

# Large Area Solar Illuminator (LASI)

## Single or tiled solar illumination system



Photo: 2 × 2 unit LASI

### Features

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- Large Target Size
- Continuous Illumination
- High Efficiency
- Excellent Depth of Field, Ideal for Irregularly-shaped Objects
- 1 Sun Intensity
- Can Be Tiled to Cover Large Areas

### Applications

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- Measuring Module Performance
- Monocrystalline / polycrystalline Silicon Panel Testing
- UV Resistance
- System Reliability
- Material Stability
- Colour Fastness
- Accelerated Age Testing

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## I. Overview

Each LASI unit measures 0.5 x 0.5 x 1.6m and consists of a light source and beam homogenizer, as well as the power supply and necessary IR filter to adjust to the solar spectrum\* (for AMI.5G class C).

The LASI modular design allows for upgrades to larger target areas in the future by adding multiple LASI units with a gain of 0.5 x 0.5 m with each additional unit arrayed to make the desired target size.

The LASI system produces depth of uniformity and uniformity over larger areas by combining LASI modules together.

## 2. Specifications

### Power to Effective Illumination:

40% more efficient than traditional metal-halide illumination systems. This results in reduced operating costs, power consumption, higher efficiency, and lower thermal heating of the laboratory environment.

### Custom Solutions:

Talk to one of our technical sales personnel if you need a larger area of illumination, higher power, increased collimation, or an extended spectral range for your instrument.

Specifications				
Model	1 LASI	2 x 2 LASI	4 x 4 LASI	6 x 6 LASI
Illumination Area (m)	0.5 x 0.5	1.0 x 1.0	2.0 x 2.0	3.0 x 3.0
Typical Non-uniformity	< +/-15% over 0.3x0.3m	< ±15% over 0.5m×0.5m	< ±15% over 1.5m×1.5m	< ±15% over 2.5m×2.5m
Working Distance (m) <sub>1</sub>	0.4	1.0	1.0	1.0
Collimation Half Angle (°)	±10			
Temporal Instability Classification	Class B			
Spectral Match Classification	Class C for ASTM AMI.5G <sup>2</sup>			
Lamp Power Range (W/m <sup>2</sup> )	0.5-1.0			
Lamp Type	1600W Xenon Arc Lamp			
Spectral Range (nm)	350-1800			
Depth of Uniformity (m) <sup>3</sup>	N/A	+/- 0.5m around target plane +/-20% intensity	+/- 0.5m around target plane +/-20% intensity	+/- 0.5m around target plane +/-20% intensity
Duty Cycle	Continuous			
Cooling Mechanism	Forced Air			
Power	220VAC			



1) For 1000W/m<sup>2</sup> illumination level (note use of beam turning mirrors reduces working distance).

2) Better classification achievable with add-on filtering

3) Intensity measured at center of target plane

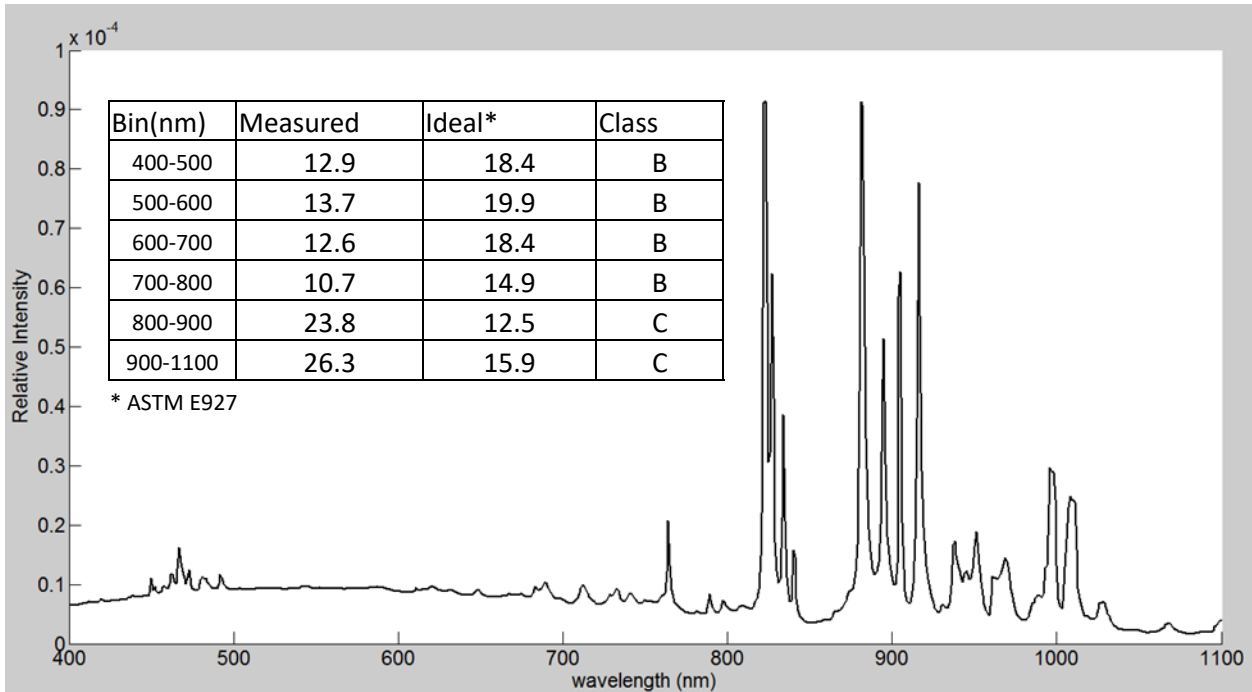


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## 3. Spectral Match

The standard LASI unit includes a thermal optical filter that significantly reduces the infrared wavelength strength emitted by the Xenon arc lamp. The inclusion of the thermal filter allows LASI units to achieve an overall ASTM class C spectral match.

