

Location:	Piazzì Smyth Observatory	Beginning:	01 Oct 2018 00:00
Latitude:	52°08'40" N	Ending:	31 Oct 2018 23:59
Longitude:	00°27'48" W	LT/UT:	LT
Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No

Moon

Mon 01 Oct 2018 Rise: 22:33 Az: 65°.6 Set: 14:02 Az: 309°.1 Transit: 05:50 Alt: 57°.7

00:00 RA: 05h16m13s Decl: +18°43'36" Con: Tau
 Alt: +17°.8 Az: 82°.1
 Ph: 66.1% Mag: Size: 31'.98
 SA2000: 5 U2000: I, 135 MSA: I, 183
 HB: B-13, C-35 U2000.2: I, 77 PSA: 14
 Dist (Earth): 375588km Dist (Sun): Motion:

Phase angle: 71°.24
 PA of N pole: -3°.48
 PA of bright limb: 86°.62
 Librations (Lat, Lng)
 Optical: +4°.623, -4°.010
 Physical: +0°.026, +0°.016
 Total: +4°.65, -3°.99

Tue 02 Oct 2018 Rise: 23:30 Az: 65°.3 Set: 15:04 Az: 311°.3 Transit: 06:48 Alt: 58°.8

00:00 RA: 06h14m57s Decl: +20°03'23" Con: Ori
 Alt: +10°.6 Az: 70°.9
 Ph: 55.2% Mag: Size: 32'.16
 SA2000: 5 U2000: I, 137 MSA: I, 180
 HB: B-11, C-34 U2000.2: I, 76 PSA: 25
 Dist (Earth): 372779km Dist (Sun): Motion: 13°.85

Phase angle: 84°.05
 PA of N pole: +2°.55
 PA of bright limb: 91°.50
 Librations (Lat, Lng)
 Optical: +3°.353, -3°.363
 Physical: +0°.026, +0°.017
 Total: +3°.38, -3°.35

Wed 03 Oct 2018 Rise: None Az: (null) Set: 15:58 Az: 310°.8 Transit: 07:46 Alt: 58°.5

00:00 RA: 07h14m56s Decl: +20°06'46" Con: Gem
 Alt: +2°.9 Az: 60°.2
 Ph: 43.9% Mag: Size: 32'.30
 SA2000: 5 U2000: I, 139 MSA: I, 177
 HB: B-11, C-34 U2000.2: I, 76 PSA: 25
 Dist (Earth): 370277km Dist (Sun): Motion: 14°.04

Phase angle: 97°.07
 PA of N pole: +8°.57
 PA of bright limb: 96°.93
 Librations (Lat, Lng)
 Optical: +1°.868, -2°.562
 Physical: +0°.025, +0°.019
 Total: +1°.89, -2°.54

Thu 04 Oct 2018 Rise: 00:38 Az: 56°.6 Set: 16:42 Az: 307°.7 Transit: 08:45 Alt: 56°.8

00:00 RA: 08h15m04s Decl: +18°50'50" Con: Cnc
 Alt: -5°.3 Az: 49°.7
 Ph: 32.7% Mag: Size: 32'.40
 SA2000: 6 U2000: I, 140 MSA: II, 714
 HB: B-11, C-33 U2000.2: I, 75 PSA: 24
 Dist (Earth): 368243km Dist (Sun): Motion: 14°.22

