www.sciencetech-inc.com sales@sciencetech-inc.com +1 (519) 644 0135

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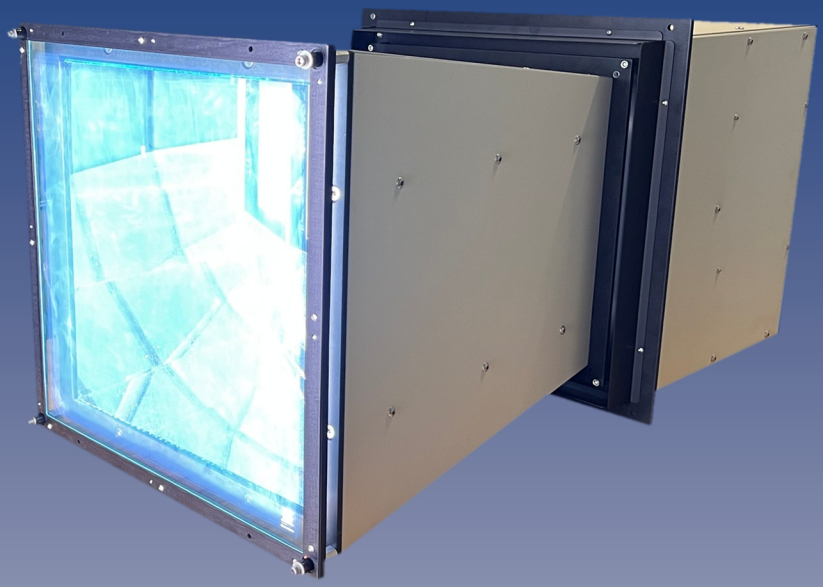
Making Light Work Better



Applications

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

Features

- 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

Large Area Illumination Systems (LASI) and (XE-LUM)

MADE IN CANADA
FABRIQUÉ AU CANADA

2026-07-07 Version 3.10

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Large Area Solar Illuminator

SPECIFICATIONS

Each LASI and XE-LUM unit contains a light source, integrated power supply, beam homogenizer (LASI only), and IR filter to adjust to the solar spectrum for AM1.5G class C. Horizontal and vertical (downward-facing) stands are available as standard products for a single and a 2 × 2 unit LASI, but custom stands are available upon request.

The modular design allows for upgrades to larger target areas in the future by adding multiple LASI units with a gain of 0.5 × 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.

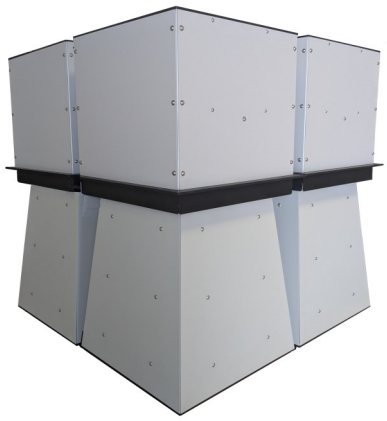
Model	LASI-1	LASI-4 (2×2)	LASI-16[1] (4×4)	LASI-36[1] (6×6)	XE-LUM
Illumination Area (m)	0.5 × 0.5	1.0 × 1.0	2.0 × 2.0	3.0 × 3.0	0.5 × 0.5
Typical Non-uniformity	<±15 % over 0.3 × 0.3 m	<±15 % over 0.5 × 0.5 m	<±15 % over 1.5 × 1.5 m	<±15 % over 2.5 × 2.5 m	<±50 % over 0.5 × 0.5 m
Working Distance[2] (m)	0.4	1			0.4
Collimation Half Angle	10				20
Temporal Instability Classification	Class A				
Spectral Match Classification	Class C				
Lamp Irradiance (Suns)	0.7-1.0				
Lamp Type	1600 W Xenon Arc Lamp				
Spectral Range (nm)	350-1700				
Depth of Uniformity (m)	N/A	±0.5 m around target plane ±20% intensity	±0.5 m around target plane ±20% intensity	±0.5 m around target plane ±20% intensity	N/A
Duty Cycle	Continuous				
Cooling Mechanism	Forced Air				
Power	200 to 240 VAC, 12.1 to 9.0 A, per illuminator				

XE-LUM with Stand

[1] LASI-16 and LASI-36 demonstrate some custom LASI configuration possibilities.

