +00.0	19						
20	52 11.0 +01.1	N 13 07.7 -00.6	112 08.5 +01.8	N 23 16.7 +00.0	201 20.6 +02.4	S 01 28.9 +00.0	20						
21	67 12.1 +01.2	N 13 07.1 -00.5	127 10.3 +01.9	N 23 16.7 +00.0	216 23.0 +02.3	S 01 28.9 -00.1	21						
22	82 13.3 +01.1	N 13 06.6 -00.5	142 12.2 +01.8	N 23 16.7 +00.0	231 25.3 +02.4	S 01 28.8 +00.0	22						
23	97 14.4 +01.1	N 13 06.1 -00.5	157 14.0 +01.9	N 23 16.7 +00.0	246 27.7 +02.3	S 01 28.8 -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 209° 209° 209° 209° 209° 209°		SHA 269° 269° 269° 269° 269° 269°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:31		Greenwich Culmination Time: 12:32		Greenwich Culmination Time: 06:36								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 64%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	179 53.3 -00.1	N 23	18.6 +00.1	226 07.5 +00.0	N 11	59.1 +00.7	313 11.3 -30.6	S 21	59.3 -10.3	00			
01	194 53.2 -00.1	N 23	18.7 +00.1	241 07.5 -00.1	N 11	59.8 +00.8	327 40.7 -30.5	S 21	49.0 -10.4	01			
02	209 53.1 -00.2	N 23	18.8 +00.1	256 07.4 -00.1	N 12	00.6 +00.8	342 10.2 -30.5	S 21	38.6 -10.6	02			
03	224 52.9 -00.1	N 23	18.9 +00.1	271 07.3 +00.0	N 12	01.4 +00.8	356 39.7 -30.4	S 21	28.0 -10.6	03			
04	239 52.8 -00.1	N 23	19.0 +00.1	286 07.3 -00.1	N 12	02.2 +00.7	11 09.3 -30.3	S 21	17.4 -10.8	04			
05	254 52.7 -00.2	N 23	19.1 +00.1	301 07.2 +00.0	N 12	02.9 +00.8	25 39.0 -30.3	S 21	06.6 -10.8	05			
06	269 52.5 -00.1	N 23	19.2 +00.1	316 07.2 -00.1	N 12	03.7 +00.8	40 08.7 -30.2	S 20	55.8 -11.0	06			
07	284 52.4 -00.1	N 23	19.3 +00.1	331 07.1 -00.1	N 12	04.5 +00.8	54 38.5 -30.2	S 20	44.8 -11.1	07			
08	299 52.3 -00.2	N 23	19.4 +00.1	346 07.0 +00.0	N 12	05.3 +00.8	69 08.3 -30.1	S 20	33.7 -11.2	08			
09	314 52.1 -00.1	N 23	19.5 +00.1	1 07.0 -00.1	N 12	06.1 +00.7	83 38.2 -30.1	S 20	22.5 -11.4	09			
10	329 52.0 -00.1	N 23	19.6 +00.1	16 06.9 -00.1	N 12	06.8 +00.8	98 08.1 -30.0	S 20	11.1 -11.4	10			
11	344 51.9 -00.2	N 23	19.7 +00.1	31 06.8 +00.0	N 12	07.6 +00.8	112 38.1 -30.0	S 19	59.7 -11.5	11			
12	359 51.7 -00.1	N 23	19.8 +00.1	46 06.8 -00.1	N 12	08.4 +00.8	127 08.1 -29.9	S 19	48.2 -11.6	12			
13	14 51.6 -00.1	N 23	19.9 +00.1	61 06.7 -00.1	N 12	09.2 +00.8	141 38.2 -29.8	S 19	36.6 -11.8	13			
14	29 51.5 -00.2	N 23	20.0 +00.1	76 06.6 +00.0	N 12	10.0 +00.7	156 08.4 -29.8	S 19	24.8 -11.8	14			
15	44 51.3 -00.1	N 23	20.1 +00.1	91 06.6 -00.1	N 12	10.7 +00.8	170 38.6 -29.7	S 19	13.0 -12.0	15			
16	59 51.2 -00.1	N 23	20.2 +00.1	106 06.5 -00.1	N 12	11.5 +00.8	185 08.9 -29.7	S 19	01.0 -12.0	16			
17	74 51.1 -00.2	N 23	20.3 +00.0	121 06.4 +00.0	N 12	12.3 +00.8	199 39.2 -29.6	S 18	49.0 -12.2	17			
18	89 50.9 -00.1	N 23	20.3 +00.1	136 06.4 -00.1	N 12	13.1 +00.7	214 09.6 -29.6	S 18	36.8 -12.2	18			
19	104 50.8 -00.1	N 23	20.4 +00.1	151 06.3 -00.1	N 12	13.8 +00.8	228 40.0 -29.5	S 18	24.6 -12.4	19			
20	119 50.7 -00.2	N 23	20.5 +00.1	166 06.2 -00.1	N 12	14.6 +00.8	243 10.5 -29.5	S 18	12.2 -12.4	20			
21	134 50.5 -00.1	N 23	20.6 +00.1	181 06.1 +00.0	N 12	15.4 +00.8	257 41.0 -29.4	S 17	59.8 -12.6	21			
22	149 50.4 -00.1	N 23	20.7 +00.1	196 06.1 -00.1	N 12	16.2 +00.7	272 11.6 -29.4	S 17	47.2 -12.6	22			
23	164 50.3 -00.2	N 23	20.8 +00.1	211 06.0 -00.1	N 12	16.9 +00.8	286 42.2 -29.3	S 17	34.6 -12.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'7 15'7 15'7 15'7 15'7 15'7			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'4 15'4 15'5 15'5 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 56'5 56'6 56'7 56'8 56'9 57'0						
	SHA 276° 276° 276° 276° 276° 275°			SHA 323° 322° 322° 322° 322° 322°			SHA 049° 046° 044° 042° 040° 038°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 08:55			Greenwich Culmination Time: 03:13						

  

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 15.5 +01.2	N 13	05.6 -00.5	172 15.9 +01.8	N 23	16.7 +00.0	261 30.0 +02.4	S 01	28.7 +00.0	00			
01	127 16.7 +01.1	N 13	05.1 -00.5	187 17.7 +01.8	N 23	16.7 +00.0	276 32.4 +02.4	S 01	28.7 +00.0	01			
02	142 17.8 +01.2	N 13	04.6 -00.6	202 19.5 +01.9	N 23	16.7 +00.0	291 34.8 +02.3	S 01	28.7 -00.1	02			
03	157 19.0 +01.1	N 13	04.0 -00.5	217 21.4 +01.8	N 23	16.7 +00.0	306 37.1 +02.4	S 01	28.6 +00.0	03			
04	172 20.1 +01.1	N 13	03.5 -00.5	232 23.2 +01.9	N 23	16.7 +00.0	321 39.5 +02.3	S 01	28.6 +00.0	04			
05	187 21.2 +01.2	N 13	03.0 -00.5	247 25.1 +01.8	N 23	16.7 +00.0	336 41.8 +02.4	S 01	28.6 -00.1	05			
06	202 22.4 +01.1	N 13	02.5 -00.5	262 26.9 +01.9	N 23	16.7 +00.0	351 44.2 +02.3	S 01	28.5 +00.0	06			
07	217 23.5 +01.2	N 13	02.0 -00.6	277 28.8 +01.8	N 23	16.7 +00.0	6 46.5 +02.4	S 01	28.5 +00.0	07			
08	232 24.7 +01.1	N 13	01.4 -00.5	292 30.6 +01.9	N 23	16.7 +00.0	21 48.9 +02.3	S 01	28.5 -00.1	08			
09	247 25.8 +01.1	N 13	00.9 -00.5	307 32.5 +01.8	N 23	16.7 +00.0	36 51.2 +02.4	S 01	28.4 +00.0	09			
10	262 26.9 +01.2	N 13	00.4 -00.5	322 34.3 +01.8	N 23	16.7 +00.0	51 53.6 +02.4	S 01	28.4 +00.0	10			
11	277 28.1 +01.1	N 12	59.9 -00.5	337 36.1 +01.9	N 23	16.7 +00.0	66 56.0 +02.3	S 01	28.4 -00.1	11			
12	292 29.2 +01.2	N 12	59.4 -00.6	352 38.0 +01.8	N 23	16.7 +00.0	81 58.3 +02.4	S 01	28.3 +00.0	12			
13	307 30.4 +01.1	N 12	58.8 -00.5	7 39.8 +01.9	N 23	16.7 +00.0	97 00.7 +02.3	S 01	28.3 -00.1	13			
14	322 31.5 +01.1	N 12	58.3 -00.5	22 41.7 +01.8	N 23	16.7 +00.0	112 03.0 +02.4	S 01	28.2 +00.0	14			
15	337 32.6 +01.2	N 12	57.8 -00.5	37 43.5 +01.9	N 23	16.7 +00.0	127 05.4 +02.3	S 01	28.2 +00.0	15			
16	352 33.8 +01.1	N 12	57.3 -00.6	52 45.4 +01.8	N 23	16.7 +00.0	142 07.7 +02.4	S 01	28.2 -00.1	16			
17	7 34.9 +01.1	N 12	56.7 -00.5	67 47.2 +01.8	N 23	16.7 +00.0	157 10.1 +02.3	S 01	28.1 +00.0	17			
18	22 36.0 +01.2	N 12	56.2 -00.5	82 49.0 +01.9	N 23	16.7 +00.0	172 12.4 +02.4	S 01	28.1 +00.0	18			
19	37 37.2 +01.1	N 12	55.7 -00.5	97 50.9 +01.8	N 23	16.7 +00.0	187 14.8 +02.4	S 01	28.1 -00.1	19			
20	52 38.3 +01.2	N 12	55.2 -00.5	112 52.7 +01.9	N 23	16.7 +00.0	202 17.2 +02.3	S 01	28.0 +00.0	20			
21	67 39.5 +01.1	N 12	54.7 -00.6	127 54.6 +01.8	N 23	16.7 +00.0	217 19.5 +02.4	S 01	28.0 +00.0	21			
22	82 40.6 +01.1	N 12	54.1 -00.5	142 56.4 +01.9	N 23	16.7 +00.0	232 21.9 +02.3	S 01	28.0 -00.1	22			
23	97 41.7 +01.2	N 12	53.6 -00.5	157 58.3 +01.8	N 23	16.7 +00.0	247 24.2 +02.4	S 01	27.9 +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 209° 209° 209° 208° 208° 208°			SHA 269° 269° 269° 269° 269° 269°			SHA 358° 358° 358° 358° 358° 358°						
	Greenwich Culmination Time: 16:29			Greenwich Culmination Time: 12:29			Greenwich Culmination Time: 06:32						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 50.1 -00.1	N 23 20.9 +00.1	226 05.9 -00.1	N 12 17.7 +00.8	301 12.9 -29.3	S 17 21.8 -12.8	00						
01	194 50.0 -00.2	N 23 21.0 +00.1	241 05.8 +00.0	N 12 18.5 +00.8	315 43.6 -29.2	S 17 09.0 -12.9	01						
02	209 49.8 -00.1	N 23 21.1 +00.0	256 05.8 -00.1	N 12 19.3 +00.8	330 14.4 -29.2	S 16 56.1 -13.0	02						
03	224 49.7 -00.1	N 23 21.1 +00.1	271 05.7 -00.1	N 12 20.1 +00.7	344 45.2 -29.1	S 16 43.1 -13.1	03						
04	239 49.6 -00.2	N 23 21.2 +00.1	286 05.6 -00.1	N 12 20.8 +00.8	359 16.1 -29.1	S 16 30.0 -13.2	04						
05	254 49.4 -00.1	N 23 21.3 +00.1	301 05.5 +00.0	N 12 21.6 +00.8	13 47.0 -29.0	S 16 16.8 -13.3	05						
06	269 49.3 -00.1	N 23 21.4 +00.1	316 05.5 -00.1	N 12 22.4 +00.8	28 18.0 -29.0	S 16 03.5 -13.4	06						
07	284 49.2 -00.2	N 23 21.5 +00.1	331 05.4 -00.1	N 12 23.2 +00.7	42 49.0 -28.9	S 15 50.1 -13.4	07						
08	299 49.0 -00.1	N 23 21.6 +00.1	346 05.3 -00.1	N 12 23.9 +00.8	57 20.1 -28.9	S 15 36.7 -13.5	08						
09	314 48.9 -00.1	N 23 21.7 +00.0	1 05.2 -00.1	N 12 24.7 +00.8	71 51.2 -28.8	S 15 23.2 -13.7	09						
10	329 48.8 -00.2	N 23 21.7 +00.1	16 05.1 +00.0	N 12 25.5 +00.8	86 22.4 -28.8	S 15 09.5 -13.7	10						
11	344 48.6 -00.1	N 23 21.8 +00.1	31 05.1 -00.1	N 12 26.3 +00.7	100 53.6 -28.8	S 14 55.8 -13.8	11						
12	359 48.5 -00.1	N 23 21.9 +00.1	46 05.0 -00.1	N 12 27.0 +00.8	115 24.8 -28.7	S 14 42.0 -13.8	12						
13	14 48.4 -00.2	N 23 22.0 +00.0	61 04.9 -00.1	N 12 27.8 +00.8	129 56.1 -28.7	S 14 28.2 -14.0	13						
14	29 48.2 -00.1	N 23 22.0 +00.1	76 04.8 -00.1	N 12 28.6 +00.8	144 27.4 -28.6	S 14 14.2 -14.0	14						
15	44 48.1 -00.1	N 23 22.1 +00.1	91 04.7 -00.1	N 12 29.4 +00.7	158 58.8 -28.6	S 14 00.2 -14.1	15						
16	59 48.0 -00.2	N 23 22.2 +00.1	106 04.6 +00.0	N 12 30.1 +00.8	173 30.2 -28.6	S 13 46.1 -14.2	16						
17	74 47.8 -00.1	N 23 22.3 +00.1	121 04.6 -00.1	N 12 30.9 +00.8	188 01.6 -28.5	S 13 31.9 -14.2	17						
18	89 47.7 -00.1	N 23 22.4 +00.0	136 04.5 -00.1	N 12 31.7 +00.8	202 33.1 -28.5	S 13 17.7 -14.3	18						
19	104 47.6 -00.2	N 23 22.4 +00.1	151 04.4 -00.1	N 12 32.5 +00.7	217 04.6 -28.5	S 13 03.4 -14.4	19						
20	119 47.4 -00.1	N 23 22.5 +00.1	166 04.3 -00.1	N 12 33.2 +00.8	231 36.1 -28.4	S 12 49.0 -14.5	20						
21	134 47.3 -00.1	N 23 22.6 +00.1	181 04.2 -00.1	N 12 34.0 +00.8	246 07.7 -28.4	S 12 34.5 -14.5	21						
22	149 47.2 -00.2	N 23 22.7 +00.0	196 04.1 -00.1	N 12 34.8 +00.8	260 39.3 -28.3	S 12 20.0 -14.7	22						
23	164 47.0 -00.1	N 23 22.7 +00.1	211 04.0 -00.1	N 12 35.6 +00.7	275 11.0 -28.3	S 12 05.3 -14.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'6 15'6 15'6 15'6 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 57'1 57'2 57'3 57'4 57'5 57'6								
	SHA 275° 275° 275° 275° 275° 274°		SHA 321° 321° 321° 321° 321° 321°		SHA 036° 034° 031° 029° 027° 025°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 04:03								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	112 42.9 +01.1	N 12 53.1 -00.5	173 00.1 +01.9	N 23 16.7 +00.0	262 26.6 +02.3	S 01 27.9 +00.0	00						
01	127 44.0 +01.2	N 12 52.6 -00.6	188 02.0 +01.8	N 23 16.7 -00.1	277 28.9 +02.4	S 01 27.9 -00.1	01						
02	142 45.2 +01.1	N 12 52.0 -00.5	203 03.8 +01.8	N 23 16.6 +00.0	292 31.3 +02.4	S 01 27.8 +00.0	02						
03	157 46.3 +01.1	N 12 51.5 -00.5	218 05.6 +01.9	N 23 16.6 +00.0	307 33.7 +02.3	S 01 27.8 +00.0	03						
04	172 47.4 +01.2	N 12 51.0 -00.5	233 07.5 +01.8	N 23 16.6 +00.0	322 36.0 +02.4	S 01 27.8 -00.1	04						
05	187 48.6 +01.1	N 12 50.5 -00.5	248 09.3 +01.9	N 23 16.6 +00.0	337 38.4 +02.3	S 01 27.7 +00.0	05						
06	202 49.7 +01.2	N 12 50.0 -00.6	263 11.2 +01.8	N 23 16.6 +00.0	352 40.7 +02.4	S 01 27.7 +00.0	06						
07	217 50.9 +01.1	N 12 49.4 -00.5	278 13.0 +01.9	N 23 16.6 +00.0	7 43.1 +02.4	S 01 27.7 -00.1	07						
08	232 52.0 +01.1	N 12 48.9 -00.5	293 14.9 +01.8	N 23 16.6 +00.0	22 45.5 +02.3	S 01 27.6 +00.0	08						
09	247 53.1 +01.2	N 12 48.4 -00.5	308 16.7 +01.8	N 23 16.6 +00.0	37 47.8 +02.4	S 01 27.6 +00.0	09						
10	262 54.3 +01.1	N 12 47.9 -00.6	323 18.5 +01.9	N 23 16.6 +00.0	52 50.2 +02.3	S 01 27.6 -00.1	10						
11	277 55.4 +01.1	N 12 47.3 -00.5	338 20.4 +01.8	N 23 16.6 +00.0	67 52.5 +02.4	S 01 27.5 +00.0	11						
12	292 56.5 +01.2	N 12 46.8 -00.5	353 22.2 +01.9	N 23 16.6 +00.0	82 54.9 +02.3	S 01 27.5 +00.0	12						
13	307 57.7 +01.1	N 12 46.3 -00.5	8 24.1 +01.8	N 23 16.6 +00.0	97 57.2 +02.4	S 01 27.5 -00.1	13						
14	322 58.8 +01.2	N 12 45.8 -00.6	23 25.9 +01.9	N 23 16.6 +00.0	112 59.6 +02.4	S 01 27.4 +00.0	14						
15	337 60.0 +01.1	N 12 45.2 -00.5	38 27.8 +01.8	N 23 16.6 +00.0	128 02.0 +02.3	S 01 27.4 +00.0	15						
16	353 01.1 +01.1	N 12 44.7 -00.5	53 29.6 +01.9	N 23 16.6 +00.0	143 04.3 +02.4	S 01 27.4 -00.1	16						
17	8 02.2 +01.2	N 12 44.2 -00.5	68 31.5 +01.8	N 23 16.6 +00.0	158 06.7 +02.3	S 01 27.3 +00.0	17						
18	23 03.4 +01.1	N 12 43.7 -00.6	83 33.3 +01.8	N 23 16.6 +00.0	173 09.0 +02.4	S 01 27.3 +00.0	18						
19	38 04.5 +01.1	N 12 43.1 -00.5	98 35.1 +01.9	N 23 16.6 +00.0	188 11.4 +02.4	S 01 27.3 -00.1	19						
20	53 05.6 +01.2	N 12 42.6 -00.5	113 37.0 +01.8	N 23 16.6 +00.0	203 13.8 +02.3	S 01 27.2 +00.0	20						
21	68 06.8 +01.1	N 12 42.1 -00.5	128 38.8 +01.9	N 23 16.6 +00.0	218 16.1 +02.4	S 01 27.2 +00.0	21						
22	83 07.9 +01.2	N 12 41.6 -00.6	143 40.7 +01.8	N 23 16.6 +00.0	233 18.5 +02.4	S 01 27.2 -00.1	22						