Phase angle: 110°.26

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Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No
	PA of N pole: +14°.11		
	PA of bright limb: 102°.51		
	Librations (Lat, Lng)		
	Optical: +0°.251, -1°.605		
	Physical: +0°.025, +0°.021		
	Total: +0°.28, -1°.58		
Fri 05 Oct 2018	Rise: 01:53 Az: 62°.0	Set: 17:18 Az: 302°.5	Transit: 09:42 Alt: 53°.8
00:00	RA: 09h14m20s Alt: -13°.4 Ph: 22.3% SA2000: 12 HB: B-11, C-32 Dist (Earth): 366877km	Decl: +16°19'58" Az: 38°.9 Mag: U2000: I, 142 U2000.2: I, 93 Dist (Sun):	Con: Cnc Size: 32'.44 MSA: II, 711 PSA: 35 Motion: 14°.37
	Phase angle: 123°.60		
	PA of N pole: +18°.72		
	PA of bright limb: 107°.94		
	Librations (Lat, Lng)		
	Optical: -1°.396, -0°.504		
	Physical: +0°.024, +0°.022		
	Total: -1°.37, -0°.48		
Sat 06 Oct 2018	Rise: 03:13 Az: 69°.3	Set: 17:47 Az: 295°.7	Transit: None Alt: (null)
00:00	RA: 10h12m01s Alt: -21°.3 Ph: 13.4% SA2000: 13 HB: B-9, C-31 Dist (Earth): 366394km	Decl: +12°45'12" Az: 27°.4 Mag: U2000: I, 189 U2000.2: I, 93 Dist (Sun):	Con: Leo Size: 32'.41 MSA: II, 732 PSA: 35 Motion: 14°.47
	Phase angle: 137°.02		
	PA of N pole: +22°.05		
	PA of bright limb: 113°.14		
	Librations (Lat, Lng)		
	Optical: -2°.964, +0°.715		
	Physical: +0°.024, +0°.024		
	Total: -2°.94, +0°.74		
Sun 07 Oct 2018	Rise: 04:34 Az: 77°.7	Set: 18:13 Az: 287°.9	Transit: 11:32 Alt: 44°.8
00:00	RA: 11h07m50s Alt: -28°.4 Ph: 6.5% SA2000: 13 HB: B-9, C-49 Dist (Earth): 366977km	Decl: +08°22'31" Az: 14°.8 Mag: U2000: I, 191 U2000.2: I, 92 Dist (Sun):	Con: Leo Size: 32'.30 MSA: II, 729 PSA: 34 Motion: 14°.49
	Phase angle: 150°.41		
	PA of N pole: +23°.92		
	PA of bright limb: 118°.68		
	Librations (Lat, Lng)		
	Optical: -4°.344, +1°.993		
	Physical: +0°.024, +0°.026		
	Total: -4°.32, +2°.02		
Mon 08 Oct 2018	Rise: 05:55 Az: 86°.8	Set: 18:37 Az: 279°.8	Transit: 12:23 Alt: 39°.6
00:00	RA: 12h01m55s Alt: -34°.3	Decl: +03°30'27" Az: 0°.7	Con: Vir

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Longitude:	00°27'48" W	LT/UT:	LT
Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No
	Ph: 2.1%	Mag:	Size: 32'.10
	SA2000: 13	U2000: I,II, 238	MSA: II, 750
	HB: B-9, C-48	U2000.2: I,II, 111	PSA: 45
	Dist (Earth): 368733km	Dist (Sun):	Motion: 14°.42
	Phase angle:	163°.53	
	PA of N pole:	+24°.28	
	PA of bright limb:	127°.75	
	Librations (Lat, Lng)		
	Optical:	-5°.441, +3°.248	
	Physical:	+0°.024, +0°.027	
	Total:	-5°.42, +3°.28	
Tue 09 Oct 2018	Rise: 07:15 Az: 95°.9	Set: 19:00 Az: 271°.6	Transit: 13:14 Alt: 34°.3
00:00	RA: 12h54m41s Alt: -38°.5 Ph: 0.2%	Decl: -01°31'54" Az: 345°.1 Mag:	Con: Vir Size: 31'.81
	SA2000: 14 HB: B-10, C-47 Dist (Earth): 371652km	U2000: I,II, 239 U2000.2: I,II, 110 Dist (Sun):	MSA: II, 772 PSA: 47 Motion: 14°.25
	Phase angle:	174°.58	
	PA of N pole:	+23°.23	
	PA of bright limb:	173°.72	
	Librations (Lat, Lng)		
	Optical:	-6°.184, +4°.377	
	Physical:	+0°.024, +0°.028	
	Total:	-6°.16, +4°.41	
Wed 10 Oct 2018	Rise: 08:32 Az: 104°.9	Set: 19:24 Az: 263°.8	Transit: 14:04 Alt: 29°.4
00:00	RA: 13h46m37s Alt: -40°.3 Ph: 1.0%	Decl: -06°26'34" Az: 328°.5 Mag:	Con: Vir Size: 31'.47
	SA2000: 14 HB: B-10, C-47 Dist (Earth): 375591km	U2000: II, 286 U2000.2: II, 130 Dist (Sun):	MSA: II, 793 PSA: 46 Motion: 13°.99
	Phase angle:	168°.41	
	PA of N pole:	+20°.91	
	PA of bright limb:	265°.51	
	Librations (Lat, Lng)		
	Optical:	-6°.538, +5°.275	
	Physical:	+0°.024, +0°.028	
	Total:	-6°.51, +5°.30	
Thu 11 Oct 2018	Rise: 09:48 Az: 113°.1	Set: 19:50 Az: 256°.8	Transit: 14:53 Alt: 25°.0
00:00	RA: 14h38m13s Alt: -39°.8 Ph: 4.2%	Decl: -10°57'41" Az: 312°.0 Mag:	Con: Lib Size: 31'.09
	SA2000: 14 HB: B-8, C-46 Dist (Earth): 380284km	U2000: II, 287 U2000.2: II, 129 Dist (Sun):	MSA: II, 815 PSA: 46 Motion: 13°.66
	Phase angle:	156°.28	
	PA of N pole:	+17°.53	
	PA of bright limb:	276°.36	
	Librations (Lat, Lng)		
	Optical:	-6°.503, +5°.851	
	Physical:	+0°.025, +0°.029	
	Total:	-6°.48, +5°.88	

