

SOLAR SIMULATOR AM0, AM1.0, AM1.5

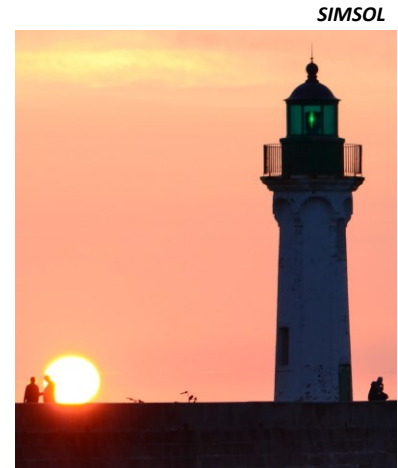
High directivity on 400 mm diameter
Adjustable power level
Visible and infrared; with or without UV

SPECIFICATIONS

- Power levels :
 - AM1.5, AM1, AM0
 - Power setting (70% to 110% of the nominal)
- High directivity :
 - Typical 0,5° (= terrestrial sun)
- Several possible configurations:
 - Diameter 400 mm : 1000W/m² – 100 000 lux
 - Diameter 200 mm : up to 4000W/m²
 - Adjustable beam
- Technology: Xenon lamp (with or without UV)
- Safety: Optical, Electrical and Thermal
- Electrical power :
 - 3 kW; 110V-230V/50-60Hz
- Dimensions: depending on application
 - Typically 2m x 1m x 1m
 - Outlet: Horizontal or vertical

Applications

Space
 Architecture
 Energy
 Industries

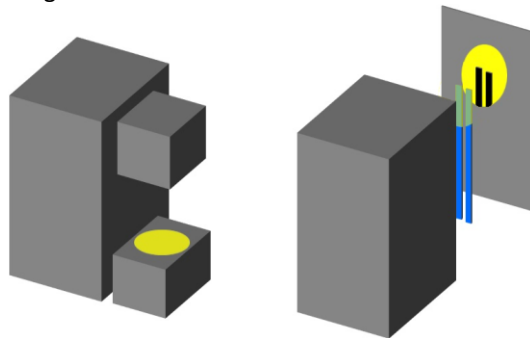


Advantages

Large illuminated area + high power + high directivity
 Power adjustment
 Choice of with or without UV
 Homogeneity of power density
 Other configurations available:
 Beam orientation
 Secondary vacuum lighting (space conditions)
 The Xenon lamp spectrum matches the solar spectrum as closely as possible.

Configurations

The beam, up to 400 mm in diameter, is available in a fixed position as standard. Options are available for tilting the beam to different angles.



Vertical illumination Horizontal illumination with illustration of Directivity and cast shadows

Configuration examples - Templates can be configured to suit user needs

The Sun

On Earth its apparent angle is about 0,5° (< 9 mrad). For an object located 10 cm from a surface, the shadow/light transition is less than 1mm. With a high directivity source, cast shadows remain sharp.

The Sun's energetic power: The Sun's energy is available over a wide spectral range, both in the visible spectrum (400- 700 nm) and in the infrared, and to a lesser extent in the UV.

AM0 : Outside the Atmosphere, Air Mass = 0, the thickness through which the sun's rays pass = 0. Power is about 1.5 kW/m².

AM1 : Sun at Zenith, Air Mass = 1, the sun's rays pass through 1 layer of atmosphere to reach the ground.

AM1.5 : Towards the 42nd parallel, Air Mass = 1.5: the sun's rays travel around 50% further than in AM1, so power is around 1kW/m².

Some reference standards: ASTM E490 ; ASTM G173-03 ; International standard ISO 9845-1, 1992

AdvEOTec's Services department can also carry out various tests under solar simulators, at ambient temperature or at temperature and under ultra-high vacuum.

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