

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
170°52.5'W	25°55.23'S		26°48.50'S	18:16:51	0.1	65.1	179.3	02m42.7s
170°45.0'W	25°52.08'S	27°39.30'S	26°45.39'S	18:16:51	0.2	65.0	179.5	02m43.0s
170°37.5'W	25°48.93'S	27°36.23'S	26°42.27'S	18:16:51	0.4	65.0	179.7	02m43.3s
170°30.0'W	25°45.78'S	27°33.15'S	26°39.16'S	18:16:51	0.5	64.9	179.8	02m43.6s
170°22.5'W	25°42.64'S	27°30.08'S	26°36.06'S	18:16:51	0.6	64.8	180.0	02m43.9s
170°15.0'W	25°39.50'S	27°27.02'S	26°32.95'S	18:16:51	0.7	64.8	180.2	02m44.2s
170°07.5'W	25°36.36'S	27°23.95'S	26°29.85'S	18:16:51	0.9	64.7	180.3	02m44.5s
170°00.0'W	25°33.22'S	27°20.89'S	26°26.75'S	18:16:52	1.0	64.7	180.5	02m44.8s
169°52.5'W	25°30.09'S	27°17.83'S	26°23.66'S	18:16:52	1.1	64.6	180.7	02m45.1s
169°45.0'W	25°26.96'S	27°14.78'S	26°20.56'S	18:16:52	1.2	64.6	180.8	02m45.4s
169°37.5'W	25°23.83'S	27°11.73'S	26°17.47'S	18:16:53	1.4	64.5	181.0	02m45.8s
169°30.0'W	25°20.71'S	27°08.68'S	26°14.39'S	18:16:53	1.5	64.4	181.2	02m46.1s
169°22.5'W	25°17.58'S	27°05.63'S	26°11.30'S	18:16:54	1.6	64.4	181.4	02m46.4s
169°15.0'W	25°14.47'S	27°02.59'S	26°08.22'S	18:16:54	1.7	64.3	181.5	02m46.7s
169°07.5'W	25°11.35'S	26°59.55'S	26°05.15'S	18:16:55	1.9	64.3	181.7	02m47.0s
169°00.0'W	25°08.24'S	26°56.51'S	26°02.07'S	18:16:56	2.0	64.2	181.9	02m47.3s
168°52.5'W	25°05.13'S	26°53.48'S	25°59.00'S	18:16:56	2.1	64.2	182.0	02m47.7s
168°45.0'W	25°02.02'S	26°50.45'S	25°55.93'S	18:16:57	2.2	64.1	182.2	02m48.0s
168°37.5'W	24°58.92'S	26°47.43'S	25°52.87'S	18:16:58	2.4	64.1	182.4	02m48.3s
168°30.0'W	24°55.82'S	26°44.40'S	25°49.81'S	18:16:59	2.5	64.0	182.6	02m48.6s
168°22.5'W	24°52.72'S	26°41.39'S	25°46.75'S	18:16:59	2.6	63.9	182.7	02m49.0s
168°15.0'W	24°49.63'S	26°38.37'S	25°43.70'S	18:17:00	2.7	63.9	182.9	02m49.3s
168°07.5'W	24°46.54'S	26°35.36'S	25°40.64'S	18:17:01	2.9	63.8	183.1	02m49.6s
168°00.0'W	24°43.45'S	26°32.35'S	25°37.60'S	18:17:02	3.0	63.8	183.3	02m49.9s
167°52.5'W	24°40.37'S	26°29.34'S	25°34.55'S	18:17:03	3.1	63.7	183.5	02m50.3s
167°45.0'W	24°37.29'S	26°26.34'S	25°31.51'S	18:17:04	3.2	63.7	183.6	02m50.6s
167°37.5'W	24°34.22'S	26°23.35'S	25°28.48'S	18:17:05	3.4	63.6	183.8	02m50.9s
167°30.0'W	24°31.14'S	26°20.35'S	25°25.44'S	18:17:06	3.5	63.5	184.0	02m51.3s
167°22.5'W	24°28.07'S	26°17.36'S	25°22.41'S	18:17:08	3.6	63.5	184.2	02m51.6s
167°15.0'W	24°25.01'S	26°14.38'S	25°19.39'S	18:17:09	3.8	63.4	184.4	02m51.9s
167°07.5'W	24°21.95'S	26°11.39'S	25°16.37'S	18:17:10	3.9	63.4	184.5	02m52.3s
167°00.0'W	24°18.89'S	26°08.41'S	25°13.35'S	18:17:11	4.0	63.3	184.7	02m52.6s
166°52.5'W	24°15.83'S	26°05.44'S	25°10.33'S	18:17:13	4.1	63.3	184.9	02m52.9s
166°45.0'W	24°12.78'S	26°02.47'S	25°07.32'S	18:17:14	4.3	63.2	185.1	02m53.3s
166°37.5'W	24°09.74'S	25°59.50'S	25°04.31'S	18:17:16	4.4	63.2	185.3	02m53.6s
166°30.0'W	24°06.69'S	25°56.54'S	25°01.31'S	18:17:17	4.5	63.1	185.5	02m54.0s
166°22.5'W	24°03.65'S	25°53.58'S	24°58.31'S	18:17:19	4.7	63.0	185.6	02m54.3s
166°15.0'W	24°00.62'S	25°50.62'S	24°55.32'S	18:17:20	4.8	63.0	185.8	02m54.6s
166°07.5'W	23°57.59'S	25°47.67'S	24°52.33'S	18:17:22	4.9	62.9	186.0	02m55.0s
166°00.0'W	23°54.56'S	25°44.73'S	24°49.34'S	18:17:24	5.0	62.9	186.2	02m55.3s
165°52.5'W	23°51.54'S	25°41.78'S	24°46.36'S	18:17:25	5.2	62.8	186.4	02m55.7s
165°45.0'W	23°48.52'S	25°38.85'S	24°43.38'S	18:17:27	5.3	62.8	186.6	02m56.0s
165°37.5'W	23°45.50'S	25°35.91'S	24°40.40'S	18:17:29	5.4	62.7	186.8	02m56.4s
165°30.0'W	23°42.49'S	25°32.98'S	24°37.43'S	18:17:31	5.6	62.6	187.0	02m56.7s
165°22.5'W	23°39.48'S	25°30.06'S	24°34.46'S	18:17:33	5.7	62.6	187.2	02m57.1s
165°15.0'W	23°36.48'S	25°27.14'S	24°31.50'S	18:17:35	5.8	62.5	187.3	02m57.4s
165°07.5'W	23°33.48'S	25°24.22'S	24°28.55'S	18:17:37	6.0	62.5	187.5	02m57.8s

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$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
165°00.0'W	23°30.49'S	25°21.31'S	24°25.59'S	18:17:39	6.1	62.4	187.7	02m58.1s
164°52.5'W	23°27.50'S	25°18.40'S	24°22.64'S	18:17:41	6.2	62.4	187.9	02m58.5s
164°45.0'W	23°24.51'S	25°15.50'S	24°19.70'S	18:17:43	6.3	62.3	188.1	02m58.9s
164°37.5'W	23°21.53'S	25°12.60'S	24°16.76'S	18:17:45	6.5	62.3	188.3	02m59.2s
164°30.0'W	23°18.55'S	25°09.70'S	24°13.82'S	18:17:47	6.6	62.2	188.5	02m59.6s
164°22.5'W	23°15.58'S	25°06.82'S	24°10.89'S	18:17:50	6.7	62.1	188.7	02m59.9s
164°15.0'W	23°12.61'S	25°03.93'S	24°07.97'S	18:17:52	6.9	62.1	188.9	03m00.3s
164°07.5'W	23°09.65'S	25°01.05'S	24°05.04'S	18:17:55	7.0	62.0	189.1	03m00.7s
164°00.0'W	23°06.69'S	24°58.18'S	24°02.13'S	18:17:57	7.1	62.0	189.3	03m01.0s
163°52.5'W	23°03.74'S	24°55.31'S	23°59.22'S	18:17:59	7.3	61.9	189.5	03m01.4s
163°45.0'W	23°00.79'S	24°52.44'S	23°56.31'S	18:18:02	7.4	61.9	189.7	03m01.8s
163°37.5'W	22°57.84'S	24°49.58'S	23°53.40'S	18:18:05	7.5	61.8	189.9	03m02.1s
163°30.0'W	22°54.90'S	24°46.72'S	23°50.51'S	18:18:07	7.7	61.7	190.1	03m02.5s
163°22.5'W	22°51.97'S	24°43.87'S	23°47.61'S	18:18:10	7.8	61.7	190.3	03m02.9s
163°15.0'W	22°49.04'S	24°41.03'S	23°44.73'S	18:18:13	7.9	61.6	190.5	03m03.2s
163°07.5'W	22°46.11'S	24°38.19'S	23°41.84'S	18:18:15	8.1	61.6	190.7	03m03.6s
163°00.0'W	22°43.19'S	24°35.35'S	23°38.97'S	18:18:18	8.2	61.5	190.9	03m04.0s
162°52.5'W	22°40.28'S	24°32.52'S	23°36.09'S	18:18:21	8.3	61.5	191.1	03m04.4s
162°45.0'W	22°37.37'S	24°29.70'S	23°33.23'S	18:18:24	8.5	61.4	191.3	03m04.7s
162°37.5'W	22°34.46'S	24°26.88'S	23°30.36'S	18:18:27	8.6	61.3	191.5	03m05.1s
162°30.0'W	22°31.56'S	24°24.07'S	23°27.51'S	18:18:30	8.7	61.3	191.7	03m05.5s
162°22.5'W	22°28.67'S	24°21.26'S	23°24.65'S	18:18:33	8.9	61.2	191.9	03m05.9s
162°15.0'W	22°25.78'S	24°18.45'S	23°21.81'S	18:18:36	9.0	61.2	192.1	03m06.3s
162°07.5'W	22°22.90'S	24°15.66'S	23°18.97'S	18:18:39	9.1	61.1	192.3	03m06.6s
162°00.0'W	22°20.02'S	24°12.86'S	23°16.13'S	18:18:43	9.3	61.0	192.6	03m07.0s
161°52.5'W	22°17.14'S	24°10.08'S	23°13.30'S	18:18:46	9.4	61.0	192.8	03m07.4s
161°45.0'W	22°14.28'S	24°07.30'S	23°10.48'S	18:18:49	9.5	60.9	193.0	03m07.8s
161°37.5'W	22°11.41'S	24°04.52'S	23°07.66'S	18:18:53	9.7	60.9	193.2	03m08.2s
161°30.0'W	22°08.56'S	24°01.75'S	23°04.84'S	18:18:56	9.8	60.8	193.4	03m08.6s
161°22.5'W	22°05.71'S	23°58.99'S	23°02.04'S	18:19:00	9.9	60.8	193.6	03m09.0s
161°15.0'W	22°02.86'S	23°56.23'S	22°59.23'S	18:19:03	10.1	60.7	193.8	03m09.4s
161°07.5'W	22°00.02'S	23°53.48'S	22°56.44'S	18:19:07	10.2	60.6	194.0	03m09.8s
161°00.0'W	21°57.19'S	23°50.73'S	22°53.65'S	18:19:11	10.3	60.6	194.3	03m10.2s
160°52.5'W	21°54.36'S	23°47.99'S	22°50.86'S	18:19:14	10.5	60.5	194.5	03m10.5s
160°45.0'W	21°51.53'S	23°45.25'S	22°48.08'S	18:19:18	10.6	60.5	194.7	03m10.9s
160°37.5'W	21°48.72'S	23°42.53'S	22°45.31'S	18:19:22	10.7	60.4	194.9	03m11.3s
160°30.0'W	21°45.91'S	23°39.80'S	22°42.54'S	18:19:26	10.9	60.3	195.1	03m11.7s
160°22.5'W	21°43.10'S	23°37.09'S	22°39.78'S	18:19:30	11.0	60.3	195.3	03m12.1s
160°15.0'W	21°40.30'S	23°34.38'S	22°37.03'S	18:19:34	11.2	60.2	195.6	03m12.5s
160°07.5'W	21°37.51'S	23°31.67'S	22°34.28'S	18:19:38	11.3	60.2	195.8	03m12.9s
160°00.0'W	21°34.72'S	23°28.98'S	22°31.54'S	18:19:42	11.4	60.1	196.0	03m13.4s
159°52.5'W	21°31.94'S	23°26.29'S	22°28.80'S	18:19:46	11.6	60.0	196.2	03m13.8s
159°45.0'W	21°29.17'S	23°23.60'S	22°26.07'S	18:19:50	11.7	60.0	196.4	03m14.2s
159°37.5'W	21°26.40'S	23°20.92'S	22°23.35'S	18:19:54	11.8	59.9	196.7	03m14.6s
159°30.0'W	21°23.64'S	23°18.25'S	22°20.63'S	18:19:59	12.0	59.9	196.9	03m15.0s
159°22.5'W	21°20.88'S	23°15.59'S	22°17.92'S	18:20:03	12.1	59.8	197.1	03m15.4s
159°15.0'W	21°18.13'S	23°12.93'S	22°15.22'S	18:20:07	12.2	59.7	197.3	03m15.8s
159°07.5'W	21°15.39'S	23°10.28'S	22°12.52'S	18:20:12	12.4	59.7	197.6	03m16.2s

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Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
159°00.0'W	21°12.65'S	23°07.63'S	22°09.83'S	18:20:16	12.5	59.6	197.8	03m16.6s
158°52.5'W	21°09.92'S	23°04.99'S	22°07.14'S	18:20:21	12.7	59.6	198.0	03m17.0s
158°45.0'W	21°07.20'S	23°02.36'S	22°04.47'S	18:20:26	12.8	59.5	198.2	03m17.5s
158°37.5'W	21°04.49'S	22°59.74'S	22°01.80'S	18:20:30	12.9	59.4	198.5	03m17.9s
