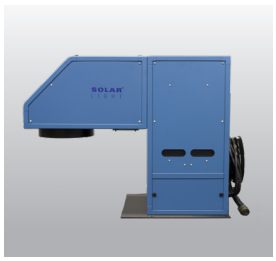
SOLAR® LIGHT

LS1000-Series 1000W
16S-Series 150-300W

Air Mass Solar Simulators for PV Cell Testing

Solar Light Company, Inc. has been the foremost name in light sciences since we invented the world's first Solar Simulator in 1967. Our state of the art single output Solar Simulators produce Class A Air Mass 1.5 Emission Spectrum to accurately replicate full spectrum sunlight, with 1 sun output intensity. They can also be quickly and easily configured by the user to provide UVA only, UVB only, UVA+B, or custom spectra optionally. These precision research-grade instruments are specifically designed to comply with the latest ASTM, IEC, and ISO laboratory standards. Our comprehensive PV Cell Testing Kits arrive with everything required to immediately begin testing, including the Simulator, advanced data logging Radiometer, full spectrum Class II Pyranometer, Source Meter, and Calibrated Reference Cell.



LS1000-Series

- > 95% Uniformity, with 98% Uniformity available in beam's central usable area
- Square Beam Models available in 4" (10 cm) and 6" (15 cm) single port outputs
- Round Beam Models available in 4" (10 cm) and 6" (15 cm) single port outputs
- Collimated Output

16S-Series

- > 90% Uniformity in beam's usable area
- 300W Round Beam Model available in 2.25" (5.7 cm) single port output
- Focused Output

Advantages

- Standard and Customizable Simulators validated to comply to comply with ASTM, IEC, and ISO requirements
- CE Compliant
- Prepackaged Kits include Data Logging Radiometer, NIST-traceable Pyranometer, and all related accessories required for immediate testing
- Custom-Designed Spectra available
- High performance fused silica optical components included
- Excellent long-term stability
- Easy to use Intensity and Uniformity Measurement System
- Automatic shutter with remote control connection Included
- High efficiency Switching Power Supply with adjustable output for variable lamp power included
- Optional UV Spectra from 250-400nm available
- Optional Light Attenuation Screens available
- Optional Validation available

ASTM Compliant | IEC Compliant | ISO 24443 Compliant | JIS Compliant | CE Compliant

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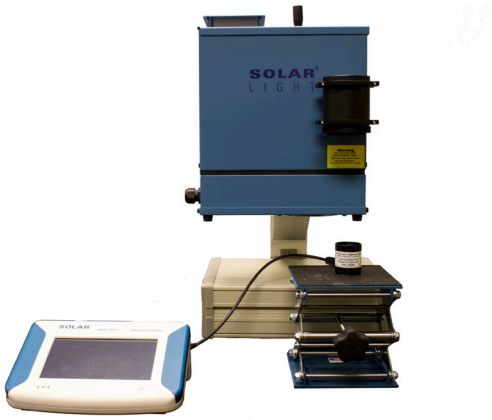

Solar Light's Turnkey Testing Kits include Simulators, Dose Controllers, Radiometers, Sensors and Accessories so you can start testing instantly!

Turnkey Kits For Materials Testing

Our prepackaged kits combine these state of the art Solar Simulators with our innovative Automatic Dose Controllers, advanced Data Logging Radiometers, NIST-traceable Sensors, and other hardware to allow for instant testing right out of the crate.

Typical kits include:

Sophisticated Data Logging Radiometers function as light meters, photometers, and UV meters measuring UVA, UVB, UVC, Visible, and IR light. These meters feature graphic display, data logging, complex processing algorithms, selectable units of measure, averaging, tracking minima and maxima, dose integration and programmable alarm thresholds – all in a portable hand-held device.

Advanced NIST-Traceable Class II Pyranometers utilizing thermopile technology for broad spectral sensitivity, with exceptional flatness and long term stability. These measure full spectrum radiation from 280-2800nm for atmospheric, PV cell research, and laboratory studies.

Laboratory Scissor Jacks with 5.5"x5.5" (14cm x 14cm) surface allow for height adjustment from 2.75" to 10.25" (7cm to 26cm) for accurate specimen setup.