[2] This working distance is typical. The specific instrument's working distance will be supplied with the unit's test report after alignment. The working distance is not adjustable. Please contact us if you require a specific working distance.

This system includes 1 IEC 60320 C19 compatible power cables. Region-specific version must be selected at the time of placing an order.



LASI-4 (2× 2 Array) (stand not shown)

Custom Solutions

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

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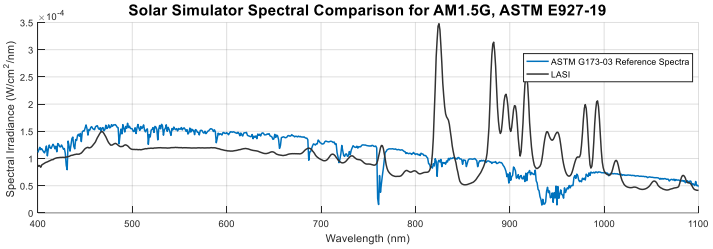
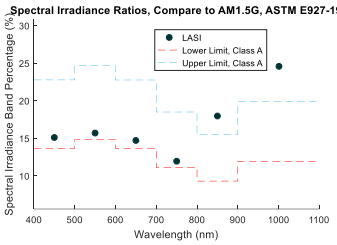
Large Area Solar Illuminator

SPECTRAL MATCH

The standard LASI and XE-LUM units include 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 and XE-LUM units to achieve an overall ASTM class C spectral match.

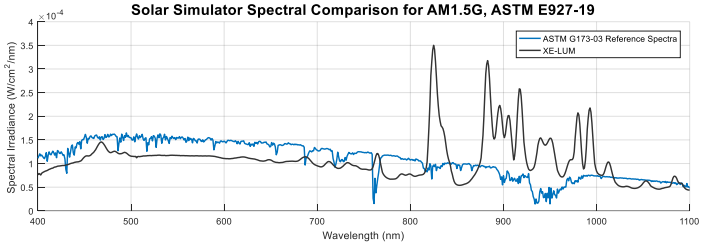
LASI AM1.5G Analysis

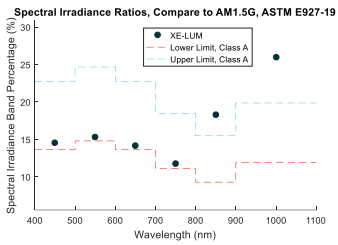




Wavelength	Percentage	Class
400-500 nm	15.1076	A
500-600 nm	15.658	A
600-700 nm	14.7021	A
700-800 nm	11.9637	A
800-900 nm	17.9754	C
900-1100 nm	24.5927	C

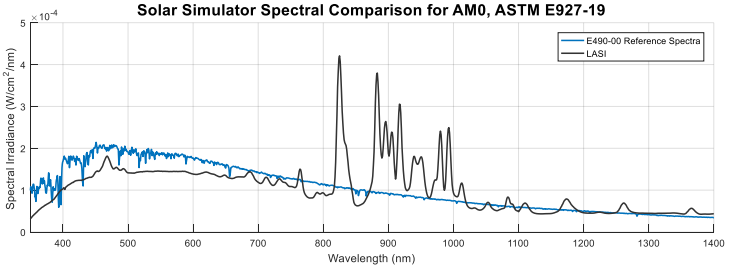
XE-LUM AM1.5G Analysis

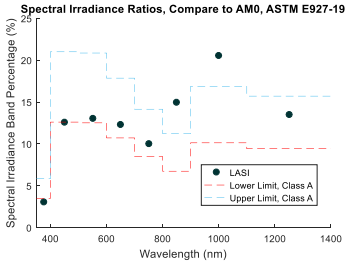




Wavelength	Percentage	Class
400-500 nm	14.5098	A
500-600 nm	15.293	A
600-700 nm	14.1781	A
700-800 nm	11.7425	A
800-900 nm	18.3439	C
900-1100 nm	25.9327	C

