

# Partial Lunar Eclipse of 1777 Jul 20

Ecliptic Conjunction = 12:59:06.2 TD (= 12:58:49.6 UT)

Greatest Eclipse = 12:48:46.4 TD (= 12:48:29.8 UT)

Penumbral Magnitude = 1.1173

P. Radius = 1.2298°

Gamma = -0.9508

Umbral Magnitude = 0.1093

U. Radius = 0.7050°

Axis = 0.9084°

Saros Series = 135 Member = 10 of 71

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 08h00m18.6s

Dec. = +20°35'24.2"

S.D. = 00°15'44.7"

H.P. = 00°00'08.7"

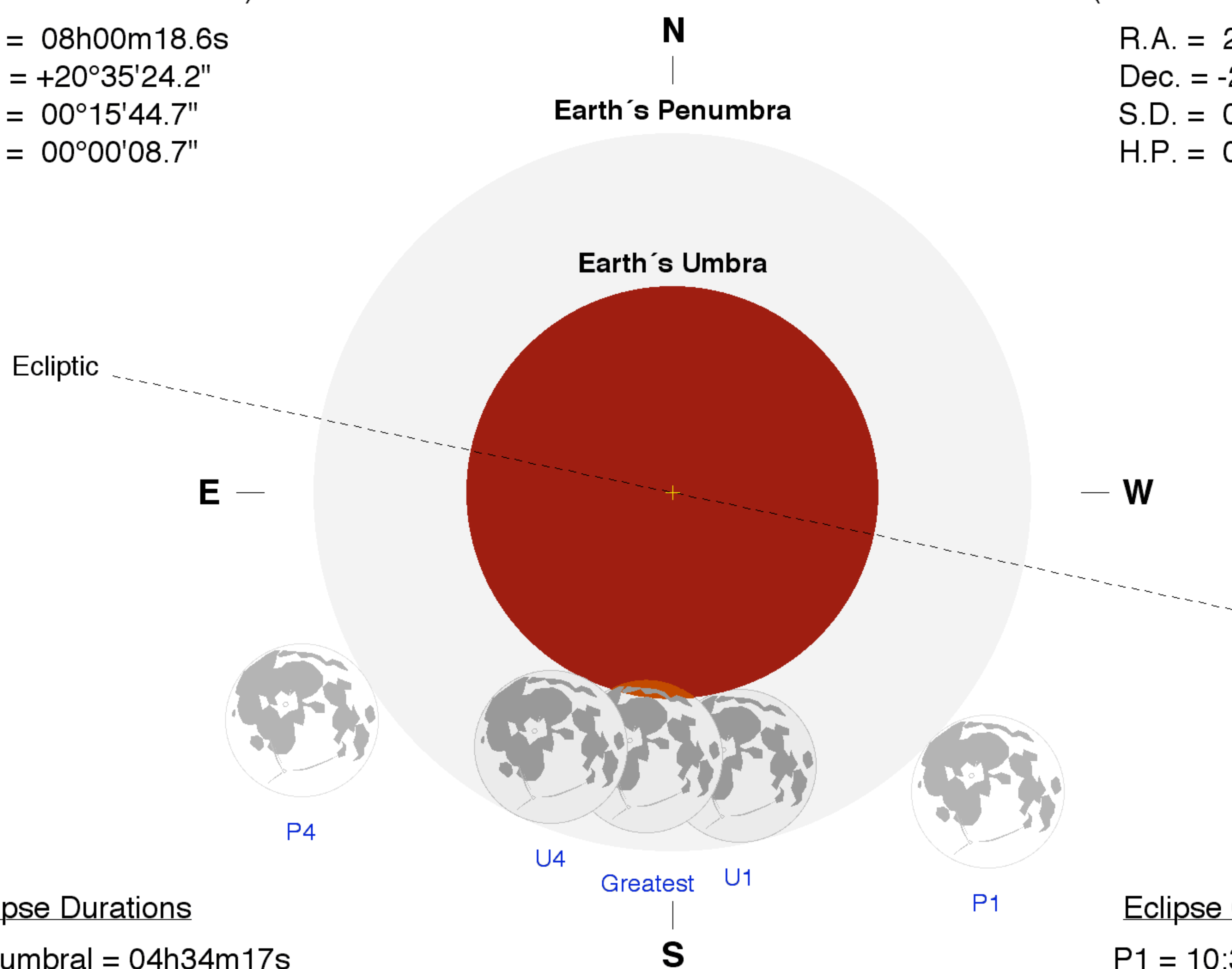
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 20h00m42.7s

Dec. = -21°29'37.0"

S.D. = 00°15'37.2"

H.P. = 00°57'19.6"



## Eclipse Durations

Penumbral = 04h34m17s

Umbral = 01h15m51s

## Eclipse Contacts

P1 = 10:31:23 UT

U1 = 12:10:41 UT

U4 = 13:26:31 UT

P4 = 15:05:40 UT

$\Delta T = 17$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

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