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Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No

Fri 12 Oct 2018	Rise: 11:00 Az: 120°3	Set: 20:19 Az: 250°9	Transit: 15:43 Alt: 21°5
00:00	RA: 15h29m51s Alt: -37°1 Ph: 9.5% SA2000: 15 HB: B-8, C-63 Dist (Earth): 385375km	Decl: -14°52'10" Az: 296°7 Mag: U2000: II, 289 U2000.2: II, 128 Dist (Sun):	Con: Lib Size: 30'.70 MSA: II, 812 PSA: 57 Motion: 13°30
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	144°.14 +13°.29 277°.40 -6°.110, +6°.046 +0°.025, +0°.029 -6°.08, +6°.07	

Sat 13 Oct 2018	Rise: 12:08 Az: 126°1	Set: 20:53 Az: 246°4	Transit: 16:33 Alt: 18°8
00:00	RA: 16h21m41s Alt: -32°7 Ph: 16.4% SA2000: 15 HB: B-8, C-63 Dist (Earth): 390464km	Decl: -17°59'57" Az: 283°2 Mag: U2000: II, 336 U2000.2: II, 127 Dist (Sun):	Con: Oph Size: 30'.34 MSA: III, 1373 PSA: 57 Motion: 12°92
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	132°.28 +8°.43 275°.56 -5°.408, +5°.840 +0°.025, +0°.028 -5°.38, +5°.87	

Sun 14 Oct 2018	Rise: 13:10 Az: 130°1	Set: 21:34 Az: 243°6	Transit: 17:23 Alt: 17°2
00:00	RA: 17h13m42s Alt: -27°2 Ph: 24.4% SA2000: 22 HB: B-8, C-62 Dist (Earth): 395156km	Decl: -20°14'06" Az: 271°5 Mag: U2000: II, 337 U2000.2: II, 146 Dist (Sun):	Con: Oph Size: 30'.02 MSA: III, 1371 PSA: 56 Motion: 12°58
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	120°.74 +3°.19 272°.31 -4°.459, +5°.252 +0°.026, +0°.028 -4°.43, +5°.28	

Mon 15 Oct 2018	Rise: 14:04 Az: 132°1	Set: 22:21 Az: 242°7	Transit: 18:13 Alt: 16°7
00:00	RA: 18h05m42s Alt: -20°8 Ph: 33.3% SA2000: 22 HB: B-6, C-61 Dist (Earth): 399106km	Decl: -21°30'41" Az: 261°3 Mag: U2000: II, 339 U2000.2: II, 145 Dist (Sun):	Con: Sgr Size: 29'.77 MSA: III, 1368 PSA: 67 Motion: 12°28
	Phase angle:	109°.49	