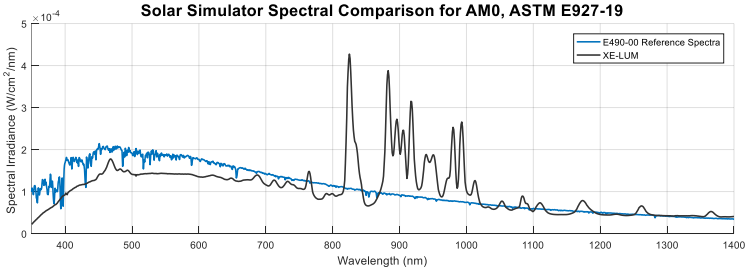
LASI AM0 Analysis

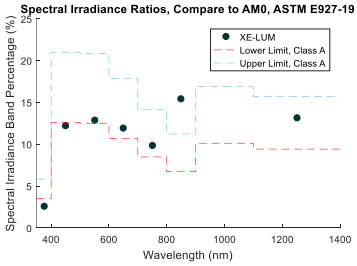




Wavelength	Percentage	Class
350-400 nm	3.044	B
400-500 nm	12.6141	A
500-600 nm	13.0741	A
600-700 nm	12.2755	A
700-800 nm	9.9891	A
800-900 nm	15.008	C
900-1100 nm	20.5329	C
1100-1400 nm	13.4617	A

