|  |  |
| --- | --- |
| **Planetary Body** | Moon |
| **Avg. Solar Irradiance (W/m2)** | 1368 |
| **Radius** | 1737.5 km (1079.6 miles) |
| **Rotational Speed** | 3,680.5 km/h (2,287 mph) |
| **Avg. Daylight Hours** | 655.73 hours (27.322 days) |
| **Orbit Eccentricity** | 0.0554 |
| **Orbit Inclination** | 5.16° |
| **Axial Tilt** | 2° |
| **Temperature Ranges** | -233/123 °C (-387/253 °F) |
| **Topography** | 10,760 m (high) ; -9,150 m (low) |
| **Surface Gravity** | 1.624 m/s2 |

Exploration Treks/Locations:

Malapert Peak:

* Lat: 84.9°S, Long: 12.9°E
* Diameter: 69 km
* Min % illumination per day: 56
* Max % illumination per day: 95

Shackelton Ridge:

* Lat: 89.68°S, Long: 166°E
* Min % illumination per day: 44
* Max % illumination per day: 98

**5km radius Trek:**

* Req. Power: 50.2 Watts for 100 kg rover & soil resistance of 0.1
* Req. Avg. Speed: 0.04 km/hr
* Req. Solar Array Size (at 20% efficiency): 0.18 m2
* Trek length: 31 km

**Equatorial Trek (yes circumnavigation around equator):**

* Req. Power: 119 Watts for 100 kg rover & soil resistance of 0.1
* Req. Avg. Speed: 13 km/hr
* Req. Solar Array Size (at 20% efficiency): 0.4 m2
* Trek length: 10,914 km

References:

NASA Moon Facts: <http://solarsystem.nasa.gov/planets/profile.cfm?Object=Moon>

Exploration Paths: “Sun-Synchronous Planetary Exploration”

Malapert: <http://the-moon.wikispaces.com/Malapert>

Peaks of Light: <http://en.wikipedia.org/wiki/Peak_of_eternal_light>