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Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No
	PA of N pole: -2°.16		
	PA of bright limb: 268°.28		
	Librations (Lat, Lng)		
	Optical: -3°.324, +4°.333		
	Physical: +0°.026, +0°.027		
	Total: -3°.30, +4°.36		
Tue 16 Oct 2018	Rise: 14:51 Az: 132°.1	Set: 23:14 Az: 243°.6	Transit: 19:01 Alt: 17°.2
00:00	RA: 18h57m21s Alt: -13°.9 Ph: 42.6% SA2000: 22 HB: B-6, C-61 Dist (Earth): 402037km	Decl: -21°48'35" Az: 252°.2 Mag: U2000: II, 341 U2000.2: II, 145 Dist (Sun):	Con: Sgr Size: 29'.61 MSA: III, 1390 PSA: 67 Motion: 12°.05
	Phase angle: 98°.47 PA of N pole: -7°.37 PA of bright limb: 263°.87 Librations (Lat, Lng)	Optical: -2°.061, +3°.158 Physical: +0°.026, +0°.026 Total: -2°.03, +3°.18	
Wed 17 Oct 2018	Rise: 15:30 Az: 130°.1	Set: None Az: (null)	Transit: 19:49 Alt: 18°.7
00:00	RA: 19h48m20s Alt: -6°.7 Ph: 52.1% SA2000: 22 HB: B-6, C-60 Dist (Earth): 403767km	Decl: -21°09'06" Az: 243°.8 Mag: U2000: II, 342 U2000.2: II, 144 Dist (Sun):	Con: Sgr Size: 29'.54 MSA: III, 1363 PSA: 66 Motion: 11°.91
	Phase angle: 87°.60 PA of N pole: -12°.19 PA of bright limb: 259°.39 Librations (Lat, Lng)	Optical: -0°.723, +1°.817 Physical: +0°.026, +0°.025 Total: -0°.70, +1°.84	
Thu 18 Oct 2018	Rise: 16:02 Az: 126°.5	Set: 00:13 Az: 237°.5	Transit: 20:35 Alt: 21°.0
00:00	RA: 20h38m24s Alt: +0°.7 Ph: 61.4% SA2000: 23 HB: B-6, C-60 Dist (Earth): 404213km	Decl: -19°35'31" Az: 235°.8 Mag: U2000: II, 344 U2000.2: II, 143 Dist (Sun):	Con: Cap Size: 29'.57 MSA: III, 1360 PSA: 66 Motion: 11°.84
	Phase angle: 76°.80 PA of N pole: -16°.40 PA of bright limb: 255°.04 Librations (Lat, Lng)	Optical: +0°.637, +0°.407 Physical: +0°.027, +0°.024 Total: +0°.66, +0°.43	
Fri 19 Oct 2018	Rise: 16:29 Az: 121°.7	Set: 01:15 Az: 242°.3	Transit: 21:21 Alt: 24°.2
00:00	RA: 21h27m27s Alt: +8°.2	Decl: -17°12'32" Az: 227°.7	Con: Cap

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Longitude:	00°27'48" W	LT/UT:	LT
Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No
	Ph: 70.4%	Mag:	Size: 29'.69
	SA2000: 16	U2000: II, 300	MSA: III, 1358
	HB: B-6, C-59	U2000.2: II, 123	PSA: 77
	Dist (Earth): 403396km	Dist (Sun):	Motion: 11°:87
	Phase angle:	65°:98	
	PA of N pole:	-19°:83	
	PA of bright limb:	250°:99	
	Librations (Lat, Lng)		
	Optical:	+1°:972, -0°:974	
	Physical:	+0°:027, +0°:022	
	Total:	+2°:00, -0°:95	
Sat 20 Oct 2018	Rise: 16:53	Set: 02:20	Transit: 22:05
	Az: 115°:9	Az: 248°:2	Alt: 28°:0
00:00	RA: 22h15m37s	Decl: -14°05'55"	Con: Aqr
	Alt: +15°:7	Az: 219°:3	
	Ph: 78.6%	Mag:	Size: 29'.90
	SA2000: 17	U2000: II, 302	MSA: III, 1332
	HB: B-4, C-58	U2000.2: II, 122	PSA: 77
	Dist (Earth): 401429km	Dist (Sun):	Motion: 11°:97
	Phase angle:	55°:08	
	PA of N pole:	-22°:36	
	PA of bright limb:	247°:27	
	Librations (Lat, Lng)		
	Optical:	+3°:232, -2°:236	
	Physical:	+0°:027, +0°:021	
	Total:	+3°:26, -2°:21	
Sun 21 Oct 2018	Rise: 17:15	Set: 03:27	Transit: 22:50
	Az: 109°:3	Az: 255°:1	Alt: 32°:3
00:00	RA: 23h03m09s	Decl: -10°22'23"	Con: Aqr
	Alt: +23°:0	Az: 210°:2	
	Ph: 85.9%	Mag:	Size: 30'.18
	SA2000: 17	U2000: II, 303	MSA: III, 1329
	HB: B-4, C-40	U2000.2: II, 122	PSA: 76
	Dist (Earth): 398510km	Dist (Sun):	Motion: 12°:14
	Phase angle:	44°:03	
	PA of N pole:	-23°:88	
	PA of bright limb:	243°:81	
	Librations (Lat, Lng)		
	Optical:	+4°:365, -3°:298	
	Physical:	+0°:028, +0°:020	
	Total:	+4°:39, -3°:28	
Mon 22 Oct 2018	Rise: 17:35	Set: 04:36	Transit: 23:34
	Az: 102°:2	Az: 262°:6	Alt: 36°:9
00:00	RA: 23h50m30s	Decl: -06°09'41"	Con: Aqr
	Alt: +29°:9	Az: 199°:9	
	Ph: 92.0%	Mag:	Size: 30'.51
	SA2000: 17	U2000: I,II, 215	MSA: III, 1303
	HB: B-4, C-39	U2000.2: I,II, 101	PSA: 76
	Dist (Earth): 394898km	Dist (Sun):	Motion: 12°:37
	Phase angle:	32°:80	
	PA of N pole:	-24°:35	
	PA of bright limb:	240°:22	
	Librations (Lat, Lng)		
	Optical:	+5°:315, -4°:098	
	Physical:	+0°:028, +0°:019	
	Total:	+5°:34, -4°:08	