23	98 09.1 +01.1	N 12 41.0 -00.5	158 42.5 +01.9	N 23 16.6 +00.0	248 20.9 +02.3	S 01 27.1 +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 208° 208° 208° 208° 208° 208°		SHA 268° 268° 268° 268° 268° 268°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:27		Greenwich Culmination Time: 12:26		Greenwich Culmination Time: 06:29								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 46.9 -00.2	N 23 22.8 +00.1	226 03.9 +00.0	N 12 36.3 +00.8	289 42.7 -28.3	S 11 50.7 -14.8	00						
01	194 46.7 -00.1	N 23 22.9 +00.0	241 03.9 -00.1	N 12 37.1 +00.8	304 14.4 -28.3	S 11 35.9 -14.8	01						
02	209 46.6 -00.1	N 23 22.9 +00.1	256 03.8 -00.1	N 12 37.9 +00.7	318 46.1 -28.2	S 11 21.1 -14.9	02						
03	224 46.5 -00.2	N 23 23.0 +00.1	271 03.7 -00.1	N 12 38.6 +00.8	333 17.9 -28.2	S 11 06.2 -14.9	03						
04	239 46.3 -00.1	N 23 23.1 +00.0	286 03.6 -00.1	N 12 39.4 +00.8	347 49.7 -28.2	S 10 51.3 -15.0	04						
05	254 46.2 -00.1	N 23 23.1 +00.1	301 03.5 -00.1	N 12 40.2 +00.8	2 21.5 -28.1	S 10 36.3 -15.1	05						
06	269 46.1 -00.2	N 23 23.2 +00.1	316 03.4 -00.1	N 12 41.0 +00.7	16 53.4 -28.2	S 10 21.2 -15.1	06						
07	284 45.9 -00.1	N 23 23.3 +00.0	331 03.3 -00.1	N 12 41.7 +00.8	31 25.2 -28.1	S 10 06.1 -15.2	07						
08	299 45.8 -00.1	N 23 23.3 +00.1	346 03.2 -00.1	N 12 42.5 +00.8	45 57.1 -28.1	S 09 50.9 -15.2	08						
09	314 45.7 -00.2	N 23 23.4 +00.1	1 03.1 -00.1	N 12 43.3 +00.8	60 29.0 -28.0	S 09 35.7 -15.3	09						
10	329 45.5 -00.1	N 23 23.5 +00.0	16 03.0 -00.1	N 12 44.1 +00.7	75 01.0 -28.1	S 09 20.4 -15.4	10						
11	344 45.4 -00.1	N 23 23.5 +00.1	31 02.9 -00.1	N 12 44.8 +00.8	89 32.9 -28.0	S 09 05.0 -15.4	11						
12	359 45.3 -00.2	N 23 23.6 +00.1	46 02.8 -00.1	N 12 45.6 +00.8	104 04.9 -28.0	S 08 49.6 -15.5	12						
13	14 45.1 -00.1	N 23 23.7 +00.0	61 02.7 -00.1	N 12 46.4 +00.7	118 36.9 -28.0	S 08 34.1 -15.5	13						
14	29 45.0 -00.2	N 23 23.7 +00.1	76 02.6 -00.1	N 12 47.1 +00.8	133 08.9 -27.9	S 08 18.6 -15.5	14						
15	44 44.8 -00.1	N 23 23.8 +00.0	91 02.5 -00.1	N 12 47.9 +00.8	147 41.0 -28.0	S 08 03.1 -15.7	15						
16	59 44.7 -00.1	N 23 23.8 +00.1	106 02.4 -00.1	N 12 48.7 +00.8	162 13.0 -27.9	S 07 47.4 -15.6	16						
17	74 44.6 -00.2	N 23 23.9 +00.1	121 02.3 -00.1	N 12 49.5 +00.7	176 45.1 -28.0	S 07 31.8 -15.8	17						
18	89 44.4 -00.1	N 23 24.0 +00.0	136 02.2 -00.1	N 12 50.2 +00.8	191 17.1 -27.9	S 07 16.0 -15.7	18						
19	104 44.3 -00.1	N 23 24.0 +00.1	151 02.1 -00.1	N 12 51.0 +00.8	205 49.2 -27.9	S 07 00.3 -15.8	19						
20	119 44.2 -00.2	N 23 24.1 +00.0	166 02.0 -00.1	N 12 51.8 +00.7	220 21.3 -27.9	S 06 44.5 -15.9	20						
21	134 44.0 -00.1	N 23 24.1 +00.1	181 01.9 -00.1	N 12 52.5 +00.8	234 53.4 -27.9	S 06 28.6 -15.9	21						
22	149 43.9 -00.1	N 23 24.2 +00.0	196 01.8 -00.1	N 12 53.3 +00.8	249 25.5 -27.9	S 06 12.7 -15.9	22						
23	164 43.8 -00.2	N 23 24.2 +00.1	211 01.7 -00.1	N 12 54.1 +00.8	263 57.6 -27.9	S 05 56.8 -16.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'7 15'7 15'8 15'8 15'8 15'8								
	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 57'7 57'8 57'9 58'0 58'1 58'2								
	SHA 274° 274° 274° 274° 273° 273°		SHA 320° 320° 320° 320° 320° 320°		SHA 023° 021° 019° 017° 015° 013°								
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 04:50								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 10.2 +01.1	N 12 40.5 -00.5	173 44.4 +01.8	N 23 16.6 +00.0	263 23.2 +02.4	S 01 27.1 +00.0	00						
01	128 11.3 +01.2	N 12 40.0 -00.5	188 46.2 +01.8	N 23 16.6 +00.0	278 25.6 +02.3	S 01 27.1 -00.1	01						
02	143 12.5 +01.1	N 12 39.5 -00.6	203 48.0 +01.9	N 23 16.6 +00.0	293 27.9 +02.4	S 01 27.0 +00.0	02						
03	158 13.6 +01.1	N 12 38.9 -00.5	218 49.9 +01.8	N 23 16.6 +00.0	308 30.3 +02.4	S 01 27.0 +00.0	03						
04	173 14.7 +01.2	N 12 38.4 -00.5	233 51.7 +01.9	N 23 16.6 +00.0	323 32.7 +02.3	S 01 27.0 -00.1	04						
05	188 15.9 +01.1	N 12 37.9 -00.5	248 53.6 +01.8	N 23 16.6 +00.0	338 35.0 +02.4	S 01 26.9 +00.0	05						
06	203 17.0 +01.1	N 12 37.4 -00.6	263 55.4 +01.9	N 23 16.6 +00.0	353 37.4 +02.3	S 01 26.9 +00.0	06						
07	218 18.1 +01.2	N 12 36.8 -00.5	278 57.3 +01.8	N 23 16.6 +00.0	8 39.7 +02.4	S 01 26.9 -00.1	07						
08	233 19.3 +01.1	N 12 36.3 -00.5	293 59.1 +01.9	N 23 16.6 +00.0	23 42.1 +02.4	S 01 26.8 +00.0	08						
09	248 20.4 +01.2	N 12 35.8 -00.6	309 01.0 +01.8	N 23 16.6 +00.0	38 44.5 +02.3	S 01 26.8 +00.0	09						
10	263 21.6 +01.1	N 12 35.2 -00.5	324 02.8 +01.8	N 23 16.6 +00.0	53 46.8 +02.4	S 01 26.8 -00.1	10						
11	278 22.7 +01.1	N 12 34.7 -00.5	339 04.6 +01.9	N 23 16.6 +00.0	68 49.2 +02.4	S 01 26.7 +00.0	11						
12	293 23.8 +01.2	N 12 34.2 -00.5	354 06.5 +01.8	N 23 16.6 +00.0	83 51.6 +02.3	S 01 26.7 +00.0	12						
13	308 25.0 +01.1	N 12 33.7 -00.6	9 08.3 +01.9	N 23 16.6 +00.0	98 53.9 +02.4	S 01 26.7 -00.1	13						
14	323 26.1 +01.1	N 12 33.1 -00.5	24 10.2 +01.8	N 23 16.6 -00.1	113 56.3 +02.3	S 01 26.6 +00.0	14						
15	338 27.2 +01.2	N 12 32.6 -00.5	39 12.0 +01.9	N 23 16.5 +00.0	128 58.6 +02.4	S 01 26.6 +00.0	15						
16	353 28.4 +01.1	N 12 32.1 -00.6	54 13.9 +01.8	N 23 16.5 +00.0	144 01.0 +02.4	S 01 26.6 -00.1	16						
17	8 29.5 +01.1	N 12 31.5 -00.5	69 15.7 +01.8	N 23 16.5 +00.0	159 03.4 +02.3	S 01 26.5 +00.0	17						
18	23 30.6 +01.2	N 12 31.0 -00.5	84 17.5 +01.9	N 23 16.5 +00.0	174 05.7 +02.4	S 01 26.5 +00.0	18						
19	38 31.8 +01.1	N 12 30.5 -00.5	99 19.4 +01.8	N 23 16.5 +00.0	189 08.1 +02.4	S 01 26.5 +00.0	19						
20	53 32.9 +01.2	N 12 30.0 -00.6	114 21.2 +01.9	N 23 16.5 +00.0	204 10.5 +02.3	S 01 26.5 -00.1	20						
21	68 34.1 +01.1	N 12 29.4 -00.5	129 23.1 +01.8	N 23 16.5 +00.0	219 12.8 +02.4	S 01 26.4 +00.0	21						
22	83 35.2 +01.1	N 12 28.9 -00.5	144 24.9 +01.9	N 23 16.5 +00.0	234 15.2 +02.4	S 01 26.4 +00.0	22						
23	98 36.3 +01.2	N 12 28.4 -00.6	159 26.8 +01.8	N 23 16.5 +00.0	249 17.6 +02.3	S 01 26.4 -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 208° 208° 207° 207° 207° 207°		SHA 268° 268° 268° 268° 268° 268°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:26		Greenwich Culmination Time: 12:23		Greenwich Culmination Time: 06:25								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 43.6 -00.1	N 23 24.3 +00.0	226 01.6 -00.1	N 12 54.9 +00.7	278 29.7 -27.9	S 05 40.8 -16.0	00						
01	194 43.5 -00.1	N 23 24.3 +00.1	241 01.5 -00.1	N 12 55.6 +00.8	293 01.8 -27.9	S 05 24.8 -16.1	01						
02	209 43.4 -00.2	N 23 24.4 +00.0	256 01.4 -00.1	N 12 56.4 +00.8	307 33.9 -27.9	S 05 08.7 -16.1	02						
03	224 43.2 -00.1	N 23 24.4 +00.1	271 01.3 -00.1	N 12 57.2 +00.7	322 06.0 -27.9	S 04 52.6 -16.1	03						
04	239 43.1 -00.2	N 23 24.5 +00.1	286 01.2 -00.1	N 12 57.9 +00.8	336 38.1 -27.8	S 04 36.5 -16.2	04						
05	254 42.9 -00.1	N 23 24.6 +00.0	301 01.1 -00.1	N 12 58.7 +00.8	351 10.3 -27.9	S 04 20.3 -16.2	05						
06	269 42.8 -00.1	N 23 24.6 +00.0	316 01.0 -00.1	N 12 59.5 +00.7	5 42.4 -27.9	S 04 04.1 -16.2	06						
07	284 42.7 -00.2	N 23 24.6 +00.1	331 00.9 -00.1	N 13 00.2 +00.8	20 14.5 -27.9	S 03 47.9 -16.3	07						
08	299 42.5 -00.1	N 23 24.7 +00.0	346 00.8 -00.2	N 13 01.0 +00.8	34 46.6 -28.0	S 03 31.6 -16.3	08						
09	314 42.4 -00.1	N 23 24.7 +00.1	1 00.6 -00.1	N 13 01.8 +00.7	49 18.6 -27.9	S 03 15.3 -16.3	09						
10	329 42.3 -00.2	N 23 24.8 +00.0	16 00.5 -00.1	N 13 02.5 +00.8	63 50.7 -27.9	S 02 59.0 -16.3	10						
11	344 42.1 -00.1	N 23 24.8 +00.1	31 00.4 -00.1	N 13 03.3 +00.8	78 22.8 -28.0	S 02 42.7 -16.4	11						
12	359 42.0 -00.1	N 23 24.9 +00.0	46 00.3 -00.1	N 13 04.1 +00.7	92 54.8 -27.9	S 02 26.3 -16.4	12						
13	14 41.9 -00.2	N 23 24.9 +00.1	61 00.2 -00.1	N 13 04.8 +00.8	107 26.9 -28.0	S 02 09.9 -16.5	13						
14	29 41.7 -00.1	N 23 25.0 +00.0	76 00.1 -00.1	N 13 05.6 +00.8	121 58.9 -28.0	S 01 53.4 -16.4	14						
15	44 41.6 -00.2	N 23 25.0 +00.1	90 60.0 -00.1	N 13 06.4 +00.7	136 30.9 -28.0	S 01 37.0 -16.5	15						
16	59 41.4 -00.1	N 23 25.1 +00.0	105 59.9 -00.2	N 13 07.1 +00.8	151 02.9 -28.0	S 01 20.5 -16.5	16						
17	74 41.3 -00.1	N 23 25.1 +00.0	120 59.7 -00.1	N 13 07.9 +00.8	165 34.9 -28.0	S 01 04.0 -16.5	17						
18	89 41.2 -00.2	N 23 25.1 +00.1	135 59.6 -00.1	N 13 08.7 +00.8	180 06.9 -28.1	S 00 47.5 -16.5	18						
19	104 41.0 -00.1	N 23 25.2 +00.0	150 59.5 -00.1	N 13 09.5 +00.7	194 38.8 -28.1	S 00 31.0 -16.6	19						
20	119 40.9 -00.1	N 23 25.2 +00.1	165 59.4 -00.1	N 13 10.2 +00.8	209 10.7 -28.1	S 00 14.4 -16.5	20						
21	134 40.8 -00.2	N 23 25.3 +00.0	180 59.3 -00.1	N 13 11.0 +00.8	223 42.6 -28.1	N 00 02.1 +16.6	21						
22	149 40.6 -00.1	N 23 25.3 +00.0	195 59.2 -00.2	N 13 11.8 +00.7	238 14.5 -28.2	N 00 18.7 +16.6	22						
23	164 40.5 -00.2	N 23 25.3 +00.1	210 59.0 -00.1	N 13 12.5 +00.8	252 46.3 -28.2	N 00 35.3 +16.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'9 15'9 15'9 16'0 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 58'3 58'4 58'5 58'6 58'7 58'8								
	SHA 273° 273° 273° 273° 272° 272°		SHA 319° 319° 319° 319° 319° 319°		SHA 011° 009° 007° 005° 003° 001°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 08:55		Greenwich Culmination Time: 05:36								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	113 37.5 +01.1	N 12 27.8 -00.5	174 28.6 +01.8	N 23 16.5 +00.0	264 19.9 +02.4	S 01 26.3 +00.0	00						
01	128 38.6 +01.1	N 12 27.3 -00.5	189 30.4 +01.9	N 23 16.5 +00.0	279 22.3 +02.4	S 01 26.3 +00.0	01						
02	143 39.7 +01.2	N 12 26.8 -00.5	204 32.3 +01.8	N 23 16.5 +00.0	294 24.7 +02.3	S 01 26.3 -00.1	02						
03	158 40.9 +01.1	N 12 26.3 -00.6	219 34.1 +01.9	N 23 16.5 +00.0	309 27.0 +02.4	S 01 26.2 +00.0	03						
04	173 42.0 +01.1	N 12 25.7 -00.5	234 36.0 +01.8	N 23 16.5 +00.0	324 29.4 +02.4	S 01 26.2 +00.0	04						
05	188 43.1 +01.2	N 12 25.2 -00.5	249 37.8 +01.9	N 23 16.5 +00.0	339 31.8 +02.3	S 01 26.2 -00.1	05						
06	203 44.3 +01.1	N 12 24.7 -00.6	264 39.7 +01.8	N 23 16.5 +00.0	354 34.1 +02.4	S 01 26.1 +00.0	06						
07	218 45.4 +01.1	N 12 24.1 -00.5	279 41.5 +01.8	N 23 16.5 +00.0	9 36.5 +02.3	S 01 26.1 +00.0	07						
08	233 46.5 +01.2	N 12 23.6 -00.5	294 43.3 +01.9	N 23 16.5 +00.0	24 38.8 +02.4	S 01 26.1 +00.0	08						
09	248 47.7 +01.1	N 12 23.1 -00.6	309 45.2 +01.8	N 23 16.5 +00.0	39 41.2 +02.4	S 01 26.1 -00.1	09						
10	263 48.8 +01.1	N 12 22.5 -00.5	324 47.0 +01.9	N 23 16.5 +00.0	54 43.6 +02.3	S 01 26.0 +00.0	10						
11	278 49.9 +01.2	N 12 22.0 -00.5	339 48.9 +01.8	N 23 16.5 +00.0	69 45.9 +02.4	S 01 26.0 +00.0	11						
12	293 51.1 +01.1	N 12 21.5 -00.6	354 50.7 +01.9	N 23 16.5 +00.0	84 48.3 +02.4	S 01 26.0 -00.1	12						
13	308 52.2 +01.2	N 12 20.9 -00.5	9 52.6 +01.8	N 23 16.5 +00.0	99 50.7 +02.3	S 01 25.9 +00.0	13						
14	323 53.4 +01.1	N 12 20.4 -00.5	24 54.4 +01.9	N 23 16.5 +00.0	114 53.0 +02.4	S 01 25.9 +00.0	14						
15	338 54.5 +01.1	N 12 19.9 -00.5	39 56.3 +01.8	N 23 16.5 -00.1	129 55.4 +02.4	S 01 25.9 -00.1	15						
16	353 55.6 +01.2	N 12 19.4 -00.6	54 58.1 +01.8	N 23 16.4 +00.0	144 57.8 +02.3	S 01 25.8 +00.0	16						
17	8 56.8 +01.1	N 12 18.8 -00.5	69 59.9 +01.9	N 23 16.4 +00.0	160 00.1 +02.4	S 01 25.8 +00.0	17						
18	23 57.9 +01.1	N 12 18.3 -00.5	85 01.8 +01.8	N 23 16.4 +00.0	175 02.5 +02.4	S 01 25.8 -00.1	18						
19	38 59.0 +01.2	N 12 17.8 -00.6	100 03.6 +01.9	N 23 16.4 +00.0	190 04.9 +02.3	S 01 25.7 +00.0	19						
20	54 00.2 +01.1	N 12 17.2 -00.5	115 05.5 +01.8	N 23 16.4 +00.0	205 07.2 +02.4	S 01 25.7 +00.0	20						
21	69 01.3 +01.1	N 12 16.7 -00.5	130 07.3 +01.9	N 23 16.4 +00.0	220 09.6 +02.4	S 01 25.7 +00.0	21						
22	84 02.4 +01.2	N 12 16.2 -00.6	145 09.2 +01.8	N 23 16.4 +00.0	235 12.0 +02.4	S 01 25.7 -00.1	22						
23	99 03.6 +01.1	N 12 15.6 -00.5	160 11.0 +01.8	N 23 16.4 +00.0	250 14.4 +02.3	S 01 25.6 +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 207° 207° 207° 207° 207° 207°		SHA 268° 268° 268° 268° 268° 268°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:24		Greenwich Culmination Time: 12:20		Greenwich Culmination Time: 06:21								

