



GAMMA SCIENTIFIC *Light Measurement Solutions*

RS-12DN Calibration Light Source

About Gamma Scientific

Since 1961 Gamma Scientific has produced LED, display and light measurement test solutions for production and R&D environments. Gamma Scientific instruments are trusted by leading global organizations that require high-speed, precision measurements and custom configurations for the most challenging environments. Gamma Scientific also operates a NVLAP accredited laboratory that performs LM-79/LM-80 LED testing and is ISO 17025 compliant. NVLAP Lab Code 200823-0.

To view the complete line of test and measurement solutions from Gamma Scientific, please visit our website at www.gamma-sci.com.

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The RS-12DN is a [NIST Traceable Calibration Light Source](#). The RS-12DN can be used as a white light standard of spectral radiance or luminance. The insertion of the filter/aperture assembly transforms the unit into an NVIS display simulation source approximating a green cockpit display with a designed level of near infrared output against which a spectroradiometer or radiometer can be calibrated. The reduction of near infrared output from the tungsten-halogen lamp reduces the effects of stray light within the monochromator portion of a spectroradiometer. The RS-12DN has a three-inch exit diameter with uniformity +/- 3%.

Three calibrations and certificates are supplied with the RS-12DN. First, a white light source calibration is performed from 380 to 1100 nm. Nominal luminance output is 700 footlamberts. Correlated Color Temperature is set at 2856 K +/- 25 K. The second calibration is with the filter inserted with nominal luminance output of 45 footlamberts. The third calibration is with the filter and aperture. Nominal output is 1 foot-lambert and 10e-10 AR (ANVIS Radiance).

Features

- Standard of spectral radiance and luminance
- RS-12D white light standard without NVIS requirements
- Correlated Color Temperature of 2856 K +/- 25 K
- 3-inch diffuse exit diameter with +/- 3% uniformity
- ANVIS Output with 10e-10 AR
- NIST Traceable





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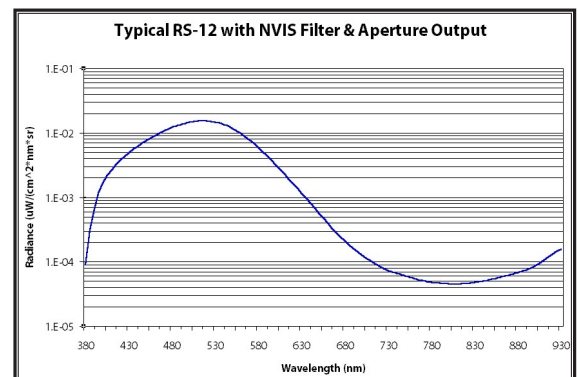
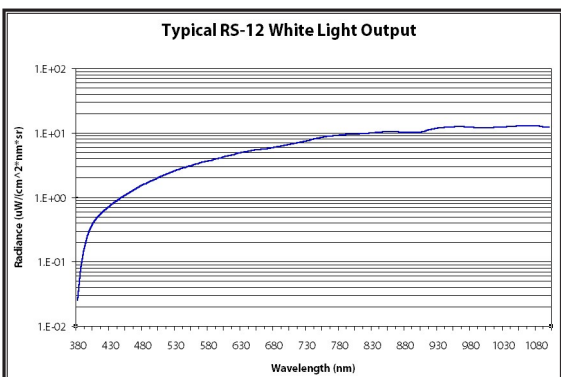
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RS-12DN Light Source Specifications

| RS-12 Spectral Radiance Head | |
|--|--|
| Calibrated Wavelength Range: | 380-1100 nm |
| Data Interval: | 5 nm |
| Output, Nominal | <p>Radiance of Diffuser 2.5×10^{-8} W/(cm² *nm*sr) at 380 nm 3.0×10^{-6} W/(cm² *nm*sr) at 550 nm 9.5×10^{-6} W/(cm² *nm*sr) at 800 nm 1.2×10^{-5} W/(cm² *nm*sr) at 1100 nm</p> <p>Luminance of Diffuser 2398 cd/m² 700 fL(n⁻¹·cd/ft²)</p> <p>Luminance with ANVIS Filter 488 cd/m² 140 fL(n⁻¹·cd/ft²)</p> <p>Luminance with ANVIS Filter and Low Level Aperture 6.6 cd/m² 1.9 fL(n⁻¹·cd/ft²)</p> <p>NVIS "A" Radiance with ANVIS Filter and Low Level Aperture 450×10^{-10} NVIS "A" Radiance</p> |
| Correlated Color Temperature: | 2856±25K |
| Uniformity of Diffuser: | ±3% over 65 mm |
| Output Uncertainty With Respect to NIST Standards of Irradiance: | ±2.5% |
| Size: | Height: 203 mm (8.0 in) Length: 197 mm (7.8 in) Width: 216 mm (8.5 in) Weight: 2.8 kg (6.25 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 .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) |

Typical RS-12 Spectral Power Distributions



*Standard Operating Range for Gamma Scientific Instruments- Temperature: Minimum: 0°C (32°F) - Maximum: 35°C (95°F); Relative Humidity (Non-Condensing): Minimum: 20% - Maximum 70%

**The information contained in this data sheet is based on Gamma Scientific's internal evaluation and is subject to change at any time without notice.

***Revised on April 14, 2015