158°30.0'W	21°01.78'S	22°57.12'S	21°59.13'S	18:20:35	13.1	59.4	198.7	03m18.3s
158°22.5'W	20°59.07'S	22°54.51'S	21°56.48'S	18:20:40	13.2	59.3	198.9	03m18.7s
158°15.0'W	20°56.38'S	22°51.91'S	21°53.83'S	18:20:45	13.4	59.3	199.2	03m19.1s
158°07.5'W	20°53.69'S	22°49.31'S	21°51.18'S	18:20:50	13.5	59.2	199.4	03m19.6s
158°00.0'W	20°51.01'S	22°46.72'S	21°48.55'S	18:20:55	13.6	59.1	199.6	03m20.0s
157°52.5'W	20°48.33'S	22°44.14'S	21°45.92'S	18:21:00	13.8	59.1	199.9	03m20.4s
157°45.0'W	20°45.67'S	22°41.57'S	21°43.30'S	18:21:05	13.9	59.0	200.1	03m20.8s
157°37.5'W	20°43.01'S	22°39.00'S	21°40.68'S	18:21:10	14.0	58.9	200.3	03m21.3s
157°30.0'W	20°40.35'S	22°36.44'S	21°38.08'S	18:21:15	14.2	58.9	200.6	03m21.7s
157°22.5'W	20°37.71'S	22°33.89'S	21°35.48'S	18:21:21	14.3	58.8	200.8	03m22.1s
157°15.0'W	20°35.07'S	22°31.34'S	21°32.89'S	18:21:26	14.5	58.8	201.0	03m22.6s
157°07.5'W	20°32.44'S	22°28.80'S	21°30.30'S	18:21:31	14.6	58.7	201.3	03m23.0s
157°00.0'W	20°29.81'S	22°26.27'S	21°27.72'S	18:21:37	14.7	58.6	201.5	03m23.4s
156°52.5'W	20°27.20'S	22°23.75'S	21°25.15'S	18:21:42	14.9	58.6	201.8	03m23.9s
156°45.0'W	20°24.59'S	22°21.24'S	21°22.59'S	18:21:48	15.0	58.5	202.0	03m24.3s
156°37.5'W	20°21.99'S	22°18.73'S	21°20.04'S	18:21:53	15.2	58.4	202.2	03m24.7s
156°30.0'W	20°19.40'S	22°16.23'S	21°17.49'S	18:21:59	15.3	58.4	202.5	03m25.2s
156°22.5'W	20°16.81'S	22°13.74'S	21°14.96'S	18:22:05	15.4	58.3	202.7	03m25.6s
156°15.0'W	20°14.23'S	22°11.26'S	21°12.42'S	18:22:11	15.6	58.3	203.0	03m26.1s
156°07.5'W	20°11.66'S	22°08.79'S	21°09.90'S	18:22:17	15.7	58.2	203.2	03m26.5s
156°00.0'W	20°09.10'S	22°06.32'S	21°07.39'S	18:22:22	15.9	58.1	203.5	03m27.0s
155°52.5'W	20°06.55'S	22°03.86'S	21°04.88'S	18:22:28	16.0	58.1	203.7	03m27.4s
155°45.0'W	20°04.00'S	22°01.42'S	21°02.38'S	18:22:35	16.1	58.0	204.0	03m27.9s
155°37.5'W	20°01.46'S	21°58.97'S	20°59.89'S	18:22:41	16.3	57.9	204.2	03m28.3s
155°30.0'W	19°58.94'S	21°56.54'S	20°57.41'S	18:22:47	16.4	57.9	204.5	03m28.7s
155°22.5'W	19°56.42'S	21°54.12'S	20°54.94'S	18:22:53	16.6	57.8	204.7	03m29.2s
155°15.0'W	19°53.90'S	21°51.70'S	20°52.48'S	18:22:59	16.7	57.7	205.0	03m29.7s
155°07.5'W	19°51.40'S	21°49.29'S	20°50.02'S	18:23:06	16.9	57.7	205.2	03m30.1s
155°00.0'W	19°48.90'S	21°46.90'S	20°47.57'S	18:23:12	17.0	57.6	205.5	03m30.6s
154°52.5'W	19°46.41'S	21°44.51'S	20°45.13'S	18:23:19	17.1	57.5	205.7	03m31.0s
154°45.0'W	19°43.94'S	21°42.13'S	20°42.70'S	18:23:25	17.3	57.5	206.0	03m31.5s
154°37.5'W	19°41.47'S	21°39.75'S	20°40.28'S	18:23:32	17.4	57.4	206.2	03m31.9s
154°30.0'W	19°39.01'S	21°37.39'S	20°37.87'S	18:23:38	17.6	57.3	206.5	03m32.4s
154°22.5'W	19°36.55'S	21°35.04'S	20°35.47'S	18:23:45	17.7	57.3	206.7	03m32.9s
154°15.0'W	19°34.11'S	21°32.69'S	20°33.07'S	18:23:52	17.8	57.2	207.0	03m33.3s
154°07.5'W	19°31.67'S	21°30.36'S	20°30.68'S	18:23:59	18.0	57.1	207.2	03m33.8s
154°00.0'W	19°29.25'S	21°28.03'S	20°28.31'S	18:24:06	18.1	57.1	207.5	03m34.2s
153°52.5'W	19°26.83'S	21°25.71'S	20°25.94'S	18:24:13	18.3	57.0	207.8	03m34.7s
153°45.0'W	19°24.43'S	21°23.40'S	20°23.58'S	18:24:20	18.4	56.9	208.0	03m35.2s
153°37.5'W	19°22.03'S	21°21.10'S	20°21.23'S	18:24:27	18.6	56.8	208.3	03m35.6s
153°30.0'W	19°19.64'S	21°18.82'S	20°18.89'S	18:24:34	18.7	56.8	208.5	03m36.1s
153°22.5'W	19°17.26'S	21°16.54'S	20°16.56'S	18:24:41	18.8	56.7	208.8	03m36.6s
153°15.0'W	19°14.89'S	21°14.27'S	20°14.24'S	18:24:49	19.0	56.6	209.1	03m37.1s
153°07.5'W	19°12.53'S	21°12.01'S	20°11.93'S	18:24:56	19.1	56.6	209.3	03m37.5s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
153°00.0'W	19°10.18'S	21°09.76'S	20°09.63'S	18:25:03	19.3	56.5	209.6	03m38.0s
152°52.5'W	19°07.84'S	21°07.52'S	20°07.34'S	18:25:11	19.4	56.4	209.9	03m38.5s
152°45.0'W	19°05.50'S	21°05.29'S	20°05.06'S	18:25:19	19.6	56.4	210.1	03m39.0s
152°37.5'W	19°03.18'S	21°03.07'S	20°02.79'S	18:25:26	19.7	56.3	210.4	03m39.4s
152°30.0'W	19°00.87'S	21°00.85'S	20°00.53'S	18:25:34	19.9	56.2	210.7	03m39.9s
152°22.5'W	18°58.57'S	20°58.65'S	19°58.27'S	18:25:42	20.0	56.1	210.9	03m40.4s
152°15.0'W	18°56.28'S	20°56.46'S	19°56.03'S	18:25:50	20.1	56.1	211.2	03m40.9s
152°07.5'W	18°53.99'S	20°54.29'S	19°53.80'S	18:25:57	20.3	56.0	211.5	03m41.4s
152°00.0'W	18°51.72'S	20°52.12'S	19°51.58'S	18:26:05	20.4	55.9	211.7	03m41.8s
151°52.5'W	18°49.46'S	20°49.96'S	19°49.37'S	18:26:13	20.6	55.8	212.0	03m42.3s
151°45.0'W	18°47.21'S	20°47.81'S	19°47.17'S	18:26:22	20.7	55.8	212.3	03m42.8s
151°37.5'W	18°44.97'S	20°45.67'S	19°44.98'S	18:26:30	20.9	55.7	212.6	03m43.3s
151°30.0'W	18°42.74'S	20°43.54'S	19°42.80'S	18:26:38	21.0	55.6	212.8	03m43.8s
151°22.5'W	18°40.52'S	20°41.43'S	19°40.63'S	18:26:46	21.1	55.5	213.1	03m44.3s
151°15.0'W	18°38.31'S	20°39.32'S	19°38.47'S	18:26:55	21.3	55.5	213.4	03m44.8s
151°07.5'W	18°36.11'S	20°37.23'S	19°36.33'S	18:27:03	21.4	55.4	213.7	03m45.3s
151°00.0'W	18°33.92'S	20°35.15'S	19°34.19'S	18:27:12	21.6	55.3	213.9	03m45.8s
150°52.5'W	18°31.75'S	20°33.07'S	19°32.07'S	18:27:20	21.7	55.2	214.2	03m46.3s
150°45.0'W	18°29.58'S	20°31.01'S	19°29.95'S	18:27:29	21.9	55.2	214.5	03m46.8s
150°37.5'W	18°27.43'S	20°28.96'S	19°27.85'S	18:27:38	22.0	55.1	214.8	03m47.2s
150°30.0'W	18°25.28'S	20°26.92'S	19°25.76'S	18:27:46	22.2	55.0	215.1	03m47.7s
150°22.5'W	18°23.15'S	20°24.90'S	19°23.68'S	18:27:55	22.3	54.9	215.3	03m48.2s
150°15.0'W	18°21.03'S	20°22.88'S	19°21.61'S	18:28:04	22.5	54.9	215.6	03m48.7s
150°07.5'W	18°18.92'S	20°20.88'S	19°19.55'S	18:28:13	22.6	54.8	215.9	03m49.2s
150°00.0'W	18°16.82'S	20°18.88'S	19°17.50'S	18:28:22	22.7	54.7	216.2	03m49.7s
149°52.5'W	18°14.73'S	20°16.90'S	19°15.47'S	18:28:31	22.9	54.6	216.5	03m50.2s
149°45.0'W	18°12.66'S	20°14.94'S	19°13.45'S	18:28:41	23.0	54.5	216.8	03m50.8s
149°37.5'W	18°10.59'S	20°12.98'S	19°11.44'S	18:28:50	23.2	54.5	217.0	03m51.3s
149°30.0'W	18°08.54'S	20°11.03'S	19°09.44'S	18:28:59	23.3	54.4	217.3	03m51.8s
149°22.5'W	18°06.50'S	20°09.10'S	19°07.45'S	18:29:09	23.5	54.3	217.6	03m52.3s
149°15.0'W	18°04.47'S	20°07.18'S	19°05.47'S	18:29:18	23.6	54.2	217.9	03m52.8s
149°07.5'W	18°02.46'S	20°05.27'S	19°03.51'S	18:29:28	23.8	54.1	218.2	03m53.3s
149°00.0'W	18°00.45'S	20°03.38'S	19°01.56'S	18:29:37	23.9	54.0	218.5	03m53.8s
148°52.5'W	17°58.46'S	20°01.49'S	18°59.62'S	18:29:47	24.1	54.0	218.8	03m54.3s
148°45.0'W	17°56.48'S	19°59.62'S	18°57.70'S	18:29:57	24.2	53.9	219.1	03m54.8s
148°37.5'W	17°54.51'S	19°57.76'S	18°55.78'S	18:30:07	24.3	53.8	219.4	03m55.3s
148°30.0'W	17°52.56'S	19°55.92'S	18°53.88'S	18:30:16	24.5	53.7	219.6	03m55.8s
148°22.5'W	17°50.62'S	19°54.09'S	18°51.99'S	18:30:26	24.6	53.6	219.9	03m56.4s
148°15.0'W	17°48.69'S	19°52.27'S	18°50.12'S	18:30:36	24.8	53.5	220.2	03m56.9s
148°07.5'W	17°46.77'S	19°50.46'S	18°48.26'S	18:30:47	24.9	53.5	220.5	03m57.4s
148°00.0'W	17°44.87'S	19°48.67'S	18°46.41'S	18:30:57	25.1	53.4	220.8	03m57.9s
147°52.5'W	17°42.97'S	19°46.89'S	18°44.57'S	18:31:07	25.2	53.3	221.1	03m58.4s
147°45.0'W	17°41.10'S	19°45.12'S	18°42.75'S	18:31:17	25.4	53.2	221.4	03m58.9s
147°37.5'W	17°39.23'S	19°43.36'S	18°40.94'S	18:31:28	25.5	53.1	221.7	03m59.5s
147°30.0'W	17°37.38'S	19°41.62'S	18°39.14'S	18:31:38	25.7	53.0	222.0	04m00.0s
147°22.5'W	17°35.54'S	19°39.90'S	18°37.35'S	18:31:49	25.8	52.9	222.3	04m00.5s
147°15.0'W	17°33.71'S	19°38.18'S	18°35.58'S	18:32:00	25.9	52.8	222.6	04m01.0s
147°07.5'W	17°31.90'S	19°36.48'S	18°33.83'S	18:32:10	26.1	52.8	222.9	04m01.6s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
147°00.0'W	17°30.10'S	19°34.80'S	18°32.08'S	18:32:21	26.2	52.7	223.2	04m02.1s
146°52.5'W	17°28.32'S	19°33.12'S	18°30.36'S	18:32:32	26.4	52.6	223.5	04m02.6s
146°45.0'W	17°26.55'S	19°31.47'S	18°28.64'S	18:32:43	26.5	52.5	223.8	04m03.1s
146°37.5'W	17°24.79'S	19°29.82'S	18°26.94'S	18:32:54	26.7	52.4	224.1	04m03.7s
146°30.0'W	17°23.05'S	19°28.19'S	18°25.25'S	18:33:05	26.8	52.3	224.4	04m04.2s
146°22.5'W	17°21.32'S	19°26.58'S	18°23.58'S	18:33:16	27.0	52.2	224.7	04m04.7s
146°15.0'W	17°19.60'S	19°24.98'S	18°21.92'S	18:33:27	27.1	52.1	225.0	04m05.2s
146°07.5'W	17°17.90'S	19°23.39'S	18°20.27'S	18:33:39	27.3	52.0	225.3	04m05.8s
146°00.0'W	17°16.21'S	19°21.82'S	18°18.64'S	18:33:50	27.4	51.9	225.6	04m06.3s