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Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No

Tue 23 Oct 2018	Rise: 17:55 Az: 94°.9	Set: 05:46 Az: 270°.7	Transit: 00:20 Alt: 41°.7
00:00	RA: 00h38m13s Alt: +36°.0 Ph: 96.5% SA2000: 10 HB: B-4, C-39 Dist (Earth): 390887km	Decl: -01°36'57" Az: 187°.8 Mag: U2000: I,II, 216 U2000.2: I,II, 120 Dist (Sun):	Con: Cet Size: 30'.87 MSA: I, 269 PSA: 7 Motion: 12°.63
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	21°.42 -23°.73 235°.02 +6°.027, -4°.598 +0°.028, +0°.018 +6°.06, -4°.58	

Wed 24 Oct 2018	Rise: 18:17 Az: 87°.4	Set: 06:58 Az: 279°.0	Transit: 00:20 Alt: 41°.7
00:00	RA: 01h26m54s Alt: +40°.8 Ph: 99.2% SA2000: 10 HB: B-3, C-56 Dist (Earth): 386778km	Decl: +03°04'51" Az: 173°.6 Mag: U2000: I,II, 218 U2000.2: I,II, 120 Dist (Sun):	Con: Psc Size: 31'.23 MSA: I, 242 PSA: 5 Motion: 12°.92
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	10°.25 -22°.00 219°.86 +6°.448, -4°.786 +0°.029, +0°.017 +6°.48, -4°.77	

Thu 25 Oct 2018	Rise: 18:41 Az: 80°.3	Set: 08:12 Az: 287°.4	Transit: 01:07 Alt: 46°.4
00:00	RA: 02h17m10s Alt: +43°.6 Ph: 99.7% SA2000: 10 HB: B-13, C-55 Dist (Earth): 382848km	Decl: +07°42'35" Az: 157°.2 Mag: U2000: I, 174 U2000.2: I, 99 Dist (Sun):	Con: Cet Size: 31'.58 MSA: I, 240 PSA: 4 Motion: 13°.20
	Phase angle: PA of N pole: PA of bright limb: Librations (Lat, Lng) Optical: Physical: Total:	5°.92 -19°.17 127°.88 +6°.534, -4°.679 +0°.029, +0°.017 +6°.56, -4°.66	

Fri 26 Oct 2018	Rise: 19:10 Az: 73°.8	Set: 09:28 Az: 295°.3	Transit: 01:57 Alt: 50°.8
00:00	RA: 03h09m35s Alt: +43°.7 Ph: 98.0% SA2000: 10 HB: B-13, C-37 Dist (Earth): 379320km	Decl: +12°00'53" Az: 139°.6 Mag: U2000: I, 176 U2000.2: I, 98 Dist (Sun):	Con: Ari Size: 31'.87 MSA: I, 213 PSA: 15 Motion: 13°.46
	Phase angle:	16°.38	