<b>Sun</b>					<b>Venus</b>					<b>Moon</b>					<b>A: 77%</b>					
<b>UT</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>UT</b>							
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "								
00	179 40.3 -00.1	N 23 25.4 +00.0	225 58.9 -00.1	N 13 13.3 +00.7	267 18.1 -28.2	N 00 51.9 +16.6	00						00							
01	194 40.2 -00.1	N 23 25.4 +00.0	240 58.8 -00.1	N 13 14.0 +00.8	281 49.9 -28.3	N 01 08.5 +16.6	01						01							
02	209 40.1 -00.2	N 23 25.4 +00.1	255 58.7 -00.1	N 13 14.8 +00.8	296 21.6 -28.3	N 01 25.1 +16.6	02						02							
03	224 39.9 -00.1	N 23 25.5 +00.0	270 58.6 -00.2	N 13 15.6 +00.7	310 53.3 -28.3	N 01 41.7 +16.6	03						03							
04	239 39.8 -00.1	N 23 25.5 +00.0	285 58.4 -00.1	N 13 16.3 +00.8	325 25.0 -28.4	N 01 58.3 +16.7	04						04							
05	254 39.7 -00.2	N 23 25.5 +00.1	300 58.3 -00.1	N 13 17.1 +00.8	339 56.6 -28.4	N 02 15.0 +16.6	05						05							
06	269 39.5 -00.1	N 23 25.6 +00.0	315 58.2 -00.1	N 13 17.9 +00.7	354 28.2 -28.4	N 02 31.6 +16.6	06						06							
07	284 39.4 -00.1	N 23 25.6 +00.0	330 58.1 -00.2	N 13 18.6 +00.8	8 59.8 -28.5	N 02 48.2 +16.7	07						07							
08	299 39.3 -00.2	N 23 25.6 +00.1	345 57.9 -00.1	N 13 19.4 +00.8	23 31.3 -28.5	N 03 04.9 +16.6	08						08							
09	314 39.1 -00.1	N 23 25.7 +00.0	0 57.8 -00.1	N 13 20.2 +00.7	38 02.8 -28.5	N 03 21.5 +16.7	09						09							
10	329 39.0 -00.2	N 23 25.7 +00.0	15 57.7 -00.1	N 13 20.9 +00.8	52 34.3 -28.7	N 03 38.2 +16.6	10						10							
11	344 38.8 -00.1	N 23 25.7 +00.1	30 57.6 -00.2	N 13 21.7 +00.8	67 05.6 -28.6	N 03 54.8 +16.6	11						11							
12	359 38.7 -00.1	N 23 25.8 +00.0	45 57.4 -00.1	N 13 22.5 +00.7	81 37.0 -28.7	N 04 11.4 +16.6	12						12							
13	14 38.6 -00.2	N 23 25.8 +00.0	60 57.3 -00.1	N 13 23.2 +00.8	96 08.3 -28.7	N 04 28.0 +16.6	13						13							
14	29 38.4 -00.1	N 23 25.8 +00.0	75 57.2 -00.2	N 13 24.0 +00.7	110 39.6 -28.8	N 04 44.6 +16.6	14						14							
15	44 38.3 -00.1	N 23 25.8 +00.1	90 57.0 -00.1	N 13 24.7 +00.8	125 10.8 -28.9	N 05 01.2 +16.6	15						15							
16	59 38.2 -00.2	N 23 25.9 +00.0	105 56.9 -00.1	N 13 25.5 +00.8	139 41.9 -28.9	N 05 17.8 +16.6	16						16							
17	74 38.0 -00.1	N 23 25.9 +00.0	120 56.8 -00.1	N 13 26.3 +00.7	154 13.0 -29.0	N 05 34.4 +16.5	17						17							
18	89 37.9 -00.1	N 23 25.9 +00.0	135 56.7 -00.2	N 13 27.0 +00.8	168 44.0 -29.0	N 05 50.9 +16.6	18						18							
19	104 37.8 -00.2	N 23 25.9 +00.1	150 56.5 -00.1	N 13 27.8 +00.8	183 15.0 -29.0	N 06 07.5 +16.5	19						19							
20	119 37.6 -00.1	N 23 26.0 +00.0	165 56.4 -00.1	N 13 28.6 +00.7	197 46.0 -29.2	N 06 24.0 +16.5	20						20							
21	134 37.5 -00.2	N 23 26.0 +00.0	180 56.3 -00.2	N 13 29.3 +00.8	212 16.8 -29.2	N 06 40.5 +16.5	21						21							
22	149 37.3 -00.1	N 23 26.0 +00.0	195 56.1 -00.1	N 13 30.1 +00.7	226 47.6 -29.2	N 06 57.0 +16.5	22						22							
23	164 37.2 -00.1	N 23 26.0 +00.0	210 56.0 -00.1	N 13 30.8 +00.8	241 18.4 -29.3	N 07 13.5 +16.4	23						23							
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>							
SD	15'7	15'7	15'7	15'7	15'7	15'7	SD	00'2	00'2	00'2	00'2	00'2	00'2							
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							
SHA	272°	272°	272°	272°	271°	271°	SHA	318°	318°	318°	318°	318°	318°							
Greenwich Culmination Time: 12:01							Greenwich Culmination Time: 08:56							Greenwich Culmination Time: 06:22						

  

<b>Mars</b>					<b>Jupiter</b>					<b>Saturn</b>					<b>UT</b>					
<b>UT</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>GHA</b>	<b>ddGHA</b>	<b>Dec</b>	<b>dDec</b>	<b>UT</b>							
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "								
00	114 04.7 +01.1	N 12 15.1 -00.5	175 12.8 +01.9	N 23 16.4 +00.0	265 16.7 +02.4	S 01 25.6 +00.0	00						00							
01	129 05.8 +01.2	N 12 14.6 -00.6	190 14.7 +01.8	N 23 16.4 +00.0	280 19.1 +02.4	S 01 25.6 -00.1	01						01							
02	144 07.0 +01.1	N 12 14.0 -00.5	205 16.5 +01.9	N 23 16.4 +00.0	295 21.5 +02.3	S 01 25.5 +00.0	02						02							
03	159 08.1 +01.1	N 12 13.5 -00.5	220 18.4 +01.8	N 23 16.4 +00.0	310 23.8 +02.4	S 01 25.5 +00.0	03						03							
04	174 09.2 +01.2	N 12 13.0 -00.6	235 20.2 +01.9	N 23 16.4 +00.0	325 26.2 +02.4	S 01 25.5 +00.0	04						04							
05	189 10.4 +01.1	N 12 12.4 -00.5	250 22.1 +01.8	N 23 16.4 +00.0	340 28.6 +02.3	S 01 25.5 -00.1	05						05							
06	204 11.5 +01.1	N 12 11.9 -00.5	265 23.9 +01.8	N 23 16.4 +00.0	355 30.9 +02.4	S 01 25.4 +00.0	06						06							
07	219 12.6 +01.2	N 12 11.4 -00.6	280 25.7 +01.9	N 23 16.4 +00.0	10 33.3 +02.4	S 01 25.4 +00.0	07						07							
08	234 13.8 +01.1	N 12 10.8 -00.5	295 27.6 +01.8	N 23 16.4 +00.0	25 35.7 +02.3	S 01 25.4 -00.1	08						08							
09	249 14.9 +01.1	N 12 10.3 -00.5	310 29.4 +01.9	N 23 16.4 +00.0	40 38.0 +02.4	S 01 25.3 +00.0	09						09							
10	264 16.0 +01.2	N 12 09.8 -00.6	325 31.3 +01.8	N 23 16.4 +00.0	55 40.4 +02.4	S 01 25.3 +00.0	10						10							
11	279 17.2 +01.1	N 12 09.2 -00.5	340 33.1 +01.9	N 23 16.4 +00.0	70 42.8 +02.4	S 01 25.3 +00.0	11						11							
12	294 18.3 +01.1	N 12 08.7 -00.6	355 35.0 +01.8	N 23 16.4 -00.1	85 45.2 +02.3	S 01 25.3 -00.1	12						12							
13	309 19.4 +01.2	N 12 08.1 -00.5	10 36.8 +01.8	N 23 16.3 +00.0	100 47.5 +02.4	S 01 25.2 +00.0	13						13							
14	324 20.6 +01.1	N 12 07.6 -00.5	25 38.6 +01.9	N 23 16.3 +00.0	115 49.9 +02.4	S 01 25.2 +00.0	14						14							
15	339 21.7 +01.1	N 12 07.1 -00.6	40 40.5 +01.8	N 23 16.3 +00.0	130 52.3 +02.3	S 01 25.2 -00.1	15						15							
16	354 22.8 +01.2	N 12 06.5 -00.5	55 42.3 +01.9	N 23 16.3 +00.0	145 54.6 +02.4	S 01 25.1 +00.0	16						16							
17	9 24.0 +01.1	N 12 06.0 -00.5	70 44.2 +01.8	N 23 16.3 +00.0	160 57.0 +02.4	S 01 25.1 +00.0	17						17							
18	24 25.1 +01.1	N 12 05.5 -00.6	85 46.0 +01.9	N 23 16.3 +00.0	175 59.4 +02.3	S 01 25.1 +00.0	18						18							
19	39 26.2 +01.2	N 12 04.9 -00.5	100 47.9 +01.8	N 23 16.3 +00.0	191 01.7 +02.4	S 01 25.1 -00.1	19						19							
20	54 27.4 +01.1	N 12 04.4 -00.5	115 49.7 +01.8	N 23 16.3 +00.0	206 04.1 +02.4	S 01 25.0 +00.0	20						20							
21	69 28.5 +01.1	N 12 03.9 -00.6	130 51.5 +01.9	N 23 16.3 +00.0	221 06.5 +02.4	S 01 25.0 +00.0	21						21							
22	84 29.6 +01.2	N 12 03.3 -00.5	145 53.4 +01.8	N 23 16.3 +00.0	236 08.9 +02.3	S 01 25.0 -00.1	22						22							
23	99 30.8 +01.1	N 12 02.8 -00.5	160 55.2 +01.9	N 23 16.3 +00.0	251 11.2 +02.4	S 01 24.9 +00.0	23						23							
<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>	<b>UT</b>	<b>02</b>	<b>06</b>	<b>10</b>	<b>14</b>	<b>18</b>	<b>22</b>							
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							
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							
SHA	207°	206°	206°	206°	206°	206°	SHA	268°	268°	268°	268°	268°	268°							
Greenwich Culmination Time: 16:22							Greenwich Culmination Time: 12:17							Greenwich Culmination Time: 06:17						



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <span style="float:right">A: 80%</span>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	179 37.1 -00.2	N 23 26.0 +00.1	225 55.9 -00.2	N 13 31.6 +00.8	255 49.1 -29.4	N 07 29.9 +16.4							
01	194 36.9 -00.1	N 23 26.1 +00.0	240 55.7 -00.1	N 13 32.4 +00.7	270 19.7 -29.4	N 07 46.3 +16.4							
02	209 36.8 -00.1	N 23 26.1 +00.0	255 55.6 -00.2	N 13 33.1 +00.8	284 50.3 -29.6	N 08 02.7 +16.4							
03	224 36.7 -00.2	N 23 26.1 +00.0	270 55.4 -00.1	N 13 33.9 +00.7	299 20.7 -29.5	N 08 19.1 +16.3							
04	239 36.5 -00.1	N 23 26.1 +00.0	285 55.3 -00.1	N 13 34.6 +00.8	313 51.2 -29.7	N 08 35.4 +16.3							
05	254 36.4 -00.2	N 23 26.1 +00.0	300 55.2 -00.2	N 13 35.4 +00.8	328 21.5 -29.7	N 08 51.7 +16.2							
06	269 36.2 -00.1	N 23 26.1 +00.1	315 55.0 -00.1	N 13 36.2 +00.7	342 51.8 -29.8	N 09 07.9 +16.3							
07	284 36.1 -00.1	N 23 26.2 +00.0	330 54.9 -00.1	N 13 36.9 +00.8	357 22.0 -29.9	N 09 24.2 +16.1							
08	299 36.0 -00.2	N 23 26.2 +00.0	345 54.8 -00.2	N 13 37.7 +00.7	11 52.1 -29.9	N 09 40.3 +16.2							
09	314 35.8 -00.1	N 23 26.2 +00.0	0 54.6 -00.1	N 13 38.4 +00.8	26 22.2 -30.1	N 09 56.5 +16.1							
10	329 35.7 -00.1	N 23 26.2 +00.0	15 54.5 -00.2	N 13 39.2 +00.8	40 52.1 -30.1	N 10 12.6 +16.1							
11	344 35.6 -00.2	N 23 26.2 +00.0	30 54.3 -00.1	N 13 40.0 +00.7	55 22.0 -30.2	N 10 28.7 +16.0							
12	359 35.4 -00.1	N 23 26.2 +00.0	45 54.2 -00.2	N 13 40.7 +00.8	69 51.8 -30.2	N 10 44.7 +16.0							
13	14 35.3 -00.2	N 23 26.2 +00.0	60 54.0 -00.1	N 13 41.5 +00.7	84 21.6 -30.4	N 11 00.7 +15.9							
14	29 35.1 -00.1	N 23 26.2 +00.1	75 53.9 -00.1	N 13 42.2 +00.8	98 51.2 -30.4	N 11 16.6 +15.9							
15	44 35.0 -00.1	N 23 26.3 +00.0	90 53.8 -00.2	N 13 43.0 +00.8	113 20.8 -30.5	N 11 32.5 +15.8							
16	59 34.9 -00.2	N 23 26.3 +00.0	105 53.6 -00.1	N 13 43.8 +00.7	127 50.3 -30.6	N 11 48.3 +15.8							
17	74 34.7 -00.1	N 23 26.3 +00.0	120 53.5 -00.2	N 13 44.5 +00.8	142 19.7 -30.7	N 12 04.1 +15.7							
18	89 34.6 -00.1	N 23 26.3 +00.0	135 53.3 -00.1	N 13 45.3 +00.7	156 49.0 -30.8	N 12 19.8 +15.7							
19	104 34.5 -00.2	N 23 26.3 +00.0	150 53.2 -00.2	N 13 46.0 +00.8	171 18.2 -30.9	N 12 35.5 +15.6							
20	119 34.3 -00.1	N 23 26.3 +00.0	165 53.0 -00.1	N 13 46.8 +00.7	185 47.3 -30.9	N 12 51.1 +15.6							
21	134 34.2 -00.1	N 23 26.3 +00.0	180 52.9 -00.2	N 13 47.5 +00.8	200 16.4 -31.1	N 13 06.7 +15.4							
22	149 34.1 -00.2	N 23 26.3 +00.0	195 52.7 -00.1	N 13 48.3 +00.7	214 45.3 -31.1	N 13 22.1 +15.5							
23	164 33.9 -00.1	N 23 26.3 +00.0	210 52.6 -00.2	N 13 49.0 +00.8	229 14.2 -31.3	N 13 37.6 +15.3							
	UT 02 06 10 14 18 22 SD 15'7 15'7 15'7 15'7 15'7 15'7 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 271° 271° 271° 271° 270° 270° Greenwich Culmination Time: 12:01	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 317° 317° 317° 317° 317° 317° Greenwich Culmination Time: 08:56	UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'3 16'3 16'3 HP 59'4 59'5 59'6 59'7 59'7 59'8 SHA 346° 344° 342° 340° 338° 335° Greenwich Culmination Time: 07:10										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	114 31.9 +01.1	N 12 02.3 -00.6	175 57.1 +01.8	N 23 16.3 +00.0	266 13.6 +02.4	S 01 24.9 +00.0							
01	129 33.0 +01.2	N 12 01.7 -00.5	190 58.9 +01.9	N 23 16.3 +00.0	281 16.0 +02.3	S 01 24.9 +00.0							
02	144 34.2 +01.1	N 12 01.2 -00.6	206 00.8 +01.8	N 23 16.3 +00.0	296 18.3 +02.4	S 01 24.9 -00.1							
03	159 35.3 +01.1	N 12 00.6 -00.5	221 02.6 +01.8	N 23 16.3 +00.0	311 20.7 +02.4	S 01 24.8 +00.0							
04	174 36.4 +01.2	N 12 00.1 -00.5	236 04.4 +01.9	N 23 16.3 +00.0	326 23.1 +02.4	S 01 24.8 +00.0							
05	189 37.6 +01.1	N 11 59.6 -00.6	251 06.3 +01.8	N 23 16.3 -00.1	341 25.5 +02.3	S 01 24.8 -00.1							
06	204 38.7 +01.1	N 11 59.0 -00.5	266 08.1 +01.9	N 23 16.2 +00.0	356 27.8 +02.4	S 01 24.7 +00.0							
07	219 39.8 +01.1	N 11 58.5 -00.5	281 10.0 +01.8	N 23 16.2 +00.0	11 30.2 +02.4	S 01 24.7 +00.0							
08	234 40.9 +01.2	N 11 58.0 -00.6	296 11.8 +01.9	N 23 16.2 +00.0	26 32.6 +02.4	S 01 24.7 +00.0							
09	249 42.1 +01.1	N 11 57.4 -00.5	311 13.7 +01.8	N 23 16.2 +00.0	41 35.0 +02.3	S 01 24.7 -00.1							
10	264 43.2 +01.1	N 11 56.9 -00.6	326 15.5 +01.8	N 23 16.2 +00.0	56 37.3 +02.4	S 01 24.6 +00.0							
11	279 44.3 +01.2	N 11 56.3 -00.5	341 17.3 +01.9	N 23 16.2 +00.0	71 39.7 +02.4	S 01 24.6 +00.0							
12	294 45.5 +01.1	N 11 55.8 -00.5	356 19.2 +01.8	N 23 16.2 +00.0	86 42.1 +02.4	S 01 24.6 +00.0							
13	309 46.6 +01.1	N 11 55.3 -00.6	11 21.0 +01.9	N 23 16.2 +00.0	101 44.5 +02.3	S 01 24.6 -00.1							
14	324 47.7 +01.2	N 11 54.7 -00.5	26 22.9 +01.8	N 23 16.2 +00.0	116 46.8 +02.4	S 01 24.5 +00.0							
15	339 48.9 +01.1	N 11 54.2 -00.5	41 24.7 +01.9	N 23 16.2 +00.0	131 49.2 +02.4	S 01 24.5 +00.0							
16	354 50.0 +01.1	N 11 53.7 -00.6	56 26.6 +01.8	N 23 16.2 +00.0	146 51.6 +02.3	S 01 24.5 -00.1							
17	9 51.1 +01.2	N 11 53.1 -00.5	71 28.4 +01.8	N 23 16.2 +00.0	161 53.9 +02.4	S 01 24.4 +00.0							
