

Solar Light's state of the art single-output Pre-Irradiation Solar Simulator Kits produces solar UV radiation in the 290-400 nm range, and can be used with the SPF-290AS analyzer to create a complete lab to shelf solution. Additionally, it can be quickly and easily converted by the user to provide UVA only, UVB only, UVA+B, or full spectrum sunlight optionally. This precision research-grade hardware is specifically designed for the pre-irradiation step during in vitro broad spectrum sunscreen testing, and is fully compliant with the most current FDA and ISO requirements. Spot size of the simulator will directly impact how many plates can fit at one time, yet each simulator kit can provide a simple turn-key setup. Given that the irradiation of substrates will always be the bottleneck of the *in vitro* testing process, we directly provide the means to greatly reduce time spent in the lab, which equals less overhead costs. Compared to the basic 16S solar simulator, the LS1000 can complete the same tests in a third or even a fourth of the time. Everything required for instant testing right out of the crate is included direct from the factory: 1000W Solar Simulator, DCS-2 Dose Controller/ Radiometer, NIST-traceable PMA-Series Erythema and UVA Sensors, molded or sandblasted PMMA Plates, and all related accessories!

### 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
- 4" (10 cm) models provide simultaneous pre-irradiation of up to 4 PMMA plates in ~23 minutes
- 6" (15 cm) models provide simultaneous pre-irradiation of up to 9 PMMA plates in ~23 minutes
- Collimated Output Provides up to 14" (35.5 cm) Working Distance



### 16S-Series

- > 90% Uniformity in beam's usable area
- Round Beam Model available in 3" (7.5 cm) single port output
- Provides pre-irradiation of 1 PMMA plate in ~23 minutes
- Focused Output provides up to 18" (46 cm) working distance



### SPF-290AS Automated Sunscreen Protection Factor Analyzer

- Motorized and automated X-Y sample stage and control module for *Hit-and-Forget* measurements of up to 12 discrete sample positions
- 125W CW Xenon source and precision integrating sphere
- Color Compensating Filter
- PMT Detection Module
- Precision scanning monochromator with stepping motor and controller
- Available for use with 100 VAC / 50 Hz, 110 VAC / 60 Hz, or 220 VAC / 50 Hz.



SPECIFICATION	16S-300-009	LS1000-4S-009	LS1000-6S-009
<b>Output Beam Size</b>	3" (7.5 cm) Round	4" (10 cm) Square	6" (15 cm) Square
<b>Plates Irradiated</b>	1	4	9
<b>Approx. Time Spent To Pre-Irradiate For FDA</b>	30 Minutes	12 Minutes	16 Minutes
<b>Prep Time For 1 FDA Trial</b>	1 Hour 45 Minutes	27 Minutes	31 Minutes
<b>Prep Time For 3 FDA Trials</b>	4 Hours 45 Minutes	1 Hour 36 Minutes	31 Minutes
<b>Beam Orientation</b>	Vertical Downward, Vertical Upward, or Horizontal (please specify at order)	Vertical Downward, Vertical Upward, or Horizontal (please specify at order)	Vertical Downward, Vertical Upward, or Horizontal (please specify at order)
<b>Lamp Type</b>	Xenon Short Arc	Xenon Short Arc	Xenon Short Arc
<b>Lamp Wattage (Nominal)</b>	300W	1000W	1000W
<b>Beam Uniformity</b>	±10%	±5%	±5%
<b>Collimation</b>	N/A	±1.5-3 Degree Half Angle (For All Models)	±1.5-3 Degree Half Angle (For All Models)
<b>Spectral Match Classification</b>	A (IEC 60904-9 2007)	A (IEC 60904-9 2007)	A (IEC 60904-9 2007)
	A (JIS C 8912)	A (JIS C 8912)	A (JIS C 8912)
	A (ASTM E927 - 05)	A (ASTM E927 - 05)	A (ASTM E927 - 05)
<b>Temporal Instability Classification</b>	A (IEC 60904-9 2007)	A (IEC 60904-9 2007)	A (IEC 60904-9 2007)
	A (JIS C 8912)	A (JIS C 8912)	A (JIS C 8912)
	A (ASTM E927 - 05)	A (ASTM E927 - 05)	A (ASTM E927 - 05)
<b>Uniformity Classification</b>	B (IEC 60904-9 2007)	B (IEC 60904-9 2007)	B (IEC 60904-9 2007)
	B (JIS C 8912)	B (JIS C 8912)	B (JIS C 8912)
	B (ASTM E927 - 05)	B (ASTM E927 - 05)	B (ASTM E927 - 05)
<b>Light Ripple</b>	< ±2% rms	< ±2% rms	< ±2% rms
<b>Working Distance</b>	~18" (46 cm)	5.0" ±2.0" (12.7 cm +/- 5.2 cm)	5.0" ±2.0" (12.7 cm +/- 5.2 cm)
<b>Long Term Drift (&lt;4 Hours)</b>	<0.1%	<0.1%	<0.1%
<b>Power Limit</b>	Factory Set Limit is 320 watts	Factory Set Limit is 1,500 watts max	Factory Set Limit is 1,500 watts max
<b>Operating Temperature</b>	32°F to 95°F / 0°C to +35°C	32°F to 95°F / 0°C to +35°C	32°F to 95°F / 0°C to +35°C
<b>Storage Temperature</b>	-4°F to 185°F / -20°C to +85°C	-4°F to 185°F / -20°C to +85°C	-4°F to 185°F / -20°C to +85°C
<b>Humidity</b>	0 to 95% non-condensing	0 to 95% non-condensing	0 to 95% non-condensing
<b>Cooling</b>	Forced air	Forced air	Forced air
<b>Medical Safety Certifications</b>	EN61010-1 Laboratory, EN60335 Appliances, IEC60601-1 Medical		
<b>EMI/EMC</b>	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		
<b>Weight</b>	10.5 lbs. (4.8 kg.)	40 lbs. (18.2 kg.)	45 lbs. (20.5 kg.)

Part Number: 210153 | Revision Level: A | Specifications subject to change without notice.