GAMMA SCIENTIFIC
Light Measurement Solutions

RS-5NVIS LED 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 ENERGY STAR® lighting certification and is ISO 17025 compliant. NVLAP Lab Code 200823-0

To view the complete line of test and measurement solutions from Gamma Scientific, visit www.Gamma-Sci.com.

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www.gamma-sci.com

As cockpit display backlights change from tungsten and fluorescent to solid-state LED's, so too must the calibration light source for the compliance test equipment to maintain the lowest uncertainty measurements possible. The RS-5NVIS digital light source provides a versatile way to test and calibration ANVIS radiometers and spectroradiometers.

The RS-5NVIS consists of a Model 21750 digital light source controller and a feedback-stabilized LED optical head with a diffusely illuminated area that can be filtered.

Standard RS-5NVIS output for the optical head is unfiltered Rank B white LED's. This output can be filtered using ANVIS filters. Gamma Scientific provides a calibrated spectrum of the head, which can be adjusted in intensity from zero to approximately 300 foot-Lamberts (for unfiltered white) in 65,000 steps. The controller display reads in absolute NIST-traceable ANVIS radiance and luminance units.

The RS-5NVIS is equipped with both manual and computer interface control. Computer control is by simple ASCII commands over a built in RS-232 port.

With the RS-5NVIS's linearity, dynamic range, uniformity, and fully digital control, you are never limited by your needs or imagination.

Behind the system's calibration stands the preeminent measurement expertise at Gamma Scientific.

Gamma Scientific produces the most stable and accurate light measurement and generation equipment available today.

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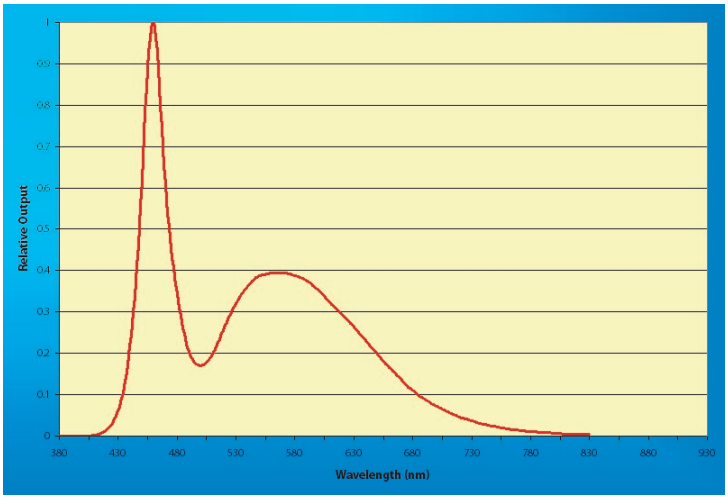
Features

- High-resolution digital brightness control provides near perfect linearity and uniformity
- Light level setting to 1 part in 65,535, in absolute, NIST traceable, ANVIS radiance and luminance units
- Linearity deviation of less than 0.25% RMS of full scale over the entire brightness adjustment range
- Calibration and test source with spectral output that matches LED backlit displays
- Computer controllable with simple commands that easily integrate into test systems
- 100x longer light source lifetimes with nearly zero down-time - no lamp change required.



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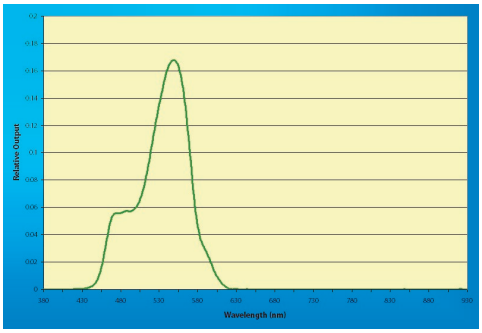
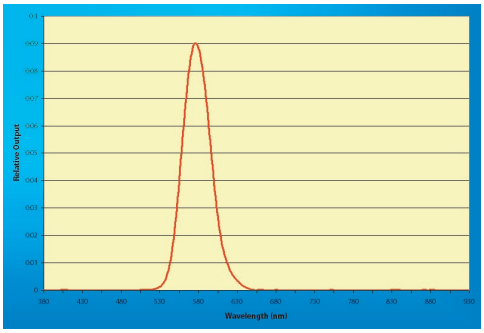
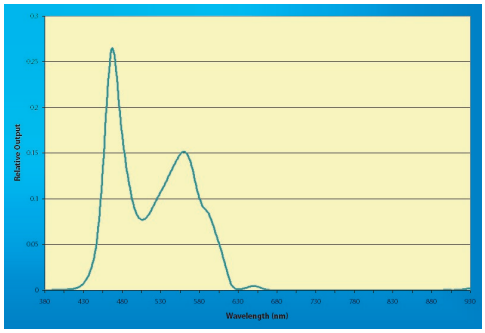
General Description	Linear Programmable Light Source Controller Stabilized LED source Computer & manual control with digital front panel display CW and pulse width modulation Calibrated in absolute optical units	
Display Units	Radiance Luminance ANVIS Radiance Drive Current (milliamps)	
Source Geometry	38 mm diameter Lambertian source	
Wavelength	Unfiltered white LED Rank B standard ANVIS filtered white LED optional	
Output Power (nominal)		
ANVIS Radiance	10^{-8} to 10^{-13} NRa, NRb, NRc	
Luminance	10^{2} to 10^{-3} footLamberts	
Linear Brightness Adjustment		
Dynamic Adjustment Range	16 bits or 1 part in 65535 for each optical head	
Signal-to-Noise Ratio	>>96dB @ full scale	
Non-linearity	<<0.1% RMS of full scale	
Pulse width modulation	0 to 500KHz	
Settling time	<1.0 second (<<0.1 second for 1% uncertainty)	
Repeatability	>99.99% (after settling)	
Absolute accuracy	+/- 3% of dial setting	
Brightness Instability		
Short term drift (1 hour)	Offset: <0.0002% of full scale	Gain: <1.0% of full scale
Drift with temperature	Offset: <0.0002% of full scale/1°C	Gain: <0.02% of full
Long term drift (1 year)	<1.0% of full scale	







Sample RS-5NVIS spectral output curves with filters on the light source