18	24 52.3 +01.1	N 11 52.6 -00.6	86 30.2 +01.9	N 23 16.2 +00.0	176 56.3 +02.4	S 01 24.4 +00.0							
19	39 53.4 +01.1	N 11 52.0 -00.5	101 32.1 +01.8	N 23 16.2 +00.0	191 58.7 +02.4	S 01 24.4 +00.0							
20	54 54.5 +01.2	N 11 51.5 -00.5	116 33.9 +01.9	N 23 16.2 -00.1	207 01.1 +02.3	S 01 24.4 -00.1							
21	69 55.7 +01.1	N 11 51.0 -00.6	131 35.8 +01.8	N 23 16.1 +00.0	222 03.4 +02.4	S 01 24.3 +00.0							
22	84 56.8 +01.1	N 11 50.4 -00.5	146 37.6 +01.8	N 23 16.1 +00.0	237 05.8 +02.4	S 01 24.3 +00.0							
23	99 57.9 +01.1	N 11 49.9 -00.6	161 39.4 +01.9	N 23 16.1 +00.0	252 08.2 +02.4	S 01 24.3 +00.0							
	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 206° 206° 206° 206° 206° 206° Greenwich Culmination Time: 16:20	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 267° 267° 267° 267° 267° 267° Greenwich Culmination Time: 12:14	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 358° 358° 358° 358° 358° 358° Greenwich Culmination Time: 06:14										

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 33.8 -00.2	N 23 26.3 +00.0	225 52.4 -00.1	N 13 49.8 +00.8	243 42.9 -31.3	N 13 52.9 +15.3	00						
01	194 33.6 -00.1	N 23 26.3 +00.0	240 52.3 -00.2	N 13 50.6 +00.7	258 11.6 -31.5	N 14 08.2 +15.2	01						
02	209 33.5 -00.1	N 23 26.3 +00.0	255 52.1 -00.1	N 13 51.3 +00.8	272 40.1 -31.5	N 14 23.4 +15.2	02						
03	224 33.4 -00.2	N 23 26.3 +00.0	270 52.0 -00.2	N 13 52.1 +00.7	287 08.6 -31.6	N 14 38.6 +15.1	03						
04	239 33.2 -00.1	N 23 26.3 +00.0	285 51.8 -00.1	N 13 52.8 +00.8	301 37.0 -31.8	N 14 53.7 +15.0	04						
05	254 33.1 -00.1	N 23 26.3 +00.0	300 51.7 -00.2	N 13 53.6 +00.7	316 05.2 -31.8	N 15 08.7 +14.9	05						
06	269 33.0 -00.2	N 23 26.3 +00.0	315 51.5 -00.1	N 13 54.3 +00.8	330 33.4 -31.9	N 15 23.6 +14.8	06						
07	284 32.8 -00.1	N 23 26.3 +00.0	330 51.4 -00.2	N 13 55.1 +00.7	345 01.5 -32.1	N 15 38.4 +14.8	07						
08	299 32.7 -00.2	N 23 26.3 +00.0	345 51.2 -00.1	N 13 55.8 +00.8	359 29.4 -32.1	N 15 53.2 +14.7	08						
09	314 32.5 -00.1	N 23 26.3 +00.0	0 51.1 -00.2	N 13 56.6 +00.7	13 57.3 -32.3	N 16 07.9 +14.6	09						
10	329 32.4 -00.1	N 23 26.3 +00.0	15 50.9 -00.2	N 13 57.3 +00.8	28 25.0 -32.3	N 16 22.5 +14.5	10						
11	344 32.3 -00.2	N 23 26.3 +00.0	30 50.7 -00.1	N 13 58.1 +00.8	42 52.7 -32.5	N 16 37.0 +14.4	11						
12	359 32.1 -00.1	N 23 26.3 +00.0	45 50.6 -00.2	N 13 58.9 +00.7	57 20.2 -32.6	N 16 51.4 +14.3	12						
13	14 32.0 -00.1	N 23 26.3 +00.0	60 50.4 -00.1	N 13 59.6 +00.8	71 47.6 -32.7	N 17 05.7 +14.3	13						
14	29 31.9 -00.2	N 23 26.3 -00.1	75 50.3 -00.2	N 14 00.4 +00.7	86 14.9 -32.8	N 17 20.0 +14.1	14						
15	44 31.7 -00.1	N 23 26.2 +00.0	90 50.1 -00.2	N 14 01.1 +00.8	100 42.1 -32.9	N 17 34.1 +14.0	15						
16	59 31.6 -00.1	N 23 26.2 +00.0	105 49.9 -00.1	N 14 01.9 +00.7	115 09.2 -33.0	N 17 48.1 +14.0	16						
17	74 31.5 -00.2	N 23 26.2 +00.0	120 49.8 -00.2	N 14 02.6 +00.8	129 36.2 -33.1	N 18 02.1 +13.8	17						
18	89 31.3 -00.1	N 23 26.2 +00.0	135 49.6 -00.1	N 14 03.4 +00.7	144 03.1 -33.2	N 18 15.9 +13.8	18						
19	104 31.2 -00.2	N 23 26.2 +00.0	150 49.5 -00.2	N 14 04.1 +00.8	158 29.9 -33.4	N 18 29.7 +13.6	19						
20	119 31.0 -00.1	N 23 26.2 +00.0	165 49.3 -00.2	N 14 04.9 +00.7	172 56.5 -33.4	N 18 43.3 +13.5	20						
21	134 30.9 -00.1	N 23 26.2 +00.0	180 49.1 -00.1	N 14 05.6 +00.8	187 23.1 -33.6	N 18 56.8 +13.4	21						
22	149 30.8 -00.2	N 23 26.2 +00.0	195 49.0 -00.2	N 14 06.4 +00.7	201 49.5 -33.7	N 19 10.2 +13.3	22						
23	164 30.6 -00.1	N 23 26.2 -00.1	210 48.8 -00.2	N 14 07.1 +00.8	216 15.8 -33.8	N 19 23.5 +13.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'3 16'3 16'4 16'4 16'4 16'4								
	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 59'9 59'9 60'0 60'1 60'1 60'2								
	SHA 270° 270° 270° 270° 269° 269°		SHA 316° 316° 316° 316° 316° 315°		SHA 333° 331° 329° 326° 324° 321°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 08:56		Greenwich Culmination Time: 08:02								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	114 59.0 +01.2	N 11 49.3 -00.5	176 41.3 +01.8	N 23 16.1 +00.0	267 10.6 +02.3	S 01 24.3 -00.1	00						
01	130 00.2 +01.1	N 11 48.8 -00.5	191 43.1 +01.9	N 23 16.1 +00.0	282 12.9 +02.4	S 01 24.2 +00.0	01						
02	145 01.3 +01.1	N 11 48.3 -00.6	206 45.0 +01.8	N 23 16.1 +00.0	297 15.3 +02.4	S 01 24.2 +00.0	02						
03	160 02.4 +01.2	N 11 47.7 -00.5	221 46.8 +01.9	N 23 16.1 +00.0	312 17.7 +02.4	S 01 24.2 +00.0	03						
04	175 03.6 +01.1	N 11 47.2 -00.6	236 48.7 +01.8	N 23 16.1 +00.0	327 20.1 +02.4	S 01 24.2 -00.1	04						
05	190 04.7 +01.1	N 11 46.6 -00.5	251 50.5 +01.8	N 23 16.1 +00.0	342 22.5 +02.3	S 01 24.1 +00.0	05						
06	205 05.8 +01.2	N 11 46.1 -00.5	266 52.3 +01.9	N 23 16.1 +00.0	357 24.8 +02.4	S 01 24.1 +00.0	06						
07	220 07.0 +01.1	N 11 45.6 -00.6	281 54.2 +01.8	N 23 16.1 +00.0	12 27.2 +02.4	S 01 24.1 +00.0	07						
08	235 08.1 +01.1	N 11 45.0 -00.5	296 56.0 +01.9	N 23 16.1 +00.0	27 29.6 +02.4	S 01 24.1 -00.1	08						
09	250 09.2 +01.2	N 11 44.5 -00.6	311 57.9 +01.8	N 23 16.1 +00.0	42 32.0 +02.3	S 01 24.0 +00.0	09						
10	265 10.4 +01.1	N 11 43.9 -00.5	326 59.7 +01.9	N 23 16.1 -00.1	57 34.3 +02.4	S 01 24.0 +00.0	10						
11	280 11.5 +01.1	N 11 43.4 -00.6	342 01.6 +01.8	N 23 16.0 +00.0	72 36.7 +02.4	S 01 24.0 -00.1	11						
12	295 12.6 +01.1	N 11 42.8 -00.5	357 03.4 +01.8	N 23 16.0 +00.0	87 39.1 +02.4	S 01 23.9 +00.0	12						
13	310 13.7 +01.2	N 11 42.3 -00.5	12 05.2 +01.9	N 23 16.0 +00.0	102 41.5 +02.3	S 01 23.9 +00.0	13						
14	325 14.9 +01.1	N 11 41.8 -00.6	27 07.1 +01.8	N 23 16.0 +00.0	117 43.8 +02.4	S 01 23.9 +00.0	14						
15	340 16.0 +01.1	N 11 41.2 -00.5	42 08.9 +01.9	N 23 16.0 +00.0	132 46.2 +02.4	S 01 23.9 -00.1	15						
16	355 17.1 +01.2	N 11 40.7 -00.6	57 10.8 +01.8	N 23 16.0 +00.0	147 48.6 +02.4	S 01 23.8 +00.0	16						
17	10 18.3 +01.1	N 11 40.1 -00.5	72 12.6 +01.9	N 23 16.0 +00.0	162 51.0 +02.4	S 01 23.8 +00.0	17						
18	25 19.4 +01.1	N 11 39.6 -00.5	87 14.5 +01.8	N 23 16.0 +00.0	177 53.4 +02.3	S 01 23.8 +00.0	18						
19	40 20.5 +01.1	N 11 39.1 -00.6	102 16.3 +01.8	N 23 16.0 +00.0	192 55.7 +02.4	S 01 23.8 -00.1	19						
20	55 21.6 +01.2	N 11 38.5 -00.5	117 18.1 +01.9	N 23 16.0 +00.0	207 58.1 +02.4	S 01 23.7 +00.0	20						
21	70 22.8 +01.1	N 11 38.0 -00.6	132 20.0 +01.8	N 23 16.0 +00.0	223 00.5 +02.4	S 01 23.7 +00.0	21						
22	85 23.9 +01.1	N 11 37.4 -00.5	147 21.8 +01.9	N 23 16.0 +00.0	238 02.9 +02.3	S 01 23.7 +00.0	22						
23	100 25.0 +01.2	N 11 36.9 -00.6	162 23.7 +01.8	N 23 16.0 +00.0	253 05.2 +02.4	S 01 23.7 -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 205° 205° 205° 205° 205° 205°		SHA 267° 267° 267° 267° 267° 267°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:18		Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 06:10								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 30.5 -00.1	N 23 26.1 +00.0	225 48.6 -00.1	N 14 07.9 +00.7	230 42.0 -33.9	N 19 36.7 +13.1							
01	194 30.4 -00.2	N 23 26.1 +00.0	240 48.5 -00.2	N 14 08.6 +00.8	245 08.1 -34.0	N 19 49.8 +12.9							
02	209 30.2 -00.1	N 23 26.1 +00.0	255 48.3 -00.2	N 14 09.4 +00.7	259 34.1 -34.2	N 20 02.7 +12.9							
03	224 30.1 -00.2	N 23 26.1 +00.0	270 48.1 -00.1	N 14 10.1 +00.8	273 59.9 -34.2	N 20 15.6 +12.7							
04	239 29.9 -00.1	N 23 26.1 +00.0	285 48.0 -00.2	N 14 10.9 +00.7	288 25.7 -34.4	N 20 28.3 +12.6							
05	254 29.8 -00.1	N 23 26.1 -00.1	300 47.8 -00.2	N 14 11.6 +00.8	302 51.3 -34.5	N 20 40.9 +12.4							
06	269 29.7 -00.2	N 23 26.0 +00.0	315 47.6 -00.1	N 14 12.4 +00.7	317 16.8 -34.6	N 20 53.3 +12.4							
07	284 29.5 -00.1	N 23 26.0 +00.0	330 47.5 -00.2	N 14 13.1 +00.8	331 42.2 -34.7	N 21 05.7 +12.2							
08	299 29.4 -00.1	N 23 26.0 +00.0	345 47.3 -00.2	N 14 13.9 +00.7	346 07.5 -34.9	N 21 17.9 +12.0							
09	314 29.3 -00.2	N 23 26.0 -00.1	0 47.1 -00.1	N 14 14.6 +00.8	0 32.6 -34.9	N 21 29.9 +12.0							
10	329 29.1 -00.1	N 23 25.9 +00.0	15 47.0 -00.2	N 14 15.4 +00.7	14 57.7 -35.1	N 21 41.9 +11.8							
11	344 29.0 -00.1	N 23 25.9 +00.0	30 46.8 -00.2	N 14 16.1 +00.7	29 22.6 -35.1	N 21 53.7 +11.6							
12	359 28.9 -00.2	N 23 25.9 +00.0	45 46.6 -00.2	N 14 16.8 +00.8	43 47.5 -35.3	N 22 05.3 +11.5							
13	14 28.7 -00.1	N 23 25.9 +00.0	60 46.4 -00.1	N 14 17.6 +00.7	58 12.2 -35.4	N 22 16.8 +11.4							
14	29 28.6 -00.2	N 23 25.9 -00.1	75 46.3 -00.2	N 14 18.3 +00.8	72 36.8 -35.6	N 22 28.2 +11.2							
15	44 28.4 -00.1	N 23 25.8 +00.0	90 46.1 -00.2	N 14 19.1 +00.7	87 01.2 -35.6	N 22 39.4 +11.1							
16	59 28.3 -00.1	N 23 25.8 +00.0	105 45.9 -00.2	N 14 19.8 +00.8	101 25.6 -35.7	N 22 50.5 +10.9							
17	74 28.2 -00.2	N 23 25.8 -00.1	120 45.7 -00.1	N 14 20.6 +00.7	115 49.9 -35.9	N 23 01.4 +10.8							
18	89 28.0 -00.1	N 23 25.7 +00.0	135 45.6 -00.2	N 14 21.3 +00.8	130 14.0 -35.9	N 23 12.2 +10.6							
19	104 27.9 -00.1	N 23 25.7 +00.0	150 45.4 -00.2	N 14 22.1 +00.7	144 38.1 -36.1	N 23 22.8 +10.5							
20	119 27.8 -00.2	N 23 25.7 +00.0	165 45.2 -00.2	N 14 22.8 +00.8	159 02.0 -36.2	N 23 33.3 +10.3							
21	134 27.6 -00.1	N 23 25.7 -00.1	180 45.0 -00.1	N 14 23.6 +00.7	173 25.8 -36.3	N 23 43.6 +10.2							
22	149 27.5 -00.1	N 23 25.6 +00.0	195 44.9 -00.2	N 14 24.3 +00.7	187 49.5 -36.4	N 23 53.8 +10.0							
23	164 27.4 -00.2	N 23 25.6 +00.0	210 44.7 -00.2	N 14 25.0 +00.8	202 13.1 -36.5	N 24 03.8 +09.8							
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'4 16'4 16'4 16'4 16'4 16'4								
	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 60'2 60'2 60'3 60'3 60'3 60'3								
	SHA 269° 269° 269° 268° 268° 268°		SHA 315° 315° 315° 315° 315° 314°		SHA 319° 317° 314° 312° 309° 306°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 08:56		Greenwich Culmination Time: 08:57								
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 26.2 +01.1	N 11 36.3 -00.5	177 25.5 +01.9	N 23 16.0 -00.1	268 07.6 +02.4	S 01 23.6 +00.0							
01	130 27.3 +01.1	N 11 35.8 -00.6	192 27.4 +01.8	N 23 15.9 +00.0	283 10.0 +02.4	S 01 23.6 +00.0							
02	145 28.4 +01.2	N 11 35.2 -00.5	207 29.2 +01.8	N 23 15.9 +00.0	298 12.4 +02.4	S 01 23.6 +00.0							
03	160 29.6 +01.1	N 11 34.7 -00.5	222 31.0 +01.9	N 23 15.9 +00.0	313 14.8 +02.3	S 01 23.6 -00.1							
04	175 30.7 +01.1	N 11 34.2 -00.6	237 32.9 +01.8	N 23 15.9 +00.0	328 17.1 +02.4	S 01 23.5 +00.0							
05	190 31.8 +01.1	N 11 33.6 -00.5	252 34.7 +01.9	N 23 15.9 +00.0	343 19.5 +02.4	S 01 23.5 +00.0							
06	205 32.9 +01.2	N 11 33.1 -00.6	267 36.6 +01.8	N 23 15.9 +00.0	358 21.9 +02.4	S 01 23.5 +00.0							
07	220 34.1 +01.1	N 11 32.5 -00.5	282 38.4 +01.9	N 23 15.9 +00.0	13 24.3 +02.4	S 01 23.5 +00.0							
08	235 35.2 +01.1	N 11 32.0 -00.6	297 40.3 +01.8	N 23 15.9 +00.0	28 26.7 +02.3	S 01 23.5 -00.1							
09	250 36.3 +01.2	N 11 31.4 -00.5	312 42.1 +01.8	N 23 15.9 +00.0	43 29.0 +02.4	S 01 23.4 +00.0							
10	265 37.5 +01.1	N 11 30.9 -00.6	327 43.9 +01.9	N 23 15.9 +00.0	58 31.4 +02.4	S 01 23.4 +00.0							
11	280 38.6 +01.1	N 11 30.3 -00.5	342 45.8 +01.8	N 23 15.9 +00.0	73 33.8 +02.4	S 01 23.4 +00.0							
12	295 39.7 +01.1	N 11 29.8 -00.5	357 47.6 +01.9	N 23 15.9 -00.1	88 36.2 +02.4	S 01 23.4 -00.1							
13	310 40.8 +01.2	N 11 29.3 -00.6	12 49.5 +01.8	N 23 15.8 +00.0	103 38.6 +02.4	S 01 23.3 +00.0							
14	325 42.0 +01.1	N 11 28.7 -00.5	27 51.3 +01.9	N 23 15.8 +00.0	118 41.0 +02.3	S 01 23.3 +00.0							
15	340 43.1 +01.1	N 11 28.2 -00.6	42 53.2 +01.8	N 23 15.8 +00.0	133 43.3 +02.4	S 01 23.3 +00.0							
16	355 44.2 +01.2	N 11 27.6 -00.5	57 55.0 +01.8	N 23 15.8 +00.0	148 45.7 +02.4	S 01 23.3 -00.1							
17	10 45.4 +01.1	N 11 27.1 -00.6	72 56.8 +01.9	N 23 15.8 +00.0	163 48.1 +02.4	S 01 23.2 +00.0							
18	25 46.5 +01.1	N 11 26.5 -00.5	87 58.7 +01.8	N 23 15.8 +00.0	178 50.5 +02.4	S 01 23.2 +00.0							
19	40 47.6 +01.1	N 11 26.0 -00.6	103 00.5 +01.9	N 23 15.8 +00.0	193 52.9 +02.3	S 01 23.2 +00.0							
20	55 48.7 +01.2	N 11 25.4 -00.5	118 02.4 +01.8	N 23 15.8 +00.0	208 55.2 +02.4	S 01 23.2 -00.1							
