

Penumbral Lunar Eclipse of 2078 Nov 19

Ecliptic Conjunction = 12:54:46.3 TD (= 12:52:12.1 UT)

Greatest Eclipse = 12:40:03.9 TD (= 12:37:29.6 UT)

Penumbral Magnitude = 0.0615

P. Radius = 1.3069°

Gamma = 1.5147

Umbral Magnitude = -0.9047

U. Radius = 0.7675°

Axis = 1.5518°

Saros Series = 156

Member = 3 of 82

Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 15h41m12.4s

Dec. = -19°36'41.0"

S.D. = 00°16'10.9"

H.P. = 00°00'08.9"

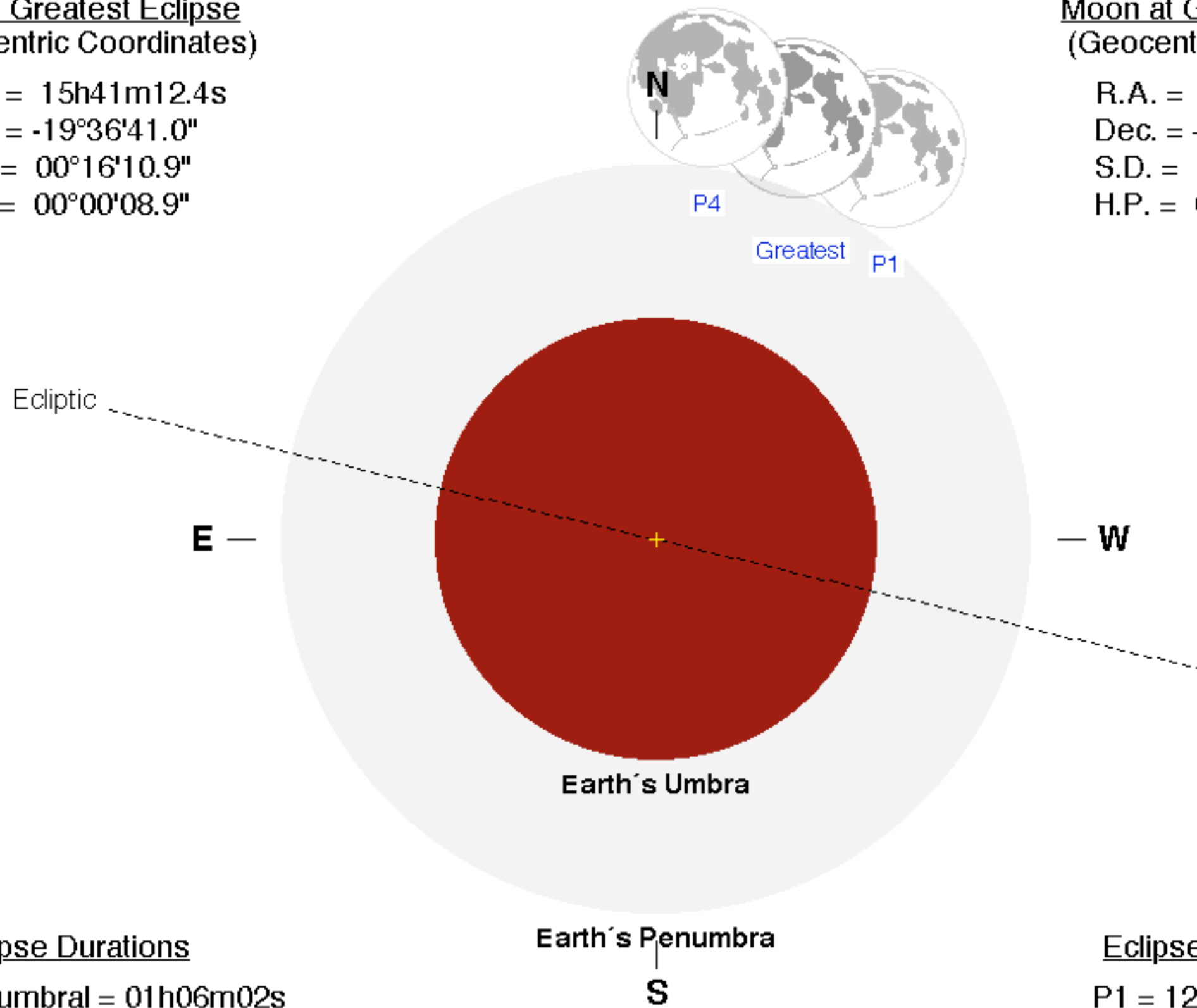
Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 03h39m06.0s

Dec. = +21°04'57.5"

S.D. = 00°16'45.0"

H.P. = 01°01'28.3"



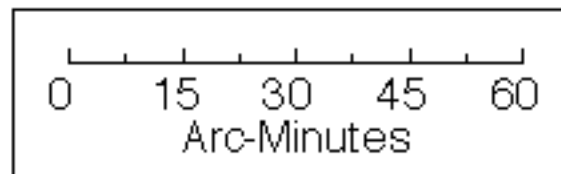
Eclipse Durations

Penumbral = 01h06m02s

Eclipse Contacts

P1 = 12:04:28 UT

P4 = 13:10:30 UT



$\Delta T = 154$ s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

F. Espenak, NASA's GSFC

eclipse.gsfc.nasa.gov/eclipse.html

