

Materials Testing Solar Simulators

Solar Light Company, LLC 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 **16S-300-004 Materials Testing Solar Simulator** produces solar Air Mass 1.5 Radiation for full spectrum sunlight — ideal for testing the damaging effects of sunlight on materials. These precision research-grade instruments are specifically designed to comply with the latest laboratory standards such as ASTM, IEC, and ISO. Our Turnkey Material Testing Kits include the Simulator, DCS-2 Automatic Dose Controller, NIST-traceable PMA-Series Class II Pyranometer, safety glasses, and other accessories so you can start testing instantly!







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 Dose Controller / Radiometer, NIST-traceable Sensors, 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 Air Mass 0 available
- Optional Visible Light Only output available
- Optional Light Attenuation Screens available
- Optional Validation available













Materials Testing Solar Simulators



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 Automatic Dose Controllers accurately control dosage to allow for extremely precise testing. The 7-inch (17.8 cm) touch sensitive screen allows the user to follow intuitive menus, and makes it quick and easy to set control parameters.



Advanced NIST-Traceable Sensors for exact measurement of UVA+B as required for standardized materials testing. Over 130 different sensor models available for custom configurations.



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.











Beam Orientation Vertical Downward, Vertical Upward, or Horizontal (please specify at order) Lamp Type Xenon Short Arc Lamp Wattage (Nominal) 3000 Beam Uniformity 4 (EC 60904-9 2007) A (END 69912) A (EMD 69904-9 2007) A (ASTM E927 - 05) A (ISC 8912) Classification 8 (ES 60904-9 2007) Elight Ripple 4 ±28 ms Working Distance 4-8.7* (22 cm) Long Term Drift (-4 Hours) A Factory Set Limit is 320 watts Power Limit 3 actory Set Limit is 320 watts Operating Temperature 4 % to 185* f - 20**C to +48**C Storage Temperature 4 % to 185* f - 20**C to +48**C Hundity 10 95% non-condensing Cooling Force at inclusions, IEC60601-1 2:2001, 2nd Rev 2 Medical, IEC61000-3-2 Harmonic, IEC61000-3-3 Flicker, IEC61000-4-8 Magnetic Field Medical EMILIE AS THE Inclisions of EC60601-1 2:2001, 2nd Rev 2 Medical, IEC61000-4-1 Ivoltage Dip, IEC61000-4-8 Magnetic Field Medical	SPECIFICATION	16S-300-004
Lamp Type Xenon Short Are Lamp Wattage (Nominal) 300W Beam Uniformity ± 10% Spectral Match Classification A (EC 60904-9 2007) A (JIS C 8912) A (JIS C 8912) A (ASTIM E927 - 05) A (JIS C 8912) A (ASTIM E927 - 05) A (JIS C 8912) Classification B (JIS C 8912) B (JIS C 8912)	Output Beam Size	2.25" (5.7 cm) Round
Lamp Wattage (Nominal) 300W Beam Uniformity ±10% Spectral Match Classification Page Lassification Page Lassific	Beam Orientation	Vertical Downward, Vertical Upward, or Horizontal (please specify at order)
Beam Uniformity ± 10% Spectral Match Classification A (ICC 60904-9 2007) A (ICC 6901-9 2007) A (ICC 6904-9 2007) Temporal Instability Classification A (ICC 60904-9 2007) A (ICC 6904-9 2007) A (ICC 60904-9 2007) Classification B (ICC 60904-9 2007) Classification B (ICC 60904-9 2007) Light Ripple 5 (IJS C 8912) B (IJS C 8912) B (IJS C 8	Lamp Type	Xenon Short Arc
Spectral Match Classification A (ICC 60904-9 2007) A (JIS C 8912) A (ASTM E927 - 05) Temporal Instability Classification A (ICC 60904-9 2007) A (JIS C 8912) A (ASTM E927 - 05) Uniformity B (IEC 60904-9 2007) Classification B (IEC 60904-9 2007) Light Ripple S (JIS C 8912) B (ASTM E927 - 05) Uniformity (String Distance) - 8.7" (22 cm) Long Term Drift (-4 Hours) - 0.1% Power Limit 5 aclory Set Limit is 320 watts Operating Temperature 3.2" fo 95" f / 0" C to +35" C Storage Temperature - 4" fo 185" f / -20" C to +85" C Hunidity 0 95% non-contensing Cooling Forced air Medical Safety Certifications EN5101 f missions, IEC60001-1-2:2001, 2nd Rev 2 Medical, IEC61000-3-2 Harmonic, IEC61000-3-5 Flicker, IEC61000-4-8 Bagnetic Field EMI/EMC Shot 1 f missions, IEC60001-1-2:2001, 2nd Rev 2 Medical, IEC61000-4-1 Voltage Dip, IEC61000-4-8 Bagnetic Field	Lamp Wattage (Nominal)	300W