145°52.5'W	17°14.54'S	19°20.26'S	18°17.03'S	18:34:02	27.5	51.8	225.9	04m06.8s
145°45.0'W	17°12.88'S	19°18.72'S	18°15.43'S	18:34:13	27.7	51.7	226.3	04m07.4s
145°37.5'W	17°11.24'S	19°17.19'S	18°13.84'S	18:34:25	27.8	51.6	226.6	04m07.9s
145°30.0'W	17°09.61'S	19°15.68'S	18°12.27'S	18:34:36	28.0	51.5	226.9	04m08.4s
145°22.5'W	17°08.00'S	19°14.18'S	18°10.71'S	18:34:48	28.1	51.4	227.2	04m09.0s
145°15.0'W	17°06.40'S	19°12.70'S	18°09.17'S	18:35:00	28.3	51.3	227.5	04m09.5s
145°07.5'W	17°04.82'S	19°11.23'S	18°07.64'S	18:35:12	28.4	51.2	227.8	04m10.0s
145°00.0'W	17°03.25'S	19°09.78'S	18°06.13'S	18:35:24	28.6	51.1	228.1	04m10.6s
144°52.5'W	17°01.69'S	19°08.34'S	18°04.64'S	18:35:36	28.7	51.0	228.4	04m11.1s
144°45.0'W	17°00.15'S	19°06.92'S	18°03.16'S	18:35:48	28.9	50.9	228.7	04m11.6s
144°37.5'W	16°58.63'S	19°05.52'S	18°01.69'S	18:36:00	29.0	50.8	229.0	04m12.2s
144°30.0'W	16°57.12'S	19°04.13'S	18°00.24'S	18:36:13	29.1	50.7	229.3	04m12.7s
144°22.5'W	16°55.63'S	19°02.76'S	17°58.81'S	18:36:25	29.3	50.6	229.7	04m13.2s
144°15.0'W	16°54.16'S	19°01.40'S	17°57.39'S	18:36:37	29.4	50.5	230.0	04m13.8s
144°07.5'W	16°52.70'S	19°00.06'S	17°55.99'S	18:36:50	29.6	50.4	230.3	04m14.3s
144°00.0'W	16°51.25'S	18°58.73'S	17°54.61'S	18:37:03	29.7	50.3	230.6	04m14.9s
143°52.5'W	16°49.82'S	18°57.42'S	17°53.24'S	18:37:15	29.9	50.2	230.9	04m15.4s
143°45.0'W	16°48.41'S	18°56.13'S	17°51.88'S	18:37:28	30.0	50.1	231.2	04m15.9s
143°37.5'W	16°47.01'S	18°54.86'S	17°50.55'S	18:37:41	30.2	50.0	231.5	04m16.5s
143°30.0'W	16°45.63'S	18°53.60'S	17°49.23'S	18:37:54	30.3	49.9	231.8	04m17.0s
143°22.5'W	16°44.27'S	18°52.35'S	17°47.92'S	18:38:07	30.4	49.8	232.2	04m17.6s
143°15.0'W	16°42.92'S	18°51.13'S	17°46.63'S	18:38:20	30.6	49.7	232.5	04m18.1s
143°07.5'W	16°41.59'S	18°49.92'S	17°45.36'S	18:38:33	30.7	49.5	232.8	04m18.6s
143°00.0'W	16°40.28'S	18°48.73'S	17°44.11'S	18:38:46	30.9	49.4	233.1	04m19.2s
142°52.5'W	16°38.98'S	18°47.56'S	17°42.87'S	18:39:00	31.0	49.3	233.4	04m19.7s
142°45.0'W	16°37.70'S	18°46.40'S	17°41.65'S	18:39:13	31.2	49.2	233.7	04m20.3s
142°37.5'W	16°36.44'S	18°45.26'S	17°40.45'S	18:39:26	31.3	49.1	234.1	04m20.8s
142°30.0'W	16°35.19'S	18°44.14'S	17°39.27'S	18:39:40	31.5	49.0	234.4	04m21.3s
142°22.5'W	16°33.97'S	18°43.03'S	17°38.10'S	18:39:54	31.6	48.9	234.7	04m21.9s
142°15.0'W	16°32.76'S	18°41.95'S	17°36.95'S	18:40:07	31.7	48.7	235.0	04m22.4s
142°07.5'W	16°31.56'S	18°40.88'S	17°35.82'S	18:40:21	31.9	48.6	235.3	04m23.0s
142°00.0'W	16°30.39'S	18°39.83'S	17°34.70'S	18:40:35	32.0	48.5	235.6	04m23.5s
141°52.5'W	16°29.23'S	18°38.79'S	17°33.61'S	18:40:49	32.2	48.4	235.9	04m24.0s
141°45.0'W	16°28.09'S	18°37.78'S	17°32.53'S	18:41:03	32.3	48.3	236.3	04m24.6s
141°37.5'W	16°26.97'S	18°36.78'S	17°31.47'S	18:41:17	32.5	48.1	236.6	04m25.1s
141°30.0'W	16°25.86'S	18°35.81'S	17°30.43'S	18:41:31	32.6	48.0	236.9	04m25.7s
141°22.5'W	16°24.78'S	18°34.85'S	17°29.40'S	18:41:45	32.7	47.9	237.2	04m26.2s
141°15.0'W	16°23.71'S	18°33.90'S	17°28.40'S	18:42:00	32.9	47.8	237.5	04m26.7s
141°07.5'W	16°22.66'S	18°32.98'S	17°27.41'S	18:42:14	33.0	47.7	237.8	04m27.3s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
141°00.0'W	16°21.63'S	18°32.08'S	17°26.44'S	18:42:29	33.2	47.5	238.1	04m27.8s
140°52.5'W	16°20.62'S	18°31.20'S	17°25.49'S	18:42:43	33.3	47.4	238.5	04m28.4s
140°45.0'W	16°19.62'S	18°30.33'S	17°24.56'S	18:42:58	33.4	47.3	238.8	04m28.9s
140°37.5'W	16°18.65'S	18°29.49'S	17°23.65'S	18:43:13	33.6	47.1	239.1	04m29.4s
140°30.0'W	16°17.69'S	18°28.66'S	17°22.76'S	18:43:27	33.7	47.0	239.4	04m30.0s
140°22.5'W	16°16.76'S	18°27.85'S	17°21.89'S	18:43:42	33.9	46.9	239.7	04m30.5s
140°15.0'W	16°15.84'S	18°27.06'S	17°21.03'S	18:43:57	34.0	46.8	240.0	04m31.0s
140°07.5'W	16°14.94'S	18°26.30'S	17°20.20'S	18:44:12	34.2	46.6	240.3	04m31.6s
140°00.0'W	16°14.06'S	18°25.55'S	17°19.39'S	18:44:27	34.3	46.5	240.7	04m32.1s
139°52.5'W	16°13.20'S	18°24.82'S	17°18.59'S	18:44:43	34.4	46.4	241.0	04m32.7s
139°45.0'W	16°12.36'S	18°24.11'S	17°17.82'S	18:44:58	34.6	46.2	241.3	04m33.2s
139°37.5'W	16°11.54'S	18°23.42'S	17°17.06'S	18:45:13	34.7	46.1	241.6	04m33.7s
139°30.0'W	16°10.74'S	18°22.76'S	17°16.33'S	18:45:29	34.8	45.9	241.9	04m34.3s
139°22.5'W	16°09.96'S	18°22.11'S	17°15.61'S	18:45:44	35.0	45.8	242.2	04m34.8s
139°15.0'W	16°09.20'S	18°21.48'S	17°14.92'S	18:46:00	35.1	45.7	242.5	04m35.3s
139°07.5'W	16°08.46'S	18°20.88'S	17°14.24'S	18:46:16	35.3	45.5	242.8	04m35.9s
139°00.0'W	16°07.74'S	18°20.29'S	17°13.59'S	18:46:31	35.4	45.4	243.1	04m36.4s
138°52.5'W	16°07.05'S	18°19.72'S	17°12.96'S	18:46:47	35.5	45.2	243.4	04m36.9s
138°45.0'W	16°06.37'S	18°19.18'S	17°12.35'S	18:47:03	35.7	45.1	243.7	04m37.4s
138°37.5'W	16°05.71'S	18°18.66'S	17°11.75'S	18:47:19	35.8	45.0	244.0	04m38.0s
138°30.0'W	16°05.07'S	18°18.16'S	17°11.18'S	18:47:35	35.9	44.8	244.3	04m38.5s
138°22.5'W	16°04.46'S	18°17.68'S	17°10.63'S	18:47:51	36.1	44.7	244.6	04m39.0s
138°15.0'W	16°03.86'S	18°17.22'S	17°10.11'S	18:48:08	36.2	44.5	244.9	04m39.5s
138°07.5'W	16°03.29'S	18°16.78'S	17°09.60'S	18:48:24	36.4	44.4	245.2	04m40.1s
138°00.0'W	16°02.74'S	18°16.36'S	17°09.12'S	18:48:40	36.5	44.2	245.5	04m40.6s
137°52.5'W	16°02.21'S	18°15.97'S	17°08.65'S	18:48:57	36.6	44.1	245.8	04m41.1s
137°45.0'W	16°01.70'S	18°15.60'S	17°08.21'S	18:49:14	36.8	43.9	246.1	04m41.6s
137°37.5'W	16°01.21'S	18°15.25'S	17°07.79'S	18:49:30	36.9	43.8	246.4	04m42.2s
137°30.0'W	16°00.74'S	18°14.92'S	17°07.39'S	18:49:47	37.0	43.6	246.7	04m42.7s
137°22.5'W	16°00.30'S	18°14.62'S	17°07.02'S	18:50:04	37.2	43.4	247.0	04m43.2s
137°15.0'W	15°59.88'S	18°14.33'S	17°06.66'S	18:50:21	37.3	43.3	247.3	04m43.7s
137°07.5'W	15°59.48'S	18°14.07'S	17°06.33'S	18:50:38	37.4	43.1	247.6	04m44.2s
137°00.0'W	15°59.10'S	18°13.83'S	17°06.02'S	18:50:55	37.6	43.0	247.9	04m44.7s
136°52.5'W	15°58.74'S	18°13.62'S	17°05.74'S	18:51:12	37.7	42.8	248.2	04m45.2s
136°45.0'W	15°58.41'S	18°13.43'S	17°05.47'S	18:51:29	37.8	42.6	248.5	04m45.7s
136°37.5'W	15°58.10'S	18°13.26'S	17°05.23'S	18:51:46	37.9	42.5	248.8	04m46.3s
136°30.0'W	15°57.81'S	18°13.11'S	17°05.01'S	18:52:04	38.1	42.3	249.0	04m46.8s
136°22.5'W	15°57.55'S	18°12.99'S	17°04.82'S	18:52:21	38.2	42.1	249.3	04m47.3s
136°15.0'W	15°57.31'S	18°12.89'S	17°04.65'S	18:52:39	38.3	42.0	249.6	04m47.8s
136°07.5'W	15°57.09'S	18°12.81'S	17°04.50'S	18:52:56	38.5	41.8	249.9	04m48.3s
136°00.0'W	15°56.89'S	18°12.76'S	17°04.37'S	18:53:14	38.6	41.6	250.2	04m48.8s
135°52.5'W	15°56.72'S	18°12.73'S	17°04.27'S	18:53:32	38.7	41.5	250.4	04m49.3s
135°45.0'W	15°56.57'S	18°12.73'S	17°04.19'S	18:53:49	38.8	41.3	250.7	04m49.7s
135°37.5'W	15°56.45'S	18°12.74'S	17°04.14'S	18:54:07	39.0	41.1	251.0	04m50.2s
135°30.0'W	15°56.34'S	18°12.79'S	17°04.11'S	18:54:25	39.1	40.9	251.2	04m50.7s
135°22.5'W	15°56.27'S	18°12.85'S	17°04.10'S	18:54:43	39.2	40.8	251.5	04m51.2s
135°15.0'W	15°56.21'S	18°12.94'S	17°04.12'S	18:55:02	39.3	40.6	251.8	04m51.7s
135°07.5'W	15°56.18'S	18°13.06'S	17°04.16'S	18:55:20	39.5	40.4	252.0	04m52.2s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
135°00.0'W	15°56.18'S	18°13.20'S	17°04.23'S	18:55:38	39.6	40.2	252.3	04m52.7s
134°52.5'W	15°56.20'S	18°13.37'S	17°04.32'S	18:55:57	39.7	40.1	252.6	04m53.1s
134°45.0'W	15°56.24'S	18°13.55'S	17°04.43'S	18:56:15	39.8	39.9	252.8	04m53.6s
134°37.5'W	15°56.31'S	18°13.77'S	17°04.57'S	18:56:34	40.0	39.7	253.1	04m54.1s
134°30.0'W	15°56.40'S	18°14.01'S	17°04.74'S	18:56:52	40.1	39.5	253.3	04m54.6s
134°22.5'W	15°56.51'S	18°14.27'S	17°04.93'S	18:57:11	40.2	39.3	253.6	04m55.0s
134°15.0'W	15°56.66'S	18°14.56'S	17°05.14'S	18:57:30	40.3	39.1	253.8	04m55.5s
134°07.5'W	15°56.82'S	18°14.88'S	17°05.38'S	18:57:48	40.4	38.9	254.1	04m56.0s
134°00.0'W	15°57.01'S	18°15.22'S	17°05.65'S	18:58:07	40.6	38.7	254.3	04m56.4s
133°52.5'W	15°57.23'S	18°15.58'S	17°05.94'S	18:58:26	40.7	38.5	254.5	04m56.9s
133°45.0'W	15°57.47'S	18°15.97'S	17°06.25'S	18:58:45	40.8	38.3	254.8	04m57.3s
133°37.5'W	15°57.74'S	18°16.39'S	17°06.59'S	18:59:05	40.9	38.2	255.0	04m57.8s
133°30.0'W	15°58.03'S	18°16.83'S	17°06.96'S	18:59:24	41.0	38.0	255.2	04m58.2s