21	70 49.9 +01.1	N 11 24.9 -00.6	133 04.2 +01.8	N 23 15.8 +00.0	223 57.6 +02.4	S 01 23.1 +00.0							
22	85 51.0 +01.1	N 11 24.3 -00.5	148 06.0 +01.9	N 23 15.8 +00.0	239 00.0 +02.4	S 01 23.1 +00.0							
23	100 52.1 +01.1	N 11 23.8 -00.5	163 07.9 +01.8	N 23 15.8 -00.1	254 02.4 +02.4	S 01 23.1 +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 205° 205° 205° 205° 205° 205°		SHA 267° 267° 267° 267° 267° 267°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:17		Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 06:06								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 27.2 -00.1	N 23 25.6 -00.1	225 44.5 -00.2	N 14 25.8 +00.7	216 36.6 -36.6	N 24 13.6 +09.7	00						
01	194 27.1 -00.2	N 23 25.5 +00.0	240 44.3 -00.2	N 14 26.5 +00.8	231 00.0 -36.7	N 24 23.3 +09.5	01						
02	209 26.9 -00.1	N 23 25.5 +00.0	255 44.1 -00.1	N 14 27.3 +00.7	245 23.3 -36.8	N 24 32.8 +09.3	02						
03	224 26.8 -00.1	N 23 25.5 -00.1	270 44.0 -00.2	N 14 28.0 +00.8	259 46.5 -36.9	N 24 42.1 +09.2	03						
04	239 26.7 -00.2	N 23 25.4 +00.0	285 43.8 -00.2	N 14 28.8 +00.7	274 09.6 -37.0	N 24 51.3 +09.0	04						
05	254 26.5 -00.1	N 23 25.4 +00.0	300 43.6 -00.2	N 14 29.5 +00.7	288 32.6 -37.1	N 25 00.3 +08.8	05						
06	269 26.4 -00.1	N 23 25.4 -00.1	315 43.4 -00.2	N 14 30.2 +00.8	302 55.5 -37.3	N 25 09.1 +08.6	06						
07	284 26.3 -00.2	N 23 25.3 +00.0	330 43.2 -00.2	N 14 31.0 +00.7	317 18.2 -37.3	N 25 17.7 +08.5	07						
08	299 26.1 -00.1	N 23 25.3 -00.1	345 43.0 -00.1	N 14 31.7 +00.8	331 40.9 -37.3	N 25 26.2 +08.2	08						
09	314 26.0 -00.1	N 23 25.2 +00.0	0 42.9 -00.2	N 14 32.5 +00.7	346 03.6 -37.5	N 25 34.4 +08.2	09						
10	329 25.9 -00.2	N 23 25.2 +00.0	15 42.7 -00.2	N 14 33.2 +00.7	0 26.1 -37.6	N 25 42.6 +07.9	10						
11	344 25.7 -00.1	N 23 25.2 -00.1	30 42.5 -00.2	N 14 33.9 +00.8	14 48.5 -37.7	N 25 50.5 +07.7	11						
12	359 25.6 -00.2	N 23 25.1 +00.0	45 42.3 -00.2	N 14 34.7 +00.7	29 10.8 -37.7	N 25 58.2 +07.6	12						
13	14 25.4 -00.1	N 23 25.1 -00.1	60 42.1 -00.2	N 14 35.4 +00.8	43 33.1 -37.8	N 26 05.8 +07.3	13						
14	29 25.3 -00.1	N 23 25.0 +00.0	75 41.9 -00.2	N 14 36.2 +00.7	57 55.3 -38.0	N 26 13.1 +07.2	14						
15	44 25.2 -00.2	N 23 25.0 +00.0	90 41.7 -00.2	N 14 36.9 +00.7	72 17.3 -37.9	N 26 20.3 +07.0	15						
16	59 25.0 -00.1	N 23 25.0 -00.1	105 41.5 -00.1	N 14 37.6 +00.8	86 39.4 -38.1	N 26 27.3 +06.8	16						
17	74 24.9 -00.1	N 23 24.9 +00.0	120 41.4 -00.2	N 14 38.4 +00.7	101 01.3 -38.1	N 26 34.1 +06.6	17						
18	89 24.8 -00.2	N 23 24.9 -00.1	135 41.2 -00.2	N 14 39.1 +00.7	115 23.2 -38.3	N 26 40.7 +06.4	18						
19	104 24.6 -00.1	N 23 24.8 +00.0	150 41.0 -00.2	N 14 39.8 +00.8	129 44.9 -38.2	N 26 47.1 +06.2	19						
20	119 24.5 -00.1	N 23 24.8 -00.1	165 40.8 -00.2	N 14 40.6 +00.7	144 06.7 -38.4	N 26 53.3 +06.0	20						
21	134 24.4 -00.2	N 23 24.7 +00.0	180 40.6 -00.2	N 14 41.3 +00.8	158 28.3 -38.4	N 26 59.3 +05.8	21						
22	149 24.2 -00.1	N 23 24.7 -00.1	195 40.4 -00.2	N 14 42.1 +00.7	172 49.9 -38.5	N 27 05.1 +05.6	22						
23	164 24.1 -00.1	N 23 24.6 +00.0	210 40.2 -00.2	N 14 42.8 +00.7	187 11.4 -38.5	N 27 10.7 +05.5	23						
	UT 02 06 10 14 18 22 SD 15'7 15'7 15'7 15'7 15'7 15'7 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 268° 268° 268° 267° 267° 267° Greenwich Culmination Time: 12:02	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 314° 314° 314° 314° 314° 313° Greenwich Culmination Time: 08:57	UT 02 06 10 14 18 22 SD 16'4 16'4 16'4 16'4 16'4 16'4 HP 60'3 60'3 60'3 60'3 60'3 60'3 SHA 304° 301° 299° 296° 293° 291° Greenwich Culmination Time: 09:58										
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 53.2 +01.2	N 11 23.3 -00.6	178 09.7 +01.9	N 23 15.7 +00.0	269 04.8 +02.4	S 01 23.1 +00.0	00						
01	130 54.4 +01.1	N 11 22.7 -00.5	193 11.6 +01.8	N 23 15.7 +00.0	284 07.2 +02.3	S 01 23.1 -00.1	01						
02	145 55.5 +01.1	N 11 22.2 -00.6	208 13.4 +01.9	N 23 15.7 +00.0	299 09.5 +02.4	S 01 23.0 +00.0	02						
03	160 56.6 +01.2	N 11 21.6 -00.5	223 15.3 +01.8	N 23 15.7 +00.0	314 11.9 +02.4	S 01 23.0 +00.0	03						
04	175 57.8 +01.1	N 11 21.1 -00.6	238 17.1 +01.8	N 23 15.7 +00.0	329 14.3 +02.4	S 01 23.0 +00.0	04						
05	190 58.9 +01.1	N 11 20.5 -00.5	253 18.9 +01.9	N 23 15.7 +00.0	344 16.7 +02.4	S 01 23.0 -00.1	05						
06	206 00.0 +01.1	N 11 20.0 -00.6	268 20.8 +01.8	N 23 15.7 +00.0	359 19.1 +02.4	S 01 22.9 +00.0	06						
07	221 01.1 +01.2	N 11 19.4 -00.5	283 22.6 +01.9	N 23 15.7 +00.0	14 21.5 +02.3	S 01 22.9 +00.0	07						
08	236 02.3 +01.1	N 11 18.9 -00.6	298 24.5 +01.8	N 23 15.7 +00.0	29 23.8 +02.4	S 01 22.9 +00.0	08						
09	251 03.4 +01.1	N 11 18.3 -00.5	313 26.3 +01.9	N 23 15.7 +00.0	44 26.2 +02.4	S 01 22.9 -00.1	09						
10	266 04.5 +01.1	N 11 17.8 -00.6	328 28.2 +01.8	N 23 15.7 -00.1	59 28.6 +02.4	S 01 22.8 +00.0	10						
11	281 05.6 +01.2	N 11 17.2 -00.5	343 30.0 +01.8	N 23 15.6 +00.0	74 31.0 +02.4	S 01 22.8 +00.0	11						
12	296 06.8 +01.1	N 11 16.7 -00.6	358 31.8 +01.9	N 23 15.6 +00.0	89 33.4 +02.4	S 01 22.8 +00.0	12						
13	311 07.9 +01.1	N 11 16.1 -00.5	13 33.7 +01.8	N 23 15.6 +00.0	104 35.8 +02.3	S 01 22.8 +00.0	13						
14	326 09.0 +01.2	N 11 15.6 -00.6	28 35.5 +01.9	N 23 15.6 +00.0	119 38.1 +02.4	S 01 22.8 -00.1	14						
15	341 10.2 +01.1	N 11 15.0 -00.5	43 37.4 +01.8	N 23 15.6 +00.0	134 40.5 +02.4	S 01 22.7 +00.0	15						
16	356 11.3 +01.1	N 11 14.5 -00.6	58 39.2 +01.9	N 23 15.6 +00.0	149 42.9 +02.4	S 01 22.7 +00.0	16						
17	11 12.4 +01.1	N 11 13.9 -00.5	73 41.1 +01.8	N 23 15.6 +00.0	164 45.3 +02.4	S 01 22.7 +00.0	17						
18	26 13.5 +01.2	N 11 13.4 -00.6	88 42.9 +01.8	N 23 15.6 +00.0	179 47.7 +02.4	S 01 22.7 -00.1	18						
19	41 14.7 +01.1	N 11 12.8 -00.5	103 44.7 +01.9	N 23 15.6 +00.0	194 50.1 +02.4	S 01 22.6 +00.0	19						
20	56 15.8 +01.1	N 11 12.3 -00.6	118 46.6 +01.8	N 23 15.6 -00.1	209 52.5 +02.3	S 01 22.6 +00.0	20						
21	71 16.9 +01.1	N 11 11.7 -00.5	133 48.4 +01.9	N 23 15.5 +00.0	224 54.8 +02.4	S 01 22.6 +00.0	21						
22	86 18.0 +01.2	N 11 11.2 -00.6	148 50.3 +01.8	N 23 15.5 +00.0	239 57.2 +02.4	S 01 22.6 +00.0	22						
23	101 19.2 +01.1	N 11 10.6 -00.5	163 52.1 +01.8	N 23 15.5 +00.0	254 59.6 +02.4	S 01 22.6 -00.1	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 204° 204° 204° 204° 204° 204° Greenwich Culmination Time: 16:15	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 267° 267° 267° 267° 267° 267° 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 00'0 00'0 00'0 00'0 00'0 00'0 SHA 358° 358° 358° 358° 358° 358° Greenwich Culmination Time: 06:02										

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 24.0 -00.2	N 23 24.6 -00.1	225 40.0 -00.2	N 14 43.5 +00.8	201 32.9 -38.6	N 27 16.2 +05.2	00						
01	194 23.8 -00.1	N 23 24.5 +00.0	240 39.8 -00.2	N 14 44.3 +00.7	215 54.3 -38.7	N 27 21.4 +05.0	01						
02	209 23.7 -00.1	N 23 24.5 -00.1	255 39.6 -00.2	N 14 45.0 +00.7	230 15.6 -38.6	N 27 26.4 +04.8	02						
03	224 23.6 -00.2	N 23 24.4 +00.0	270 39.4 -00.2	N 14 45.7 +00.8	244 37.0 -38.8	N 27 31.2 +04.6	03						
04	239 23.4 -00.1	N 23 24.4 -00.1	285 39.2 -00.2	N 14 46.5 +00.7	258 58.2 -38.8	N 27 35.8 +04.4	04						
05	254 23.3 -00.2	N 23 24.3 +00.0	300 39.0 -00.2	N 14 47.2 +00.7	273 19.4 -38.8	N 27 40.2 +04.2	05						
06	269 23.1 -00.1	N 23 24.3 -00.1	315 38.8 -00.2	N 14 47.9 +00.8	287 40.6 -38.9	N 27 44.4 +04.0	06						
07	284 23.0 -00.1	N 23 24.2 +00.0	330 38.6 -00.2	N 14 48.7 +00.7	302 01.7 -38.9	N 27 48.4 +03.8	07						
08	299 22.9 -00.2	N 23 24.2 -00.1	345 38.4 -00.2	N 14 49.4 +00.7	316 22.8 -38.9	N 27 52.2 +03.6	08						
09	314 22.7 -00.1	N 23 24.1 -00.1	0 38.2 -00.2	N 14 50.1 +00.8	330 43.9 -39.0	N 27 55.8 +03.3	09						
10	329 22.6 -00.1	N 23 24.0 +00.0	15 38.0 -00.2	N 14 50.9 +00.7	345 04.9 -39.0	N 27 59.1 +03.2	10						
11	344 22.5 -00.2	N 23 24.0 -00.1	30 37.8 -00.2	N 14 51.6 +00.7	359 25.9 -39.0	N 28 02.3 +02.9	11						
12	359 22.3 -00.1	N 23 23.9 +00.0	45 37.6 -00.2	N 14 52.3 +00.8	13 46.9 -39.0	N 28 05.2 +02.8	12						
13	14 22.2 -00.1	N 23 23.9 -00.1	60 37.4 -00.2	N 14 53.1 +00.7	28 07.9 -39.1	N 28 08.0 +02.5	13						
14	29 22.1 -00.2	N 23 23.8 +00.0	75 37.2 -00.2	N 14 53.8 +00.7	42 28.8 -39.1	N 28 10.5 +02.3	14						
15	44 21.9 -00.1	N 23 23.8 -00.1	90 37.0 -00.2	N 14 54.5 +00.8	56 49.7 -39.0	N 28 12.8 +02.2	15						
16	59 21.8 -00.1	N 23 23.7 -00.1	105 36.8 -00.2	N 14 55.3 +00.7	71 10.7 -39.1	N 28 15.0 +01.9	16						
17	74 21.7 -00.2	N 23 23.6 +00.0	120 36.6 -00.2	N 14 56.0 +00.7	85 31.6 -39.1	N 28 16.9 +01.6	17						
18	89 21.5 -00.1	N 23 23.6 -00.1	135 36.4 -00.2	N 14 56.7 +00.8	99 52.5 -39.1	N 28 18.5 +01.5	18						
19	104 21.4 -00.1	N 23 23.5 -00.1	150 36.2 -00.2	N 14 57.5 +00.7	114 13.4 -39.1	N 28 20.0 +01.3	19						
20	119 21.3 -00.2	N 23 23.4 +00.0	165 36.0 -00.2	N 14 58.2 +00.7	128 34.3 -39.1	N 28 21.3 +01.0	20						
21	134 21.1 -00.1	N 23 23.4 -00.1	180 35.8 -00.2	N 14 58.9 +00.7	142 55.2 -39.0	N 28 22.3 +00.9	21						
22	149 21.0 -00.1	N 23 23.3 -00.1	195 35.6 -00.2	N 14 59.6 +00.8	157 16.2 -39.1	N 28 23.2 +00.6	22						
23	164 20.9 -00.2	N 23 23.2 +00.0	210 35.4 -00.2	N 15 00.4 +00.7	171 37.1 -39.0	N 28 23.8 +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 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'4 16'4 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 60'3 60'2 60'2 60'1 60'1 60'0								
	SHA 267° 267° 267° 266° 266° 266°		SHA 313° 313° 313° 313° 312° 312°		SHA 288° 285° 282° 280° 277° 274°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 08:57		Greenwich Culmination Time: 11:02								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 20.3 +01.1	N 11 10.1 -00.6	178 53.9 +01.9	N 23 15.5 +00.0	270 02.0 +02.4	S 01 22.5 +00.0	00						
01	131 21.4 +01.1	N 11 09.5 -00.5	193 55.8 +01.8	N 23 15.5 +00.0	285 04.4 +02.4	S 01 22.5 +00.0	01						
02	146 22.5 +01.2	N 11 09.0 -00.6	208 57.6 +01.9	N 23 15.5 +00.0	300 06.8 +02.4	S 01 22.5 +00.0	02						
03	161 23.7 +01.1	N 11 08.4 -00.5	223 59.5 +01.8	N 23 15.5 +00.0	315 09.2 +02.4	S 01 22.5 +00.0	03						
04	176 24.8 +01.1	N 11 07.9 -00.6	239 01.3 +01.9	N 23 15.5 +00.0	330 11.6 +02.3	S 01 22.5 -00.1	04						
05	191 25.9 +01.1	N 11 07.3 -00.5	254 03.2 +01.8	N 23 15.5 +00.0	345 13.9 +02.4	S 01 22.4 +00.0	05						
06	206 27.0 +01.2	N 11 06.8 -00.6	269 05.0 +01.8	N 23 15.5 -00.1	0 16.3 +02.4	S 01 22.4 +00.0	06						
07	221 28.2 +01.1	N 11 06.2 -00.5	284 06.8 +01.9	N 23 15.4 +00.0	15 18.7 +02.4	S 01 22.4 +00.0	07						
08	236 29.3 +01.1	N 11 05.7 -00.6	299 08.7 +01.8	N 23 15.4 +00.0	30 21.1 +02.4	S 01 22.4 -00.1	08						
09	251 30.4 +01.1	N 11 05.1 -00.5	314 10.5 +01.9	N 23 15.4 +00.0	45 23.5 +02.4	S 01 22.3 +00.0	09						
10	266 31.5 +01.2	N 11 04.6 -00.6	329 12.4 +01.8	N 23 15.4 +00.0	60 25.9 +02.4	S 01 22.3 +00.0	10						
11	281 32.7 +01.1	N 11 04.0 -00.5	344 14.2 +01.8	N 23 15.4 +00.0	75 28.3 +02.4	S 01 22.3 +00.0	11						
12	296 33.8 +01.1	N 11 03.5 -00.6	359 16.0 +01.9	N 23 15.4 +00.0	90 30.7 +02.3	S 01 22.3 +00.0	12						
13	311 34.9 +01.1	N 11 02.9 -00.5	14 17.9 +01.8	N 23 15.4 -00.1	105 33.0 +02.4	S 01 22.3 -00.1	13						
14	326 36.0 +01.2	N 11 02.4 -00.6	29 19.7 +01.9	N 23 15.3 +00.0	120 35.4 +02.4	S 01 22.2 +00.0	14						
15	341 37.2 +01.1	N 11 01.8 -00.5	44 21.6 +01.8	N 23 15.3 +00.0	135 37.8 +02.4	S 01 22.2 +00.0	15						
16	356 38.3 +01.1	N 11 01.3 -00.6	59 23.4 +01.9	N 23 15.3 +00.0	150 40.2 +02.4	S 01 22.2 +00.0	16						
17	11 39.4 +01.1	N 11 00.7 -00.5	74 25.3 +01.8	N 23 15.3 +00.0	165 42.6 +02.4	S 01 22.2 +00.0	17						
18	26 40.5 +01.2	N 11 00.2 -00.6	89 27.1 +01.9	N 23 15.3 +00.0	180 45.0 +02.4	S 01 22.2 -00.1	18						
19	41 41.7 +01.1	N 10 59.6 -00.5	104 29.0 +01.8	N 23 15.3 +00.0	195 47.4 +02.4	S 01 22.1 +00.0	19						
20	56 42.8 +01.1	N 10 59.1 -00.6	119 30.8 +01.9	N 23 15.3 +00.0	210 49.8 +02.4	S 01 22.1 +00.0	20						
21	71 43.9 +01.1	N 10 58.5 -00.5	134 32.7 +01.8	N 23 15.3 +00.0	225 52.2 +02.3	S 01 22.1 +00.0	21						
