

NLC observations 2013, Lithuania; observers Ricardas Balciunas (RB), Audrius Dubietis (AD), Kazimieras Cernis (KC)

Year	mm	dd	Max. brightness	Integral brightness	Forms	Weather	Begin Time LT	End Time LT	Time Total	Observer	Site	Method	Comments
2013	05	20-	-	-	-	3	-	-	-	AD	Vilnius	vis	
2013	05	21-	-	-	-	1	-	-	-	AD	Vilnius	vis	
2013	05	22-	-	-	-	3	-	-	-	AD	Vilnius	vis	
2013	05	23-24	-	-	-	2-3	-	-	-	AD	Vilnius	vis	
2013	05	24-25	-	-	-	3	-	-	-	AD	Vilnius	vis	
2013	05	25-26	-	-	-	3	-	-	-	AD	Salakas	vis	
2013	05	26-27	-	-	-	3-2-2.5	-	-	-	RB	Vidiskes	photo	
2013	05	27-28	-	-	-	2-1	-	-	-	RB	Vidiskes	photo	
2013	05	28-	-	-	-	3	-	-	-	AD	Vilnius	vis	
2013	05	29-	-	-	-	1.5	-	-	-	RB	Vidiskes	photo	
			-	-	-	1-2.5	-	-	-	KC	Vilnius	photo	
2013	05	30-31	-	-	-	3	-	-	-	KC	Vilnius	photo	
2013	05	31-01	-	-	-	2	-	-	-	AD	Salakas	photo	
			-	-	-	3-2.5	-	-	-	KC	Vilnius	photo	
2013	06	01-	1,0			1.5				AD	Salakas	photo	frames 0060-0085
			1,0	6,0	2ab	1,5	01:34	02:55	01:21	RB	Vidiskes	photo	frames 7870-7876
						2.5-1.5				KC	Vilnius	photo	
2013	06	02-03	1,5	10,0	2ab,3a	1.5-1	23:22	02:15	02:53	RB	Vidiskes	photo	frames 7892-7926
						1				KC	Vilnius	photo	frames 0011-0018
2013	06	03-04	-	-	-	2.5-2	-	-	-	RB	Vidiskes	photo	
			-	-	-	3-2-3	-	-	-	KC	Vilnius	photo	
2013	06	04-05	2,0	13,5	2ab,4a	1.5	00:20	02:25	02:05	RB	Vidiskes	photo	frames 8016-8041, soliton waves
			-			2-3				KC	Vilnius	photo	fog
2013	06	05-06	-	-	-	3-2	-	-	-	KC	Vilnius	photo	
2013	06	06-07	-	-	-	2	-	-	-	RB	Vidiskes	photo	
			-	-	-	2.5-1.5	-	-	-	KC	Vilnius	photo	
2013	06	07-08	3,0			1.5				AD	Salakas	photo	Possibly artificial, from Plesetsk launch at 18:37 UT, frames 0051-0122
			3,0	31,0	2ab,3ab	2-1	00:05	03:15	03:10	RB	Vidiskes	photo	frames 8111-8149, arc shaped
						1.5				KC	Vilnius	photo	frames 0047-0062, very low
2013	06	08-09	-	-	-	2	-	-	-	AD	Salakas	photo	

		-	-	-	2.5-1.5	-	-	-	RB		photo	
		-	-	-	1	-	-	-	KC	Vilnius	photo	
2013 06 09-10	3,0				1				RB	Vidiskes	photo	frames 8170-8213, motion from W to E.
		38,0		2ab,3ab,4ab		23:30	03:05	03:35				Soliton waves
					2-1-2				KC	Vilnius	photo	frames 0019-0083, fog in the end
2013 06 10-11	2,5	28,0		2ab,3a	1.5-3	23:00	01:48	02:48	RB	Vidiskes	photo	frames 8215-8293, soliton waves
					1-3				KC	Vilnius	photo	frames 0001-0032
2013 06 11-12	3,5	39,5		2ab,3ab,4ab	1	23:40	03:46	04:06	RB	Vidiskes	photo	frames 8343-8385, soliton waves
					2-1				KC	Vilnius	photo	frames 0055-0093, soliton waves
2013 06 12-13	1,0	3,0		2b,3a	1-2	00:54	01:34	00:40	RB	Vidiskes	photo	frames 8410-8418
					1				KC	Vilnius	photo	
2013 06 13-14	-	-	-	-	2.5	-	-	-	RB	Vidiskes	photo	
					2.5	-	-	-	KC	Vilnius	photo	
2013 06 14-15	-	-	-	-	3-2-1	-	-	-	KC	Vilnius	photo	
2013 06 15-16	-	-	-	-	1.5-2	-	-	-	AD	Salakas	photo	
	1,0	3,5		2b	1-2.5	23:59	00:34	00:35	RB	Vidiskes	photo	frames 8498-8505, very low
	-				1-2				KC	Vilnius	photo	
2013 06 16-17	2,0	8,5		2ab,4a	3-1.5	02:26	03:27	01:01	KC	Vilnius	photo	frames 0019-0039
2013 06 17-18	1,5	2,5		2b	1	01:05	01:30	00:25	RB	Vidiskes	photo	frames 8565-8570
	-				1.5-2.5				KC	Vilnius	photo	
2013 06 18-19	3,0	30,0		2ab,3a	1-1.5	00:00	03:00	03:00	RB	Vidiskes	photo	frames 8607-8643
					1-2.5				KC	Vilnius	photo	frames 0056-0071
2013 06 19-20	3,5	38,5		2ab,3ab,4ab	1.5	23:45	03:02	03:17	RB	Vidiskes	photo	frames 8659-8698, soliton waves
					1.5				KC	Vilnius	photo	frames 0018-0078, soliton waves
2013 06 20-21	-	-	-	-	2.5-3	-	-	-	RB	Vidiskes	photo	
					2-3-2.5	-	-	-	KC	Vilnius	photo	
2013 06 21-22	-	-	-	-	1.5	-	-	-	AD	Salakas	photo	
					2	-	-	-	RB	Vidiskes	photo	
					1.5-2	-	-	-	KC	Vilnius	photo	
2013 06 22-23	-	-	-	-	2-1.5	-	-	-	AD	Salakas	photo	
					2.5-1	-	-	-	KC	Vilnius	photo	
2013 06 23-24	-	-	-	-	2.5	-	-	-	AD	Salakas	photo	
					3	-	-	-	KC	Vilnius	photo	
2013 06 24-25	-	-	-	-	3	-	-	-	KC	Vilnius	photo	
2013 06 25-26	1.5	6,0		1,2ab,3a	1.5	22:55	00:07	01:12	RB	Vidiskes	photo	frames 8801-8812
					1.5				KC	Vilnius	photo	frames 0001-0068