133°22.5'W	15°58.35'S	18°17.30'S	17°07.35'S	18:59:43	41.1	37.8	255.5	04m58.7s
133°15.0'W	15°58.69'S	18°17.80'S	17°07.77'S	19:00:02	41.3	37.6	255.7	04m59.1s
133°07.5'W	15°59.06'S	18°18.32'S	17°08.21'S	19:00:22	41.4	37.4	255.9	04m59.6s
133°00.0'W	15°59.46'S	18°18.86'S	17°08.68'S	19:00:41	41.5	37.2	256.1	05m00.0s
132°52.5'W	15°59.88'S	18°19.44'S	17°09.18'S	19:01:01	41.6	36.9	256.3	05m00.4s
132°45.0'W	16°00.33'S	18°20.04'S	17°09.70'S	19:01:21	41.7	36.7	256.5	05m00.9s
132°37.5'W	16°00.81'S	18°20.66'S	17°10.25'S	19:01:40	41.8	36.5	256.8	05m01.3s
132°30.0'W	16°01.31'S	18°21.32'S	17°10.83'S	19:02:00	41.9	36.3	257.0	05m01.7s
132°22.5'W	16°01.83'S	18°22.00'S	17°11.43'S	19:02:20	42.0	36.1	257.2	05m02.1s
132°15.0'W	16°02.39'S	18°22.70'S	17°12.06'S	19:02:40	42.1	35.9	257.4	05m02.6s
132°07.5'W	16°02.97'S	18°23.44'S	17°12.72'S	19:03:00	42.3	35.7	257.6	05m03.0s
132°00.0'W	16°03.57'S	18°24.20'S	17°13.40'S	19:03:20	42.4	35.5	257.7	05m03.4s
131°52.5'W	16°04.21'S	18°24.99'S	17°14.11'S	19:03:40	42.5	35.3	257.9	05m03.8s
131°45.0'W	16°04.87'S	18°25.80'S	17°14.85'S	19:04:00	42.6	35.0	258.1	05m04.2s
131°37.5'W	16°05.56'S	18°26.65'S	17°15.61'S	19:04:21	42.7	34.8	258.3	05m04.6s
131°30.0'W	16°06.27'S	18°27.52'S	17°16.41'S	19:04:41	42.8	34.6	258.5	05m05.0s
131°22.5'W	16°07.02'S	18°28.41'S	17°17.23'S	19:05:02	42.9	34.4	258.6	05m05.4s
131°15.0'W	16°07.79'S	18°29.34'S	17°18.07'S	19:05:22	43.0	34.1	258.8	05m05.8s
131°07.5'W	16°08.59'S	18°30.29'S	17°18.95'S	19:05:43	43.1	33.9	259.0	05m06.2s
131°00.0'W	16°09.41'S	18°31.27'S	17°19.85'S	19:06:03	43.2	33.7	259.1	05m06.5s
130°52.5'W	16°10.26'S	18°32.28'S	17°20.78'S	19:06:24	43.3	33.5	259.3	05m06.9s
130°45.0'W	16°11.15'S	18°33.32'S	17°21.74'S	19:06:45	43.4	33.2	259.5	05m07.3s
130°37.5'W	16°12.05'S	18°34.39'S	17°22.73'S	19:07:06	43.5	33.0	259.6	05m07.7s
130°30.0'W	16°12.99'S	18°35.48'S	17°23.74'S	19:07:27	43.6	32.8	259.7	05m08.0s
130°22.5'W	16°13.96'S	18°36.60'S	17°24.78'S	19:07:48	43.7	32.5	259.9	05m08.4s
130°15.0'W	16°14.95'S	18°37.75'S	17°25.85'S	19:08:09	43.8	32.3	260.0	05m08.7s
130°07.5'W	16°15.97'S	18°38.93'S	17°26.95'S	19:08:30	43.9	32.1	260.2	05m09.1s
130°00.0'W	16°17.02'S	18°40.14'S	17°28.08'S	19:08:51	43.9	31.8	260.3	05m09.4s
129°52.5'W	16°18.10'S	18°41.37'S	17°29.24'S	19:09:12	44.0	31.6	260.4	05m09.8s
129°45.0'W	16°19.21'S	18°42.63'S	17°30.42'S	19:09:33	44.1	31.3	260.5	05m10.1s
129°37.5'W	16°20.34'S	18°43.93'S	17°31.63'S	19:09:55	44.2	31.1	260.6	05m10.4s
129°30.0'W	16°21.51'S	18°45.25'S	17°32.88'S	19:10:16	44.3	30.8	260.8	05m10.8s
129°22.5'W	16°22.70'S	18°46.60'S	17°34.15'S	19:10:38	44.4	30.6	260.9	05m11.1s
129°15.0'W	16°23.92'S	18°47.98'S	17°35.45'S	19:10:59	44.5	30.3	261.0	05m11.4s
129°07.5'W	16°25.17'S	18°49.39'S	17°36.78'S	19:11:21	44.6	30.1	261.1	05m11.7s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
129°00.0'W	16°26.45'S	18°50.82'S	17°38.13'S	19:11:42	44.6	29.8	261.2	05m12.0s
128°52.5'W	16°27.76'S	18°52.29'S	17°39.52'S	19:12:04	44.7	29.6	261.2	05m12.3s
128°45.0'W	16°29.10'S	18°53.79'S	17°40.94'S	19:12:26	44.8	29.3	261.3	05m12.6s
128°37.5'W	16°30.46'S	18°55.31'S	17°42.38'S	19:12:48	44.9	29.1	261.4	05m12.9s
128°30.0'W	16°31.86'S	18°56.87'S	17°43.86'S	19:13:10	45.0	28.8	261.5	05m13.2s
128°22.5'W	16°33.29'S	18°58.45'S	17°45.36'S	19:13:32	45.0	28.6	261.6	05m13.5s
128°15.0'W	16°34.74'S	19°00.06'S	17°46.90'S	19:13:54	45.1	28.3	261.6	05m13.8s
128°07.5'W	16°36.23'S	19°01.71'S	17°48.46'S	19:14:16	45.2	28.0	261.7	05m14.0s
128°00.0'W	16°37.74'S	19°03.38'S	17°50.05'S	19:14:38	45.3	27.8	261.7	05m14.3s
127°52.5'W	16°39.28'S	19°05.08'S	17°51.67'S	19:15:00	45.3	27.5	261.8	05m14.6s
127°45.0'W	16°40.86'S	19°06.81'S	17°53.33'S	19:15:22	45.4	27.3	261.8	05m14.8s
127°37.5'W	16°42.46'S	19°08.57'S	17°55.01'S	19:15:44	45.5	27.0	261.9	05m15.1s
127°30.0'W	16°44.09'S	19°10.36'S	17°56.72'S	19:16:07	45.5	26.7	261.9	05m15.3s
127°22.5'W	16°45.76'S	19°12.18'S	17°58.46'S	19:16:29	45.6	26.4	261.9	05m15.6s
127°15.0'W	16°47.45'S	19°14.03'S	18°00.23'S	19:16:52	45.7	26.2	262.0	05m15.8s
127°07.5'W	16°49.17'S	19°15.91'S	18°02.03'S	19:17:14	45.7	25.9	262.0	05m16.0s
127°00.0'W	16°50.92'S	19°17.82'S	18°03.86'S	19:17:37	45.8	25.6	262.0	05m16.3s
126°52.5'W	16°52.71'S	19°19.76'S	18°05.72'S	19:17:59	45.9	25.4	262.0	05m16.5s
126°45.0'W	16°54.52'S	19°21.73'S	18°07.62'S	19:18:22	45.9	25.1	262.0	05m16.7s
126°37.5'W	16°56.36'S	19°23.73'S	18°09.54'S	19:18:44	46.0	24.8	262.0	05m16.9s
126°30.0'W	16°58.23'S	19°25.76'S	18°11.49'S	19:19:07	46.0	24.5	262.0	05m17.1s
126°22.5'W	17°00.14'S	19°27.82'S	18°13.47'S	19:19:30	46.1	24.2	262.0	05m17.3s
126°15.0'W	17°02.07'S	19°29.91'S	18°15.48'S	19:19:53	46.2	24.0	262.0	05m17.5s
126°07.5'W	17°04.04'S	19°32.03'S	18°17.52'S	19:20:16	46.2	23.7	262.0	05m17.7s
126°00.0'W	17°06.03'S	19°34.18'S	18°19.59'S	19:20:38	46.3	23.4	262.0	05m17.8s
125°52.5'W	17°08.05'S	19°36.36'S	18°21.69'S	19:21:01	46.3	23.1	261.9	05m18.0s
125°45.0'W	17°10.11'S	19°38.57'S	18°23.83'S	19:21:24	46.4	22.8	261.9	05m18.2s
125°37.5'W	17°12.19'S	19°40.80'S	18°25.99'S	19:21:47	46.4	22.5	261.9	05m18.3s
125°30.0'W	17°14.31'S	19°43.07'S	18°28.18'S	19:22:10	46.5	22.2	261.8	05m18.5s
125°22.5'W	17°16.45'S	19°45.37'S	18°30.40'S	19:22:33	46.5	22.0	261.8	05m18.6s
125°15.0'W	17°18.63'S	19°47.70'S	18°32.66'S	19:22:57	46.5	21.7	261.7	05m18.8s
125°07.5'W	17°20.84'S	19°50.06'S	18°34.94'S	19:23:20	46.6	21.4	261.7	05m18.9s
125°00.0'W	17°23.07'S	19°52.45'S	18°37.25'S	19:23:43	46.6	21.1	261.6	05m19.1s
124°52.5'W	17°25.34'S	19°54.87'S	18°39.60'S	19:24:06	46.7	20.8	261.5	05m19.2s
124°45.0'W	17°27.64'S	19°57.32'S	18°41.97'S	19:24:29	46.7	20.5	261.5	05m19.3s
124°37.5'W	17°29.97'S	19°59.80'S	18°44.37'S	19:24:53	46.7	20.2	261.4	05m19.4s
124°30.0'W	17°32.33'S	20°02.31'S	18°46.81'S	19:25:16	46.8	19.9	261.3	05m19.5s
124°22.5'W	17°34.71'S	20°04.84'S	18°49.27'S	19:25:39	46.8	19.6	261.2	05m19.6s
124°15.0'W	17°37.13'S	20°07.41'S	18°51.76'S	19:26:03	46.8	19.3	261.1	05m19.7s
124°07.5'W	17°39.58'S	20°10.01'S	18°54.29'S	19:26:26	46.9	19.0	261.1	05m19.8s
124°00.0'W	17°42.06'S	20°12.64'S	18°56.84'S	19:26:50	46.9	18.7	261.0	05m19.9s
123°52.5'W	17°44.57'S	20°15.30'S	18°59.43'S	19:27:13	46.9	18.4	260.9	05m19.9s
123°45.0'W	17°47.12'S	20°17.98'S	19°02.04'S	19:27:37	46.9	18.1	260.7	05m20.0s
123°37.5'W	17°49.69'S	20°20.70'S	19°04.69'S	19:28:00	47.0	17.8	260.6	05m20.1s
123°30.0'W	17°52.29'S	20°23.45'S	19°07.36'S	19:28:24	47.0	17.5	260.5	05m20.1s
123°22.5'W	17°54.92'S	20°26.22'S	19°10.07'S	19:28:47	47.0	17.2	260.4	05m20.2s
123°15.0'W	17°57.58'S	20°29.03'S	19°12.80'S	19:29:11	47.0	16.9	260.3	05m20.2s
123°07.5'W	18°00.28'S	20°31.86'S	19°15.57'S	19:29:34	47.0	16.6	260.1	05m20.2s



# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
123°00.0'W	18°03.00'S	20°34.73'S	19°18.36'S	19:29:58	47.1	16.3	260.0	05m20.3s
122°52.5'W	18°05.75'S	20°37.62'S	19°21.18'S	19:30:22	47.1	16.0	259.9	05m20.3s
122°45.0'W	18°08.53'S	20°40.55'S	19°24.04'S	19:30:45	47.1	15.7	259.7	05m20.3s
122°37.5'W	18°11.35'S	20°43.50'S	19°26.92'S	19:31:09	47.1	15.4	259.6	05m20.3s
122°30.0'W	18°14.19'S	20°46.48'S	19°29.83'S	19:31:33	47.1	15.1	259.4	05m20.3s
122°22.5'W	18°17.06'S	20°49.49'S	19°32.77'S	19:31:56	47.1	14.8	259.3	05m20.3s
122°15.0'W	18°19.96'S	20°52.53'S	19°35.75'S	19:32:20	47.1	14.4	259.1	05m20.3s
122°07.5'W	18°22.90'S	20°55.60'S	19°38.75'S	19:32:44	47.1	14.1	259.0	05m20.3s
122°00.0'W	18°25.86'S	20°58.69'S	19°41.78'S	19:33:08	47.1	13.8	258.8	05m20.2s
121°52.5'W	18°28.85'S	21°01.82'S	19°44.84'S	19:33:31	47.1	13.5	258.6	05m20.2s
121°45.0'W	18°31.87'S	21°04.97'S	19°47.93'S	19:33:55	47.1	13.2	258.4	05m20.2s
121°37.5'W	18°34.92'S	21°08.16'S	19°51.04'S	19:34:19	47.1	12.9	258.3	05m20.1s
121°30.0'W	18°38.00'S	21°11.37'S	19°54.19'S	19:34:43	47.1	12.6	258.1	05m20.1s
121°22.5'W	18°41.11'S	21°14.61'S	19°57.37'S	19:35:06	47.1	12.3	257.9	05m20.0s
121°15.0'W	18°44.25'S	21°17.87'S	20°00.57'S	19:35:30	47.1	12.0	257.7	05m20.0s
121°07.5'W	18°47.42'S	21°21.17'S	20°03.80'S	19:35:54	47.1	11.7	257.5	05m19.9s
121°00.0'W	18°50.62'S	21°24.49'S	20°07.07'S	19:36:18	47.1	11.3	257.3	05m19.8s
120°52.5'W	18°53.84'S	21°27.84'S	20°10.36'S	19:36:42	47.1	11.0	257.1	05m19.7s