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SPECIFICATION	16S-150-002	16S-300-002	LS1000-4R-002	LS1000-4S-002	LS1000-6R-002	LS1000-6S-002
Output Beam Size	1.2” (3 cm)	2.25” (5.7 cm)	4” (10 cm) Round	4” (10 cm) Square	6” (15.25 cm) Round	6” (15.25 cm) Square
Beam Orientation	Vertical Downward, Vertical Upward, or Horizontal (please specify at order)					
Lamp Type	Xenon Short Arc					
Lamp Wattage (Nominal)	150W	300W	1000W			
Beam Uniformity	±10%	±10%	±5%			
Collimation	N/A	N/A	±1.5-3 Degree Half Angle (For All Models)			
Spectral Match Classification	A (IEC 60904-9 2007)					
	A (JIS C 8912)					
	A (ASTM E927 - 05)					
Temporal Instability Classification	A (IEC 60904-9 2007)					
	A (JIS C 8912)					
	A (ASTM E927 - 05)					
Uniformity Classification	B (IEC 60904-9 2007)					
	B (JIS C 8912)					
	B (ASTM E927 - 05)					
Light Ripple	< ±2% rms					
Working Distance	7.1” (18 cm)	18.1” (46 cm)	5.0” ±2.0” (12.7 cm +/- 5.2 cm)			
Long Term Drift (<4 Hours)	<0.1%					
Power Limit	Factory Set Limit is 150W	Factory Set Limit is 320W	Factory Set Limit is 1,500W			
Operating Temperature	32°F to 95°F / 0°C to +35°C					
Storage Temperature	-4°F to 185°F / -20°C to +85°C					
Humidity	0 to 95% non-condensing					
Cooling	Forced Air					
Medical Safety Certifications	EN61010-1 Laboratory, EN60335 Appliances, IEC60601-1 Medical					
EMI/EMC	EN55011 Emissions, IEC60601-1-2:2001, 2nd Rev 2 Medical, IEC61000-3-2 Harmonic, IEC61000-3-3 Flicker, IEC61000-4-2 ESD, IEC61000-4-3 Radiated, IEC61000-4-4 EFT, IEC61000-4-5 Surge, IEC61000-4-6 Conducted, IEC61000-4-11 Voltage Dip, IEC61000-4-8 Magnetic Field					
Weight	7.7 lbs. (3.2 kg.)	10.5 lbs. (4.8 kg.)	40 lbs. (18.2 kg.)	40 lbs. (18.2 kg.)	45 lbs. (20.5 kg.)	45 lbs. (20.5 kg.)
Source Meter	Optional On All Models					
2x2 cm Calibrated Reference Cell	Optional On All Models					

Part Number: 210068
Revision Level: C
Specifications subject to change without notice.

Custom beam sizes and configurations available - please consult factory for details.