XE-LUM AM0 Analysis





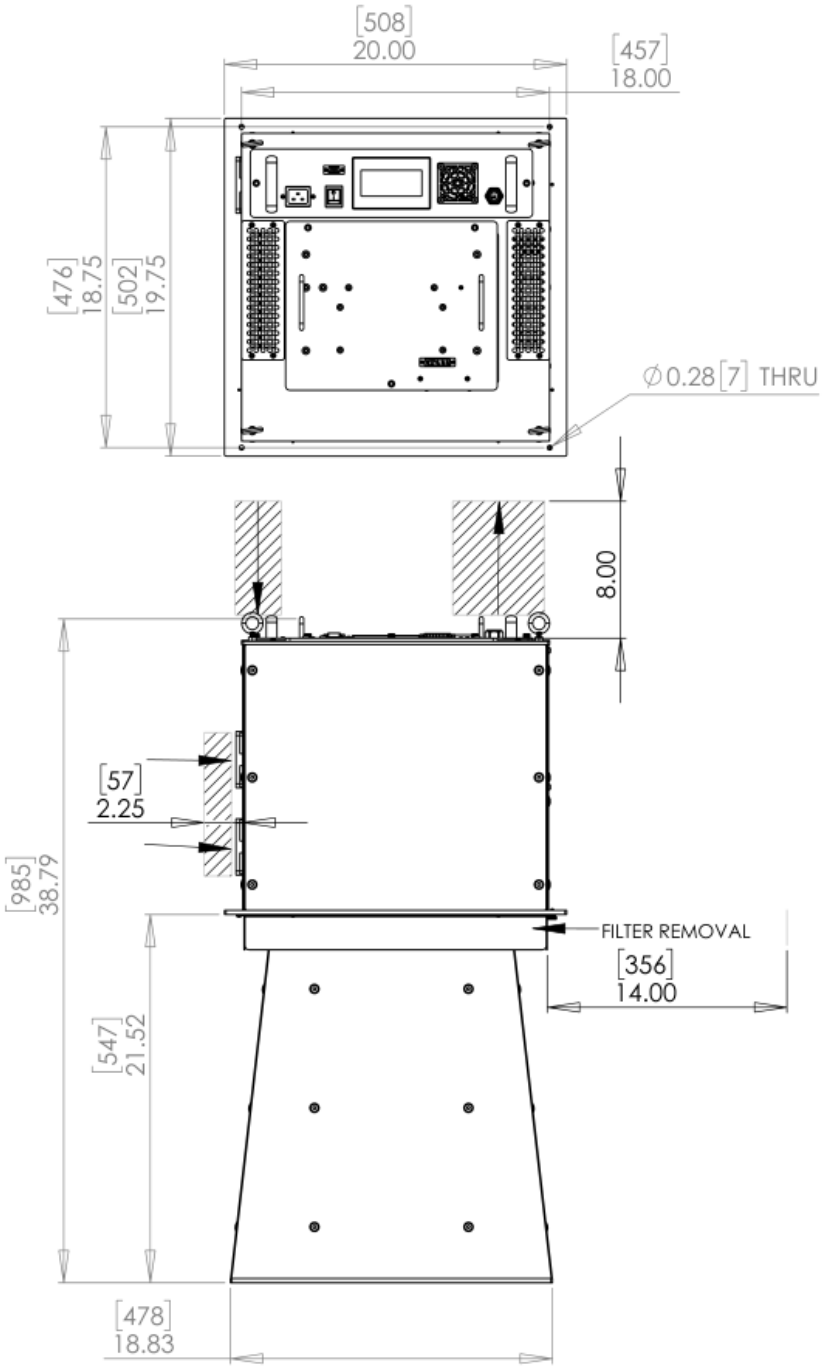
Wavelength	Percentage	Class
350-400 nm	2.6228	C
400-500 nm	12.2164	B
500-600 nm	12.8758	A
600-700 nm	11.9371	A
700-800 nm	9.8865	A
800-900 nm	15.4444	C
900-1100 nm	21.832	C
1100-1400 nm	13.1849	A

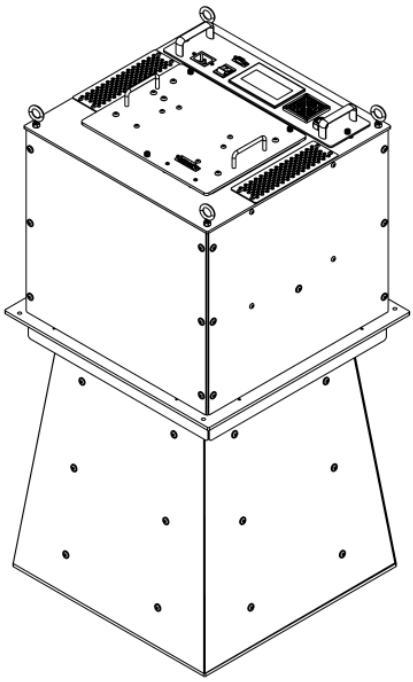
Large Area Solar Illuminator

DIMENSIONS

Single LASI

Dimensions are in inches [mm].