120°45.0'W	18°57.10'S	21°31.22'S	20°13.67'S	19:37:05	47.0	10.7	256.9	05m19.6s
120°37.5'W	19°00.38'S	21°34.63'S	20°17.02'S	19:37:29	47.0	10.4	256.7	05m19.5s
120°30.0'W	19°03.70'S	21°38.06'S	20°20.40'S	19:37:53	47.0	10.1	256.5	05m19.4s
120°22.5'W	19°07.04'S	21°41.53'S	20°23.80'S	19:38:17	47.0	9.8	256.3	05m19.3s
120°15.0'W	19°10.41'S	21°45.01'S	20°27.23'S	19:38:41	47.0	9.5	256.1	05m19.2s
120°07.5'W	19°13.81'S	21°48.53'S	20°30.69'S	19:39:04	46.9	9.2	255.9	05m19.1s
120°00.0'W	19°17.24'S	21°52.07'S	20°34.17'S	19:39:28	46.9	8.9	255.6	05m19.0s
119°52.5'W	19°20.69'S	21°55.64'S	20°37.69'S	19:39:52	46.9	8.6	255.4	05m18.8s
119°45.0'W	19°24.17'S	21°59.24'S	20°41.23'S	19:40:16	46.9	8.2	255.2	05m18.7s
119°37.5'W	19°27.69'S	22°02.86'S	20°44.80'S	19:40:39	46.8	7.9	255.0	05m18.5s
119°30.0'W	19°31.22'S	22°06.51'S	20°48.39'S	19:41:03	46.8	7.6	254.7	05m18.4s
119°22.5'W	19°34.79'S	22°10.19'S	20°52.02'S	19:41:27	46.8	7.3	254.5	05m18.2s
119°15.0'W	19°38.39'S	22°13.89'S	20°55.67'S	19:41:51	46.7	7.0	254.3	05m18.1s
119°07.5'W	19°42.01'S	22°17.62'S	20°59.34'S	19:42:14	46.7	6.7	254.0	05m17.9s
119°00.0'W	19°45.66'S	22°21.37'S	21°03.04'S	19:42:38	46.7	6.4	253.8	05m17.7s
118°52.5'W	19°49.33'S	22°25.15'S	21°06.77'S	19:43:02	46.6	6.1	253.5	05m17.5s
118°45.0'W	19°53.04'S	22°28.95'S	21°10.53'S	19:43:25	46.6	5.8	253.3	05m17.4s
118°37.5'W	19°56.77'S	22°32.78'S	21°14.31'S	19:43:49	46.5	5.5	253.0	05m17.2s
118°30.0'W	20°00.52'S	22°36.64'S	21°18.12'S	19:44:12	46.5	5.2	252.8	05m17.0s
118°22.5'W	20°04.31'S	22°40.52'S	21°21.95'S	19:44:36	46.5	4.9	252.5	05m16.7s
118°15.0'W	20°08.12'S	22°44.42'S	21°25.81'S	19:45:00	46.4	4.6	252.3	05m16.5s
118°07.5'W	20°11.95'S	22°48.35'S	21°29.70'S	19:45:23	46.4	4.3	252.0	05m16.3s
118°00.0'W	20°15.82'S	22°52.31'S	21°33.60'S	19:45:47	46.3	4.0	251.7	05m16.1s
117°52.5'W	20°19.70'S	22°56.29'S	21°37.54'S	19:46:10	46.3	3.6	251.5	05m15.9s
117°45.0'W	20°23.62'S	23°00.29'S	21°41.50'S	19:46:33	46.2	3.3	251.2	05m15.6s
117°37.5'W	20°27.56'S	23°04.31'S	21°45.48'S	19:46:57	46.1	3.0	250.9	05m15.4s
117°30.0'W	20°31.52'S	23°08.36'S	21°49.49'S	19:47:20	46.1	2.7	250.7	05m15.1s
117°22.5'W	20°35.51'S	23°12.44'S	21°53.52'S	19:47:44	46.0	2.4	250.4	05m14.9s
117°15.0'W	20°39.53'S	23°16.53'S	21°57.58'S	19:48:07	46.0	2.1	250.1	05m14.6s
117°07.5'W	20°43.57'S	23°20.65'S	22°01.66'S	19:48:30	45.9	1.8	249.9	05m14.4s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
117°00.0'W	20°47.63'S	23°24.79'S	22°05.77'S	19:48:54	45.9	1.5	249.6	05m14.1s
116°52.5'W	20°51.72'S	23°28.96'S	22°09.90'S	19:49:17	45.8	1.3	249.3	05m13.8s
116°45.0'W	20°55.83'S	23°33.15'S	22°14.05'S	19:49:40	45.7	1.0	249.0	05m13.5s
116°37.5'W	20°59.97'S	23°37.35'S	22°18.23'S	19:50:03	45.7	0.7	248.8	05m13.2s
116°30.0'W	21°04.13'S	23°41.59'S	22°22.42'S	19:50:26	45.6	0.4	248.5	05m13.0s
116°22.5'W	21°08.32'S	23°45.84'S	22°26.65'S	19:50:49	45.5	0.1	248.2	05m12.7s
116°15.0'W	21°12.53'S	23°50.12'S	22°30.89'S	19:51:12	45.4	359.8	247.9	05m12.4s
116°07.5'W	21°16.76'S	23°54.41'S	22°35.16'S	19:51:35	45.4	359.5	247.6	05m12.1s
116°00.0'W	21°21.01'S	23°58.73'S	22°39.44'S	19:51:58	45.3	359.2	247.4	05m11.7s
115°52.5'W	21°25.29'S	24°03.07'S	22°43.75'S	19:52:21	45.2	358.9	247.1	05m11.4s
115°45.0'W	21°29.59'S	24°07.43'S	22°48.09'S	19:52:44	45.2	358.6	246.8	05m11.1s
115°37.5'W	21°33.92'S	24°11.81'S	22°52.44'S	19:53:07	45.1	358.3	246.5	05m10.8s
115°30.0'W	21°38.26'S	24°16.21'S	22°56.82'S	19:53:30	45.0	358.1	246.2	05m10.4s
115°22.5'W	21°42.63'S	24°20.63'S	23°01.21'S	19:53:52	44.9	357.8	245.9	05m10.1s
115°15.0'W	21°47.02'S	24°25.07'S	23°05.63'S	19:54:15	44.8	357.5	245.6	05m09.8s
115°07.5'W	21°51.43'S	24°29.53'S	23°10.07'S	19:54:37	44.7	357.2	245.3	05m09.4s
115°00.0'W	21°55.86'S	24°34.01'S	23°14.52'S	19:55:00	44.7	356.9	245.0	05m09.1s
114°52.5'W	22°00.32'S	24°38.51'S	23°19.00'S	19:55:23	44.6	356.6	244.8	05m08.7s
114°45.0'W	22°04.79'S	24°43.03'S	23°23.50'S	19:55:45	44.5	356.4	244.5	05m08.4s
114°37.5'W	22°09.29'S	24°47.57'S	23°28.02'S	19:56:07	44.4	356.1	244.2	05m08.0s
114°30.0'W	22°13.80'S	24°52.12'S	23°32.56'S	19:56:30	44.3	355.8	243.9	05m07.6s
114°22.5'W	22°18.34'S	24°56.70'S	23°37.11'S	19:56:52	44.2	355.5	243.6	05m07.3s
114°15.0'W	22°22.90'S	25°01.29'S	23°41.69'S	19:57:14	44.1	355.3	243.3	05m06.9s
114°07.5'W	22°27.47'S	25°05.90'S	23°46.29'S	19:57:36	44.0	355.0	243.0	05m06.5s
114°00.0'W	22°32.07'S	25°10.53'S	23°50.90'S	19:57:59	43.9	354.7	242.7	05m06.1s
113°52.5'W	22°36.68'S	25°15.17'S	23°55.53'S	19:58:21	43.8	354.4	242.4	05m05.7s
113°45.0'W	22°41.32'S	25°19.83'S	24°00.18'S	19:58:43	43.8	354.2	242.1	05m05.3s
113°37.5'W	22°45.97'S	25°24.51'S	24°04.85'S	19:59:05	43.7	353.9	241.8	05m04.9s
113°30.0'W	22°50.64'S	25°29.21'S	24°09.54'S	19:59:26	43.6	353.6	241.5	05m04.5s
113°22.5'W	22°55.33'S	25°33.92'S	24°14.24'S	19:59:48	43.5	353.4	241.2	05m04.1s
113°15.0'W	23°00.04'S	25°38.65'S	24°18.96'S	20:00:10	43.4	353.1	240.9	05m03.7s
113°07.5'W	23°04.77'S	25°43.39'S	24°23.70'S	20:00:32	43.2	352.8	240.6	05m03.3s
113°00.0'W	23°09.51'S	25°48.15'S	24°28.45'S	20:00:53	43.1	352.6	240.4	05m02.9s
112°52.5'W	23°14.28'S	25°52.93'S	24°33.22'S	20:01:15	43.0	352.3	240.1	05m02.5s
112°45.0'W	23°19.06'S	25°57.72'S	24°38.01'S	20:01:36	42.9	352.1	239.8	05m02.1s
112°37.5'W	23°23.85'S	26°02.53'S	24°42.81'S	20:01:58	42.8	351.8	239.5	05m01.6s
112°30.0'W	23°28.67'S	26°07.35'S	24°47.63'S	20:02:19	42.7	351.5	239.2	05m01.2s
112°22.5'W	23°33.49'S	26°12.18'S	24°52.47'S	20:02:40	42.6	351.3	238.9	05m00.8s
112°15.0'W	23°38.34'S	26°17.03'S	24°57.32'S	20:03:01	42.5	351.0	238.6	05m00.3s
112°07.5'W	23°43.20'S	26°21.89'S	25°02.18'S	20:03:23	42.4	350.8	238.3	04m59.9s
112°00.0'W	23°48.08'S	26°26.77'S	25°07.06'S	20:03:44	42.3	350.5	238.0	04m59.4s
111°52.5'W	23°52.97'S	26°31.66'S	25°11.95'S	20:04:05	42.2	350.3	237.7	04m59.0s
111°45.0'W	23°57.88'S	26°36.57'S	25°16.86'S	20:04:26	42.1	350.0	237.4	04m58.5s
111°37.5'W	24°02.81'S	26°41.49'S	25°21.78'S	20:04:46	41.9	349.8	237.1	04m58.1s
111°30.0'W	24°07.74'S	26°46.42'S	25°26.72'S	20:05:07	41.8	349.5	236.8	04m57.6s
111°22.5'W	24°12.70'S	26°51.36'S	25°31.67'S	20:05:28	41.7	349.3	236.5	04m57.2s
111°15.0'W	24°17.67'S	26°56.32'S	25°36.63'S	20:05:48	41.6	349.1	236.3	04m56.7s
111°07.5'W	24°22.65'S	27°01.28'S	25°41.61'S	20:06:09	41.5	348.8	236.0	04m56.3s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
111°00.0'W	24°27.64'S	27°06.26'S	25°46.60'S	20:06:29	41.4	348.6	235.7	04m55.8s
110°52.5'W	24°32.65'S	27°11.25'S	25°51.60'S	20:06:50	41.2	348.3	235.4	04m55.3s
110°45.0'W	24°37.67'S	27°16.26'S	25°56.62'S	20:07:10	41.1	348.1	235.1	04m54.9s
110°37.5'W	24°42.71'S	27°21.27'S	26°01.64'S	20:07:30	41.0	347.9	234.8	04m54.4s
110°30.0'W	24°47.76'S	27°26.30'S	26°06.68'S	20:07:50	40.9	347.6	234.5	04m53.9s
110°22.5'W	24°52.82'S	27°31.33'S	26°11.73'S	20:08:10	40.8	347.4	234.2	04m53.4s
110°15.0'W	24°57.89'S	27°36.38'S	26°16.79'S	20:08:30	40.6	347.2	233.9	04m53.0s
110°07.5'W	25°02.98'S	27°41.44'S	26°21.87'S	20:08:50	40.5	346.9	233.7	04m52.5s
110°00.0'W	25°08.08'S	27°46.50'S	26°26.95'S	20:09:10	40.4	346.7	233.4	04m52.0s
109°52.5'W	25°13.19'S	27°51.58'S	26°32.04'S	20:09:30	40.3	346.5	233.1	04m51.5s
109°45.0'W	25°18.31'S	27°56.67'S	26°37.15'S	20:09:50	40.1	346.2	232.8	04m51.0s
109°37.5'W	25°23.44'S	28°01.76'S	26°42.27'S	20:10:09	40.0	346.0	232.5	04m50.5s
109°30.0'W	25°28.58'S	28°06.87'S	26°47.39'S	20:10:29	39.9	345.8	232.2	04m50.0s
109°22.5'W	25°33.73'S	28°11.98'S	26°52.53'S	20:10:48	39.7	345.6	232.0	04m49.5s
109°15.0'W	25°38.90'S	28°17.10'S	26°57.67'S	20:11:07	39.6	345.3	231.7	04m49.0s
109°07.5'W	25°44.07'S	28°22.24'S	27°02.83'S	20:11:26	39.5	345.1	231.4	04m48.5s
109°00.0'W	25°49.26'S	28°27.37'S	27°07.99'S	20:11:46	39.4	344.9	231.1	04m48.0s
108°52.5'W	25°54.45'S	28°32.52'S	27°13.16'S	20:12:05	39.2	344.7	230.9	04m47.5s
108°45.0'W	25°59.65'S	28°37.68'S	27°18.34'S	20:12:24	39.1	344.5	230.6	04m47.0s
108°37.5'W	26°04.87'S	28°42.84'S	27°23.53'S	20:12:42	39.0	344.2	230.3	04m46.5s
108°30.0'W	26°10.09'S	28°48.01'S	27°28.73'S	20:13:01	38.8	344.0	230.0	04m46.0s
108°22.5'W	26°15.32'S	28°53.19'S	27°33.93'S	20:13:20	38.7	343.8	229.7	04m45.5s