2013 06 26-27	-	-	-	3-1.5	-	-	-	KC	Vilnius	photo	
2013 06 27-28	-	-	-	1.5-2.5	-	-	-	RB	Vidiskes	photo	
	-	-	-	3-2	-	-	-	KC	Vilnius	photo	
2013 06 28-29	-	-	-	3	-	-	-	n/o	-	-	
2013 06 29-30	-	-	-	2.5-2	-	-	-	AD	Salakas	photo	
	-	-	-	2.5	-	-	-	RB	Vidiskes	photo	
	-	-	-	1.5-2.5	-	-	-	KC	Vilnius	photo	fog
2013 06 30-01	-	12,5	2ab	2-3	01:48	03:26	01:38	RB	Vidiskes	photo	
	2,0			2.5				KC	Vilnius	photo	frames 0075-0107
2013 07 01-	3,0	22,5	2ab,4ab	1	23:02	03:15	04:13	RB	Vidiskes	photo	frames 9006-9122, motion from W to E
				1-2.5				KC	Vilnius	photo	frames 0007-0116
2013 07 02-03	3,0	25,5	2ab,3a,4a	1.5	23:39	02:59	03:20	RB	Vidiskes	photo	frames 9157-9197
				2-1-2.5				KC	Vilnius	photo	frames 0063-0075
2013 07 03-04	4,0	52,5	2ab,3ab	1	23:10	03:10	04:00	RB	Vidiskes	photo	frames 9207-9255
				1				KC	Vilnius	photo	frames 0007-0211
2013 07 04-05	3,0	21,0	2ab,3a	1	23:45	02:00	02:15	RB	Vidiskes	photo	frames 9271-9298, from W to E
	-	-	-	1.5-1	-	-	-	KC	Vilnius	photo	
2013 07 05-06	-	-	-	2	-	-	-	AD	Salakas	photo	
	-	-	-	2	-	-	-	RB	Vidiskes	photo	
2013 07 06-07	-	-	-	2.5-1	-	-	-	AD	Salakas	photo	
	-	-	-	2	-	-	-	RB	Vidiskes	photo	
2013 07 07-08	0,5	7,0	2b	1	23:26	02:35	03:11	AD	Salakas	photo	frames 0031-0078, very low, subvisible
				1				RB	Vidiskes	photo	frames 9443-9470
2013 07 08-09	4,0	48,5	2ab,3a,4a	2-1-2.5	23:07	03:10	04:03	AD	Salakas	photo	frames 0007-0107, soliton waves
				2-1-3				RB	Vidiskes	photo	frames 9482-9529
2013 07 09-10	1,5	6,0	2a,3a,4b,O	1.5	22:56	00:05	01:09	AD	Salakas	photo	frames 0002-0057
				2				RB	Vidiskes	photo	frames 9537-9549
2013 07 10-11	3,0	38,0	2ab,3a,4b	1.5	23:15	03:41	04:26	AD	Salakas	photo	frames 0023-0149,soliton waves
				1.5				RB	Vidiskes	photo	frames 9597-9645
				1.5-3				KC	Vilnius	photo	
2013 07 11-12				2				AD	Salakas	photo	
				2				RB	Vidiskes	photo	
				2-3				KC	Vilnius	photo	
2013 07 12-13	-	-	-	3-2.5	-	-	-	KC	Vilnius	photo	
2013 07 13-14	-	-	-	3	-	-	-	AD	Salakas	photo	

