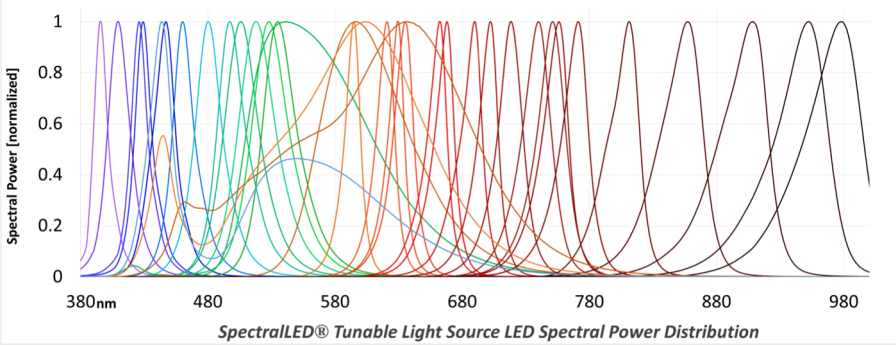
SpectraLED® RS-7-6-VIS Tunable Light Source – Wide Field of View

The SpectraLED® 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 97% uniformity across the 75mm output, the performance is unmatched in the industry.

The SpectraLED® Tunable Light Source incorporates up to 35 discrete wavelengths for synthesis of commercially available light sources or based on spectra that you import. Theplatform 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 & Image Sensor Calibration

- All Solid-State Design for Rapid Start-up, Repeatable Performance and Maximum Up-time
- Built-in RMS Spectral Fitting for Simulation of User Imported Spectra
- Wavelength Options From the UVA to the Near Infrared
- Quickly Simulate any CIE Illuminant or Macbeth™ / X-RITE™ Color Patch
- Constant Current Drivers & Built-in Optical Feedback Ensure Accurate & Flicker-free Output in Real Time]
- ISO/IEC 17025 Accredited by NVLAP (NVLAP lab code 200823-0) for Calibration Accuracy



SpectraLED® Tunable Light Source LED Spectral Power Distribution

SpectraLED® RS-7-6-VIS Wide Field of View

Measurement Applications

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

Gamma Scientific is ISO/IEC 17025 accredited by NVLAP (NVLAP lab code 200823-0) and performs LM-79 / LM-80 LED testing.

RS-7-6-VIS SPECIFICATIONS	
Source Geometry	75mm diameter uniform output with 180° field of view. Lambertian radiant source.
Spatial Uniformity	≥ 95% over 180° (2π steradians)
Optical Geometry	Built-in integrating cavity. Specialized optical design for user adjustable spot parameters.
Radiance Range	Typical maximum of 2,500µW/cm²/sr Typical minimum of 2.5µW/cm²/sr (spectrum dependent)
Luminance Range	Typical maximum of 5,000cd/m² (spectrum dependent) Typical minimum of 5 cd/cm² (0.01 cd/m² with ND filter option)
OPTICAL SPECIFICATIONS	
Spectral Range	380 nm to 1,000 nm (Custom ranges available on request)
Spectral Output	32 discrete LED channels, 3 broadband LED Channels Visible resolution ~ 15 nm, NIR resolution ~ 50 nm (typical channel spacing)
Spectral Peaks	395nm, 405nm, 420nm, 430nm, 450nm, 460nm, 475nm, 495nm, 505nm, 520nm, 525nm, 535nm, 570nm, 595nm, 610nm, 620nm, 630nm, 637nm, 660nm, 675nm, 685nm, 700nm, 715nm, 730nm, 750nm, 760nm, 780nm, 805nm, 850nm, 895nm, 940nm, 965nm 2,700K Warm White, 3,000K Warm White, 6,500K Cool White (Custom configurations available)
Spectral Bandwidth	Typical: Visible 20nm FWHM, NIR 50nm FWHM
CCT Range	1,900K to 40,000K
Preset Spectra	CIE Illuminants A, B, C, D50, D55, D65, D75, E, F1-F12, Macbeth™ / X-Rite™ Color Patches
Custom Preset Spectra	Configurable at time of order via API. Contact factory for details
ACCURACY SPECIFICATIONS	
Illumination Stability	≥ 99.99% after 50 ms for radiance or after 2,000 ms for color
Illumination Accuracy	± 1% Absolute, NIST traceable
Spectral Accuracy	± 1 nm centroid wavelength
Color Accuracy	CIE 1931 x, y ± 0.003
Linearity	< 0.1 % RMS of full scale
Temperature Stability	Within ± 1° C via active TEC
Long-term Drift	Output ≤ 2% Spectral ≤ 1 nm (channel dependent)
ELECTRICAL SPECIFICATIONS	
Electrical Resolution	16 bit DAC for channel current drivers 24 bit ADC for internal radiance monitor feedback
Dynamic Range Adjustment	4-5 decades typical (spectrum dependent)
LED Control	Pure DC constant current with floating differential sensing
GENERAL SPECIFICATIONS	
Software	Firmware includes full spectral calibration with spectral fitting, preset storage, real-time optical feedback, radiometric and photometric units supported
Interface Connectors	USB 2.0 type B and DB-9
Interface Protocol	Simple ASCII commands with optional binary block transfer
Supported Operating Systems	USB drivers for Windows, OSX and Linux via FTDI virtual COM port Legacy RS-232 serial port for integration (no OS required)
Input Voltage and Power	110 to 240 VAC at 50-60Hz, 600W maximum
Dimensions	Height 405mm (16 in), Width 460mm (18.1in), Depth (305mm (12in). Weight 17.5 kg (38.6 lbs)
UPGRADES	
RS-7 Wavemon™	Multi-channel photodiode system provides amplitude feedback & real-time wavelength measurements

Specifications are subject to change without notice