22	86 45.0 +01.2	N 10 58.0 -00.6	149 34.5 +01.9	N 23 15.3 +00.0	240 54.5 +02.4	S 01 22.1 +00.0	22						
23	101 46.2 +01.1	N 10 57.4 -00.6	164 36.4 +01.8	N 23 15.3 +00.0	255 56.9 +02.4	S 01 22.1 -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 204° 204° 204° 204° 204° 203°		SHA 266° 266° 266° 266° 266° 266°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:13		Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 05:58								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 20.7 -00.1	N 23 23.2 -00.1	225 35.2 -00.3	N 15 01.1 +00.7	185 58.1 -39.1	N 28 24.3 +00.2	00						
01	194 20.6 -00.1	N 23 23.1 -00.1	240 34.9 -00.2	N 15 01.8 +00.8	200 19.0 -39.0	N 28 24.5 +00.0	01						
02	209 20.5 -00.2	N 23 23.0 +00.0	255 34.7 -00.2	N 15 02.6 +00.7	214 40.0 -38.9	N 28 24.5 -00.2	02						
03	224 20.3 -00.1	N 23 23.0 -00.1	270 34.5 -00.2	N 15 03.3 +00.7	229 01.1 -39.0	N 28 24.3 -00.4	03						
04	239 20.2 -00.2	N 23 22.9 -00.1	285 34.3 -00.2	N 15 04.0 +00.7	243 22.1 -38.9	N 28 23.9 -00.7	04						
05	254 20.0 -00.1	N 23 22.8 +00.0	300 34.1 -00.2	N 15 04.7 +00.8	257 43.2 -38.9	N 28 23.2 -00.8	05						
06	269 19.9 -00.1	N 23 22.8 -00.1	315 33.9 -00.2	N 15 05.5 +00.7	272 04.3 -38.8	N 28 22.4 -01.0	06						
07	284 19.8 -00.2	N 23 22.7 -00.1	330 33.7 -00.2	N 15 06.2 +00.7	286 25.5 -38.8	N 28 21.4 -01.3	07						
08	299 19.6 -00.1	N 23 22.6 -00.1	345 33.5 -00.3	N 15 06.9 +00.7	300 46.7 -38.7	N 28 20.1 -01.4	08						
09	314 19.5 -00.1	N 23 22.5 +00.0	0 33.2 -00.2	N 15 07.6 +00.8	315 08.0 -38.7	N 28 18.7 -01.7	09						
10	329 19.4 -00.2	N 23 22.5 -00.1	15 33.0 -00.2	N 15 08.4 +00.7	329 29.3 -38.7	N 28 17.0 -01.8	10						
11	344 19.2 -00.1	N 23 22.4 -00.1	30 32.8 -00.2	N 15 09.1 +00.7	343 50.6 -38.5	N 28 15.2 -02.1	11						
12	359 19.1 -00.1	N 23 22.3 -00.1	45 32.6 -00.2	N 15 09.8 +00.7	358 12.1 -38.6	N 28 13.1 -02.3	12						
13	14 19.0 -00.2	N 23 22.2 +00.0	60 32.4 -00.2	N 15 10.5 +00.8	12 33.5 -38.4	N 28 10.8 -02.4	13						
14	29 18.8 -00.1	N 23 22.2 -00.1	75 32.2 -00.3	N 15 11.3 +00.7	26 55.1 -38.4	N 28 08.4 -02.7	14						
15	44 18.7 -00.1	N 23 22.1 -00.1	90 31.9 -00.2	N 15 12.0 +00.7	41 16.7 -38.4	N 28 05.7 -02.9	15						
16	59 18.6 -00.2	N 23 22.0 -00.1	105 31.7 -00.2	N 15 12.7 +00.7	55 38.3 -38.3	N 28 02.8 -03.1	16						
17	74 18.4 -00.1	N 23 21.9 +00.0	120 31.5 -00.2	N 15 13.4 +00.8	70 00.0 -38.1	N 27 59.7 -03.2	17						
18	89 18.3 -00.1	N 23 21.9 -00.1	135 31.3 -00.2	N 15 14.2 +00.7	84 21.9 -38.2	N 27 56.5 -03.5	18						
19	104 18.2 -00.2	N 23 21.8 -00.1	150 31.1 -00.3	N 15 14.9 +00.7	98 43.7 -38.0	N 27 53.0 -03.6	19						
20	119 18.0 -00.1	N 23 21.7 -00.1	165 30.8 -00.2	N 15 15.6 +00.7	113 05.7 -38.0	N 27 49.4 -03.9	20						
21	134 17.9 -00.1	N 23 21.6 -00.1	180 30.6 -00.2	N 15 16.3 +00.7	127 27.7 -37.8	N 27 45.5 -04.0	21						
22	149 17.8 -00.2	N 23 21.5 -00.1	195 30.4 -00.2	N 15 17.0 +00.8	141 49.9 -37.8	N 27 41.5 -04.3	22						
23	164 17.6 -00.1	N 23 21.4 +00.0	210 30.2 -00.2	N 15 17.8 +00.7	156 12.1 -37.7	N 27 37.2 -04.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'3 16'3 16'3 16'3 16'2 16'2								
	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 59'9 59'8 59'8 59'7 59'6 59'5								
	SHA 266° 266° 266° 265° 265° 265°		SHA 312° 312° 312° 312° 311° 311°		SHA 271° 268° 266° 263° 260° 258°								
	Greenwich Culmination Time: 12:02		Greenwich Culmination Time: 08:57		Greenwich Culmination Time: 12:07								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	116 47.3 +01.1	N 10 56.8 -00.5	179 38.2 +01.8	N 23 15.3 +00.0	270 59.3 +02.4	S 01 22.0 +00.0	00						
01	131 48.4 +01.1	N 10 56.3 -00.6	194 40.0 +01.9	N 23 15.3 -00.1	286 01.7 +02.4	S 01 22.0 +00.0	01						
02	146 49.5 +01.2	N 10 55.7 -00.5	209 41.9 +01.8	N 23 15.2 +00.0	301 04.1 +02.4	S 01 22.0 +00.0	02						
03	161 50.7 +01.1	N 10 55.2 -00.6	224 43.7 +01.9	N 23 15.2 +00.0	316 06.5 +02.4	S 01 22.0 +00.0	03						
04	176 51.8 +01.1	N 10 54.6 -00.5	239 45.6 +01.8	N 23 15.2 +00.0	331 08.9 +02.4	S 01 22.0 -00.1	04						
05	191 52.9 +01.1	N 10 54.1 -00.6	254 47.4 +01.9	N 23 15.2 +00.0	346 11.3 +02.4	S 01 21.9 +00.0	05						
06	206 54.0 +01.2	N 10 53.5 -00.5	269 49.3 +01.8	N 23 15.2 +00.0	1 13.7 +02.4	S 01 21.9 +00.0	06						
07	221 55.2 +01.1	N 10 53.0 -00.6	284 51.1 +01.8	N 23 15.2 +00.0	16 16.1 +02.4	S 01 21.9 +00.0	07						
08	236 56.3 +01.1	N 10 52.4 -00.5	299 52.9 +01.9	N 23 15.2 +00.0	31 18.5 +02.3	S 01 21.9 +00.0	08						
09	251 57.4 +01.1	N 10 51.9 -00.6	314 54.8 +01.8	N 23 15.2 +00.0	46 20.8 +02.4	S 01 21.9 -00.1	09						
10	266 58.5 +01.2	N 10 51.3 -00.5	329 56.6 +01.9	N 23 15.2 -00.1	61 23.2 +02.4	S 01 21.8 +00.0	10						
11	281 59.7 +01.1	N 10 50.8 -00.6	344 58.5 +01.8	N 23 15.1 +00.0	76 25.6 +02.4	S 01 21.8 +00.0	11						
12	297 00.8 +01.1	N 10 50.2 -00.6	0 00.3 +01.8	N 23 15.1 +00.0	91 28.0 +02.4	S 01 21.8 +00.0	12						
13	312 01.9 +01.1	N 10 49.6 -00.5	15 02.1 +01.9	N 23 15.1 +00.0	106 30.4 +02.4	S 01 21.8 +00.0	13						
14	327 03.0 +01.1	N 10 49.1 -00.6	30 04.0 +01.8	N 23 15.1 +00.0	121 32.8 +02.4	S 01 21.8 +00.0	14						
15	342 04.1 +01.2	N 10 48.5 -00.5	45 05.8 +01.9	N 23 15.1 +00.0	136 35.2 +02.4	S 01 21.8 -00.1	15						
16	357 05.3 +01.1	N 10 48.0 -00.6	60 07.7 +01.8	N 23 15.1 +00.0	151 37.6 +02.4	S 01 21.7 +00.0	16						
17	12 06.4 +01.1	N 10 47.4 -00.5	75 09.5 +01.9	N 23 15.1 +00.0	166 40.0 +02.4	S 01 21.7 +00.0	17						
18	27 07.5 +01.1	N 10 46.9 -00.6	90 11.4 +01.8	N 23 15.1 +00.0	181 42.4 +02.4	S 01 21.7 +00.0	18						
19	42 08.6 +01.2	N 10 46.3 -00.5	105 13.2 +01.8	N 23 15.1 -00.1	196 44.8 +02.4	S 01 21.7 +00.0	19						
20	57 09.8 +01.1	N 10 45.8 -00.6	120 15.0 +01.9	N 23 15.0 +00.0	211 47.2 +02.4	S 01 21.7 -00.1	20						
21	72 10.9 +01.1	N 10 45.2 -00.6	135 16.9 +01.8	N 23 15.0 +00.0	226 49.6 +02.3	S 01 21.6 +00.0	21						
22	87 12.0 +01.1	N 10 44.6 -00.5	150 18.7 +01.9	N 23 15.0 +00.0	241 51.9 +02.4	S 01 21.6 +00.0	22						
23	102 13.1 +01.2	N 10 44.1 -00.6	165 20.6 +01.8	N 23 15.0 +00.0	256 54.3 +02.4	S 01 21.6 +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 203° 203° 203° 203° 203° 203°		SHA 266° 266° 266° 266° 266° 266°		SHA 358° 358° 358° 358° 358° 358°								
	Greenwich Culmination Time: 16:11		Greenwich Culmination Time: 11:59		Greenwich Culmination Time: 05:55								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179	17.5 -00.1	N 23 21.4 -00.1		225	30.0 -00.3	N 15 18.5 +00.7		170	34.4 -37.6	N 27 32.8 -04.6		00
01	194	17.4 -00.2	N 23 21.3 -00.1		240	29.7 -00.2	N 15 19.2 +00.7		184	56.8 -37.6	N 27 28.2 -04.8		01
02	209	17.2 -00.1	N 23 21.2 -00.1		255	29.5 -00.2	N 15 19.9 +00.7		199	19.2 -37.4	N 27 23.4 -05.0		02
03	224	17.1 -00.1	N 23 21.1 -00.1		270	29.3 -00.2	N 15 20.6 +00.8		213	41.8 -37.3	N 27 18.4 -05.2		03
04	239	17.0 -00.1	N 23 21.0 -00.1		285	29.1 -00.3	N 15 21.4 +00.7		228	04.5 -37.2	N 27 13.2 -05.3		04
05	254	16.9 -00.2	N 23 20.9 -00.1		300	28.8 -00.2	N 15 22.1 +00.7		242	27.3 -37.1	N 27 07.9 -05.5		05
06	269	16.7 -00.1	N 23 20.8 +00.0		315	28.6 -00.2	N 15 22.8 +00.7		256	50.2 -37.1	N 27 02.4 -05.7		06
07	284	16.6 -00.1	N 23 20.8 -00.1		330	28.4 -00.3	N 15 23.5 +00.7		271	13.1 -36.9	N 26 56.7 -05.9		07
08	299	16.5 -00.2	N 23 20.7 -00.1		345	28.1 -00.2	N 15 24.2 +00.8		285	36.2 -36.8	N 26 50.8 -06.1		08
09	314	16.3 -00.1	N 23 20.6 -00.1		0	27.9 -00.2	N 15 25.0 +00.7		299	59.4 -36.7	N 26 44.7 -06.2		09
10	329	16.2 -00.1	N 23 20.5 -00.1		15	27.7 -00.2	N 15 25.7 +00.7		314	22.7 -36.6	N 26 38.5 -06.4		10
11	344	16.1 -00.2	N 23 20.4 -00.1		30	27.5 -00.3	N 15 26.4 +00.7		328	46.1 -36.4	N 26 32.1 -06.6		11
12	359	15.9 -00.1	N 23 20.3 -00.1		45	27.2 -00.2	N 15 27.1 +00.7		343	09.7 -36.4	N 26 25.5 -06.8		12
13	14	15.8 -00.1	N 23 20.2 -00.1		60	27.0 -00.2	N 15 27.8 +00.7		357	33.3 -36.2	N 26 18.7 -06.9		13
14	29	15.7 -00.2	N 23 20.1 -00.1		75	26.8 -00.3	N 15 28.5 +00.7		11	57.1 -36.1	N 26 11.8 -07.1		14
15	44	15.5 -00.1	N 23 20.0 -00.1		90	26.5 -00.2	N 15 29.2 +00.8		26	21.0 -36.0	N 26 04.7 -07.2		15
16	59	15.4 -00.1	N 23 19.9 -00.1		105	26.3 -00.2	N 15 30.0 +00.7		40	45.0 -35.9	N 25 57.5 -07.4		16
17	74	15.3 -00.2	N 23 19.8 -00.1		120	26.1 -00.3	N 15 30.7 +00.7		55	09.1 -35.8	N 25 50.1 -07.6		17
18	89	15.1 -00.1	N 23 19.7 -00.1		135	25.8 -00.2	N 15 31.4 +00.7		69	33.3 -35.6	N 25 42.5 -07.7		18
19	104	15.0 -00.1	N 23 19.6 -00.1		150	25.6 -00.2	N 15 32.1 +00.7		83	57.7 -35.5	N 25 34.8 -07.9		19
20	119	14.9 -00.2	N 23 19.5 -00.1		165	25.4 -00.3	N 15 32.8 +00.7		98	22.2 -35.4	N 25 26.9 -08.0		20
21	134	14.7 -00.1	N 23 19.4 -00.1		180	25.1 -00.2	N 15 33.5 +00.7		112	46.8 -35.2	N 25 18.9 -08.2		21
22	149	14.6 -00.1	N 23 19.3 -00.1		195	24.9 -00.3	N 15 34.2 +00.7		127	11.6 -35.2	N 25 10.7 -08.4		22
23	164	14.5 -00.2	N 23 19.2 -00.1		210	24.6 -00.2	N 15 34.9 +00.8		141	36.4 -35.0	N 25 02.3 -08.4		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	SD 15'7 15'7 15'7 15'7 15'7 15'7				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'2 16'1 16'1 16'1 16'1 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 59'4 59'3 59'2 59'0 58'9 58'8				
	SHA 265° 265° 264° 264° 264° 264°				SHA 311° 311° 311° 310° 310° 310°				SHA 255° 252° 250° 247° 244° 242°				
	Greenwich Culmination Time: 12:02				Greenwich Culmination Time: 08:58				Greenwich Culmination Time: 13:10				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	117	14.3 +01.1	N 10 43.5 -00.5		180	22.4 +01.9	N 23 15.0 +00.0		271	56.7 +02.4	S 01 21.6 +00.0		00
01	132	15.4 +01.1	N 10 43.0 -00.6		195	24.3 +01.8	N 23 15.0 +00.0		286	59.1 +02.4	S 01 21.6 +00.0		01
02	147	16.5 +01.1	N 10 42.4 -00.5		210	26.1 +01.8	N 23 15.0 +00.0		302	01.5 +02.4	S 01 21.6 -00.1		02
03	162	17.6 +01.1	N 10 41.9 -00.6		225	27.9 +01.9	N 23 15.0 +00.0		317	03.9 +02.4	S 01 21.5 +00.0		03
04	177	18.7 +01.2	N 10 41.3 -00.6		240	29.8 +01.8	N 23 15.0 -00.1		332	06.3 +02.4	S 01 21.5 +00.0		04
05	192	19.9 +01.1	N 10 40.7 -00.5		255	31.6 +01.9	N 23 14.9 +00.0		347	08.7 +02.4	S 01 21.5 +00.0		05
06	207	21.0 +01.1	N 10 40.2 -00.6		270	33.5 +01.8	N 23 14.9 +00.0		2	11.1 +02.4	S 01 21.5 +00.0		06
07	222	22.1 +01.1	N 10 39.6 -00.5		285	35.3 +01.9	N 23 14.9 +00.0		17	13.5 +02.4	S 01 21.5 -00.1		07
08	237	23.2 +01.2	N 10 39.1 -00.6		300	37.2 +01.8	N 23 14.9 +00.0		32	15.9 +02.4	S 01 21.4 +00.0		08
09	252	24.4 +01.1	N 10 38.5 -00.5		315	39.0 +01.8	N 23 14.9 +00.0		47	18.3 +02.4	S 01 21.4 +00.0		09
10	267	25.5 +01.1	N 10 38.0 -00.6		330	40.8 +01.9	N 23 14.9 +00.0		62	20.7 +02.4	S 01 21.4 +00.0		10
11	282	26.6 +01.1	N 10 37.4 -00.6		345	42.7 +01.8	N 23 14.9 +00.0		77	23.1 +02.4	S 01 21.4 +00.0		11
12	297	27.7 +01.1	N 10 36.8 -00.5		0	44.5 +01.9	N 23 14.9 -00.1		92	25.5 +02.4	S 01 21.4 +00.0		12
13	312	28.8 +01.2	N 10 36.3 -00.6		15	46.4 +01.8	N 23 14.8 +00.0		107	27.9 +02.4	S 01 21.4 -00.1		13
14	327	30.0 +01.1	N 10 35.7 -00.5		30	48.2 +01.9	N 23 14.8 +00.0		122	30.3 +02.4	S 01 21.3 +00.0		14
15	342	31.1 +01.1	N 10 35.2 -00.6		45	50.1 +01.8	N 23 14.8 +00.0		137	32.7 +02.4	S 01 21.3 +00.0		15
16	357	32.2 +01.1	N 10 34.6 -00.6		60	51.9 +01.8	N 23 14.8 +00.0		152	35.1 +02.4	S 01 21.3 +00.0		16
17	12	33.3 +01.2	N 10 34.0 -00.5		75	53.7 +01.9	N 23 14.8 +00.0		167	37.5 +02.4	S 01 21.3 +00.0		17
18	27	34.5 +01.1	N 10 33.5 -00.6		90	55.6 +01.8	N 23 14.8 +00.0		182	39.9 +02.4	S 01 21.3 +00.0		18
19	42	35.6 +01.1	N 10 32.9 -00.5		105	57.4 +01.9	N 23 14.8 +00.0		197	42.3 +02.3	S 01 21.3 -00.1		19
20	57	36.7 +01.1	N 10 32.4 -00.6		120	59.3 +01.8	N 23 14.8 -00.1		212	44.6 +02.4	S 01 21.2 +00.0		20
21	72	37.8 +01.1	N 10 31.8 -00.6		136	01.1 +01.9	N 23 14.7 +00.0		227	47.0 +02.4	S 01 21.2 +00.0		21
22	87	38.9 +01.2	N 10 31.2 -00.5		151	03.0 +01.8	N 23 14.7 +00.0		242	49.4 +02.4	S 01 21.2 +00.0		22
23	102	40.1 +01.1	N 10 30.7 -00.6		166	04.8 +01.8	N 23 14.7 +00.0		257	51.8 +02.4	S 01 21.2 +00.0		23
	<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				