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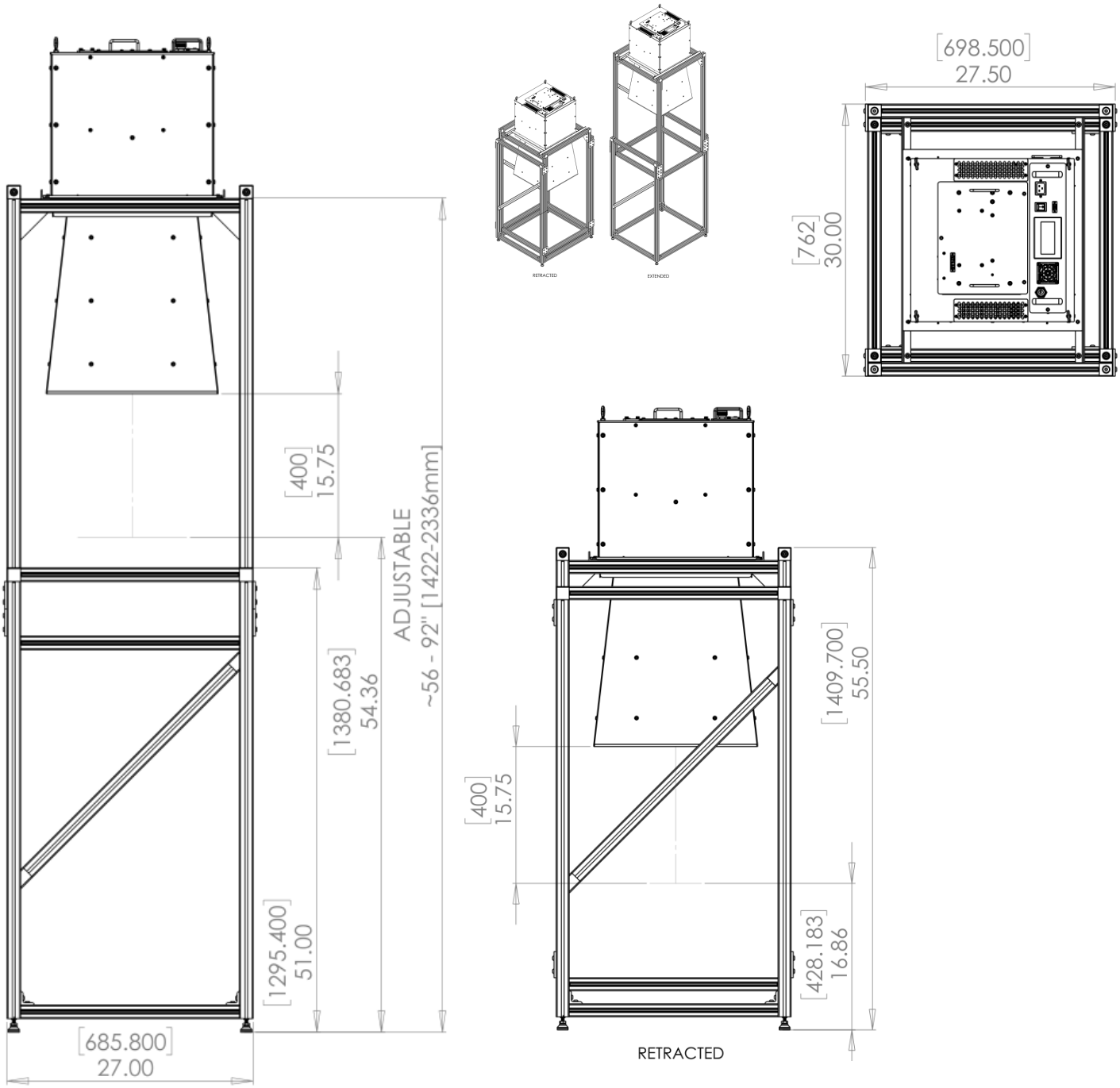
Large Area Solar Illuminator

DIMENSIONS

Single LASI Downward-Facing Stand

Optional stand dimensions are in inches [mm].

