TABLE 13
LOCAL CIRCUMSTANCES FOR RUSSIA
TOTAL SOLAR ECLIPSE OF 2008 AUGUST 01

Location Name	Latitude	Longitude	Elev.	First Contact				Second Contact				Third Contact				Fourth Contact				Maximum Eclipse					Eclip.	Eclip.	Umbral	Umbral
				U.T.	P	V	Alt	U.T.	P	V		U.T.	P	V		U.T.	P	V	Alt	U.T.	P	V	Alt	Azm	Mag.	Obs.	Depth	Durat.
			m	h m s	°	°	°	h m s	°	°		h m s	°	°		h m s	°	°	°	h m s	°	°	°	°				
RUSSIA																												
Angarsk	52°34'N	103°54'E	–	09:55:06.3	289	249	26	–				–				11:46:41.5	123	86	9	10:52:31.5	206	167	17	278	0.874	0.849		
Arkangel'sk	64°30'N	040°25'E	7	08:54:24.3	310	314	43	–				–				11:07:58.0	103	89	40	10:01:50.3	27	21	43	192	0.774	0.724		
Astrachan	46°21'N	048°03'E	–	09:30:56.2	331	318	61	–				–				11:40:05.9	92	51	46	10:37:30.4	32	0	54	225	0.514	0.411		
Barnaul	53°22'N	083°45'E	–	09:44:57.3	299	264	39	10:47:31.0	129	91		10:49:46.6	287	248		11:48:16.7	117	78	21	10:48:38.9	28	350	30	260	1.038	1.000	0.804	02m16s
Belgorod	50°36'N	036°35'E	–	09:10:28.0	333	342	57	–				–				11:17:54.1	87	61	52	10:15:15.2	30	20	57	195	0.456	0.348		
Berdsk	54°47'N	083°02'E	–	09:41:51.5	298	266	39	10:44:33.0	113	76		10:46:51.9	303	266		11:45:37.1	117	80	21	10:45:42.6	208	171	30	258	1.038	1.000	0.913	02m19s
Bijsk	52°34'N	085°15'E	–	09:47:21.1	299	262	38	10:49:29.0	110	70		10:51:43.7	307	267		11:49:46.5	117	78	19	10:50:36.5	208	169	28	262	1.038	1.000	0.852	02m15s
Bratsk	56°05'N	101°48'E	–	09:48:04.8	288	253	27	–				–				11:41:18.5	124	89	12	10:46:15.6	206	170	19	274	0.868	0.841		
Chabarovsk	48°27'N	135°06'E	–	10:00:26.4	279	239	5	–				–				–				10:33	Set	–	–	0 298	0.603	0.513		
Chelyabinsk	55°10'N	061°24'E	–	09:24:58.0	311	293	49	–				–				11:38:13.7	107	73	35	10:33:33.2	29	0	43	233	0.815	0.776		
Cita	52°03'N	113°30'E	–	09:57:35.3	285	244	19	–				–				11:43:55.3	125	89	4	10:52:09.8	205	166	11	285	0.823	0.784		
Dzerzinsk	56°15'N	043°24'E	–	09:06:43.9	320	321	52	–				–				11:21:11.8	98	73	45	10:15:12.0	29	15	50	203	0.646	0.565		
Ekaterinburg	48°05'N	039°40'E	272	09:19:10.5	335	338	60	–				–				11:25:16.4	86	55	51	10:23:36.2	31	13	58	206	0.438	0.328		
Gorno-Altajsk	51°58'N	085°58'E	–	09:48:53.9	299	261	37	10:50:50.2	106	65		10:53:02.2	310	270		11:50:51.7	118	77	19	10:51:56.3	208	168	28	264	1.038	1.000	0.786	02m12s
Irkutsk	52°16'N	104°20'E	467	09:55:45.4	289	248	25	–				–				11:47:03.3	123	86	8	10:53:01.8	206	166	16	278	0.873	0.847		
Iskitim	54°38'N	083°18'E	–	09:42:18.0	298	265	39	10:44:55.9	110	73		10:47:13.6	306	269		11:45:54.7	117	80	21	10:46:04.9	208	171	30	259	1.038	1.000	0.855	02m18s
Izevsk	56°51'N	053°14'E	–	09:14:53.9	314	305	50	–				–				11:29:39.3	104	74	39	10:23:54.1	29	8	46	219	0.755	0.700		
Jaroslavl'	57°37'N	039°52'E	–	09:01:24.8	320	325	50	–				–				11:15:31.8	97	76	45	10:09:26.3	28	20	49	196	0.638	0.557		
Kazan	55°49'N	049°08'E	–	09:12:48.1	318	312	52	–				–				11:27:43.0	101	72	42	10:21:47.9	29	10	48	214	0.696	0.627		
