SpectralLED® RS-9-6 Tunable Light Source – Wide Field of View

The SpectralLED® Wide Field of View (FOV) is ideally suited for applications requiring a field of view up to 180°. The unique optical design delivers equal radiance over the entire field, which is critical for users desiring flat fielding fisheye or ultra-wide FOV lens designs. With better than 95% uniformity across the 75mm output, the performance is unmatched in the industry.

The SpectralLED® Tunable Light Source incorporates up to 34 discrete wavelengths and two broadband white channels for synthesis of commercially available light sources or based on spectra that you import. The platform is easily adaptable for automated test systems and production line integration, with integrated optical feedback and temperature control to ensure rock-solid stability and consistent results.

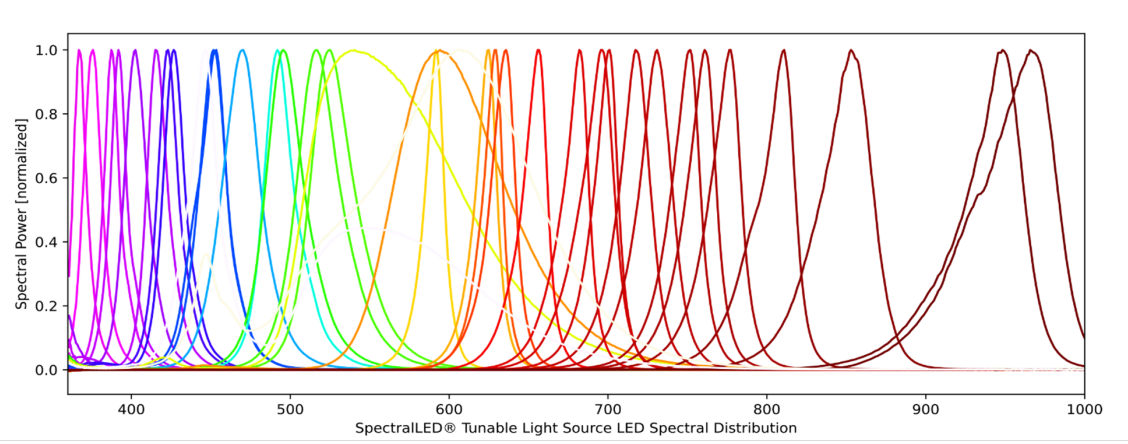
Unprecedented Resolution and Accuracy
for Camera and Image Sensor Calibration

Key Features

- Constant current drivers & built-in optical feedback
- Accurate & flicker-free output in real time
- All solid-state design for rapid start-up, repeatable performance
- ISO/IEC 17025 Accredited by NVLAP (NVLAP lab code 200823-0) for Calibration Accuracy

Application Areas

- Camera and image sensor calibration
- Photodiode detector responsivity characterization
- Spectrum / illuminant simulation
- Diagnostic medical imaging
- Technical and industrial photography



SpectralLED® RS-9-6 Wide Field of View

Measurement Applications

- White Balance
- Quantum Efficiency
- Spatial Non-uniformity
- Pixel Defects
- Vignetting Correction
- Sensitivity
- Responsivity
- Signal to noise
- Linearity
- Saturation Exposure
- Dynamic range

Gamma Scientific is ISO/IEC 17025 accredited by NVLAP (NVLAP lab code 200823-0).

RS-9-6 Specifications	
Spectral Range	360 nm to 1,000 nm (Custom ranges available on request)
Spectral output	34 discrete wavelengths in UVA – Visible range and, 2 broadband white channels
Source Geometry	75mm diameter uniform output with 180° field of view. Lambertian radiant source.
Translational Uniformity (Spectrum dependent)	Luminus uniformity (Illuminant E): ≥ 95% for 50mm spot at center and tapers off towards edges
	Chromatic uniformity (Illuminant E): Δu'v' Max ≤ 0.003 in 50mm spot in center and tapers off
Angular Uniformity	Luminus uniformity (Illuminant E): ≥ 95% for 130°; ≥ 85% for 170°
	Chromatic uniformity (Illuminant E): Δu'v' Max ≤ 0.003 for 130°
Optical Geometry	Built-in integrating cavity. Specialized optical design for uniform radiance over a 180^0 (2π sr) FOV.
Maximum Output (Radiance, Luminance)	Illuminant A – 6500 uW/cm^2/sr , 8500 cd/m^2 Illuminant D65 –17000 uW/cm^2/sr , 35000 cd/m^2 Illuminant E – 13000 uW/cm^2/sr , 21500 cd/m^2
Dynamic Range	3 decades (with D50 illuminant)
Accuracy Specifications	
Illumination Stability	Stable ≤ 20ms after spectral selection, ± 1% variation over 24 hours
Illumination Repeatability	< ± 1% luminance
Spectral Accuracy	± 1 nm peak wavelength for all discrete wavelengths
Color Accuracy	CIE 1931 x, y ± 0.003 (illuminant E)
General Specifications	
Software	SpectralLED Pro GUI Control Program, or any serial port terminal tool
Interface Connectors	USB 2.0 type B and 15-pin serial
Interface Protocol	Simple ASCII commands
Supported Operating Systems	Windows using FTDI COM port drivers
Input Voltage and Power	100 to 240 VAC at 50-60Hz, 400W maximum
Dimensions	225mm (8.9in) x 225mm x 308mm (12in). Weight 8.4kg (18.1lbs)
Operating Conditions	15 – 35°C , ≤ 65 %RH
Upgrades	
RS-9 Wavemon	Multi-channel photodiode system with amplitude feedback and real time wavelength measurement

Specifications are subject to change without notice.

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