

SpectroSun[®] X-25 Mark II Solar Simulator

Product Description:

- Self-contained movable simulator used wherever a stable, uniform and reproducible source of artificial sunlight is required.
- All models can be equipped with accessory optical filters to closely match the simulator's irradiance to sunlight at sea level (AM1, AM1.5) or outside the Earth's atmosphere (AM0)
- Supplied with 3kW ozone-free xenon short-arc source lamp and multi-element quartz integrating optics.
- An electrically driven elevator mechanism adjusts output beam height from 46" (117cm) to 64" (162.5cm) above floor level.
- Equipped with an electrically operated remote beam douser (shutter)

Features:

- Source Module's ozone-free xenon short-arc lamp is attached to a special strain-free adjustable mount for positive alignment.
- Interchangeable optical packages and spectral filtering available. Lenses and optical filters are custom designed and fabricated from UV grade quartz. Metal mirrors and electroformed aconic collector (patented) are first-surface aluminized and over-coated as required.
- Environmental control unit has forced air cooling with 6" (15.2cm) exhaust duct outlet. It maintains lamp, collector and douser temperatures within correct operating ranges. Interlocks stop or prevent lamp operation in the event of cooling system failure
- Filter Positioner for fine-tuning of spectral content to match specific cells under test.

Dimensions:

- 79" (2m) high, 25" (63.5cm) wide, 32" (81.3cm) deep.
- Weight: 1,000 lbs (454kg), without optical assembly.



X-25 Control Console

X-25 Optics with Filter Positioner installed

Benefits:

- World standard steady state solar simulator.
- Used most frequently in laboratory or production environments for precision testing and/or calibration of light-sensitive (e.g. photovoltaic) devices. Also used on terrestrial, aerospace and satellite products as a long-term simulated sunlight exposure system to test optical coatings, thermal control coatings, paints, etc.
- Self-contained and easily movable.
- All optical maintenance can be accomplished by in-house personnel.
- Very low ongoing maintenance required.
- Lamp change and refocusing typically requires only 2 to 4 hours.
- Durable: All systems designed into high-strength welded steel enclosures.

The information contained on this sheet is for reference only. Specifications subject to change without notice. (REV. 10/10)



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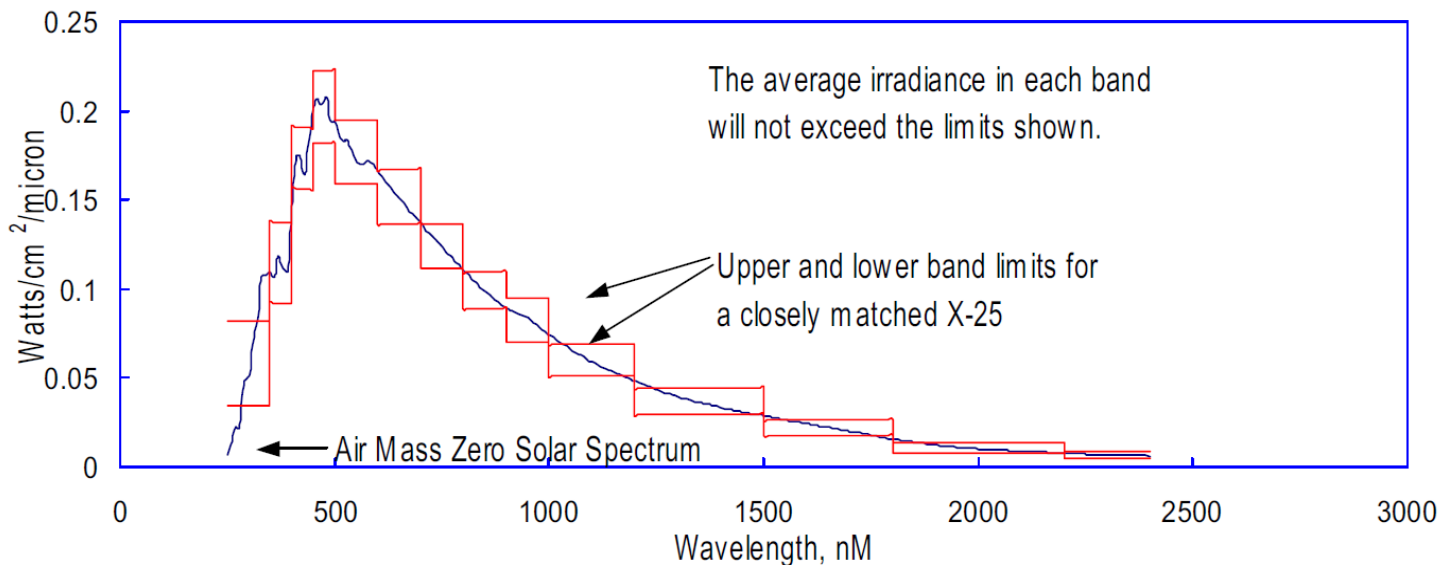
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System Specifications:

- **Beam Diameter:** The most popular beam diameter for AM0 and AM1.5 testing is 13" (33cm). Other beam sizes and shapes are also available.
- **Beam Intensity:** Intensities of .9 to 1.50 solar constants are available with different optics packages. Beam intensity is monitored and displayed on the control panel, adjustable to within 2%.
- **Beam Uniformity:** Lenticular system with $\pm 2\%$ uniformity.
- **Stability of Beam Intensity:** Beam instability and localized time variant not to exceed $\pm 1\%$ for time periods of 100 milliseconds to 24 hours.
- **Standard lenticular optical system** with a $\pm 6^\circ$ divergence angle.
- **Spectral Match:** 0.25 to 2.4 micron high-pressure xenon arc spectrum is modified by filters and optical design to more closely match sunlight. Close filtering available for AM0, AM1 and AM1.5. Spectral quality limited to the first 400 hours of lamp life. (See Chart Below)
- **Beam Orientation:** Horizontal beam with axis 46" (117cm) from floor. Electrically driven elevator assembly adjusts beam height up to 64" (162.5cm) from the floor. Folding mirrors available to fold output beam 90° down to vertical for tabletop testing.
- **Lamp Life:** Ozone-free Xenon source lamp rated at 1,500 hours pro rata warranted for 750 hours, when used for at least 20 minutes per ignition.
- **Input Power:** Three Phase, 230VAC $\pm 10V$ @ 60hz, 20amps/phase or 460VAC $\pm 20V$, 10 amps/phase @ 60hz. Other 3 Phase voltages available are: 208VAC @ 60hz; 315VAC @ 50hz; 380VAC @ 50hz. Please specify voltage and frequency at time of order.

X-25 Spectral Characteristics



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