	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 203° 203° 203° 203° 202° 202°				SHA 266° 266° 266° 266° 266° 266°				SHA 358° 358° 358° 358° 358° 358°				
	Greenwich Culmination Time: 16:09				Greenwich Culmination Time: 11:57				Greenwich Culmination Time: 05:51				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 14.3 -00.1	N 23 19.1 -00.1	225 24.4 -00.2	N 15 35.7 +00.7	156 01.4 -34.8	N 24 53.9 -08.7	00						
01	194 14.2 -00.1	N 23 19.0 -00.1	240 24.2 -00.3	N 15 36.4 +00.7	170 26.6 -34.8	N 24 45.2 -08.7	01						
02	209 14.1 -00.1	N 23 18.9 -00.1	255 23.9 -00.2	N 15 37.1 +00.7	184 51.8 -34.6	N 24 36.5 -09.0	02						
03	224 14.0 -00.2	N 23 18.8 -00.1	270 23.7 -00.3	N 15 37.8 +00.7	199 17.2 -34.5	N 24 27.5 -09.0	03						
04	239 13.8 -00.1	N 23 18.7 -00.1	285 23.4 -00.2	N 15 38.5 +00.7	213 42.7 -34.3	N 24 18.5 -09.2	04						
05	254 13.7 -00.1	N 23 18.6 -00.1	300 23.2 -00.2	N 15 39.2 +00.7	228 08.4 -34.2	N 24 09.3 -09.3	05						
06	269 13.6 -00.2	N 23 18.5 -00.1	315 23.0 -00.3	N 15 39.9 +00.7	242 34.2 -34.1	N 23 60.0 -09.5	06						
07	284 13.4 -00.1	N 23 18.4 -00.1	330 22.7 -00.2	N 15 40.6 +00.7	257 00.1 -34.0	N 23 50.5 -09.6	07						
08	299 13.3 -00.1	N 23 18.3 -00.1	345 22.5 -00.3	N 15 41.3 +00.7	271 26.1 -33.8	N 23 40.9 -09.7	08						
09	314 13.2 -00.2	N 23 18.2 -00.1	0 22.2 -00.2	N 15 42.0 +00.8	285 52.3 -33.7	N 23 31.2 -09.9	09						
10	329 13.0 -00.1	N 23 18.1 -00.1	15 22.0 -00.3	N 15 42.8 +00.7	300 18.6 -33.5	N 23 21.3 -10.0	10						
11	344 12.9 -00.1	N 23 18.0 -00.1	30 21.7 -00.2	N 15 43.5 +00.7	314 45.1 -33.5	N 23 11.3 -10.1	11						
12	359 12.8 -00.2	N 23 17.9 -00.1	45 21.5 -00.2	N 15 44.2 +00.7	329 11.6 -33.2	N 23 01.2 -10.2	12						
13	14 12.6 -00.1	N 23 17.8 -00.1	60 21.3 -00.3	N 15 44.9 +00.7	343 38.4 -33.2	N 22 51.0 -10.3	13						
14	29 12.5 -00.1	N 23 17.7 -00.2	75 21.0 -00.2	N 15 45.6 +00.7	358 05.2 -33.0	N 22 40.7 -10.5	14						
15	44 12.4 -00.1	N 23 17.5 -00.1	90 20.8 -00.3	N 15 46.3 +00.7	12 32.2 -32.9	N 22 30.2 -10.6	15						
16	59 12.3 -00.2	N 23 17.4 -00.1	105 20.5 -00.2	N 15 47.0 +00.7	26 59.3 -32.7	N 22 19.6 -10.7	16						
17	74 12.1 -00.1	N 23 17.3 -00.1	120 20.3 -00.3	N 15 47.7 +00.7	41 26.6 -32.7	N 22 08.9 -10.8	17						
18	89 12.0 -00.1	N 23 17.2 -00.1	135 20.0 -00.2	N 15 48.4 +00.7	55 53.9 -32.4	N 21 58.1 -10.9	18						
19	104 11.9 -00.2	N 23 17.1 -00.1	150 19.8 -00.3	N 15 49.1 +00.7	70 21.5 -32.4	N 21 47.2 -11.0	19						
20	119 11.7 -00.1	N 23 17.0 -00.1	165 19.5 -00.2	N 15 49.8 +00.7	84 49.1 -32.2	N 21 36.2 -11.2	20						
21	134 11.6 -00.1	N 23 16.9 -00.2	180 19.3 -00.3	N 15 50.5 +00.7	99 16.9 -32.1	N 21 25.0 -11.2	21						
22	149 11.5 -00.1	N 23 16.7 -00.1	195 19.0 -00.2	N 15 51.2 +00.7	113 44.8 -32.0	N 21 13.8 -11.4	22						
23	164 11.4 -00.2	N 23 16.6 -00.1	210 18.8 -00.3	N 15 51.9 +00.7	128 12.8 -31.8	N 21 02.4 -11.4	23						
	UT 02 06 10 14 18 22 SD 15'7 15'7 15'7 15'7 15'7 15'7 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 264° 264° 263° 263° 263° 263° Greenwich Culmination Time: 12:03	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 310° 310° 310° 309° 309° 309° Greenwich Culmination Time: 08:58	UT 02 06 10 14 18 22 SD 16'0 15'9 15'9 15'9 15'8 15'8 HP 58'7 58'5 58'4 58'3 58'1 58'0 SHA 239° 237° 235° 232° 230° 227° Greenwich Culmination Time: 14:07										
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 41.2 +01.1	N 10 30.1 -00.5	181 06.6 +01.9	N 23 14.7 +00.0	272 54.2 +02.4	S 01 21.2 +00.0	00						
01	132 42.3 +01.1	N 10 29.6 -00.6	196 08.5 +01.8	N 23 14.7 +00.0	287 56.6 +02.4	S 01 21.2 -00.1	01						
02	147 43.4 +01.1	N 10 29.0 -00.6	211 10.3 +01.9	N 23 14.7 +00.0	302 59.0 +02.4	S 01 21.1 +00.0	02						
03	162 44.5 +01.2	N 10 28.4 -00.5	226 12.2 +01.8	N 23 14.7 +00.0	318 01.4 +02.4	S 01 21.1 +00.0	03						
04	177 45.7 +01.1	N 10 27.9 -00.6	241 14.0 +01.9	N 23 14.7 -00.1	333 03.8 +02.4	S 01 21.1 +00.0	04						
05	192 46.8 +01.1	N 10 27.3 -00.5	256 15.9 +01.8	N 23 14.6 +00.0	348 06.2 +02.4	S 01 21.1 +00.0	05						
06	207 47.9 +01.1	N 10 26.8 -00.6	271 17.7 +01.8	N 23 14.6 +00.0	3 08.6 +02.4	S 01 21.1 +00.0	06						
07	222 49.0 +01.2	N 10 26.2 -00.6	286 19.5 +01.9	N 23 14.6 +00.0	18 11.0 +02.4	S 01 21.1 -00.1	07						
08	237 50.2 +01.1	N 10 25.6 -00.5	301 21.4 +01.8	N 23 14.6 +00.0	33 13.4 +02.4	S 01 21.0 +00.0	08						
09	252 51.3 +01.1	N 10 25.1 -00.6	316 23.2 +01.9	N 23 14.6 +00.0	48 15.8 +02.4	S 01 21.0 +00.0	09						
10	267 52.4 +01.1	N 10 24.5 -00.5	331 25.1 +01.8	N 23 14.6 +00.0	63 18.2 +02.4	S 01 21.0 +00.0	10						
11	282 53.5 +01.1	N 10 24.0 -00.6	346 26.9 +01.9	N 23 14.6 -00.1	78 20.6 +02.4	S 01 21.0 +00.0	11						
12	297 54.6 +01.2	N 10 23.4 -00.6	1 28.8 +01.8	N 23 14.5 +00.0	93 23.0 +02.4	S 01 21.0 +00.0	12						
13	312 55.8 +01.1	N 10 22.8 -00.5	16 30.6 +01.8	N 23 14.5 +00.0	108 25.4 +02.4	S 01 21.0 -00.1	13						
14	327 56.9 +01.1	N 10 22.3 -00.6	31 32.4 +01.9	N 23 14.5 +00.0	123 27.8 +02.4	S 01 20.9 +00.0	14						
15	342 58.0 +01.1	N 10 21.7 -00.5	46 34.3 +01.8	N 23 14.5 +00.0	138 30.2 +02.4	S 01 20.9 +00.0	15						
16	357 59.1 +01.1	N 10 21.2 -00.6	61 36.1 +01.9	N 23 14.5 +00.0	153 32.6 +02.4	S 01 20.9 +00.0	16						
17	13 00.2 +01.2	N 10 20.6 -00.6	76 38.0 +01.8	N 23 14.5 +00.0	168 35.0 +02.4	S 01 20.9 +00.0	17						
18	28 01.4 +01.1	N 10 20.0 -00.5	91 39.8 +01.9	N 23 14.5 +00.0	183 37.4 +02.4	S 01 20.9 +00.0	18						
19	43 02.5 +01.1	N 10 19.5 -00.6	106 41.7 +01.8	N 23 14.5 -00.1	198 39.8 +02.4	S 01 20.9 +00.0	19						
20	58 03.6 +01.1	N 10 18.9 -00.6	121 43.5 +01.8	N 23 14.4 +00.0	213 42.2 +02.4	S 01 20.9 -00.1	20						
21	73 04.7 +01.1	N 10 18.3 -00.5	136 45.3 +01.9	N 23 14.4 +00.0	228 44.6 +02.4	S 01 20.8 +00.0	21						
22	88 05.8 +01.2	N 10 17.8 -00.6	151 47.2 +01.8	N 23 14.4 +00.0	243 47.0 +02.4	S 01 20.8 +00.0	22						
23	103 07.0 +01.1	N 10 17.2 -00.5	166 49.0 +01.9	N 23 14.4 +00.0	258 49.4 +02.4	S 01 20.8 +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 202° 202° 202° 202° 202° 202° Greenwich Culmination Time: 16:08	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 266° 266° 266° 266° 266° 266° Greenwich Culmination Time: 11:54	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 358° 358° 358° 358° 358° 358° Greenwich Culmination Time: 05:47										



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 11.2 -00.1	N 23 16.5 -00.1	225 18.5 -00.2	N 15 52.6 +00.7	142 41.0 -31.7	N 20 51.0 -11.5	00						
01	194 11.1 -00.1	N 23 16.4 -00.1	240 18.3 -00.3	N 15 53.3 +00.7	157 09.3 -31.5	N 20 39.5 -11.7	01						
02	209 11.0 -00.2	N 23 16.3 -00.1	255 18.0 -00.3	N 15 54.0 +00.7	171 37.8 -31.5	N 20 27.8 -11.7	02						
03	224 10.8 -00.1	N 23 16.2 -00.2	270 17.7 -00.2	N 15 54.7 +00.7	186 06.3 -31.3	N 20 16.1 -11.8	03						
04	239 10.7 -00.1	N 23 16.0 -00.1	285 17.5 -00.3	N 15 55.4 +00.7	200 35.0 -31.1	N 20 04.3 -12.0	04						
05	254 10.6 -00.2	N 23 15.9 -00.1	300 17.2 -00.2	N 15 56.1 +00.7	215 03.9 -31.1	N 19 52.3 -12.0	05						
06	269 10.4 -00.1	N 23 15.8 -00.1	315 17.0 -00.3	N 15 56.8 +00.7	229 32.8 -30.9	N 19 40.3 -12.1	06						
07	284 10.3 -00.1	N 23 15.7 -00.2	330 16.7 -00.2	N 15 57.5 +00.7	244 01.9 -30.8	N 19 28.2 -12.1	07						
08	299 10.2 -00.1	N 23 15.5 -00.1	345 16.5 -00.3	N 15 58.2 +00.7	258 31.1 -30.7	N 19 16.1 -12.3	08						
09	314 10.1 -00.2	N 23 15.4 -00.1	0 16.2 -00.3	N 15 58.9 +00.7	273 00.4 -30.5	N 19 03.8 -12.4	09						
10	329 09.9 -00.1	N 23 15.3 -00.1	15 15.9 -00.2	N 15 59.6 +00.7	287 29.9 -30.4	N 18 51.4 -12.4	10						
11	344 09.8 -00.1	N 23 15.2 -00.2	30 15.7 -00.3	N 16 00.3 +00.7	301 59.5 -30.3	N 18 39.0 -12.5	11						
12	359 09.7 -00.1	N 23 15.0 -00.1	45 15.4 -00.2	N 16 01.0 +00.7	316 29.2 -30.2	N 18 26.5 -12.6	12						
13	14 09.6 -00.2	N 23 14.9 -00.1	60 15.2 -00.3	N 16 01.7 +00.7	330 59.0 -30.0	N 18 13.9 -12.7	13						
14	29 09.4 -00.1	N 23 14.8 -00.1	75 14.9 -00.3	N 16 02.4 +00.7	345 29.0 -30.0	N 18 01.2 -12.7	14						
15	44 09.3 -00.1	N 23 14.7 -00.2	90 14.6 -00.2	N 16 03.1 +00.7	359 59.0 -29.8	N 17 48.5 -12.8	15						
16	59 09.2 -00.2	N 23 14.5 -00.1	105 14.4 -00.3	N 16 03.8 +00.7	14 29.2 -29.7	N 17 35.7 -12.9	16						
17	74 09.0 -00.1	N 23 14.4 -00.1	120 14.1 -00.2	N 16 04.5 +00.7	28 59.5 -29.6	N 17 22.8 -12.9	17						
18	89 08.9 -00.1	N 23 14.3 -00.2	135 13.9 -00.3	N 16 05.2 +00.7	43 29.9 -29.4	N 17 09.9 -13.1	18						
19	104 08.8 -00.1	N 23 14.1 -00.1	150 13.6 -00.3	N 16 05.9 +00.7	58 00.5 -29.4	N 16 56.8 -13.0	19						
20	119 08.7 -00.2	N 23 14.0 -00.1	165 13.3 -00.2	N 16 06.6 +00.7	72 31.1 -29.2	N 16 43.8 -13.2	20						
21	134 08.5 -00.1	N 23 13.9 -00.2	180 13.1 -00.3	N 16 07.3 +00.7	87 01.9 -29.1	N 16 30.6 -13.2	21						
22	149 08.4 -00.1	N 23 13.7 -00.1	195 12.8 -00.3	N 16 08.0 +00.7	101 32.8 -29.0	N 16 17.4 -13.3	22						
23	164 08.3 -00.2	N 23 13.6 -00.1	210 12.5 -00.2	N 16 08.7 +00.6	116 03.8 -28.9	N 16 04.1 -13.3	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'7 15'7 15'7 15'7 15'7 15'7		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	15'8 15'7 15'7 15'6 15'6 15'6						
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	57'9 57'7 57'6 57'4 57'3 57'1						
SHA	263° 263° 262° 262° 262° 262°		SHA	309° 309° 309° 308° 308° 308°		SHA	225° 223° 221° 219° 216° 214°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 08:58			Greenwich Culmination Time: 15:00						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 08.1 +01.1	N 10 16.7 -00.6	181 50.9 +01.8	N 23 14.4 +00.0	273 51.8 +02.4	S 01 20.8 +00.0	00						
01	133 09.2 +01.1	N 10 16.1 -00.6	196 52.7 +01.9	N 23 14.4 +00.0	288 54.2 +02.4	S 01 20.8 +00.0	01						
02	148 10.3 +01.1	N 10 15.5 -00.5	211 54.6 +01.8	N 23 14.4 -00.1	303 56.6 +02.4	S 01 20.8 +00.0	02						
03	163 11.4 +01.2	N 10 15.0 -00.6	226 56.4 +01.8	N 23 14.3 +00.0	318 59.0 +02.4	S 01 20.8 -00.1	03						
04	178 12.6 +01.1	N 10 14.4 -00.6	241 58.2 +01.9	N 23 14.3 +00.0	334 01.4 +02.4	S 01 20.7 +00.0	04						
05	193 13.7 +01.1	N 10 13.8 -00.5	257 00.1 +01.8	N 23 14.3 +00.0	349 03.8 +02.4	S 01 20.7 +00.0	05						
06	208 14.8 +01.1	N 10 13.3 -00.6	272 01.9 +01.9	N 23 14.3 +00.0	4 06.2 +02.4	S 01 20.7 +00.0	06						
07	223 15.9 +01.1	N 10 12.7 -00.6	287 03.8 +01.8	N 23 14.3 +00.0	19 08.6 +02.4	S 01 20.7 +00.0	07						
08	238 17.0 +01.2	N 10 12.1 -00.5	302 05.6 +01.9	N 23 14.3 +00.0	34 11.0 +02.4	S 01 20.7 +00.0	08						
09	253 18.2 +01.1	N 10 11.6 -00.6	317 07.5 +01.8	N 23 14.3 -00.1	49 13.4 +02.5	S 01 20.7 +00.0	09						
10	268 19.3 +01.1	N 10 11.0 -00.5	332 09.3 +01.9	N 23 14.2 +00.0	64 15.9 +02.4	S 01 20.7 -00.1	10						
11	283 20.4 +01.1	N 10 10.5 -00.6	347 11.2 +01.8	N 23 14.2 +00.0	79 18.3 +02.4	S 01 20.6 +00.0	11						
12	298 21.5 +01.1	N 10 09.9 -00.6	2 13.0 +01.8	N 23 14.2 +00.0	94 20.7 +02.4	S 01 20.6 +00.0	12						
13	313 22.6 +01.1	N 10 09.3 -00.5	17 14.8 +01.9	N 23 14.2 +00.0	109 23.1 +02.4	S 01 20.6 +00.0	13						
14	328 23.7 +01.2	N 10 08.8 -00.6	32 16.7 +01.8	N 23 14.2 +00.0	124 25.5 +02.4	S 01 20.6 +00.0	14						
15	343 24.9 +01.1	N 10 08.2 -00.6	47 18.5 +01.9	N 23 14.2 +00.0	139 27.9 +02.4	S 01 20.6 +00.0	15						
16	358 26.0 +01.1	N 10 07.6 -00.5	62 20.4 +01.8	N 23 14.2 -00.1	154 30.3 +02.4	S 01 20.6 +00.0	16						
17	13 27.1 +01.1	N 10 07.1 -00.6	77 22.2 +01.9	N 23 14.1 +00.0	169 32.7 +02.4	S 01 20.6 -00.1	17						
18	28 28.2 +01.1	N 10 06.5 -00.6	92 24.1 +01.8	N 23 14.1 +00.0	184 35.1 +02.4	S 01 20.5 +00.0	18						
19	43 29.3 +01.2	N 10 05.9 -00.5	107 25.9 +01.8	N 23 14.1 +00.0	199 37.5 +02.4	S 01 20.5 +00.0	19						
20	58 30.5 +01.1	N 10 05.4 -00.6	122 27.7 +01.9	N 23 14.1 +00.0	214 39.9 +02.4	S 01 20.5 +00.0	20						
21	73 31.6 +01.1	N 10 04.8 -00.6	137 29.6 +01.8	N 23 14.1 +00.0	229 42.3 +02.4	S 01 20.5 +00.0	21						
22	88 32.7 +01.1	N 10 04.2 -00.5	152 31.4 +01.9	N 23 14.1 +00.0	244 44.7 +02.4	S 01 20.5 +00.0	22						