108°15.0'W	26°20.56'S	28°58.37'S	27°39.15'S	20:13:39	38.6	343.6	229.5	04m45.0s
108°07.5'W	26°25.81'S	29°03.57'S	27°44.37'S	20:13:57	38.4	343.4	229.2	04m44.5s
108°00.0'W	26°31.06'S	29°08.76'S	27°49.60'S	20:14:16	38.3	343.2	228.9	04m44.0s
107°52.5'W	26°36.33'S	29°13.97'S	27°54.83'S	20:14:34	38.2	343.0	228.7	04m43.5s
107°45.0'W	26°41.60'S	29°19.18'S	28°00.08'S	20:14:52	38.0	342.8	228.4	04m43.0s
107°37.5'W	26°46.88'S	29°24.39'S	28°05.32'S	20:15:10	37.9	342.6	228.1	04m42.4s
107°30.0'W	26°52.17'S	29°29.62'S	28°10.58'S	20:15:28	37.7	342.4	227.9	04m41.9s
107°22.5'W	26°57.46'S	29°34.84'S	28°15.84'S	20:15:46	37.6	342.2	227.6	04m41.4s
107°15.0'W	27°02.76'S	29°40.08'S	28°21.11'S	20:16:04	37.5	342.0	227.3	04m40.9s
107°07.5'W	27°08.07'S	29°45.32'S	28°26.38'S	20:16:22	37.3	341.8	227.1	04m40.4s
107°00.0'W	27°13.38'S	29°50.56'S	28°31.66'S	20:16:40	37.2	341.6	226.8	04m39.9s
106°52.5'W	27°18.70'S	29°55.81'S	28°36.95'S	20:16:57	37.1	341.4	226.5	04m39.3s
106°45.0'W	27°24.03'S	30°01.06'S	28°42.24'S	20:17:15	36.9	341.2	226.3	04m38.8s
106°37.5'W	27°29.36'S	30°06.32'S	28°47.53'S	20:17:32	36.8	341.0	226.0	04m38.3s
106°30.0'W	27°34.69'S	30°11.58'S	28°52.83'S	20:17:50	36.6	340.8	225.7	04m37.8s
106°22.5'W	27°40.04'S	30°16.84'S	28°58.14'S	20:18:07	36.5	340.6	225.5	04m37.2s
106°15.0'W	27°45.38'S	30°22.11'S	29°03.45'S	20:18:24	36.4	340.4	225.2	04m36.7s
106°07.5'W	27°50.73'S	30°27.38'S	29°08.76'S	20:18:41	36.2	340.2	225.0	04m36.2s
106°00.0'W	27°56.09'S	30°32.66'S	29°14.08'S	20:18:58	36.1	340.0	224.7	04m35.7s
105°52.5'W	28°01.45'S	30°37.94'S	29°19.40'S	20:19:15	35.9	339.8	224.5	04m35.1s
105°45.0'W	28°06.82'S	30°43.22'S	29°24.72'S	20:19:32	35.8	339.6	224.2	04m34.6s
105°37.5'W	28°12.19'S	30°48.50'S	29°30.05'S	20:19:49	35.6	339.4	224.0	04m34.1s
105°30.0'W	28°17.56'S	30°53.79'S	29°35.38'S	20:20:05	35.5	339.2	223.7	04m33.6s
105°22.5'W	28°22.94'S	30°59.08'S	29°40.72'S	20:20:22	35.4	339.1	223.5	04m33.0s
105°15.0'W	28°28.32'S	31°04.37'S	29°46.05'S	20:20:38	35.2	338.9	223.2	04m32.5s
105°07.5'W	28°33.71'S	31°09.67'S	29°51.39'S	20:20:54	35.1	338.7	223.0	04m32.0s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
105°00.0'W	28°39.09'S	31°14.96'S	29°56.74'S	20:21:11	34.9	338.5	222.7	04m31.4s
104°52.5'W	28°44.48'S	31°20.26'S	30°02.08'S	20:21:27	34.8	338.3	222.5	04m30.9s
104°45.0'W	28°49.88'S	31°25.56'S	30°07.43'S	20:21:43	34.6	338.1	222.2	04m30.4s
104°37.5'W	28°55.27'S	31°30.86'S	30°12.78'S	20:21:59	34.5	338.0	222.0	04m29.9s
104°30.0'W	29°00.67'S	31°36.16'S	30°18.13'S	20:22:15	34.4	337.8	221.7	04m29.3s
104°22.5'W	29°06.07'S	31°41.47'S	30°23.48'S	20:22:30	34.2	337.6	221.5	04m28.8s
104°15.0'W	29°11.47'S	31°46.77'S	30°28.83'S	20:22:46	34.1	337.4	221.2	04m28.3s
104°07.5'W	29°16.88'S	31°52.08'S	30°34.19'S	20:23:02	33.9	337.3	221.0	04m27.7s
104°00.0'W	29°22.28'S	31°57.38'S	30°39.55'S	20:23:17	33.8	337.1	220.8	04m27.2s
103°52.5'W	29°27.69'S	32°02.69'S	30°44.90'S	20:23:32	33.6	336.9	220.5	04m26.7s
103°45.0'W	29°33.10'S	32°08.00'S	30°50.26'S	20:23:48	33.5	336.7	220.3	04m26.2s
103°37.5'W	29°38.51'S	32°13.30'S	30°55.62'S	20:24:03	33.3	336.6	220.0	04m25.6s
103°30.0'W	29°43.92'S	32°18.61'S	31°00.98'S	20:24:18	33.2	336.4	219.8	04m25.1s
103°22.5'W	29°49.33'S	32°23.92'S	31°06.34'S	20:24:33	33.0	336.2	219.6	04m24.6s
103°15.0'W	29°54.75'S	32°29.22'S	31°11.70'S	20:24:48	32.9	336.1	219.3	04m24.0s
103°07.5'W	30°00.16'S	32°34.53'S	31°17.06'S	20:25:03	32.8	335.9	219.1	04m23.5s
103°00.0'W	30°05.57'S	32°39.84'S	31°22.42'S	20:25:18	32.6	335.7	218.9	04m23.0s
102°52.5'W	30°10.99'S	32°45.14'S	31°27.78'S	20:25:32	32.5	335.6	218.6	04m22.5s
102°45.0'W	30°16.40'S	32°50.44'S	31°33.14'S	20:25:47	32.3	335.4	218.4	04m21.9s
102°37.5'W	30°21.81'S	32°55.75'S	31°38.50'S	20:26:01	32.2	335.2	218.2	04m21.4s
102°30.0'W	30°27.23'S	33°01.05'S	31°43.86'S	20:26:16	32.0	335.1	218.0	04m20.9s
102°22.5'W	30°32.64'S	33°06.35'S	31°49.21'S	20:26:30	31.9	334.9	217.7	04m20.4s
102°15.0'W	30°38.05'S	33°11.65'S	31°54.57'S	20:26:44	31.7	334.7	217.5	04m19.8s
102°07.5'W	30°43.46'S	33°16.95'S	31°59.92'S	20:26:58	31.6	334.6	217.3	04m19.3s
102°00.0'W	30°48.87'S	33°22.24'S	32°05.28'S	20:27:12	31.4	334.4	217.1	04m18.8s
101°52.5'W	30°54.28'S	33°27.54'S	32°10.63'S	20:27:26	31.3	334.3	216.8	04m18.3s
101°45.0'W	30°59.69'S	33°32.83'S	32°15.98'S	20:27:40	31.1	334.1	216.6	04m17.7s
101°37.5'W	31°05.10'S	33°38.12'S	32°21.33'S	20:27:54	31.0	334.0	216.4	04m17.2s
101°30.0'W	31°10.51'S	33°43.41'S	32°26.68'S	20:28:07	30.8	333.8	216.2	04m16.7s
101°22.5'W	31°15.91'S	33°48.69'S	32°32.02'S	20:28:21	30.7	333.6	216.0	04m16.2s
101°15.0'W	31°21.31'S	33°53.98'S	32°37.36'S	20:28:34	30.5	333.5	215.7	04m15.7s
101°07.5'W	31°26.71'S	33°59.26'S	32°42.70'S	20:28:48	30.4	333.3	215.5	04m15.1s
101°00.0'W	31°32.11'S	34°04.54'S	32°48.04'S	20:29:01	30.2	333.2	215.3	04m14.6s
100°52.5'W	31°37.51'S	34°09.81'S	32°53.38'S	20:29:14	30.1	333.0	215.1	04m14.1s
100°45.0'W	31°42.90'S	34°15.08'S	32°58.71'S	20:29:27	30.0	332.9	214.9	04m13.6s
100°37.5'W	31°48.29'S	34°20.35'S	33°04.04'S	20:29:40	29.8	332.7	214.7	04m13.1s
100°30.0'W	31°53.68'S	34°25.62'S	33°09.37'S	20:29:53	29.7	332.6	214.4	04m12.6s
100°22.5'W	31°59.07'S	34°30.88'S	33°14.70'S	20:30:06	29.5	332.4	214.2	04m12.0s
100°15.0'W	32°04.45'S	34°36.14'S	33°20.02'S	20:30:19	29.4	332.3	214.0	04m11.5s
100°07.5'W	32°09.83'S	34°41.40'S	33°25.34'S	20:30:31	29.2	332.1	213.8	04m11.0s
100°00.0'W	32°15.21'S	34°46.65'S	33°30.65'S	20:30:44	29.1	332.0	213.6	04m10.5s
099°52.5'W	32°20.58'S	34°51.90'S	33°35.96'S	20:30:56	28.9	331.8	213.4	04m10.0s
099°45.0'W	32°25.96'S	34°57.15'S	33°41.27'S	20:31:09	28.8	331.7	213.2	04m09.5s
099°37.5'W	32°31.32'S	35°02.39'S	33°46.58'S	20:31:21	28.6	331.5	213.0	04m09.0s
099°30.0'W	32°36.69'S	35°07.63'S	33°51.88'S	20:31:33	28.5	331.4	212.8	04m08.5s
099°22.5'W	32°42.05'S	35°12.86'S	33°57.18'S	20:31:45	28.3	331.2	212.6	04m08.0s
099°15.0'W	32°47.41'S	35°18.09'S	34°02.47'S	20:31:57	28.2	331.1	212.4	04m07.5s
099°07.5'W	32°52.76'S	35°23.32'S	34°07.76'S	20:32:09	28.0	331.0	212.2	04m07.0s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
099°00.0'W	32°58.11'S	35°28.54'S	34°13.04'S	20:32:21	27.9	330.8	212.0	04m06.5s
098°52.5'W	33°03.46'S	35°33.76'S	34°18.33'S	20:32:33	27.7	330.7	211.8	04m05.9s
098°45.0'W	33°08.80'S	35°38.97'S	34°23.60'S	20:32:45	27.6	330.5	211.6	04m05.4s
098°37.5'W	33°14.14'S	35°44.18'S	34°28.87'S	20:32:56	27.4	330.4	211.4	04m04.9s
098°30.0'W	33°19.47'S	35°49.38'S	34°34.14'S	20:33:08	27.3	330.3	211.2	04m04.4s
098°22.5'W	33°24.80'S	35°54.58'S	34°39.41'S	20:33:19	27.2	330.1	211.0	04m03.9s
098°15.0'W	33°30.12'S	35°59.77'S	34°44.66'S	20:33:30	27.0	330.0	210.8	04m03.5s
098°07.5'W	33°35.44'S	36°04.96'S	34°49.92'S	20:33:42	26.9	329.8	210.6	04m03.0s
098°00.0'W	33°40.76'S	36°10.14'S	34°55.17'S	20:33:53	26.7	329.7	210.4	04m02.5s
097°52.5'W	33°46.07'S	36°15.32'S	35°00.41'S	20:34:04	26.6	329.6	210.2	04m02.0s
097°45.0'W	33°51.37'S	36°20.50'S	35°05.65'S	20:34:15	26.4	329.4	210.0	04m01.5s
097°37.5'W	33°56.67'S	36°25.66'S	35°10.88'S	20:34:26	26.3	329.3	209.8	04m01.0s
097°30.0'W	34°01.97'S	36°30.83'S	35°16.11'S	20:34:37	26.1	329.2	209.6	04m00.5s
097°22.5'W	34°07.26'S	36°35.98'S	35°21.34'S	20:34:47	26.0	329.0	209.4	04m00.0s
097°15.0'W	34°12.54'S	36°41.13'S	35°26.56'S	20:34:58	25.8	328.9	209.3	03m59.5s
097°07.5'W	34°17.82'S	36°46.28'S	35°31.77'S	20:35:09	25.7	328.8	209.1	03m59.0s
097°00.0'W	34°23.10'S	36°51.42'S	35°36.97'S	20:35:19	25.5	328.6	208.9	03m58.5s
096°52.5'W	34°28.37'S	36°56.56'S	35°42.18'S	20:35:30	25.4	328.5	208.7	03m58.1s
096°45.0'W	34°33.63'S	37°01.69'S	35°47.37'S	20:35:40	25.3	328.4	208.5	03m57.6s
096°37.5'W	34°38.89'S	37°06.81'S	35°52.56'S	20:35:50	25.1	328.2	208.3	03m57.1s
096°30.0'W	34°44.14'S	37°11.93'S	35°57.75'S	20:36:00	25.0	328.1	208.1	03m56.6s
096°22.5'W	34°49.39'S	37°17.04'S	36°02.92'S	20:36:11	24.8	328.0	208.0	03m56.1s
096°15.0'W	34°54.63'S	37°22.14'S	36°08.10'S	20:36:21	24.7	327.8	207.8	03m55.6s
096°07.5'W	34°59.86'S	37°27.24'S	36°13.26'S	20:36:31	24.5	327.7	207.6	03m55.2s
096°00.0'W	35°05.09'S	37°32.34'S	36°18.42'S	20:36:40	24.4	327.6	207.4	03m54.7s