	-	-	-	3	-	-	-	KC	Vilnius	photo	
2013 07 14-15	3,0			2				AD	Salakas	photo	frames 0012-0061
		23,5	1,2ab,3a	2	23:31	02:45	03:14	RB	Vidiskes	photo	frames 9708-9746
				2.5-3				KC	Vilnius	photo	
2013 07 15-16	1,0			2-1.5				AD	Salakas	photo	frames 0008-0050
		6,0	1,2a	2-1.5	23:10	00:35	01:25	RB	Vidiskes	photo	frames 9763-9775
				1.5				KC	Vilnius	photo	
2013 07 16-17	-	-	-	3-2.5	-	-	-	AD	Salakas	photo	
				1-2.5	-	-	-	KC	Vilnius	photo	
2013 07 17-18	4,0			1.5				AD	Salakas	photo	frames 0004-0155
		69,5	2ab,3ab,4ab	2	22:57	04:04	05:07	RB	Vidiskes	photo	frames 9813-9865
				3-2				KC	Vilnius	photo	frames 0093-0108
2013 07 18-19	-	-	-	1-2	-	-	-	AD	Salakas	photo	
				1.5-2	-	-	-	RB	Vidiskes	photo	
				1.5	-	-	-	KC	Vilnius	photo	
2013 07 19-20	2,5			2				RB	Vidiskes	photo	frames 9951-9978
		15,5	2b,4a	1-3-2	01:00	03:15	02:15	KC	Vilnius	photo	
2013 07 20-21	-	-	-	1.5-2.5	-	-	-	KC	Vilnius	photo	
2013 07 21-22	-	-	-	2-3-2	-	-	-	KC	Vilnius	photo	
2013 07 22-23	-	-	-	3	-	-	-	n/o	-	-	
2013 07 23-24	2,5	8,5	1,2ab,4a	2-3	23:07	23:50	00:43	AD	Salakas	photo	frames 0008-0022
2013 07 24-25	-	-	-	2.5	-	-	-	AD	Salakas	photo	
				2.5	-	-	-	KC	Vilnius	photo	
2013 07 25-26	-	-	-	3	-	-	-	AD	Salakas	photo	
				2.5-1	-	-	-	KC	Vilnius	photo	
2013 07 26-27	-	-	-	1.5-2.5	-	-	-	AD	Salakas	photo	
				2.5	-	-	-	KC	Vilnius	photo	
2013 07 27-28	-	-	-	1.5-2	-	-	-	AD	Salakas	photo	
				1-1.5	-	-	-	KC	Vilnius	photo	
2013 07 28-29	1,5			2-1				AD	Salakas	photo	frames 0093-0113
		6,0	2b	2-1	03:00	04:12	01:12	RB	Vidiskes	photo	frames 9999_36-9999_47
				1				KC	Vilnius	photo	
2013 07 29-30	-	-	-	2.5-1.5	-	-	-	AD	Salakas	photo	
				2.5-1.5	-	-	-	RB	Vidiskes	photo	
				1-2.5	-	-	-	KC	Vilnius	photo	
2013 07 30-31	-	-	-	3	-	-	-	n/o	-	-	

2013 07 31-01	-	-	-	1-2.5	-	-	-	AD	Salakas	photo
	-	-	-	1.5-2.5	-	-	-	RB	Vidiskes	photo
	-	-	-	1-2.5	-	-	-	KC	Vilnius	photo
2013 08 01-	-	-	-	1	-	-	-	AD	Salakas	photo
	-	-	-	1	-	-	-	KC	Vilnius	photo
2013 08 02-03	-	-	-	3	-	-	-	AD	Salakas	photo
	-	-	-	2-3	-	-	-	KC	Vilnius	photo
2013 08 03-04	-	-	-	1	-	-	-	KC	Vilnius	photo
2013 08 04-05	-	-	-	1-2	-	-	-	KC	Vilnius	photo
2013 08 05-06	-	-	-	1-2	-	-	-	KC	Vilnius	photo fog
2013 08 06-07	-	-	-	1.5-1	-	-	-	KC	Vilnius	photo
2013 08 07-08	-	-	-	1	-	-	-	KC	Vilnius	photo
2013 08 08-09	-	-	-	1-3	-	-	-	KC	Vilnius	photo
2013 08 09-10	-	-	-	2-3	-	-	-	KC	Vilnius	photo
2013 08 10-11	-	-	-	3	-	-	-	AD	Vilnius	vis
2013 08 11-12	-	-	-	1	-	-	-	AD	Salakas	photo
2013 08 12-13	-	-	-	2-3	-	-	-	AD	Salakas	photo
2013 08 13-14	-	-	-	3	-	-	-	AD	Salakas	vis
2013 08 14-15	-	-	-	2-1	-	-	-	AD	Salakas	vis
2013 08 15-16	-	-	-	2-1	-	-	-	AD	Salakas	vis