23	103 33.8 +01.1	N 10 03.7 -00.6	167 33.3 +01.8	N 23 14.1 -00.1	259 47.1 +02.4	S 01 20.5 +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	202° 202° 202° 201° 201° 201°		SHA	265° 265° 265° 265° 265° 265°		SHA	358° 358° 358° 358° 357° 357°						
	Greenwich Culmination Time: 16:06			Greenwich Culmination Time: 11:51			Greenwich Culmination Time: 05:43						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 08.1 -00.1	N 23 13.5 -00.2	225 12.3 -00.3	N 16 09.3 +00.7	130 34.9 -28.8	N 15 50.8 -13.4	00						
01	194 08.0 -00.1	N 23 13.3 -00.1	240 12.0 -00.3	N 16 10.0 +00.7	145 06.1 -28.7	N 15 37.4 -13.4	01						
02	209 07.9 -00.1	N 23 13.2 -00.1	255 11.7 -00.2	N 16 10.7 +00.7	159 37.4 -28.6	N 15 24.0 -13.5	02						
03	224 07.8 -00.2	N 23 13.1 -00.2	270 11.5 -00.3	N 16 11.4 +00.7	174 08.8 -28.4	N 15 10.5 -13.6	03						
04	239 07.6 -00.1	N 23 12.9 -00.1	285 11.2 -00.3	N 16 12.1 +00.7	188 40.4 -28.4	N 14 56.9 -13.6	04						
05	254 07.5 -00.1	N 23 12.8 -00.2	300 10.9 -00.3	N 16 12.8 +00.7	203 12.0 -28.2	N 14 43.3 -13.6	05						
06	269 07.4 -00.1	N 23 12.6 -00.1	315 10.6 -00.2	N 16 13.5 +00.7	217 43.8 -28.2	N 14 29.7 -13.7	06						
07	284 07.3 -00.2	N 23 12.5 -00.1	330 10.4 -00.3	N 16 14.2 +00.7	232 15.6 -28.0	N 14 16.0 -13.8	07						
08	299 07.1 -00.1	N 23 12.4 -00.2	345 10.1 -00.3	N 16 14.9 +00.7	246 47.6 -28.0	N 14 02.2 -13.8	08						
09	314 07.0 -00.1	N 23 12.2 -00.1	0 09.8 -00.2	N 16 15.6 +00.6	261 19.6 -27.8	N 13 48.4 -13.8	09						
10	329 06.9 -00.1	N 23 12.1 -00.2	15 09.6 -00.3	N 16 16.2 +00.7	275 51.8 -27.8	N 13 34.6 -13.9	10						
11	344 06.8 -00.2	N 23 11.9 -00.1	30 09.3 -00.3	N 16 16.9 +00.7	290 24.0 -27.6	N 13 20.7 -13.9	11						
12	359 06.6 -00.1	N 23 11.8 -00.2	45 09.0 -00.3	N 16 17.6 +00.7	304 56.4 -27.6	N 13 06.8 -14.0	12						
13	14 06.5 -00.1	N 23 11.6 -00.1	60 08.7 -00.2	N 16 18.3 +00.7	319 28.8 -27.5	N 12 52.8 -14.0	13						
14	29 06.4 -00.1	N 23 11.5 -00.1	75 08.5 -00.3	N 16 19.0 +00.7	334 01.3 -27.3	N 12 38.8 -14.0	14						
15	44 06.3 -00.2	N 23 11.4 -00.2	90 08.2 -00.3	N 16 19.7 +00.7	348 34.0 -27.3	N 12 24.8 -14.1	15						
16	59 06.1 -00.1	N 23 11.2 -00.1	105 07.9 -00.3	N 16 20.4 +00.6	3 06.7 -27.2	N 12 10.7 -14.1	16						
17	74 06.0 -00.1	N 23 11.1 -00.2	120 07.6 -00.2	N 16 21.0 +00.7	17 39.5 -27.1	N 11 56.6 -14.2	17						
18	89 05.9 -00.1	N 23 10.9 -00.1	135 07.4 -00.3	N 16 21.7 +00.7	32 12.4 -27.0	N 11 42.4 -14.2	18						
19	104 05.8 -00.2	N 23 10.8 -00.2	150 07.1 -00.3	N 16 22.4 +00.7	46 45.4 -27.0	N 11 28.2 -14.2	19						
20	119 05.6 -00.1	N 23 10.6 -00.1	165 06.8 -00.3	N 16 23.1 +00.7	61 18.4 -26.8	N 11 14.0 -14.2	20						
21	134 05.5 -00.1	N 23 10.5 -00.2	180 06.5 -00.3	N 16 23.8 +00.7	75 51.6 -26.8	N 10 59.8 -14.3	21						
22	149 05.4 -00.1	N 23 10.3 -00.1	195 06.2 -00.2	N 16 24.5 +00.6	90 24.8 -26.7	N 10 45.5 -14.3	22						
23	164 05.3 -00.2	N 23 10.2 -00.2	210 06.0 -00.3	N 16 25.1 +00.7	104 58.1 -26.6	N 10 31.2 -14.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'2 00'2 00'2 00'2 00'2 00'1		SD 15'5 15'5 15'5 15'4 15'4 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 57'0 56'9 56'7 56'6 56'5 56'3								
	SHA 262° 262° 261° 261° 261° 261°		SHA 308° 308° 307° 307° 307° 307°		SHA 212° 210° 208° 206° 204° 202°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 08:59		Greenwich Culmination Time: 15:47								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	118 34.9 +01.2	N 10 03.1 -00.6	182 35.1 +01.9	N 23 14.0 +00.0	274 49.5 +02.4	S 01 20.5 -00.1	00						
01	133 36.1 +01.1	N 10 02.5 -00.5	197 37.0 +01.8	N 23 14.0 +00.0	289 51.9 +02.4	S 01 20.4 +00.0	01						
02	148 37.2 +01.1	N 10 02.0 -00.6	212 38.8 +01.9	N 23 14.0 +00.0	304 54.3 +02.4	S 01 20.4 +00.0	02						
03	163 38.3 +01.1	N 10 01.4 -00.6	227 40.7 +01.8	N 23 14.0 +00.0	319 56.7 +02.4	S 01 20.4 +00.0	03						
04	178 39.4 +01.1	N 10 00.8 -00.5	242 42.5 +01.8	N 23 14.0 +00.0	334 59.1 +02.4	S 01 20.4 +00.0	04						
05	193 40.5 +01.1	N 10 00.3 -00.6	257 44.3 +01.9	N 23 14.0 +00.0	350 01.5 +02.4	S 01 20.4 +00.0	05						
06	208 41.6 +01.2	N 09 59.7 -00.6	272 46.2 +01.8	N 23 14.0 -00.1	5 03.9 +02.5	S 01 20.4 +00.0	06						
07	223 42.8 +01.1	N 09 59.1 -00.5	287 48.0 +01.9	N 23 13.9 +00.0	20 06.4 +02.4	S 01 20.4 +00.0	07						
08	238 43.9 +01.1	N 09 58.6 -00.6	302 49.9 +01.8	N 23 13.9 +00.0	35 08.8 +02.4	S 01 20.4 -00.1	08						
09	253 45.0 +01.1	N 09 58.0 -00.6	317 51.7 +01.9	N 23 13.9 +00.0	50 11.2 +02.4	S 01 20.3 +00.0	09						
10	268 46.1 +01.1	N 09 57.4 -00.5	332 53.6 +01.8	N 23 13.9 +00.0	65 13.6 +02.4	S 01 20.3 +00.0	10						
11	283 47.2 +01.2	N 09 56.9 -00.6	347 55.4 +01.8	N 23 13.9 +00.0	80 16.0 +02.4	S 01 20.3 +00.0	11						
12	298 48.4 +01.1	N 09 56.3 -00.6	2 57.2 +01.9	N 23 13.9 -00.1	95 18.4 +02.4	S 01 20.3 +00.0	12						
13	313 49.5 +01.1	N 09 55.7 -00.5	17 59.1 +01.8	N 23 13.8 +00.0	110 20.8 +02.4	S 01 20.3 +00.0	13						
14	328 50.6 +01.1	N 09 55.2 -00.6	33 00.9 +01.9	N 23 13.8 +00.0	125 23.2 +02.4	S 01 20.3 +00.0	14						
15	343 51.7 +01.1	N 09 54.6 -00.6	48 02.8 +01.8	N 23 13.8 +00.0	140 25.6 +02.4	S 01 20.3 +00.0	15						
16	358 52.8 +01.1	N 09 54.0 -00.5	63 04.6 +01.9	N 23 13.8 +00.0	155 28.0 +02.4	S 01 20.3 -00.1	16						
17	13 53.9 +01.2	N 09 53.5 -00.6	78 06.5 +01.8	N 23 13.8 +00.0	170 30.4 +02.4	S 01 20.2 +00.0	17						
18	28 55.1 +01.1	N 09 52.9 -00.6	93 08.3 +01.9	N 23 13.8 +00.0	185 32.8 +02.4	S 01 20.2 +00.0	18						
19	43 56.2 +01.1	N 09 52.3 -00.5	108 10.2 +01.8	N 23 13.8 -00.1	200 35.2 +02.4	S 01 20.2 +00.0	19						
20	58 57.3 +01.1	N 09 51.8 -00.6	123 12.0 +01.8	N 23 13.7 +00.0	215 37.6 +02.5	S 01 20.2 +00.0	20						
21	73 58.4 +01.1	N 09 51.2 -00.6	138 13.8 +01.9	N 23 13.7 +00.0	230 40.1 +02.4	S 01 20.2 +00.0	21						
22	88 59.5 +01.1	N 09 50.6 -00.5	153 15.7 +01.8	N 23 13.7 +00.0	245 42.5 +02.4	S 01 20.2 +00.0	22						
23	104 00.6 +01.2	N 09 50.1 -00.6	168 17.5 +01.9	N 23 13.7 +00.0	260 44.9 +02.4	S 01 20.2 +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 201° 201° 201° 201° 201° 201°		SHA 265° 265° 265° 265° 265° 265°		SHA 357° 357° 357° 357° 357° 357°								
	Greenwich Culmination Time: 16:04		Greenwich Culmination Time: 11:48		Greenwich Culmination Time: 05:39								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 05.1 -00.1	N 23 10.0 -00.1	225 05.7 -00.3	N 16 25.8 +00.7	119 31.5 -26.5	N 10 16.9 -14.4	00						
01	194 05.0 -00.1	N 23 09.9 -00.2	240 05.4 -00.3	N 16 26.5 +00.7	134 05.0 -26.5	N 10 02.5 -14.4	01						
02	209 04.9 -00.1	N 23 09.7 -00.1	255 05.1 -00.3	N 16 27.2 +00.7	148 38.5 -26.3	N 09 48.1 -14.4	02						
03	224 04.8 -00.2	N 23 09.6 -00.2	270 04.8 -00.3	N 16 27.9 +00.6	163 12.2 -26.3	N 09 33.7 -14.4	03						
04	239 04.6 -00.1	N 23 09.4 -00.2	285 04.5 -00.2	N 16 28.5 +00.7	177 45.9 -26.2	N 09 19.3 -14.5	04						
05	254 04.5 -00.1	N 23 09.2 -00.1	300 04.3 -00.3	N 16 29.2 +00.7	192 19.7 -26.2	N 09 04.8 -14.4	05						
06	269 04.4 -00.1	N 23 09.1 -00.2	315 04.0 -00.3	N 16 29.9 +00.7	206 53.5 -26.1	N 08 50.4 -14.5	06						
07	284 04.3 -00.2	N 23 08.9 -00.1	330 03.7 -00.3	N 16 30.6 +00.7	221 27.4 -26.0	N 08 35.9 -14.5	07						
08	299 04.1 -00.1	N 23 08.8 -00.2	345 03.4 -00.3	N 16 31.3 +00.6	236 01.4 -25.9	N 08 21.4 -14.6	08						
09	314 04.0 -00.1	N 23 08.6 -00.1	0 03.1 -00.3	N 16 31.9 +00.7	250 35.5 -25.9	N 08 06.8 -14.5	09						
10	329 03.9 -00.1	N 23 08.5 -00.2	15 02.8 -00.3	N 16 32.6 +00.7	265 09.6 -25.8	N 07 52.3 -14.6	10						
11	344 03.8 -00.1	N 23 08.3 -00.2	30 02.5 -00.3	N 16 33.3 +00.7	279 43.8 -25.7	N 07 37.7 -14.5	11						
12	359 03.7 -00.2	N 23 08.1 -00.1	45 02.2 -00.2	N 16 34.0 +00.6	294 18.1 -25.7	N 07 23.2 -14.6	12						
13	14 03.5 -00.1	N 23 08.0 -00.2	60 02.0 -00.3	N 16 34.6 +00.7	308 52.4 -25.6	N 07 08.6 -14.6	13						
14	29 03.4 -00.1	N 23 07.8 -00.1	75 01.7 -00.3	N 16 35.3 +00.7	323 26.8 -25.6	N 06 54.0 -14.6	14						
15	44 03.3 -00.1	N 23 07.7 -00.2	90 01.4 -00.3	N 16 36.0 +00.7	338 01.2 -25.5	N 06 39.4 -14.6	15						
16	59 03.2 -00.2	N 23 07.5 -00.2	105 01.1 -00.3	N 16 36.7 +00.6	352 35.7 -25.4	N 06 24.8 -14.6	16						
17	74 03.0 -00.1	N 23 07.3 -00.1	120 00.8 -00.3	N 16 37.3 +00.7	7 10.3 -25.4	N 06 10.2 -14.7	17						
18	89 02.9 -00.1	N 23 07.2 -00.2	135 00.5 -00.3	N 16 38.0 +00.7	21 44.9 -25.3	N 05 55.5 -14.6	18						
19	104 02.8 -00.1	N 23 07.0 -00.2	150 00.2 -00.3	N 16 38.7 +00.7	36 19.6 -25.3	N 05 40.9 -14.7	19						
20	119 02.7 -00.2	N 23 06.8 -00.1	164 59.9 -00.3	N 16 39.4 +00.6	50 54.3 -25.2	N 05 26.2 -14.6	20						
21	134 02.5 -00.1	N 23 06.7 -00.2	179 59.6 -00.3	N 16 40.0 +00.7	65 29.1 -25.2	N 05 11.6 -14.7	21						
22	149 02.4 -00.1	N 23 06.5 -00.2	194 59.3 -00.3	N 16 40.7 +00.7	80 03.9 -25.1	N 04 56.9 -14.6	22						
23	164 02.3 -00.1	N 23 06.3 -00.1	209 59.0 -00.3	N 16 41.4 +00.7	94 38.8 -25.1	N 04 42.3 -14.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'3 15'3 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 56'2 56'1 56'0 55'8 55'7 55'6								
	SHA 261° 261° 260° 260° 260° 260°		SHA 307° 307° 306° 306° 306° 306°		SHA 200° 198° 196° 195° 193° 191°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 08:59		Greenwich Culmination Time: 16:30								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	119 01.8 +01.1	N 09 49.5 -00.6	183 19.4 +01.8	N 23 13.7 +00.0	275 47.3 +02.4	S 01 20.2 +00.0	00						
01	134 02.9 +01.1	N 09 48.9 -00.6	198 21.2 +01.9	N 23 13.7 -00.1	290 49.7 +02.4	S 01 20.2 -00.1	01						
02	149 04.0 +01.1	N 09 48.3 -00.5	213 23.1 +01.8	N 23 13.6 +00.0	305 52.1 +02.4	S 01 20.1 +00.0	02						
03	164 05.1 +01.1	N 09 47.8 -00.6	228 24.9 +01.9	N 23 13.6 +00.0	320 54.5 +02.4	S 01 20.1 +00.0	03						
04	179 06.2 +01.1	N 09 47.2 -00.6	243 26.8 +01.8	N 23 13.6 +00.0	335 56.9 +02.4	S 01 20.1 +00.0	04						
05	194 07.3 +01.2	N 09 46.6 -00.5	258 28.6 +01.8	N 23 13.6 +00.0	350 59.3 +02.4	S 01 20.1 +00.0	05						
06	209 08.5 +01.1	N 09 46.1 -00.6	273 30.4 +01.9	N 23 13.6 +00.0	6 01.7 +02.5	S 01 20.1 +00.0	06						
07	224 09.6 +01.1	N 09 45.5 -00.6	288 32.3 +01.8	N 23 13.6 -00.1	21 04.2 +02.4	S 01 20.1 +00.0	07						
08	239 10.7 +01.1	N 09 44.9 -00.5	303 34.1 +01.9	N 23 13.5 +00.0	36 06.6 +02.4	S 01 20.1 +00.0	08						
09	254 11.8 +01.1	N 09 44.4 -00.6	318 36.0 +01.8	N 23 13.5 +00.0	51 09.0 +02.4	S 01 20.1 +00.0	09						
10	269 12.9 +01.1	N 09 43.8 -00.6	333 37.8 +01.9	N 23 13.5 +00.0	66 11.4 +02.4	S 01 20.1 -00.1	10						
11	284 14.0 +01.2	N 09 43.2 -00.5	348 39.7 +01.8	N 23 13.5 +00.0	81 13.8 +02.4	S 01 20.0 +00.0	11						
12	299 15.2 +01.1	N 09 42.7 -00.6	3 41.5 +01.8	N 23 13.5 +00.0	96 16.2 +02.4	S 01 20.0 +00.0	12						
13	314 16.3 +01.1	N 09 42.1 -00.6	18 43.3 +01.9	N 23 13.5 -00.1	111 18.6 +02.4	S 01 20.0 +00.0	13						
14	329 17.4 +01.1	N 09 41.5 -00.6	33 45.2 +01.8	N 23 13.4 +00.0	126 21.0 +02.4	S 01 20.0 +00.0	14						
15	344 18.5 +01.1	N 09 40.9 -00.5	48 47.0 +01.9	N 23 13.4 +00.0	141 23.4 +02.5	S 01 20.0 +00.0	15						
16	359 19.6 +01.1	N 09 40.4 -00.6	63 48.9 +01.8	N 23 13.4 +00.0	156 25.9 +02.4	S 01 20.0 +00.0	16						
17	14 20.7 +01.2	N 09 39.8 -00.6	78 50.7 +01.9	N 23 13.4 +00.0	171 28.3 +02.4	S 01 20.0 +00.0	17						
18	29 21.9 +01.1	N 09 39.2 -00.5	93 52.6 +01.8	N 23 13.4 +00.0	186 30.7 +02.4	S 01 20.0 +00.0	18						
19	44 23.0 +01.1	N 09 38.7 -00.6	108 54.4 +01.9	N 23 13.4 +00.0	201 33.1 +02.4	S 01 20.0 +00.0	19						
20	59 24.1 +01.1	N 09 38.1 -00.6	123 56.3 +01.8	N 23 13.4 -00.1	216 35.5 +02.4	S 01 20.0 -00.1	20						
21	74 25.2 +01.1	N 09 37.5 -00.6	138 58.1 +01.8	N 23 13.3 +00.0	231 37.9 +02.4	S 01 19.9 +00.0	21						
22	89 26.3 +01.1	N 09 36.9 -00.5	153 59.9 +01.9	N 23 13.3 +00.0	246 40.3 +02.4	S 01 19.9 +00.0	22						
23	104 27.4 +01.1	N 09 36.4 -00.6	169 01.8 +01.8	N 23 13.3 +00.0	261 42.7 +02.4	S 01 19.9 +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 201° 201° 200° 200° 200° 200°		SHA 265° 265° 265° 265° 265° 265°		SHA 357° 357° 357° 357° 357° 357°								
	Greenwich Culmination Time: 16:02		Greenwich Culmination Time: 11:45		Greenwich Culmination Time: 05:35								