A (JIS C 8912) A (ASTM E927 - 05) A (JIS C 8912) A (JIS C 8912) A (JIS C 8912) A (JIS C 8912) A (ASTM E927 - 05) A (JIS C 8912) A (ASTM E927 - 05) B (JIS C 8912) B (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) Classification B (JIS C 8912) B (ASTM E927 - 05) Classification Classification Classification A (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) Classification Classification Classification A (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) Classification Classification Classification Classification Classification A (JIS C 8912) A (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) B (JIS C 8912) B (ASTM E927 - 05) Classification Classification A (JIS C 8912) A (ASTM E927 - 05) B (JIS C 8912) B (JIS C 8912)	Beam Uniformity	±10%
A (ASTM E927 - 05) Temporal Instability Classification A (IEC 60904-9 2007) A (AISC 8912) A (ASTM E927 - 05) Uniformity Classification B (IEC 60904-9 2007) E (ISC 8912) B (ISC 8912) B (MSTM E927 - 05) B (MSTM E927 - 05) Light Ripple < +2% rms Working Distance -8.7" (22 cm) Long Term Drift (<4 Hours)	Spectral Match Classification	A (IEC 60904-9 2007)
Temporal Instability Classification A (IEC 60904-9 2007) Uniformity Classification B (IEC 60904-9 2007) Uniformity Classification - 4 2 2 8 min Uniformity Classification - 4 2 2 8 min Uniformity Classification - 4 2 2 2 min		A (JIS C 8912)
A (JIS C 8912) A (ASTM E927 - 05) Uniformity Classification B (JIC 60904-9 2007) B (JIS C 8912) B (ASTM E927 - 05) Light Ripple		A (ASTM E927 - 05)
A (ASTM E927 - 05) Duiformity	Temporal Instability Classification	A (IEC 60904-9 2007)
Uniformity Classification B (IEC 60904-9 2007) Edustrication B (JS C 8912) B (ASTM E927 - 05) Light Ripple < ±2% rms Working Distance ~8.7" (22 cm) Long Term Drift (<4 Hours)		A (JIS C 8912)
Classification B (JIS C 8912) B (ASTM E927 - 05) Light Ripple < ±2% ms Working Distance ~8.7" (22 cm) Long Term Drift (<4 Hours)		A (ASTM E927 - 05)
B (ASTM E927 - 05) Light Ripple < ±2% rms Working Distance -8.7" (22 cm) Long Term Drift (<4 Hours) < 0.1% Power Limit Factory Set Limit is 320 watts 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 EN50011 Emissions, IEC60601-1-2:2001, 2nd Rev 2 Medical, IEC61000-3-2 Harmonic, IEC61000-3-3 Flicker, IEC61000-4-8 Magnetic Field	Uniformity Classification	B (IEC 60904-9 2007)
Light Ripple		B (JIS C 8912)
Working Distance ~8.7" (22 cm) Long Term Drift (~4 Hours) < 0.1% Power Limit Factory Set Limit is 320 watts 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, IEC61000-4-8 Magnetic Field		B (ASTM E927 - 05)
Long Term Drift (<4 Hours)	Light Ripple	$<\pm2\%$ rms
Power Limit Factory Set Limit is 320 watts 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 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	Working Distance	~8.7" (22 cm)
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	Long Term Drift (<4 Hours)	<0.1%
Storage Temperature -4°F to 185°F / -20°C to +85°C Humidity 0 to 95% non-condensing Cooling Forced air Medical Safety Certifications ENISO11 Emissions, IEC60601-1-2:2001, 2nd Rev 2 Medical, 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	Power Limit	Factory Set Limit is 320 watts
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	Operating Temperature	32°F to 95°F / 0°C to +35°C
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	Storage Temperature	-4°F to 185°F / -20°C to +85°C
Medical Safety Certifications EN61010-1 Laboratory, EN60335 Appliances, IEC60601-1 Medical 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	Humidity	0 to 95% non-condensing
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	Cooling	Forced air
Radiated, IEC61000-4-4 EFT, IEC61000-4-5 Surge, IEC61000-4-6 Conducted, IEC61000-4-11 Voltage Dip, IEC61000-4-8 Magnetic Field	Medical Safety Certifications	EN61010-1 Laboratory, EN60335 Appliances, IEC60601-1 Medical
	EMI/EMC	
Weight 10.5 lbs. (4.8 kg.)	Weight	10.5 lbs. (4.8 kg.)

Part Number: 210065 Revision Level: B Specifications subject to change without notice.

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







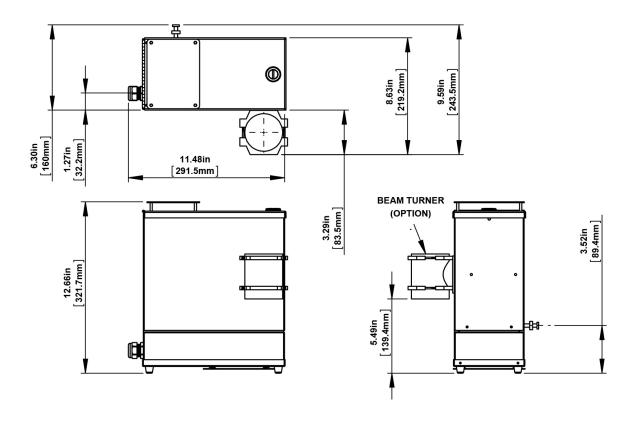






Materials Testing Solar Simulators

16S-Series 300W 2.25 Inch (5.7 cm) Solar Simulator Outline Drawing















Materials Testing Solar Simulators

Since 1967, Solar Light Company, LLC 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.