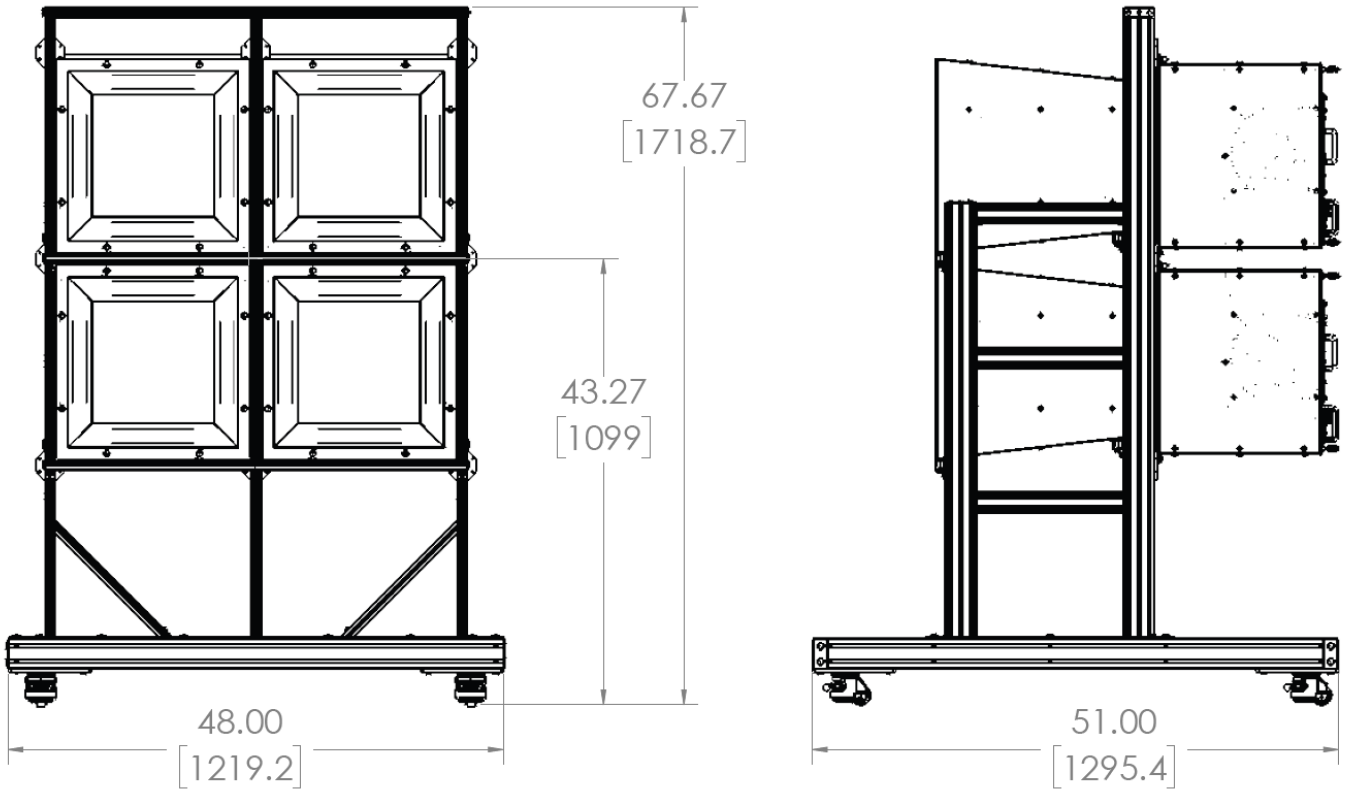


Large Area Solar Illuminator

DIMENSIONS

Four Unit (2 × 2 Array) LASI Side-Facing Stand

Optional stand dimensions are in inches [mm].