Compliant | Compliant | ISO 24443 Compliant | Compliant | Compliant

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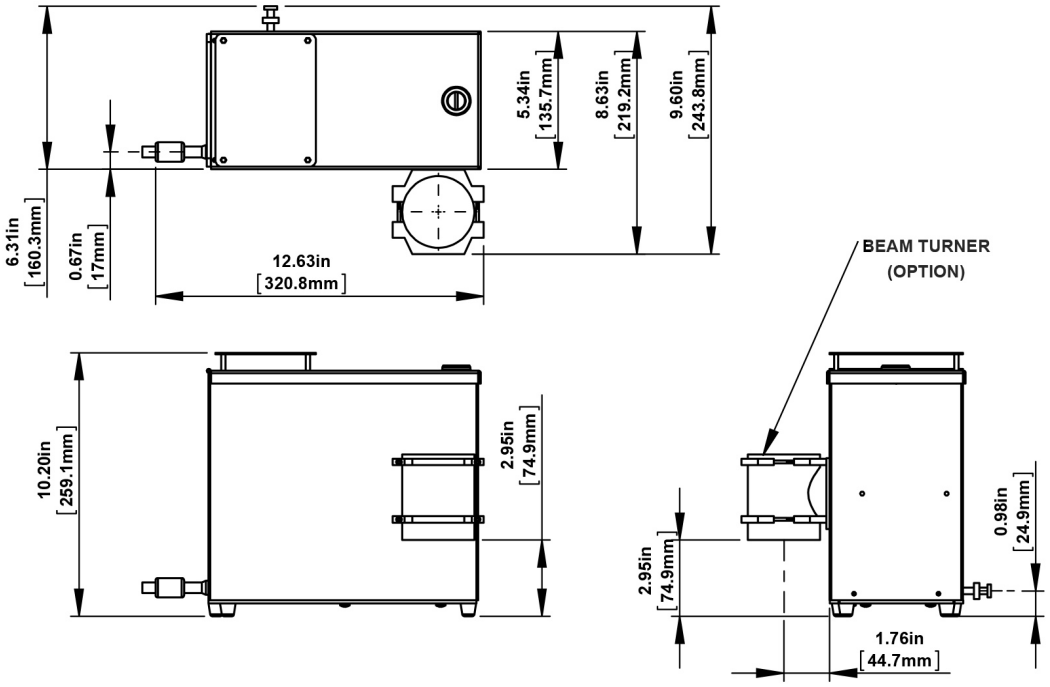
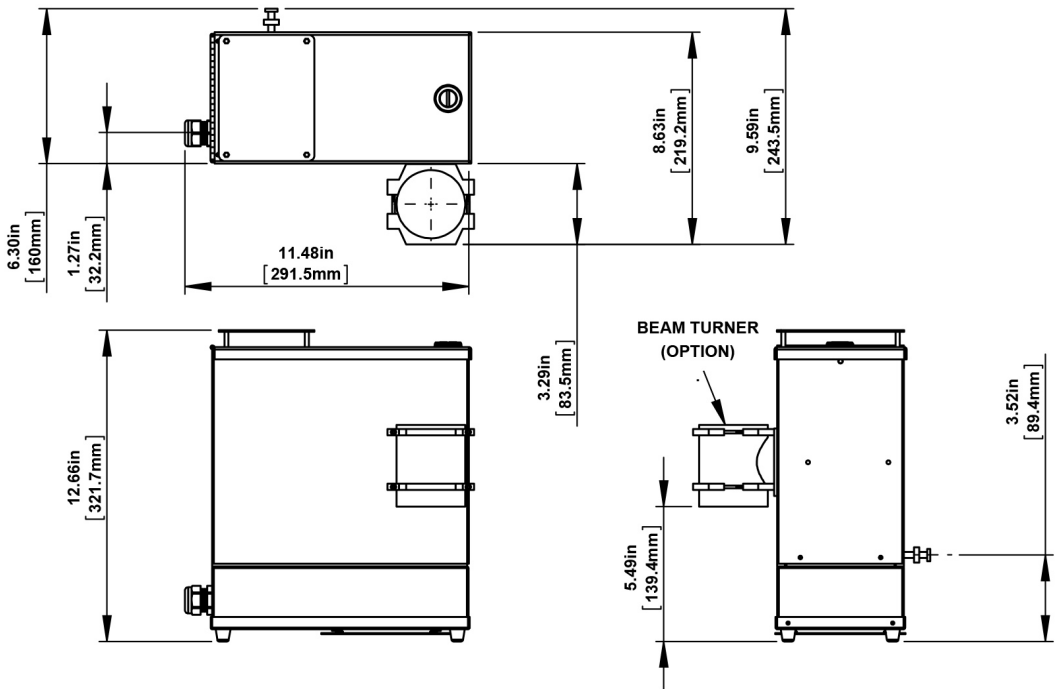
16S-Series 150W Solar Simulator Outline Drawing



