

Annular Solar Eclipse of 2016 Sep 01

Ecliptic Conjunction = 09:04:14.2 TD (= 09:03:06.1 UT)

Greatest Eclipse = 09:08:02.0 TD (= 09:06:53.9 UT)

Eclipse Magnitude = 0.9736 Gamma = -0.3330

Saros Series = 135 Member = 39 of 71

Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 10h43m43.3s

Dec. = +08°03'38.0"

S.D. = 00°15'51.0"

H.P. = 00°00'08.7"

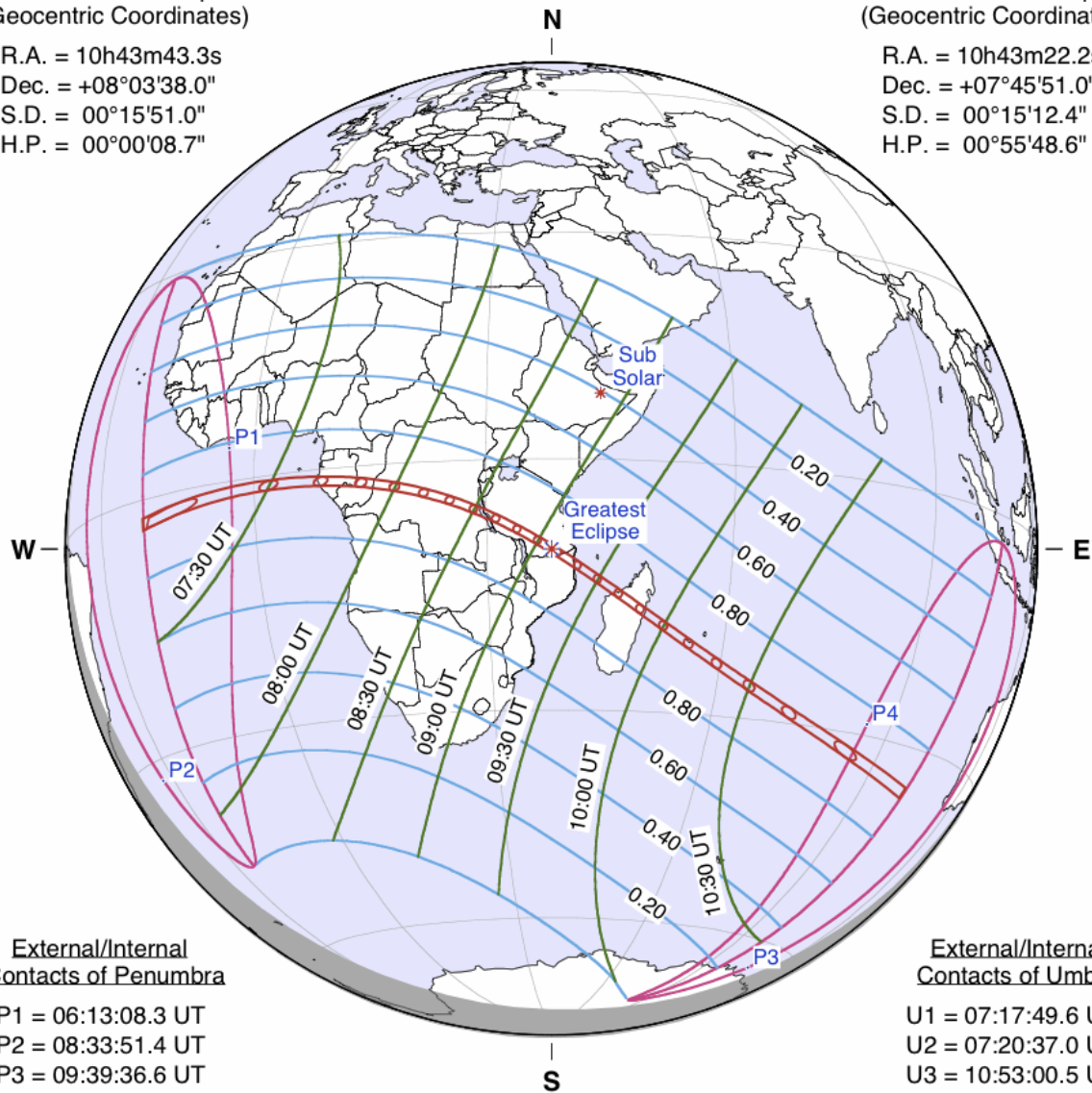
Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 10h43m22.2s

Dec. = +07°45'51.0"

S.D. = 00°15'12.4"

H.P. = 00°55'48.6"



External/Internal Contacts of Penumbra

P1 = 06:13:08.3 UT

P2 = 08:33:51.4 UT

P3 = 09:39:36.6 UT

P4 = 12:00:40.5 UT

Constants & Ephemeris

$\Delta T = 68.1$ s

$k1 = 0.2725076$

$k2 = 0.2722810$

$\Delta b = 0.0''$ $\Delta l = 0.0''$

Eph. = JPL DE405

External/Internal Contacts of Umbra

U1 = 07:17:49.6 UT

U2 = 07:20:37.0 UT

U3 = 10:53:00.5 UT

U4 = 10:55:53.7 UT

Circumstances at Greatest Eclipse: 09:06:53.9 UT

Lat. = 10°40.9'S

Sun Alt. = 70.5°

Long. = 037°45.7'E

Sun Azm. = 16.4°

Path Width = 99.7 km Duration = 03m05.6s

Circumstances at Greatest Duration: 09:05:09.7 UT

Lat. = 10°26'S

Sun Alt. = 70.5°

Long. = 037°21'E

Duration = 03m05.6s

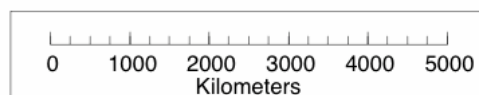
Geocentric Libration (Optical + Physical)

$l = 4.78^\circ$

$b = 0.39^\circ$

$c = 23.61^\circ$

Brown Lun. No. = 1159



F. Espenak, NASA's GSFC
eclipse.gsfc.nasa.gov
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