

# Total Solar Eclipse of 1991 Jul 11

Ecliptic Conjunction = 19:07:03.2 TD (= 19:06:05.3 UT)

Greatest Eclipse = 19:07:00.8 TD (= 19:06:02.8 UT)

Eclipse Magnitude = 1.0800      Gamma = -0.0041

Saros Series = 136      Member = 36 of 71

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 07h22m12.8s

Dec. = +22°05'48.5"

S.D. = 00°15'43.9"

H.P. = 00°00'08.7"

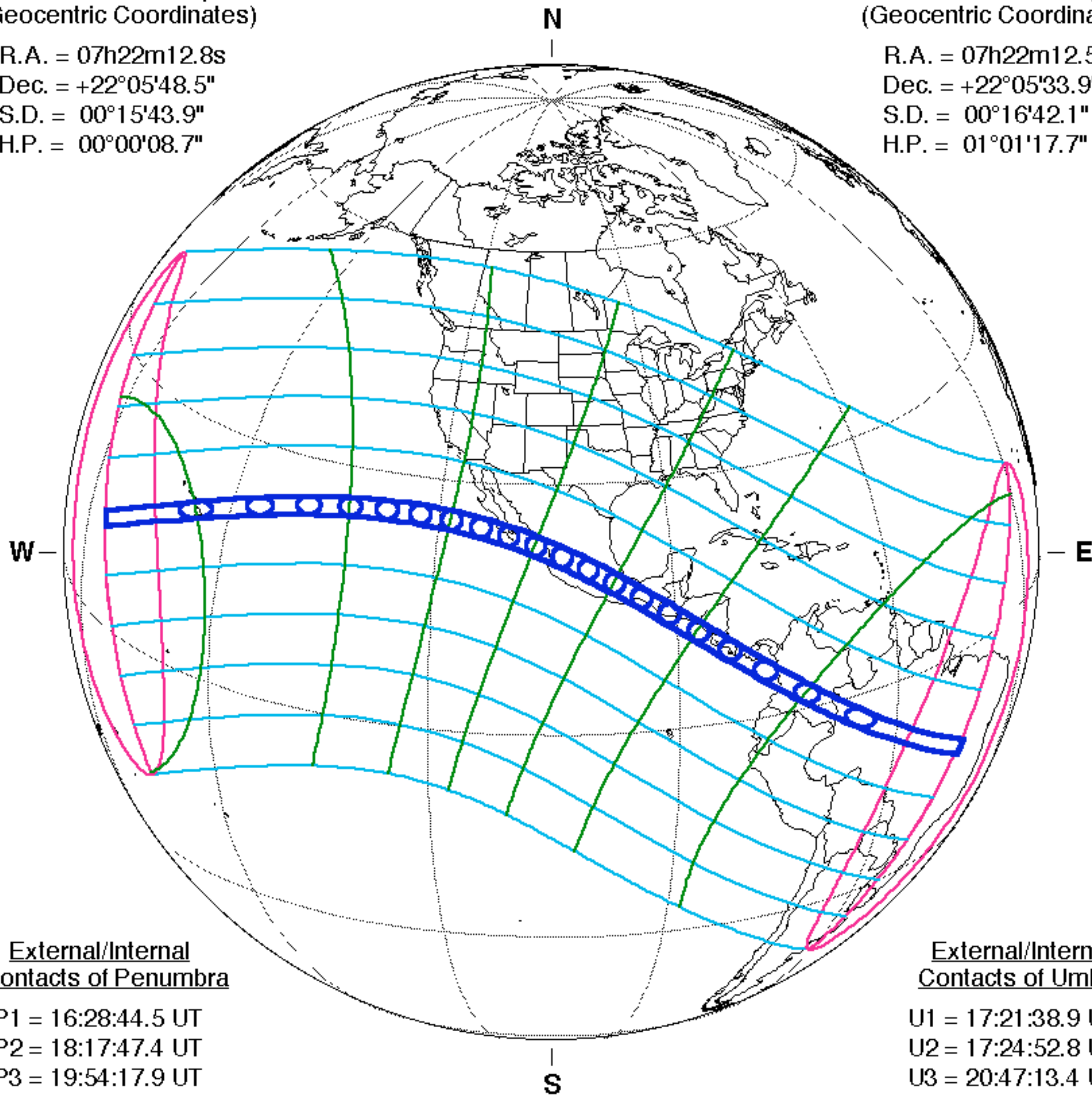
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 07h22m12.5s

Dec. = +22°05'33.9"

S.D. = 00°16'42.1"

H.P. = 01°01'17.7"



## External/Internal Contacts of Penumbra

P1 = 16:28:44.5 UT

P2 = 18:17:47.4 UT

P3 = 19:54:17.9 UT

P4 = 21:43:22.0 UT

## External/Internal Contacts of Umbra

U1 = 17:21:38.9 UT

U2 = 17:24:52.8 UT

U3 = 20:47:13.4 UT

U4 = 20:50:26.3 UT

## Local Circumstances at Greatest Eclipse

Lat. = 22°00.0'N

Sun Alt. = 89.9°

Long. = 105°12.7'W

Sun Azm. = 30.1°

Path Width = 258.0 km      Duration = 06m53.1s

## Constants & Ephemeris

$\Delta T = 57.9$  s

$k_1 = 0.2724880$

$k_2 = 0.2722810$

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

Eph. = VSOP87/ELP2000-82

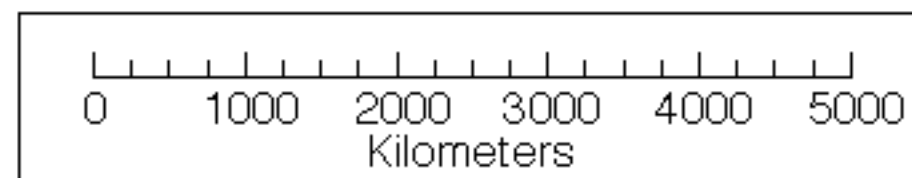
## Geocentric Libration (Optical + Physical)

$l = 0.88^\circ$

$b = 0.03^\circ$

$c = 6.51^\circ$

Brown Lun. No. = 848



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[eclipse.gsfc.nasa.gov/eclipse.html](http://eclipse.gsfc.nasa.gov/eclipse.html)