

SpectralLED® RS-9-4 Tunable Light Source – Wafer Probe Illuminator



The SpectralLED® Wafer Probe Illuminator is an all solid-state, drop-in replacement for field-deployed wafer-level CCD and CMOS sensor testers. The system is fully turnkey, and can readily be adapted to test head manipulators and handler instrumentation.

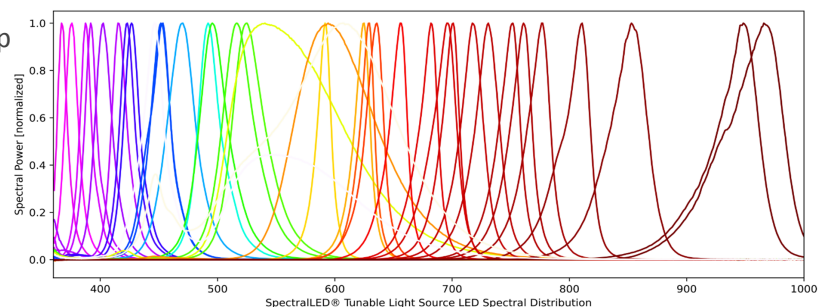
The SpectralLED® Tunable Light Source incorporates up to 34 discrete wavelengths and two broadband white channels for synthesis of commercially available light sources or based on spectra that you import. The platform is easily adaptable for automated test systems and production line integration, with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

Unprecedented Resolution and Accuracy for Camera and Image Sensor Calibration

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

System Compatibility

Agilent
Teradyne
National Instruments
Yokogawa
Advantest
Cascade Microtech



Measurement Applications

- 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-9-4 Optical Specifications

Spectral Range	360 nm to 1,000 nm VIS-SWIR	
Spectral Output	34 discrete wavelengths in UVA – Visible range and, 2 broadband white channels	
Optical Geometry	Typically, 0.55 NA (fiber dependent)	
Uniformity (Fiber dependent)	Luminous uniformity: Typical 70%	
Maximum Output (Fiber dependent) (Radiance, Luminance)	Illuminant A – 100 uW/cm ² /sr , 150 cd/m ² Illuminant D65 – 270 uW/cm ² /sr , 540 cd/m ² Illuminant E – 198 uW/cm ² /sr , 356 cd/m ²	(For fiber diameter of 6.35 mm at 50mm)

Accuracy Specifications

Illumination Stability	≥ 95% stable after 50ms rise time for single channels, 50ms for broadband spectra
Illumination Accuracy	± 2% absolute accuracy to NIST standard
Spectral Accuracy	± 1 nm centroid wavelength for all discrete wavelengths
Color Accuracy	CIE 1931 x, y ± 0.003 (illuminant E)
Temperature Stability	Within ± 1° C via active TEC

General Specifications

Software	SpectralLED Pro GUI Control Program, or any serial port terminal tool
Interface Connectors	USB 2.0 type B and DB15 RS485 serial
Interface Protocol	Simple ASCII commands
Supported Operating Systems	Windows using FTDI COM port drivers
Input Voltage and Power	110 to 240 VAC at 50-60Hz, 400W maximum
Dimensions (H x W x L)	225mm (8.9in) x 225mm x 308mm (12in). Weight 7.4kg (16.2lbs)
Environmental Conditions	15 – 35°C, ≤ 65 %RH

Optional Upgrades

RS-9 Wavemon	Multi-channel photodiode system provides amplitude feedback & real-time wavelength measurements
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Specifications are subject to change without notice.