

Lumere LED Test System for Production

SPECIFICATIONS

The Lumere LED Tester is a rapid-measurement, laboratory grade test system designed for production environments. The Lumere LED Tester is based upon Gamma Scientific's world-renowned RadOMA spectroradiometer platform, with hundreds of installations world-wide.

The system can be configured for CIE127 Luminous Intensity (candelas) measurement or an Integrating Sphere for Luminous Flux (lumens) measurement. All optical systems are compliance to the CIE Publication 127 for LED measurement. Chromaticity coordinates for all types of LED's can be made to very high precision, ensuring proper binning. During test a high-accuracy source meter is used to power the LED to perform all electrical tests and measurements. The source meter is capable of driving up to $\pm 20V @ \pm 2A$ with fast settling time.

SOFTWARE

LumereSoft is specifically designed for the LED production environment. The software controls the Spectroradiometer and Source Meter and provides the LED binning information via Digital I/O. Other communications are available upon request. All radiometric, photometric, and spectral result calculations can be obtained extremely fast.

SOFTWARE FEATURES:

- Windows-based graphical user interface test software
- Programmable test flow
- Scalable test software
- Real time test data display, statistics report, and low yield trigger
- Interface to handler via RS-232, GPIB, Centronics, Digital I/O, etc.
- Source meter and Spectroradiometer control
- Advance binning management –assign up to 1024 bins



FEATURES & BENEFITS

- Turnkey solution for testing all optical and electrical parameters of LEDs
- Recommended geometry from CIE Pub. No. 127
- Exceptional accuracy through high resolution bandwidth coverage
- Superior wave-length and color accuracy
- High resolution; down to 0.6 nm between data points
- Spectral range from 380 nm to 850 nm
- Near real-time measurement
- Test time 30 msec
- User friendly test software with flexible test flows
- Scalable test software and hardware
- Easy connection to handler systems
- NIST-traceable calibrations



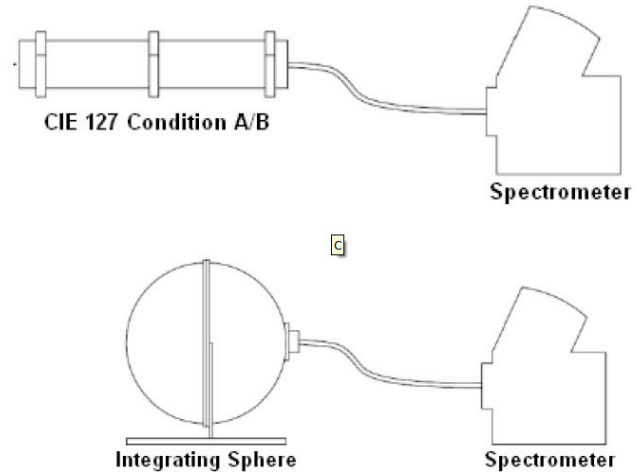
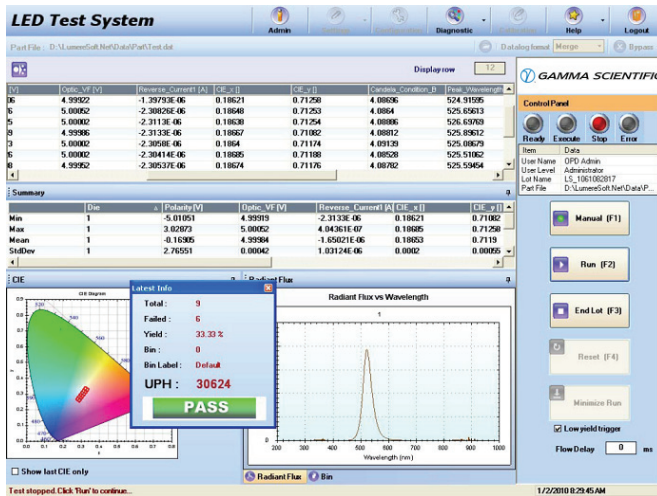
GAMMA SCIENTIFIC

8581 Aero Drive San Diego, CA 92123 Ph +1-858-279-8034 Fax +1-858-576-9286

Website: www.gamma-sci.com

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LED-Tester		
Measurement Cycle		
Shortest measurement with 1-Chip LED	30 msec	
Shortest measurement with 3-Chip LED	60 msec	
Interface to Handler		
Digital Inputs	Start of Test Signal	
Digital Outputs	End of Test Signal, Busy Signal, Outputs for Bin-results	
Connections	Optical isolation of all Inputs/Outputs	
Electrical Measurements		
Current Range	0 to +/- 2 Amps	
Voltage Range	0 to +/- 20 Volts	
Output Power Range	0 to 40 Watts	
Optical Measurements		
Spectral Range	380 to 850 nm	
Datapoint Interval	0.6 nm	
Wavelength Accuracy	< 0.2 nm	
Detector	Back-Illuminated CCD, 1024 x 128 Pixel (binning mode)	
Integration Time	8 msec to 65 sec	
Photometric Measurements		
	Luminous Intensity	Luminous Flux
Measurement Range	0.02 mcd to 150 cd ¹	0.26 to 1950 lm ²
Accuracy ³	+/- 4%	+/- 4%
Reproducibility of a single system	+/- 0.5%	+/- 0.5%
Colorimetric Measurements		
	Accuracy	Reproducibility
Dominant Wavelength ⁴	+/- 0.5 nm	+/- 0.01 nm
Chromaticity Coordinates (x,y) ⁴	+/- 0.0015	+/- 0.0001

*1 Applicable to signal-to-noise ratio of 100:1.

*2 Applicable to signal-to-noise ratio of 100:1 and 12-inch (300mm) integrating sphere.

*3 Immediately after calibration - depends on calibration standard.

*4 Sufficient signal-to-noise ratio and immediately after calibration. The values relate to twice the standard deviation.



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