

LICK OBSERVATORY CALENDAR FOR 2022 -NAUTICAL  
(computed for altitude 1283.0 m)

DATE (PST) 2022	SUN SET	TWILIGHT ENDS		MOON RISE	MOON SET	DAWN BEGINS		SUN RISE	NAUTICAL (12 deg) SIDEREAL TIMES			TWILIGHT/DAWN NIGHT (12 deg)			MOON (midnight) Zenith		
		12	18			18	12		TWI	MID	DAWN	LENGTH	DARK	%	RA	DEC	Dist
		h	h			h	h		h	h	h	h	h	h	h	m	m
SAT OCT 01	17 58	18 47	19 18		21 53	04 35	05 06	05 55	19 24	00 38	05 44	10.3	7.2	69	1758-2740	>90	
SUN OCT 02	17 56	18 46	19 16		22 55	04 36	05 07	05 56	19 27	00 41	05 49	10.4	6.2	59	1901-2743	>90	
MON OCT 03	17 55	18 44	19 15		00 04	04 37	05 08	05 57	19 29	00 45	05 54	10.4	5.1	48	2008-2518	>90	
TUE OCT 04	17 53	18 43	19 13		01 17	04 38	05 08	05 58	19 31	00 49	05 58	10.4	3.8	36	2105-2233	80	
WED OCT 05	17 52	18 41	19 12		02 30	04 39	05 09	05 59	19 33	00 53	06 03	10.5	2.7	25	2203-1757	68	
THU OCT 06	17 50	18 40	19 10	16 21	03 41	04 40	05 10	06 00	19 36	00 57	06 08	10.5	1.5	14	2257-1217	57	
FRI OCT 07	17 49	18 39	19 09	16 50	04 50	04 41	05 11	06 01	19 39	01 01	06 13	10.5	0.3	3	2348-0604	47	
SAT OCT 08	17 48	18 37	19 07	17 17	05 58	04 42	05 12	06 02	19 41	01 05	06 18	10.6	0.0	0	0038 0021	37	
SUN OCT 09	17 46	18 36	19 06	17 43	07 04	04 42	05 13	06 02	19 44	01 09	06 23	10.6	0.0	0	0127 0637	31	
MON OCT 10	17 45	18 34	19 04	18 09	08 10	04 43	05 14	06 03	19 46	01 13	06 28	10.7	0.0	0	0216 1227	29	
TUE OCT 11	17 43	18 33	19 03	18 38		04 44	05 15	06 04	19 49	01 17	06 33	10.7	0.1	0	0307 1734	31	
WED OCT 12	17 42	18 31	19 02	19 09		04 45	05 15	06 05	19 51	01 21	06 37	10.7	0.6	5	0358 2143	37	
THU OCT 13	17 40	18 30	19 00	19 45		04 46	05 16	06 06	19 54	01 25	06 42	10.8	1.2	11	0451 2446	45	
FRI OCT 14	17 39	18 29	18 59	20 27		04 47	05 17	06 07	19 57	01 29	06 47	10.8	2.0	18	0545 2633	54	
SAT OCT 15	17 38	18 27	18 58	21 15		04 48	05 18	06 08	19 59	01 33	06 52	10.8	2.8	25	0639 2701	64	
SUN OCT 16	17 36	18 26	18 56	22 09		04 49	05 19	06 09	20 02	01 37	06 57	10.9	3.7	34	0732 2612	74	
MON OCT 17	17 35	18 25	18 55	23 07		04 50	05 20	06 10	20 05	01 41	07 01	10.9	4.7	43	0823 2409	83	
TUE OCT 18	17 34	18 23	18 54	00 08		04 51	05 21	06 11	20 07	01 45	07 06	11.0	5.8	52	0914 2108	>90	
WED OCT 19	17 32	18 22	18 52	01 10		04 51	05 22	06 12	20 10	01 48	07 11	11.0	6.8	61	1002 1707	>90	
THU OCT 20	17 31	18 21	18 51	02 12		04 52	05 23	06 13	20 12	01 52	07 16	11.0	7.8	71	1048 1220	>90	
FRI OCT 21	17 30	18 20	18 50	03 14		04 53	05 23	06 14	20 15	01 56	07 20	11.0	8.9	80	1134 0656	>90	
SAT OCT 22	17 28	18 18	18 49	04 18	16 21	04 54	05 24	06 15	20 17	02 00	07 25	11.1	10.0	90	1220 0106	>90	
SUN OCT 23	17 27	18 17	18 47	05 23	16 46	04 55	05 25	06 15	20 20	02 04	07 30	11.1	11.1	99	1306-0456	>90	
MON OCT 24	17 26	18 16	18 46	06 30	17 12	04 56	05 26	06 16	20 23	02 08	07 35	11.2	11.2	100	1355-1054	>90	
TUE OCT 25	17 25	18 15	18 45	07 41	17 41	04 57	05 27	06 17	20 26	02 12	07 40	11.2	11.2	100	1446-1630	>90	
WED OCT 26	17 23	18 14	18 44	08 54	18 16	04 58	05 28	06 18	20 29	02 16	07 45	11.2	11.2	99	1542-2122	>90	
THU OCT 27	17 22	18 13	18 43		18 57	04 59	05 29	06 19	20 32	02 20	07 50	11.3	10.5	93	1641-2505	>90	
FRI OCT 28	17 21	18 12	18 42		19 47	04 59	05 30	06 20	20 35	02 24	07 55	11.3	9.7	85	1743-2719	>90	
SAT OCT 29	17 20	18 10	18 41		20 47	05 00	05 31	06 21	20 37	02 28	08 00	11.4	8.7	76	1847-2747	>90	
SUN OCT 30	17 19	18 09	18 40		21 55	05 01	05 32	06 22	20 40	02 32	08 05	11.4	7.6	66	1950-2627	>90	
MON OCT 31	17 18	18 08	18 39		23 07	05 02	05 33	06 23	20 43	02 36	08 10	11.4	6.4	56	2051-2328	>90	

ONE LINE REFERS TO EVENING DATE  
AND FOLLOWING MORNING.  
All dates and times are zone PST  
in upper table (except sid time).

FIRST QUARTER Oct 03 00:14 UT  
FULL MOON Oct 09 20:55 UT  
LAST QUARTER Oct 17 17:16 UT  
NEW MOON Oct 25 10:47 UT