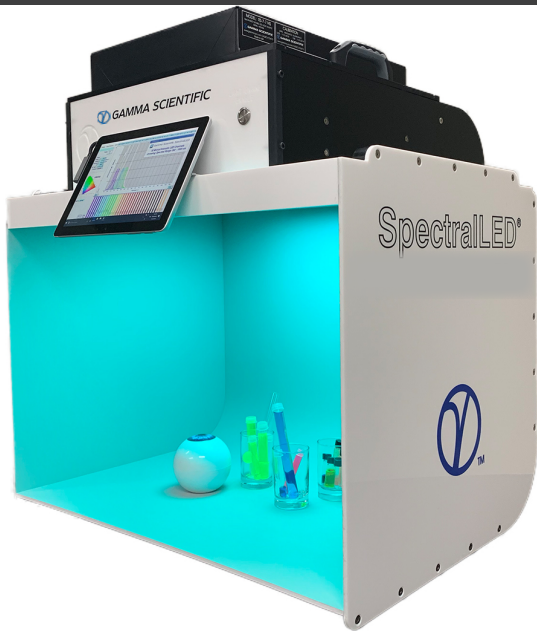


SpectralLED® RS-9-7 Tunable Light Source – Light Booth



The SpectralLED® Light Booth quickly simulates virtually infinite lighting conditions enabling visual color assessment for photography, product display or lighting design applications. Both real and theoretical lighting conditions can be produced, enabling CRI experimentation, analysis and optimization.

When coupled with our line of spectroradiometers and Light Touch software, a fully non-contact digital color measurement and imaging system can be configured.

Incorporating up to 34 discrete wavelengths and two broadband white channels for synthesis of commercially available light sources, 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.

High Resolution and Accuracy for CRI Experimentation, Analysis, and Optimization

Key Features

- All solid-state design for rapid start-up, repeatable
- Performance and long operating lifetime
- 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™/XRITE™ Color Patch
- Constant current drivers and built-in optical feedback ensure accurate and flicker-free output in real time

Applications

- Image sensor/camera calibration
- Display visibility vs. ambient lighting conditions
- Textile and apparel analysis
- Color assessment – consistency, stain removal and fade analysis

In addition to our exceptional technical and functional capabilities, Gamma Scientific is ISO/IEC 17025 accredited by NVLAP (NVLAP lab code 200823-0).

RS-9 Measurement Applications

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

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Optical Specifications	
Spectral Range	360 nm to 1,000 nm (custom ranges available on request)
Spectral Output	34 discrete discrete wavelengths, 2 broadband white channels
CCT Range	1,800K 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	≥ 95% stable after 50ms rise time for single channels, 50ms for broadband spectra
Illumination Accuracy	± 2% absolute, NIST traceable
Spectral Accuracy	± 1 nm peak wavelength for all discrete wavelengths
Color Accuracy	CIE 1931 x, y ± 0.003
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	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	100 to 240 VAC at 50-60Hz, 400W maximum
Interior Dimensions	45 x 45 x 45 cm (preliminary)
Upgrades	
RS-9 Wavemon	Multi-channel photodiode system provides amplitude feedback and real-time wavelength measurements

Specifications are subject to change without notice.