

KSIĘŻYC

d	Wsch.	Kulm.	Zach.	A _w	A _z	α	δ	D	F
	λ=0°		φ=50°			0 ^h UT			
LISTOPAD 2013									
	h m	h m	h m	-°	+°	h m s	° ' "	' "	
1	4 14	9 57	15 30	81	78	12 19 09	- 5 04.5	31.3	-0.08
2	5 27	10 48	16 00	74	71	13 10 59	- 9 17.0	31.7	-0.03
3	6 41	11 41	16 35	68	65	14 05 27	-13 06.6	32.1	-0.00
4	7 54	12 38	17 18	63	61	15 02 46	-16 15.8	32.4	0.00
5	9 04	13 38	18 09	59	59	16 02 35	-18 27.4	32.6	0.03
6	10 08	14 38	19 09	59	59	17 04 02	-19 27.8	32.7	0.08
7	11 02	15 38	20 17	60	61	18 05 49	-19 10.2	32.7	0.16
8	11 48	16 35	21 30	64	66	19 06 35	-17 37.0	32.6	0.25
9	12 26	17 31	22 44	69	72	20 05 21	-14 57.8	32.4	0.36
10	12 58	18 23	23 58	75	78	21 01 41	-11 27.3	32.2	0.47
11	13 26	19 13	—	82	—	21 55 42	- 7 21.5	31.9	0.59
12	13 52	20 02	1 11	89	86	22 47 51	- 2 56.4	31.6	0.69
13	14 18	20 50	2 23	96	93	23 38 46	1 33.3	31.4	0.79
14	14 45	21 38	3 34	103	100	0 29 06	5 54.5	31.1	0.87
15	15 13	22 26	4 43	109	107	1 19 24	9 55.0	30.8	0.93
16	15 45	23 15	5 50	114	112	2 10 03	13 23.9	30.6	0.97
17	16 21	—	6 54	118	117	3 01 13	16 11.8	30.3	1.00
18	17 02	0 04	7 54	120	120	3 52 49	18 11.4	30.1	-1.00
19	17 48	0 54	8 48	121	121	4 44 31	19 18.0	29.9	-0.98
20	18 39	1 43	9 36	120	121	5 35 53	19 30.0	29.7	-0.95
21	19 35	2 31	10 17	118	119	6 26 29	18 48.8	29.5	-0.90
22	20 34	3 18	10 53	114	116	7 15 59	17 18.2	29.5	-0.83
23	21 34	4 03	11 24	110	112	8 04 17	15 03.9	29.5	-0.76
24	22 36	4 48	11 51	104	106	8 51 31	12 12.0	29.6	-0.67
25	23 40	5 31	12 16	98	101	9 38 02	8 49.0	29.8	-0.58
26	—	6 15	12 40	—	94	10 24 19	5 01.7	30.0	-0.48
27	0 45	7 00	13 03	91	88	11 11 04	0 57.0	30.4	-0.38
28	1 52	7 45	13 28	84	81	11 59 00	- 3 16.8	30.8	-0.29
29	3 02	8 34	13 56	77	74	12 48 53	- 7 29.7	31.3	-0.20
30	4 15	9 25	14 28	71	68	13 41 29	-11 28.8	31.8	-0.12

nów	3 XI	12 ^h 50 ^m	3 XI	6.9 ^h	Merkury	0°S
pierwsza kwadra	10 XI	5 ^h 57 ^m	3 XI	18.1 ^h	Saturn	2°N
pełnia:	17 XI	15 ^h 16 ^m	7 XI	0.6 ^h	Wenus	8°S
ostatnia kwadra:	25 XI	19 ^h 28 ^m	11 XI	10.8 ^h	Neptun	6°S
			14 XI	2.6 ^h	Uran	3°S
perygeum:	6 XI	9 ^h 29 ^m	22 XI	5.5 ^h	Jowisz	5°N
apogeum:	22 XI	9 ^h 51 ^m	27 XI	16.2 ^h	Mars	6°N