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Longitude:	00°27'48" W	LT/UT:	LT
Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No
	PA of N pole: -15°.29		
	PA of bright limb: 90°.75		
	Librations (Lat, Lng)		
	Optical: +6°.260, -4°.317		
	Physical: +0°.029, +0°.017		
	Total: +6°.29, -4°.30		
Sat 27 Oct 2018	Rise: 19:45 Az: 68°.5	Set: 10:43 Az: 302°.3	Transit: 02:50 Alt: 54°.6
00:00	RA: 04h04m30s Alt: +41°.1 Ph: 93.9% SA2000: 11 HB: B-13, C-36 Dist (Earth): 376340km	Decl: +15°42'52" Az: 122°.5 Mag: U2000: I, 178 U2000.2: I, 98 Dist (Sun):	Con: Tau Size: 32'.11 MSA: I, 186 PSA: 15 Motion: 13°.68
	Phase angle: 28°.67		
	PA of N pole: -10°.46		
	PA of bright limb: 86°.63		
	Librations (Lat, Lng)		
	Optical: +5°.623, -3°.757		
	Physical: +0°.029, +0°.017		
	Total: +5°.65, -3°.74		
Sun 28 Oct 2018	Rise: 19:29 Az: 53°.1	Set: 10:55 Az: 295°.8	Transit: 02:45 Alt: 57°.3
00:00	RA: 05h01m55s Alt: +36°.0 Ph: 87.5% SA2000: 5 HB: B-13, C-35 Dist (Earth): 373977km	Decl: +18°31'27" Az: 107°.1 Mag: U2000: I, 134 U2000.2: I, 77 Dist (Sun):	Con: Tau Size: 32'.28 MSA: I, 184 PSA: 14 Motion: 13°.85
	Phase angle: 41°.34		
	PA of N pole: -4°.86		
	PA of bright limb: 88°.10		
	Librations (Lat, Lng)		
	Optical: +4°.649, -3°.061		
	Physical: +0°.029, +0°.018		
	Total: +4°.68, -3°.04		
Mon 29 Oct 2018	Rise: 20:23 Az: 64°.1	Set: 12:01 Az: 311°.1	Transit: 03:43 Alt: 58°.9
00:00	RA: 06h03m30s Alt: +37°.7 Ph: 78.9% SA2000: 5 HB: B-11, C-34 Dist (Earth): 372170km	Decl: +20°17'16" Az: 106°.3 Mag: U2000: I, 136 U2000.2: I, 76 Dist (Sun):	Con: Ori Size: 32'.45 MSA: I, 180 PSA: 25 Motion: 14°.56
	Phase angle: 54°.74		
	PA of N pole: +1°.44		
	PA of bright limb: 91°.94		
	Librations (Lat, Lng)		
	Optical: +3°.332, -2°.247		
	Physical: +0°.029, +0°.019		
	Total: +3°.36, -2°.23		
Tue 30 Oct 2018	Rise: 21:28 Az: 65°.4	Set: 12:58 Az: 311°.2	Transit: 04:42 Alt: 59°.0
00:00	RA: 07h04m08s Alt: +29°.4	Decl: +20°36'35" Az: 93°.8	Con: Gem

Location:	Piazzì Smyth Observatory	Beginning:	01 Oct 2018 00:00
Latitude:	52°08'40" N	Ending:	31 Oct 2018 23:59
Longitude:	00°27'48" W	LT/UT:	LT
Time Zone:	GMT Standard Time	Days to Skip:	1
Objects:	Moon	Apply Horizon:	No

Ph: 69.0%	Mag:	Size: 32'.48
SA2000: 5	U2000: I, 138	MSA: I, 153
HB: B-11, C-34	U2000.2: I, 76	PSA: 25
Dist (Earth): 371017km	Dist (Sun):	Motion: 14°.07

Phase angle:	67°.72
PA of N pole:	+7°.53
PA of bright limb:	96°.65
Librations (Lat, Lng)	
Optical:	+1°.854, -1°.420
Physical:	+0°.029, +0°.020
Total:	+1°.88, -1°.40

Wed 31 Oct 2018	Rise: 22:40 Az: 69°.1	Set: 13:44 Az: 308°.6	Transit: 05:40 Alt: 57°.7
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00:00	RA: 08h04m33s Alt: +20°.0 Ph: 58.0%	Decl: +19°34'50" Az: 83°.5 Mag:	Con: Cnc Size: 32'.46 MSA: II, 714 PSA: 24 Motion: 14°.12
	SA2000: 6 HB: B-11, C-33 Dist (Earth): 370377km	U2000: I, 140 U2000.2: I, 75 Dist (Sun):	

Phase angle:	80°.77
PA of N pole:	+13°.16
PA of bright limb:	101°.68
Librations (Lat, Lng)	
Optical:	+0°.259, -0°.567
Physical:	+0°.028, +0°.022
Total:	+0°.29, -0°.54

31 times calculated for each of 1 objects