095°52.5'W	35°10.31'S	37°37.42'S	36°23.58'S	20:36:50	24.2	327.5	207.2	03m54.2s
095°45.0'W	35°15.53'S	37°42.50'S	36°28.73'S	20:37:00	24.1	327.3	207.1	03m53.7s
095°37.5'W	35°20.74'S	37°47.58'S	36°33.87'S	20:37:09	24.0	327.2	206.9	03m53.3s
095°30.0'W	35°25.94'S	37°52.65'S	36°39.00'S	20:37:19	23.8	327.1	206.7	03m52.8s
095°22.5'W	35°31.14'S	37°57.71'S	36°44.13'S	20:37:28	23.7	326.9	206.5	03m52.3s
095°15.0'W	35°36.33'S	38°02.76'S	36°49.26'S	20:37:38	23.5	326.8	206.4	03m51.9s
095°07.5'W	35°41.51'S	38°07.81'S	36°54.37'S	20:37:47	23.4	326.7	206.2	03m51.4s
095°00.0'W	35°46.69'S	38°12.85'S	36°59.48'S	20:37:56	23.2	326.6	206.0	03m50.9s
094°52.5'W	35°51.86'S	38°17.89'S	37°04.58'S	20:38:06	23.1	326.4	205.8	03m50.5s
094°45.0'W	35°57.03'S	38°22.92'S	37°09.68'S	20:38:15	23.0	326.3	205.7	03m50.0s
094°37.5'W	36°02.19'S	38°27.94'S	37°14.77'S	20:38:24	22.8	326.2	205.5	03m49.5s
094°30.0'W	36°07.34'S	38°32.95'S	37°19.85'S	20:38:33	22.7	326.1	205.3	03m49.1s
094°22.5'W	36°12.48'S	38°37.96'S	37°24.93'S	20:38:41	22.5	326.0	205.1	03m48.6s
094°15.0'W	36°17.62'S	38°42.96'S	37°30.00'S	20:38:50	22.4	325.8	205.0	03m48.2s
094°07.5'W	36°22.75'S	38°47.96'S	37°35.06'S	20:38:59	22.2	325.7	204.8	03m47.7s
094°00.0'W	36°27.87'S	38°52.94'S	37°40.11'S	20:39:08	22.1	325.6	204.6	03m47.3s
093°52.5'W	36°32.99'S	38°57.92'S	37°45.16'S	20:39:16	22.0	325.5	204.5	03m46.8s
093°45.0'W	36°38.10'S	39°02.90'S	37°50.20'S	20:39:25	21.8	325.3	204.3	03m46.4s
093°37.5'W	36°43.20'S	39°07.86'S	37°55.23'S	20:39:33	21.7	325.2	204.1	03m45.9s
093°30.0'W	36°48.30'S	39°12.82'S	38°00.26'S	20:39:41	21.5	325.1	204.0	03m45.5s
093°22.5'W	36°53.39'S	39°17.77'S	38°05.28'S	20:39:50	21.4	325.0	203.8	03m45.0s
093°15.0'W	36°58.47'S	39°22.72'S	38°10.29'S	20:39:58	21.3	324.9	203.6	03m44.6s
093°07.5'W	37°03.54'S	39°27.65'S	38°15.30'S	20:40:06	21.1	324.7	203.5	03m44.1s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
093°00.0'W	37°08.61'S	39°32.58'S	38°20.29'S	20:40:14	21.0	324.6	203.3	03m43.7s
092°52.5'W	37°13.67'S	39°37.50'S	38°25.28'S	20:40:22	20.8	324.5	203.2	03m43.2s
092°45.0'W	37°18.72'S	39°42.42'S	38°30.27'S	20:40:30	20.7	324.4	203.0	03m42.8s
092°37.5'W	37°23.76'S	39°47.33'S	38°35.24'S	20:40:38	20.6	324.3	202.8	03m42.3s
092°30.0'W	37°28.80'S	39°52.23'S	38°40.21'S	20:40:45	20.4	324.2	202.7	03m41.9s
092°22.5'W	37°33.82'S	39°57.12'S	38°45.17'S	20:40:53	20.3	324.0	202.5	03m41.5s
092°15.0'W	37°38.85'S	40°02.00'S	38°50.12'S	20:41:01	20.1	323.9	202.4	03m41.0s
092°07.5'W	37°43.86'S	40°06.88'S	38°55.06'S	20:41:08	20.0	323.8	202.2	03m40.6s
092°00.0'W	37°48.86'S	40°11.75'S	39°00.00'S	20:41:16	19.9	323.7	202.1	03m40.2s
091°52.5'W	37°53.86'S	40°16.61'S	39°04.93'S	20:41:23	19.7	323.6	201.9	03m39.7s
091°45.0'W	37°58.85'S	40°21.46'S	39°09.85'S	20:41:30	19.6	323.5	201.7	03m39.3s
091°37.5'W	38°03.83'S	40°26.31'S	39°14.76'S	20:41:38	19.5	323.3	201.6	03m38.9s
091°30.0'W	38°08.81'S	40°31.15'S	39°19.67'S	20:41:45	19.3	323.2	201.4	03m38.5s
091°22.5'W	38°13.78'S	40°35.98'S	39°24.57'S	20:41:52	19.2	323.1	201.3	03m38.0s
091°15.0'W	38°18.73'S	40°40.80'S	39°29.46'S	20:41:59	19.0	323.0	201.1	03m37.6s
091°07.5'W	38°23.68'S	40°45.62'S	39°34.34'S	20:42:06	18.9	322.9	201.0	03m37.2s
091°00.0'W	38°28.63'S	40°50.42'S	39°39.21'S	20:42:13	18.8	322.8	200.8	03m36.8s
090°52.5'W	38°33.56'S	40°55.22'S	39°44.08'S	20:42:20	18.6	322.7	200.7	03m36.3s
090°45.0'W	38°38.49'S	41°00.01'S	39°48.94'S	20:42:27	18.5	322.5	200.5	03m35.9s
090°37.5'W	38°43.41'S	41°04.80'S	39°53.79'S	20:42:34	18.4	322.4	200.4	03m35.5s
090°30.0'W	38°48.32'S	41°09.57'S	39°58.63'S	20:42:40	18.2	322.3	200.2	03m35.1s
090°22.5'W	38°53.22'S	41°14.34'S	40°03.47'S	20:42:47	18.1	322.2	200.1	03m34.7s
090°15.0'W	38°58.11'S	41°19.10'S	40°08.29'S	20:42:53	18.0	322.1	199.9	03m34.3s
090°07.5'W	39°03.00'S	41°23.85'S	40°13.11'S	20:43:00	17.8	322.0	199.8	03m33.8s
090°00.0'W	39°07.88'S	41°28.59'S	40°17.92'S	20:43:06	17.7	321.9	199.6	03m33.4s
089°52.5'W	39°12.75'S	41°33.33'S	40°22.72'S	20:43:13	17.6	321.8	199.5	03m33.0s
089°45.0'W	39°17.61'S	41°38.05'S	40°27.51'S	20:43:19	17.4	321.6	199.3	03m32.6s
089°37.5'W	39°22.46'S	41°42.77'S	40°32.30'S	20:43:25	17.3	321.5	199.2	03m32.2s
089°30.0'W	39°27.31'S	41°47.48'S	40°37.08'S	20:43:31	17.1	321.4	199.1	03m31.8s
089°22.5'W	39°32.14'S	41°52.19'S	40°41.84'S	20:43:38	17.0	321.3	198.9	03m31.4s
089°15.0'W	39°36.97'S	41°56.88'S	40°46.60'S	20:43:44	16.9	321.2	198.8	03m31.0s
089°07.5'W	39°41.79'S	42°01.57'S	40°51.36'S	20:43:50	16.7	321.1	198.6	03m30.6s
089°00.0'W	39°46.60'S	42°06.24'S	40°56.10'S	20:43:56	16.6	321.0	198.5	03m30.2s
088°52.5'W	39°51.40'S	42°10.91'S	41°00.84'S	20:44:01	16.5	320.9	198.3	03m29.8s
088°45.0'W	39°56.20'S	42°15.57'S	41°05.56'S	20:44:07	16.4	320.8	198.2	03m29.4s
088°37.5'W	40°00.98'S	42°20.23'S	41°10.28'S	20:44:13	16.2	320.7	198.1	03m29.0s
088°30.0'W	40°05.76'S	42°24.87'S	41°14.99'S	20:44:19	16.1	320.6	197.9	03m28.6s
088°22.5'W	40°10.53'S	42°29.51'S	41°19.69'S	20:44:24	16.0	320.4	197.8	03m28.2s
088°15.0'W	40°15.29'S	42°34.13'S	41°24.39'S	20:44:30	15.8	320.3	197.6	03m27.8s
088°07.5'W	40°20.04'S	42°38.75'S	41°29.07'S	20:44:35	15.7	320.2	197.5	03m27.4s
088°00.0'W	40°24.79'S	42°43.37'S	41°33.75'S	20:44:41	15.6	320.1	197.4	03m27.1s
087°52.5'W	40°29.52'S	42°47.97'S	41°38.42'S	20:44:46	15.4	320.0	197.2	03m26.7s
087°45.0'W	40°34.25'S	42°52.56'S	41°43.08'S	20:44:52	15.3	319.9	197.1	03m26.3s
087°37.5'W	40°38.96'S	42°57.15'S	41°47.73'S	20:44:57	15.2	319.8	197.0	03m25.9s
087°30.0'W	40°43.67'S	43°01.73'S	41°52.37'S	20:45:02	15.0	319.7	196.8	03m25.5s
087°22.5'W	40°48.37'S	43°06.30'S	41°57.00'S	20:45:07	14.9	319.6	196.7	03m25.1s
087°15.0'W	40°53.07'S	43°10.86'S	42°01.63'S	20:45:12	14.8	319.5	196.6	03m24.8s
087°07.5'W	40°57.75'S	43°15.41'S	42°06.25'S	20:45:17	14.7	319.4	196.4	03m24.4s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
087°00.0'W	41°02.42'S	43°19.95'S	42°10.86'S	20:45:22	14.5	319.3	196.3	03m24.0s
086°52.5'W	41°07.09'S	43°24.49'S	42°15.46'S	20:45:27	14.4	319.2	196.2	03m23.6s
086°45.0'W	41°11.75'S	43°29.01'S	42°20.05'S	20:45:32	14.3	319.1	196.0	03m23.3s
086°37.5'W	41°16.39'S	43°33.53'S	42°24.63'S	20:45:37	14.1	318.9	195.9	03m22.9s
086°30.0'W	41°21.03'S	43°38.04'S	42°29.20'S	20:45:42	14.0	318.8	195.8	03m22.5s
086°22.5'W	41°25.67'S	43°42.54'S	42°33.77'S	20:45:47	13.9	318.7	195.6	03m22.1s
086°15.0'W	41°30.29'S	43°47.04'S	42°38.33'S	20:45:51	13.8	318.6	195.5	03m21.8s
086°07.5'W	41°34.90'S	43°51.52'S	42°42.87'S	20:45:56	13.6	318.5	195.4	03m21.4s
086°00.0'W	41°39.51'S	43°56.00'S	42°47.41'S	20:46:00	13.5	318.4	195.2	03m21.0s
085°52.5'W	41°44.10'S	44°00.46'S	42°51.94'S	20:46:05	13.4	318.3	195.1	03m20.7s
085°45.0'W	41°48.69'S	44°04.92'S	42°56.47'S	20:46:09	13.3	318.2	195.0	03m20.3s
085°37.5'W	41°53.27'S	44°09.37'S	43°00.98'S	20:46:14	13.1	318.1	194.9	03m19.9s
085°30.0'W	41°57.84'S	44°13.81'S	43°05.49'S	20:46:18	13.0	318.0	194.7	03m19.6s
085°22.5'W	42°02.40'S	44°18.25'S	43°09.98'S	20:46:23	12.9	317.9	194.6	03m19.2s
085°15.0'W	42°06.95'S	44°22.67'S	43°14.47'S	20:46:27	12.8	317.8	194.5	03m18.9s
085°07.5'W	42°11.49'S	44°27.09'S	43°18.95'S	20:46:31	12.6	317.7	194.4	03m18.5s
085°00.0'W	42°16.03'S	44°31.50'S	43°23.42'S	20:46:35	12.5	317.6	194.2	03m18.1s
084°52.5'W	42°20.56'S	44°35.89'S	43°27.88'S	20:46:39	12.4	317.5	194.1	03m17.8s
084°45.0'W	42°25.07'S	44°40.28'S	43°32.33'S	20:46:43	12.3	317.4	194.0	03m17.4s
084°37.5'W	42°29.58'S	44°44.67'S	43°36.78'S	20:46:47	12.1	317.3	193.9	03m17.1s
084°30.0'W	42°34.08'S	44°49.04'S	43°41.21'S	20:46:51	12.0	317.2	193.7	03m16.7s
084°22.5'W	42°38.57'S	44°53.40'S	43°45.64'S	20:46:55	11.9	317.1	193.6	03m16.4s
084°15.0'W	42°43.05'S	44°57.76'S	43°50.06'S	20:46:59	11.8	317.0	193.5	03m16.0s
084°07.5'W	42°47.53'S	45°02.11'S	43°54.47'S	20:47:03	11.6	316.9	193.4	03m15.7s
084°00.0'W	42°51.99'S	45°06.44'S	43°58.87'S	20:47:07	11.5	316.8	193.3	03m15.3s
083°52.5'W	42°56.44'S	45°10.77'S	44°03.26'S	20:47:10	11.4	316.7	193.1	03m15.0s
083°45.0'W	43°00.89'S	45°15.10'S	44°07.64'S	20:47:14	11.3	316.6	193.0	03m14.6s
083°37.5'W	43°05.33'S	45°19.41'S	44°12.02'S	20:47:18	11.1	316.5	192.9	03m14.3s