16S-Series 300W Solar Simulator Outline Drawing



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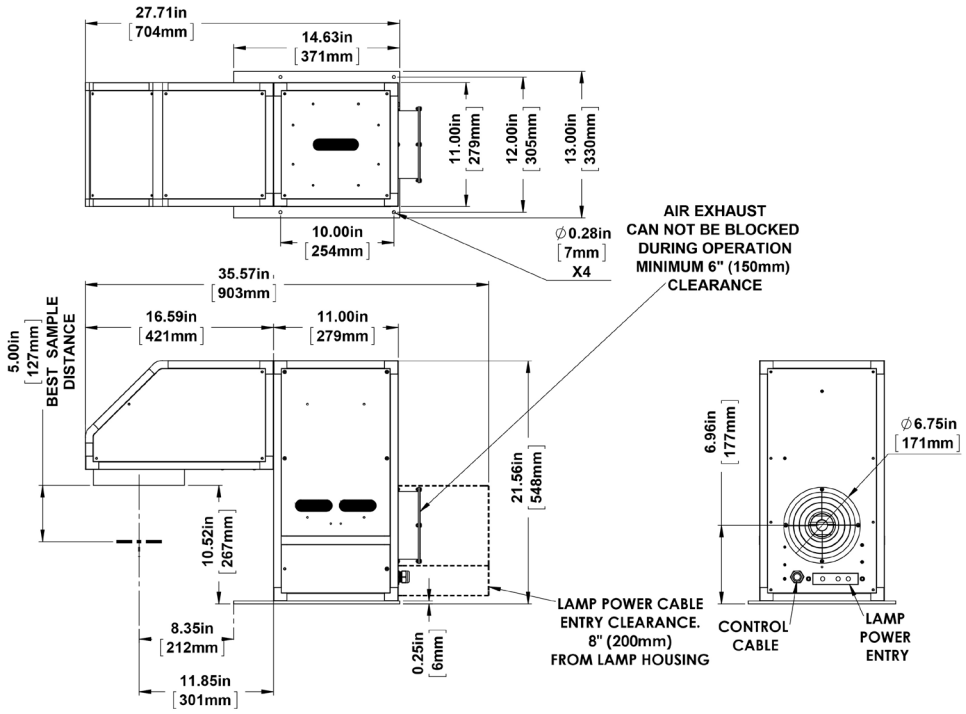
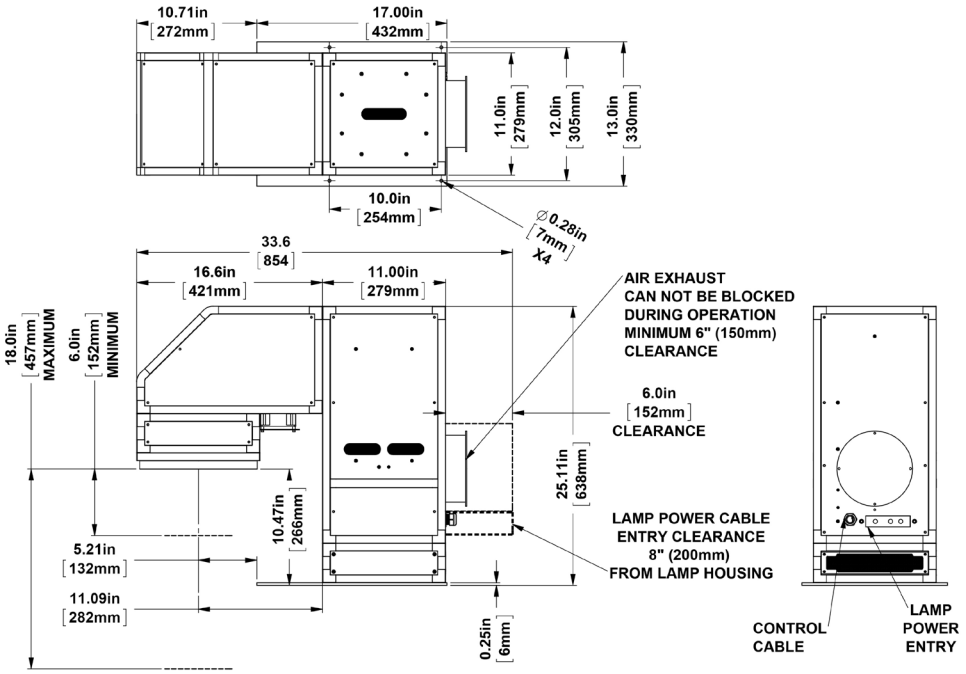
LS1000-Series 2 Inch (5 cm) and 4 Inch (10 cm) Round and Square Beam UV Solar Simulator Outline Drawing
LS1000-Series 6 Inch (15.25 cm) Round Beam Only UV Solar Simulator Outline Drawing



LS1000-Series 6 Inch (15.25 cm) Square Beam Only UV Solar Simulator Outline Drawing



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Since 1967, Solar Light Company, Inc. has been recognized worldwide as America's premier manufacturer of Precision Solar Simulators and Light Sources, Light Measurement Instrumentation, UV Transmittance Analyzers, Meteorological Instrumentation, and Digital and Analog Sensors. Our advanced line of UV, visible, and IR radiometers and light meters measure laboratory, industrial, environmental, and health related light levels with NIST traceable accuracy. Column ozone, aerosol, and water vapor thickness measurements, in addition to long-term global ultraviolet radiation studies all over the world are performed using our atmospheric line of instrumentation. Solar Light also provides NIST traceable spectroradiometric analyses, calibrations for light meters and light sources, accelerated ultraviolet radiation degradation testing of materials, and OEM instrumentation and monitors. Please visit our website for more details, specifications, and pictures!

State Of The Art Solar Simulators available in 150-1000+ watt UV or AM variations for a variety of applications including PV Cell Testing, Materials Testing, Pre-Irradiation for In Vitro Broad Spectrum Sunscreen Testing, SPF Testing, and much more.

Multi-Functional Professional Grade Radiometers available with and without data logging, and compatible with over 130 Solar Light PMA-Series Sensors to measure UV, Visible and IR wavelengths. Specialty Meters also available to measure UV Radiation, SUV/UVA, Scotopic/ Photopic Spectra, and much more.

Advanced NIST-Traceable Sensors for accurate measurement of UVA, UVB, UVA+B, UVC, Visible, IR, Photostability, Temperature, and Custom Wavelength – well over 130 models in both digital and analog configurations, all compatible with our Radiometers.

Ultraviolet Transmittance Analyzers available as complete integrated turnkey systems to meet the latest ISO24443 requirements.

Handheld Ozonometers and Sunphotometers for fast and dependable Column Ozone, Aerosol, and Water Vapor Thickness measurements, in addition to long-term global ultraviolet radiation studies.

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