Kemerovo	55°20'N	086°05'E	–	09:42:37.1	296	263	37	–				–				11:44:41.1	119	82	20	10:45:32.9	208	171	28	261	0.987	0.990		
Kirov	58°38'N	049°42'E	–	09:09:00.7	314	309	49	–				–				11:23:54.9	103	77	40	10:17:50.2	29	12	46	212	0.749	0.692		
Kirovograd	57°26'N	060°04'E	–	09:19:57.9	310	295	48	–				–				11:33:23.3	108	77	35	10:28:26.6	29	4	42	229	0.832	0.797		
Kogalym	62°02'N	074°30'E	–	09:23:30.3	298	278	40	10:27:39.3	155	129		10:29:35.8	259	233		11:30:35.8	116	87	27	10:28:37.6	27	1	34	242	1.039	1.000	0.386	01m56s
Kosh Agach	50°01'N	088°44'E	–	09:54:05.9	298	257	35	10:55:22.4	80	37		10:57:05.6	336	293		11:54:13.0	118	76	16	10:56:14.1	208	165	26	268	1.037	1.000	0.386	01m43s
Krasnodar	45°02'N	039°00'E	–	09:26:47.7	341	343	63	–				–				11:26:29.6	82	46	54	10:28:01.8	32	11	60	209	0.363	0.251		
Krasnojarsk	56°01'N	092°50'E	152	09:44:46.9	293	258	33	–				–				11:43:02.7	121	85	16	10:45:39.7	207	171	24	266	0.929	0.920		
Kurgan	55°26'N	065°18'E	–	09:27:47.4	308	287	48	–				–				11:39:49.3	110	74	32	10:35:47.9	29	359	41	238	0.859	0.831		
Langepas	61°10'N	075°23'E	–	09:25:31.3	298	277	40	10:29:38.3	155	128		10:31:35.3	260	233		11:32:26.2	116	86	27	10:30:36.9	27	0	34	243	1.039	1.000	0.394	01m57s
Magnitogorsk	53°27'N	059°04'E	–	09:26:00.9	314	296	52	–				–				11:39:46.6	105	69	36	10:34:55.4	30	360	45	232	0.767	0.715		
Megion	61°03'N	076°06'E	–	09:26:11.6	298	276	40	10:30:00.6	139	111		10:32:16.9	276	248		11:32:48.9	117	86	26	10:31:08.9	27	360	33	244	1.039	1.000	0.634	02m16s
Moscow	55°45'N	037°35'E	154	09:01:57.8	324	331	52	–				–				11:14:44.2	93	73	48	10:09:16.5	29	21	52	193	0.578	0.485		
Muravlenko	63°47'N	073°30'E	–	09:20:02.4	297	280	39	10:23:48.8	134	111		10:26:09.5	279	256		11:27:02.0	116	90	28	10:24:59.3	27	3	34	239	1.039	1.000	0.700	02m21s
Nabereznyje Cel…	55°42'N	052°19'E	–	09:15:56.4	316	307	51	–				–				11:30:46.1	103	72	40	10:25:01.6	29	7	47	219	0.728	0.666		
Nadym	65°35'N	072°42'E	–	09:16:45.6	297	281	38	10:20:11.9	110	89		10:22:37.8	303	282		11:23:25.7	116	92	28	10:21:24.9	207	185	33	236	1.039	1.000	0.886	02m26s
Gorki	56°20'N	044°00'E	–	09:07:10.2	320	320	52	–				–				11:21:44.8	98	73	44	10:15:43.2	29	15	50	204	0.653	0.575		
Niznevartovsk	60°56'N	076°31'E	–	09:26:39.8	298	276	40	10:30:21.7	131	104		10:32:43.4	283	256		11:33:07.3	117	86	26	10:31:32.6	27	360	33	245	1.039	1.000	0.757	02m22s
Niznij Tagil	57°55'N	059°57'E	–	09:19:04.8	309	295	48	–				–				11:32:27.5	108	77	35	10:27:30.0	29	4	42	228	0.837	0.803		
Novoaltajsk	53°24'N	083°58'E	–	09:45:01.3	299	264	38	10:47:30.1	123	84		10:49:47.7	293	255		11:48:13.4	117	78	21	10:48:39.0	28	350	29	260	1.038	1.000	0.920	02m18s
Novokuzneck	53°45'N	087°06'E	–	09:46:09.0	297	261	36	–				–				11:47:35.2	119	80	19	10:48:49.5	208	169	27	263	0.990	0.993		
Novosibirsk	55°02'N	082°55'E	–	09:41:19.2	298	266	39	10:44:02.3	110	74		10:46:20.6	306	270		11:45:08.7	117	80	22	10:45:11.6	208	172	30	258	1.038	1.000	0.861	02m18s