083°30.0'W	43°09.76'S	45°23.71'S	44°16.38'S	20:47:21	11.0	316.4	192.8	03m14.0s
083°22.5'W	43°14.18'S	45°28.01'S	44°20.74'S	20:47:25	10.9	316.3	192.7	03m13.6s
083°15.0'W	43°18.59'S	45°32.29'S	44°25.09'S	20:47:28	10.8	316.2	192.5	03m13.3s
083°07.5'W	43°22.99'S	45°36.57'S	44°29.43'S	20:47:32	10.7	316.1	192.4	03m12.9s
083°00.0'W	43°27.38'S	45°40.84'S	44°33.76'S	20:47:35	10.5	316.0	192.3	03m12.6s
082°52.5'W	43°31.77'S	45°45.10'S	44°38.08'S	20:47:38	10.4	315.8	192.2	03m12.3s
082°45.0'W	43°36.14'S	45°49.36'S	44°42.39'S	20:47:42	10.3	315.7	192.1	03m11.9s
082°37.5'W	43°40.51'S	45°53.60'S	44°46.70'S	20:47:45	10.2	315.6	192.0	03m11.6s
082°30.0'W	43°44.87'S	45°57.83'S	44°51.00'S	20:47:48	10.1	315.5	191.8	03m11.3s
082°22.5'W	43°49.22'S	46°02.06'S	44°55.28'S	20:47:51	9.9	315.4	191.7	03m10.9s
082°15.0'W	43°53.56'S	46°06.28'S	44°59.56'S	20:47:54	9.8	315.3	191.6	03m10.6s
082°07.5'W	43°57.89'S	46°10.49'S	45°03.83'S	20:47:57	9.7	315.2	191.5	03m10.3s
082°00.0'W	44°02.21'S	46°14.69'S	45°08.09'S	20:48:00	9.6	315.1	191.4	03m10.0s
081°52.5'W	44°06.52'S	46°18.88'S	45°12.34'S	20:48:03	9.5	315.0	191.3	03m09.6s
081°45.0'W	44°10.83'S	46°23.06'S	45°16.59'S	20:48:06	9.3	314.9	191.2	03m09.3s
081°37.5'W	44°15.13'S	46°27.24'S	45°20.82'S	20:48:09	9.2	314.8	191.1	03m09.0s
081°30.0'W	44°19.41'S	46°31.40'S	45°25.05'S	20:48:12	9.1	314.7	190.9	03m08.7s
081°22.5'W	44°23.69'S	46°35.56'S	45°29.27'S	20:48:15	9.0	314.6	190.8	03m08.3s
081°15.0'W	44°27.96'S	46°39.71'S	45°33.47'S	20:48:18	8.9	314.5	190.7	03m08.0s
081°07.5'W	44°32.22'S	46°43.85'S	45°37.67'S	20:48:20	8.8	314.4	190.6	03m07.7s

# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat. s
081°00.0'W	44°36.47'S	46°47.98'S	45°41.87'S	20:48:23	8.6	314.3	190.5	03m07.4s
080°52.5'W	44°40.72'S	46°52.11'S	45°46.05'S	20:48:26	8.5	314.2	190.4	03m07.1s
080°45.0'W	44°44.95'S	46°56.22'S	45°50.22'S	20:48:28	8.4	314.1	190.3	03m06.8s
080°37.5'W	44°49.18'S	47°00.33'S	45°54.39'S	20:48:31	8.3	314.0	190.2	03m06.5s
080°30.0'W	44°53.39'S	47°04.42'S	45°58.54'S	20:48:33	8.2	313.9	190.1	03m06.1s
080°22.5'W	44°57.60'S	47°08.51'S	46°02.69'S	20:48:36	8.1	313.8	190.0	03m05.8s
080°15.0'W	45°01.80'S	47°12.59'S	46°06.83'S	20:48:38	7.9	313.7	189.8	03m05.5s
080°07.5'W	45°05.99'S	47°16.67'S	46°10.96'S	20:48:40	7.8	313.6	189.7	03m05.2s
080°00.0'W	45°10.17'S	47°20.73'S	46°15.08'S	20:48:43	7.7	313.5	189.6	03m04.9s
079°52.5'W	45°14.34'S	47°24.78'S	46°19.19'S	20:48:45	7.6	313.4	189.5	03m04.6s
079°45.0'W	45°18.51'S	47°28.83'S	46°23.30'S	20:48:47	7.5	313.3	189.4	03m04.3s
079°37.5'W	45°22.66'S	47°32.87'S	46°27.39'S	20:48:50	7.4	313.2	189.3	03m04.0s
079°30.0'W	45°26.81'S	47°36.90'S	46°31.48'S	20:48:52	7.3	313.1	189.2	03m03.7s
079°22.5'W	45°30.94'S	47°40.92'S	46°35.56'S	20:48:54	7.1	313.0	189.1	03m03.4s
079°15.0'W	45°35.07'S	47°44.93'S	46°39.63'S	20:48:56	7.0	313.0	189.0	03m03.1s
079°07.5'W	45°39.19'S	47°48.93'S	46°43.69'S	20:48:58	6.9	312.9	188.9	03m02.8s
079°00.0'W	45°43.30'S	47°52.93'S	46°47.74'S	20:49:00	6.8	312.8	188.8	03m02.5s
078°52.5'W	45°47.41'S	47°56.91'S	46°51.79'S	20:49:02	6.7	312.7	188.7	03m02.2s
078°45.0'W	45°51.50'S	48°00.89'S	46°55.82'S	20:49:04	6.6	312.6	188.6	03m01.9s
078°37.5'W	45°55.58'S	48°04.86'S	46°59.85'S	20:49:06	6.5	312.5	188.5	03m01.6s
078°30.0'W	45°59.66'S	48°08.82'S	47°03.87'S	20:49:08	6.4	312.4	188.4	03m01.3s
078°22.5'W	46°03.73'S	48°12.77'S	47°07.87'S	20:49:10	6.2	312.3	188.3	03m01.0s
078°15.0'W	46°07.79'S	48°16.72'S	47°11.88'S	20:49:12	6.1	312.2	188.2	03m00.7s
078°07.5'W	46°11.84'S	48°20.65'S	47°15.87'S	20:49:13	6.0	312.1	188.1	03m00.4s
078°00.0'W	46°15.88'S	48°24.58'S	47°19.85'S	20:49:15	5.9	312.0	188.0	03m00.1s
077°52.5'W	46°19.91'S	48°28.50'S	47°23.83'S	20:49:17	5.8	311.9	187.9	02m59.8s
077°45.0'W	46°23.93'S	48°32.41'S	47°27.79'S	20:49:18	5.7	311.8	187.8	02m59.5s
077°37.5'W	46°27.95'S	48°36.31'S	47°31.75'S	20:49:20	5.6	311.7	187.7	02m59.3s
077°30.0'W	46°31.95'S	48°40.20'S	47°35.70'S	20:49:22	5.5	311.6	187.6	02m59.0s
077°22.5'W	46°35.95'S	48°44.08'S	47°39.64'S	20:49:23	5.4	311.5	187.5	02m58.7s
077°15.0'W	46°39.94'S	48°47.96'S	47°43.57'S	20:49:25	5.2	311.4	187.4	02m58.4s
077°07.5'W	46°43.92'S	48°51.83'S	47°47.49'S	20:49:26	5.1	311.3	187.3	02m58.1s
077°00.0'W	46°47.89'S	48°55.69'S	47°51.41'S	20:49:28	5.0	311.2	187.2	02m57.8s
076°52.5'W	46°51.86'S	48°59.54'S	47°55.32'S	20:49:29	4.9	311.1	187.1	02m57.6s
076°45.0'W	46°55.81'S	49°03.38'S	47°59.21'S	20:49:30	4.8	311.0	187.0	02m57.3s
076°37.5'W	46°59.76'S	49°07.21'S	48°03.10'S	20:49:32	4.7	310.9	186.9	02m57.0s
076°30.0'W	47°03.69'S	49°11.04'S	48°06.98'S	20:49:33	4.6	310.8	186.8	02m56.7s
076°22.5'W	47°07.62'S	49°14.86'S	48°10.86'S	20:49:34	4.5	310.7	186.7	02m56.4s
076°15.0'W	47°11.54'S	49°18.67'S	48°14.72'S	20:49:36	4.4	310.6	186.6	02m56.2s
076°07.5'W	47°15.45'S	49°22.47'S	48°18.58'S	20:49:37	4.3	310.5	186.5	02m55.9s
076°00.0'W	47°19.36'S	49°26.26'S	48°22.42'S	20:49:38	4.2	310.4	186.4	02m55.6s
075°52.5'W	47°23.25'S	49°30.04'S	48°26.26'S	20:49:39	4.1	310.3	186.3	02m55.4s
075°45.0'W	47°27.14'S	49°33.82'S	48°30.09'S	20:49:40	3.9	310.2	186.2	02m55.1s
075°37.5'W	47°31.01'S	49°37.58'S	48°33.91'S	20:49:41	3.8	310.1	186.1	02m54.8s
075°30.0'W	47°34.88'S	49°41.34'S	48°37.73'S	20:49:43	3.7	310.0	186.0	02m54.5s
075°22.5'W	47°38.74'S	49°45.09'S	48°41.53'S	20:49:44	3.6	309.9	185.9	02m54.3s
075°15.0'W	47°42.59'S	49°48.84'S	48°45.33'S	20:49:45	3.5	309.8	185.8	02m54.0s
075°07.5'W	47°46.44'S	49°52.57'S	48°49.11'S	20:49:45	3.4	309.7	185.8	02m53.7s



# TOTAL SOLAR ECLIPSE OF 2010 JULY 11

**TABLE 2.B – MAPPING COORDINATES FOR THE UMBRAL PATH (EXTENDED)**

$\Delta T = 66.2 \text{ s}$

Longitude	Latitude of:			Circumstances on Central Line				
	Northern Limit	Southern Limit	Central Line	Universal Time h m s	Sun Alt °	Sun Az. °	Path Width km	Central Durat.
075°00.0'W	47°50.27'S	49°56.29'S	48°52.89'S	20:49:46	3.3	309.6	185.7	02m53.5s
074°52.5'W	47°54.10'S	50°00.01'S	48°56.67'S	20:49:47	3.2	309.5	185.6	02m53.2s
074°45.0'W	47°57.91'S	50°03.72'S	49°00.43'S	20:49:48	3.1	309.4	185.5	02m52.9s
074°37.5'W	48°01.72'S	50°07.42'S	49°04.18'S	20:49:49	3.0	309.3	185.4	02m52.7s
074°30.0'W	48°05.52'S	50°11.11'S	49°07.93'S	20:49:50	2.9	309.2	185.3	02m52.4s
074°22.5'W	48°09.31'S	50°14.80'S	49°11.67'S	20:49:51	2.8	309.1	185.2	02m52.2s
074°15.0'W	48°13.10'S	50°18.47'S	49°15.40'S	20:49:51	2.7	309.0	185.1	02m51.9s
074°07.5'W	48°16.87'S	50°22.14'S	49°19.12'S	20:49:52	2.6	308.9	185.0	02m51.6s
074°00.0'W	48°20.64'S	50°25.80'S	49°22.83'S	20:49:53	2.5	308.8	184.9	02m51.4s
073°52.5'W	48°24.40'S	50°29.45'S	49°26.53'S	20:49:53	2.4	308.7	184.8	02m51.1s
073°45.0'W	48°28.15'S	50°33.10'S	49°30.23'S	20:49:54	2.3	308.6	184.8	02m50.9s
073°37.5'W	48°31.89'S	50°36.73'S	49°33.92'S	20:49:55	2.2	308.5	184.7	02m50.6s
073°30.0'W	48°35.62'S	50°40.36'S	49°37.60'S	20:49:55	2.1	308.5	184.6	02m50.4s
073°22.5'W	48°39.35'S	50°43.97'S	49°41.27'S	20:49:56	2.0	308.4	184.5	02m50.1s
073°15.0'W	48°43.06'S	50°47.59'S	49°44.93'S	20:49:56	1.9	308.3	184.4	02m49.9s
073°07.5'W	48°46.77'S	50°51.19'S	49°48.58'S	20:49:57	1.8	308.2	184.3	02m49.6s
073°00.0'W	48°50.47'S	50°54.78'S	49°52.23'S	20:49:57	1.7	308.1	184.2	02m49.4s
072°52.5'W	48°54.16'S	50°58.37'S	49°55.87'S	20:49:58	1.6	308.0	184.1	02m49.1s
072°45.0'W	48°57.84'S	51°01.95'S	49°59.50'S	20:49:58	1.5	307.9	184.0	02m48.9s
072°37.5'W	49°01.52'S	51°05.51'S	50°03.12'S	20:49:58	1.4	307.8	184.0	02m48.6s
072°30.0'W	49°05.18'S	51°09.08'S	50°06.73'S	20:49:59	1.3	307.7	183.9	02m48.4s
072°22.5'W	49°08.84'S	51°12.63'S	50°10.34'S	20:49:59	1.1	307.6	183.8	02m48.1s
072°15.0'W	49°12.49'S	51°16.18'S	50°13.94'S	20:49:59	1.0	307.5	183.7	02m47.9s
072°07.5'W	49°16.13'S	51°19.71'S	50°17.53'S	20:50:00	0.9	307.4	183.6	02m47.6s
072°00.0'W	49°19.77'S	51°23.24'S	50°21.11'S	20:50:00	0.8	307.3	183.5	02m47.4s
071°52.5'W	49°23.39'S	51°26.76'S	50°24.68'S	20:50:00	0.7	307.2	183.4	02m47.1s
071°45.0'W	49°27.01'S	51°30.28'S	50°28.24'S	20:50:00	0.6	307.1	183.4	02m46.9s
071°37.5'W	49°30.62'S	51°33.78'S	50°31.80'S	20:50:00	0.5	307.0	183.3	02m46.7s
071°30.0'W	49°34.22'S	51°37.28'S	50°35.35'S	20:50:01	0.5	306.9	183.2	02m46.4s