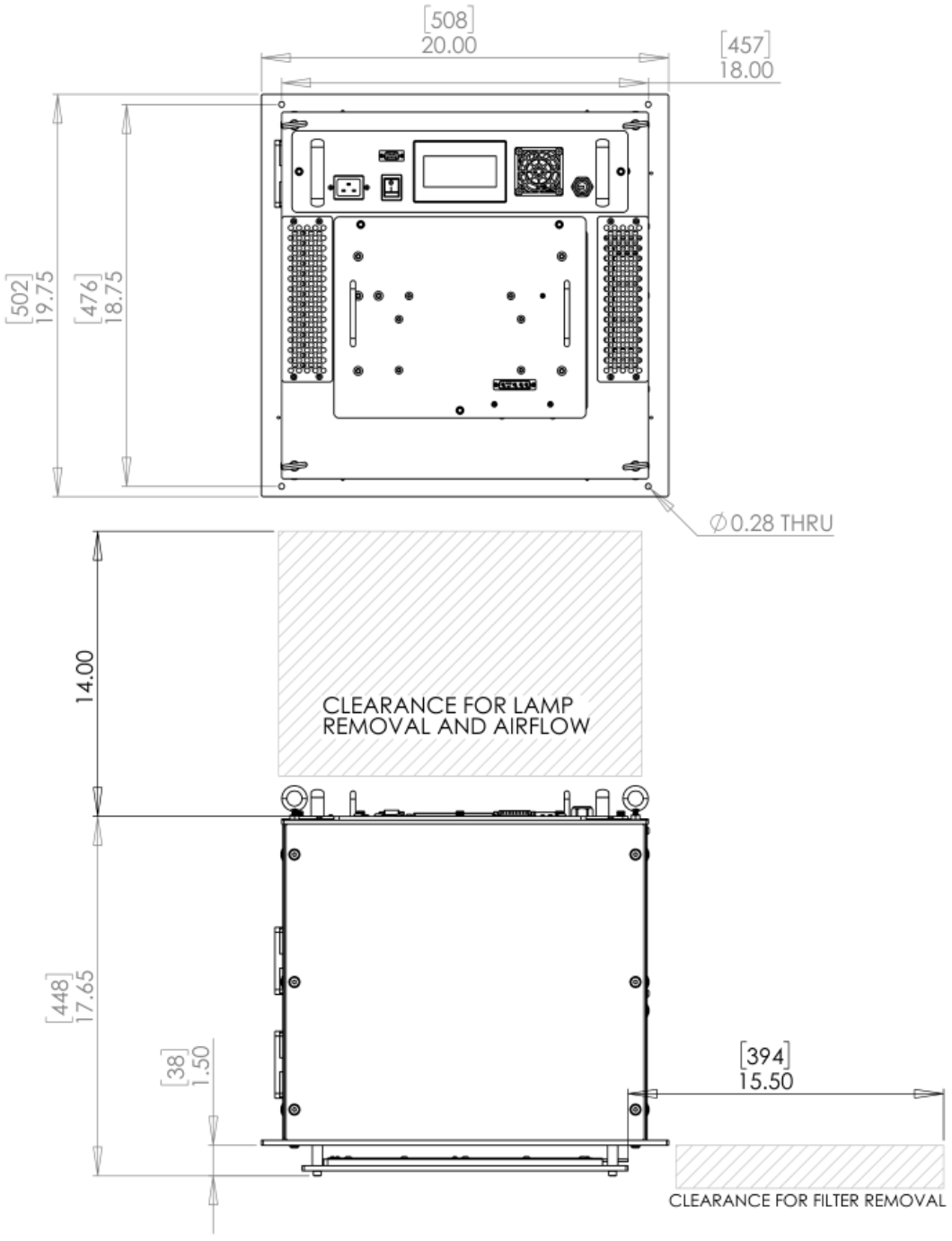


Large Area Solar Illuminator

DIMENSIONS

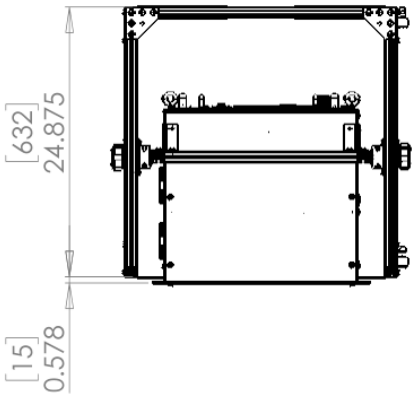
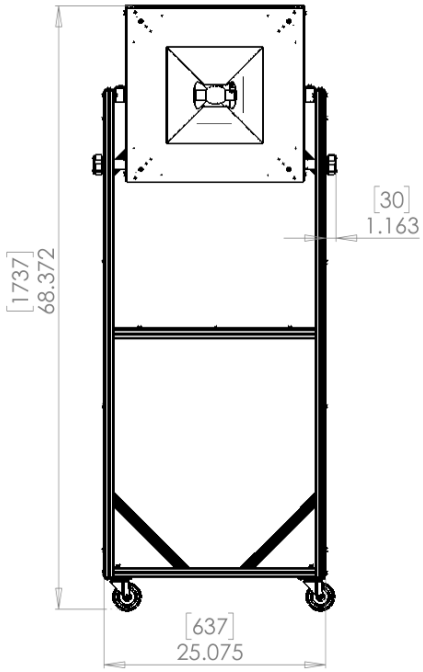
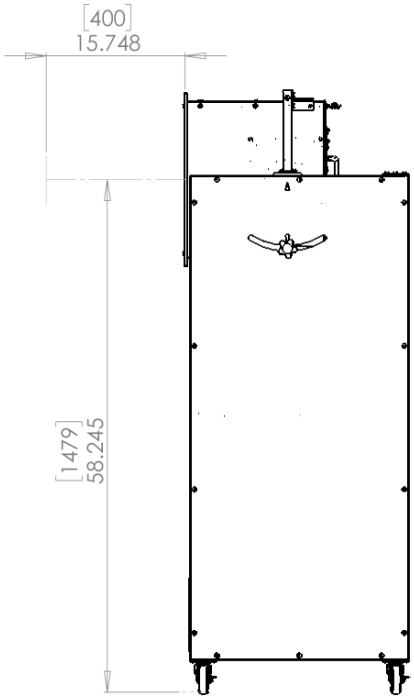