Noyabrsk	63°10'N	075°37'E	–	09:22:22.5	297	278	39	10:25:51.1	101	77		10:28:11.6	313	288		11:28:40.4	117	89	27	10:27:01.4	207	182	33	242	1.039	1.000	0.731	02m21s
Omsk	55°00'N	073°24'E	85	09:34:56.1	304	276	44	–				–				11:43:39.1	113	77	27	10:41:20.4	29	355	36	248	0.935	0.927		
Onguday	50°45'N	086°09'E	–	09:51:19.5	299	260	37	10:53:12.8	133	92		10:55:22.5	283	241		11:53:03.3	117	76	18	10:54:17.8	28	347	28	265	1.038	1.000	0.737	02m10s
Orenburg	51°54'N	055°06'E	–	09:25:21.0	319	303	54	–				–				11:39:21.8	102	65	39	10:34:22.7	30	1	48	229	0.698	0.630		
Penza	53°13'N	045°00'E	–	09:13:22.4	323	322	55	–				–				11:27:02.2	96	66	45	10:21:42.0	30	12	52	210	0.605	0.517		
Perm	58°00'N	056°15'E	–	09:15:45.7	311	300	49	–				–				11:29:57.4	106	77	37	10:24:29.7	29	6	44	223	0.802	0.759		
Prokopjevsk	53°53'N	086°45'E	–	09:45:42.4	297	262	37	–				–				11:47:21.1	118	80	19	10:48:29.1	208	170	28	262	0.992	0.995		
R'azan'	54°38'N	039°44'E	–	09:05:49.5	324	330	53	–				–				11:18:43.3	94	70	48	10:13:23.1	29	18	52	198	0.576	0.483		
Rostov-na-Donu	47°14'N	039°42'E	–	09:21:20.8	337	339	61	–				–				11:26:05.0	85	52	52	10:25:07.1	31	12	58	207	0.420	0.309		
St. Petersburg	59°55'N	030°15'E	5	08:49:51.8	320	334	46	–				–				11:01:55.8	94	83	47	09:56:13.4	27	29	48	177	0.607	0.519		
Samara	53°12'N	050°09'E	–	09:18:17.7	320	312	54	–				–				11:32:41.7	99	67	42	10:27:14.7	30	7	50	219	0.663	0.586		
Saratov	51°34'N	046°02'E	60	09:17:30.3	325	321	56	–				–				11:30:30.0	95	63	45	10:25:38.7	30	9	52	214	0.586	0.494		
Strezhevoy	60°44'N	077°35'E	–	09:27:42.5	298	275	39	10:31:10.2	111	83		10:33:34.3	304	276		11:33:42.7	117	86	26	10:32:22.3	207	179	33	246	1.039	1.000	0.885	02m24s
Toljatti	53°31'N	049°26'E	–	09:17:02.5	320	313	54	–				–				11:31:29.5	99	67	42	10:25:57.9	30	8	50	217	0.660	0.583		
Tomsk	56°30'N	084°58'E	–	09:39:49.0	296	265	37	–				–				11:42:29.8	119	83	21	10:43:00.6	208	173	29	258	0.988	0.991		
T'umen'	57°09'N	065°32'E	–	09:24:59.5	307	287	46	–				–				11:36:46.0	111	77	32	10:32:45.1	29	0	40	236	0.882	0.860		
Ufa	54°44'N	055°56'E	174	09:20:53.4	315	301	51	–				–				11:35:17.7	104	71	38	10:29:57.1	30	4	46	226	0.751	0.695		
Ulan-Ude	51°50'N	107°37'E	–	09:57:13.3	287	247	23	–				–				11:46:37.9	124	86	7	10:53:28.9	206	166	14	281	0.856	0.826		
Uljanovsk	54°20'N	048°24'E	–	09:14:36.9	320	315	53	–				–				11:29:13.0	99	69	43	10:23:31.0	30	9	50	214	0.663	0.586		
Vladimir	56°10'N	040°25'E	–	09:04:01.9	322	326	52	–				–				11:17:50.9	96	73	46	10:12:00.8	29	18	51	198	0.614	0.528		
Vladivostok	43°10'N	131°56'E	29	10:08:47.2	283	237	4	–				–				–				10:31	Set	–	–	0 295	0.424	0.312		
Volgograd	48°44'N	044°25'E	–	09:22:00.5	331	326	59	–				–				11:32:01.0	91	56	48	10:28:41.7	31	8	55	215	0.512	0.409		
Vologda	59°12'N	039°55'E	–	08:59:23.7	317	323	48	–				–				11:13:45.4	98	79	44	10:07:27.9	28	20	48	195	0.670	0.595		
Voronez	51°40'N	039°10'E	–	09:10:43.3	329	335	56	–				–				11:21:02.9	90	63	50	10:17:05.8	30	17	55	200	0.508	0.405		