

RS-50 Projection Light Source

PRODUCT SUMMARY

Gamma Scientific's RS-50 projection light source is a precision source of radiant flux, used primarily to calibrate light measuring instrumentation and as stimuli to measure detection devices.

Conservative design and rigid quality standards make Gamma Scientific sources the ones by which others are judged. These sources may be used as standards of irradiance or radiance, traceable to the National Institute of Standards Technology (NIST).

To maintain almost constant radiant flux output, tungsten-halogen lamps are used exclusively. To power the sources, ultra-stable constant-current supplies utilize precision shunt current measurement and comparison circuits built into the source housing.

The RS-50 source is primarily used for generating irradiance levels at distances from 6 to 30 meters or for uniformly illuminating areas of up to 46 cm or more in diameter.

The source itself uses a tungsten-halogen lamp, and the calibration of the source is given at a distance from the exit pupil. Beyond 6 meters the source has the characteristics of a point source and approximate illuminance and irradiance levels may be generated by using the inverse square law.

The RS-50 may also be used uncalibrated as a source to illuminate various materials. The correlated color temperature of the RS-50 source is set at CIE Illuminant A or $2856 \pm 20\text{K}$. The area of illumination may be varied by changing the field aperture stop. Uses an RS-3 for power and monitoring.



FEATURES

- *NIST traceable*
- *Built-in timer showing elapsed time*
- *200-hour calibration/1 year*
- *Calibrate spectroradiometers, radiometers and photometers*
- *Calibrate detector responsivity*
- *Illuminate various materials*
- *Measure reflectance and transmittance*
- *Tungsten-halogen lamps for stable output*
- *Calibration reports in units of luminance, radiance, illuminance and irradiance*



GAMMA SCIENTIFIC

8581 Aero Drive San Diego, CA 92123 Ph (858) 279-8034 Fax (858) 576-9286

Website: www.gamma-sci.com

RS-50 Projection Light Source

SPECIFICATIONS

RS-50 Projection Light Source

Calibrated Wavelength Range	300-830 nm (300-1100 available upon request)
Nominal Output	Luminous Intensity 2700 cd Illuminance @15 m 12 Lux (1.1 fc) at 2856 ± 20K
Uniformity of Illuminated Area	±4% over 46 cm (18 in) diameter
Exit Pupil Size	25 mm with symmetrical distribution on the optical axis
Illuminated Area at 15 m (49.2 ft)	Standard 30 cm (12 in) diameter 46 cm (18 in) diameter Blank apertures are available.
Size:	Length: 267 mm (10.5 in) Height: 107 mm (4.2 in) Width: 102 mm (4.0 in) Weight: 1.9 kg (4.2 lb)

RS-3 Lamp Monitor and Control

Regular Type	Constant current
Measurement Technique	Poggendorf comparison method
Meter	Null type (zero center)
Output Current	4A maximum
Current Accuracy, Long Term	Better than .05%
Stability	Better than .02%
Temperature Drift	Less than ± .25% / 10°C
Temperature Range	15°C to 35°C
Humidity	10% - 85% non-condensing
Regulation	Less than ± .02% change for 10-volt line change
Thermal drift After 8 Minute Warmup	Less than 0.01%
Current Ramp On/Off Time	Approximately 30 seconds
Power	90 watts maximum
Line Voltage	105/125 VAC and 210/250 VAC, 50-60 Hz
Size	Length: 368 mm (14.5 in) Width: 218 mm (8.6 in) Height: 152 mm (6 in) Weight: 5 kg (11 lbs)



GAMMA SCIENTIFIC

8581 Aero Drive San Diego, CA 92123 Ph (858) 279-8034 Fax (858) 576-9286

Website: www.gamma-sci.com