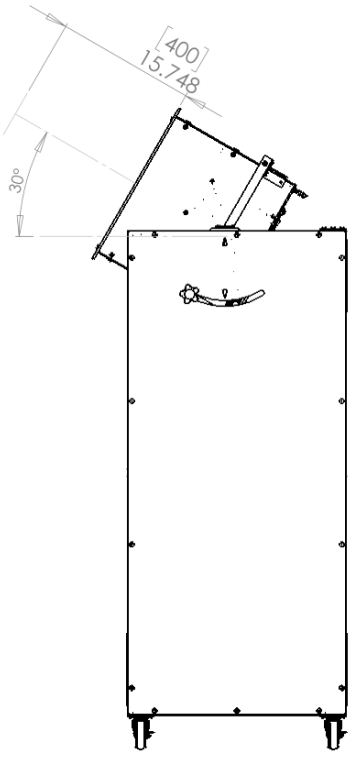
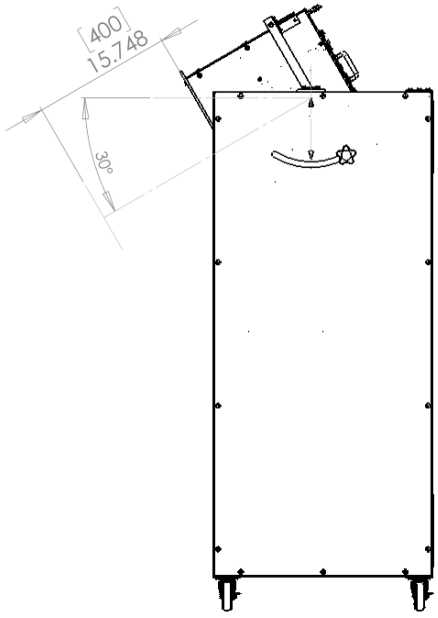
Single XE-LUM

Dimensions are in inches [mm].



Large Area Solar Illuminator

DIMENSIONS

Single XE-LUM Stand

Dimensions are in inches [mm].