More advanced filters are available to achieve class B or A spectral match.



## 4. Accessories

Additional accessories are available and custom accessories can be accommodated by contacting one of our technical sales personnel.

### Optional Components

Test Room for System Enclosure

IV Test Equipment

Custom Range and Class Spectral Filters

Calibrated Reference Cells

Custom Sample/Panel Holders



Beam turners are available for some models. Please inquire about your system of interest to find out more.

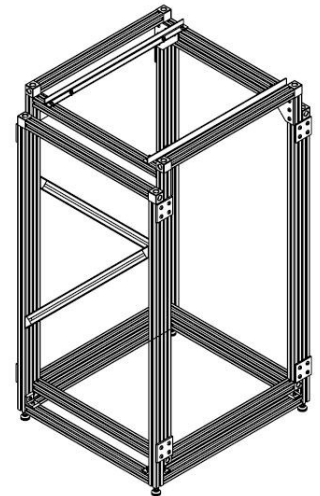
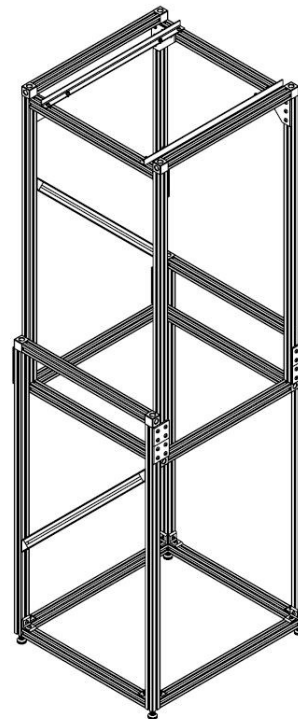
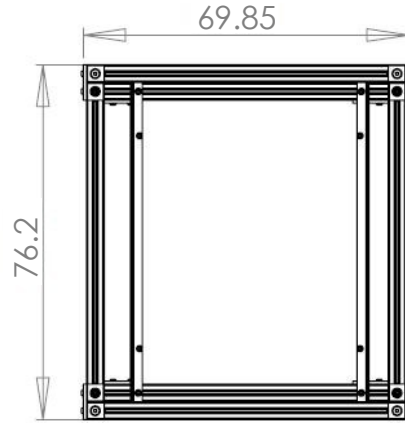
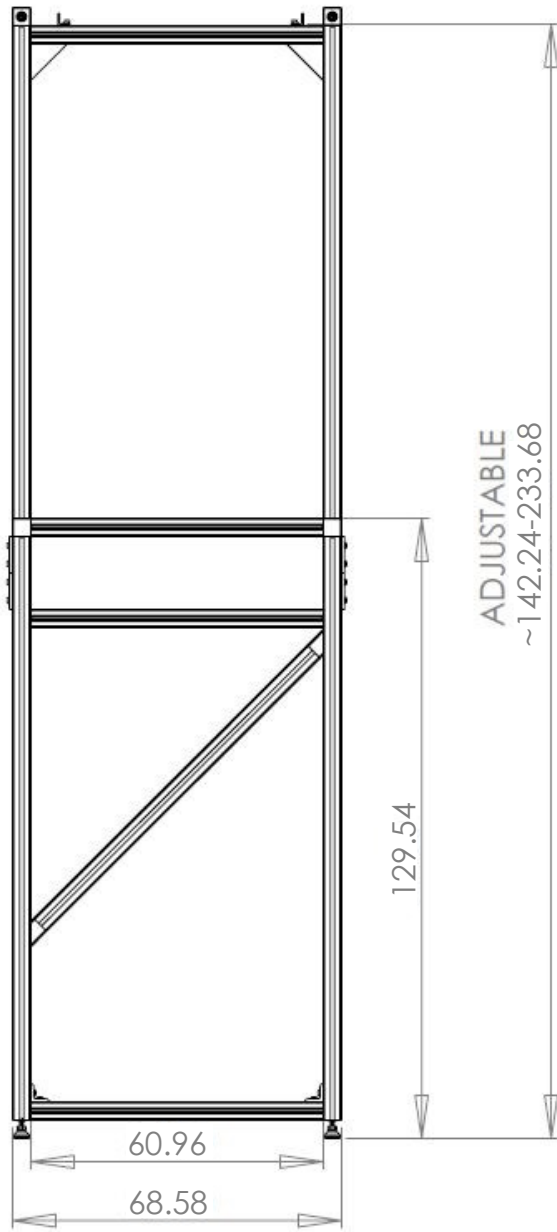
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## 5. Dimensions



Drawing dimensions are in centimeters.

### Dimensions

Lamp Housing Dimensions (L × W × H, m)

0.5 × 0.5 × 1.6

Lamp Weight (kg)

45