

ReaLité Silver RGB Reference Source

High brightness RGB uniform source. Stable and repeatable references with peak wavelength and system configurations available to match testing needs – from the benchtop to production!

Trusted test data

Labsphere is a recognized leader in traceable reference sources. Our ReaLité platform is engineered for the high-performance requirements in image sensor research, waveguide characterization, and imaging colorimeter calibration for development, production testing, and calibration programs.

Repeatable, reproducible results – Every Time!

With Labsphere's proprietary diffuse reflectance material, Spectralon®, screened and binned LED sources, and thermally controlled source modules, long term repeatability and reproducibility are ensured.

Self-contained, simple and reliable

Labsphere ReaLité platform is engineered to operate seamlessly in the lab as well as automated test platforms. Commissioning software provides intuitive setup while a universal command interface ensures easy integration into test equipment and sequences. Internal monitoring provides system performance and health feedback in real time. The software allows scripting of specific set points for testing sequences that can be programmed for your unique applications and testing requirements.

Wavelength precision

ReaLité systems are thermally controlled with mechanical attenuators that enable repeatable peak wavelength stability. The temperature control and mechanical attenuators enable more repeatable and wavelength- stable performance. These systems will stay within the 10 nm wavelength range.



Key Performance:

- Fast rise and settling times between RGB test conditions
- High luminance level and uniformity
- Form factor for production tester integration
- Peak wavelength stability

Features:

- High speed attenuators for fast spectral transitioning
- Spectral radiance monitoring for confidence in color and peak wavelength stability
- Ability for user calibration and characterization optimization over the life of the product

Specifications

Key Parameters

Luminance Range:	50 - 2,000,000 nits at 6500K CCT
Wavelength Shift:	± 5 nm (over Luminance Range from 10% to 90% available output)
Clear Field of View (FoV) at Port:	45 mm x 65 mm x 75° full angle (H x W x Diagonal)
Spatial Luminance Uniformity:	Greater than 97% uniformity (evaluated over 90% clear aperture)
Angular Luminance Uniformity:	96% (over ± 30°, evaluated at center)
Luminance Stability - Short Term:	± 1.0% P-P, 1 min.
Luminance Stability - Long Term:	± 2.0% P-P, 1 hr.

Spectral Performance

Wavelength Repeatability:	± 2 nm (same system, day to day)
Peak Wavelength Stability:	< 1 nm over 1 hour at steady state, ± 5 nm from 10% to 90% output

Spectral Output

Red Peak Wavelength:	625 nm (620 - 630 nm)
Green Peak Wavelength:	520 nm (515 - 525 nm)
Blue Peak Wavelength:	470 nm (465 - 475 nm)

Nominal (Initial Tolerance Range)

Control and Calibration

Luminance Adjustability:	LED Current Control 16 bit and Variable Attenuator Control ~14 bit
Variable Attenuator Speed:	< 1 sec (open to closed)
Thermal Control:	TEC and Liquid Cooling
Spectral Monitor:	Multispectral Detector
Internal Calibration Source:	Spectral Radiance Transfer Source

Mechanical

Luminance Port Diameter Options:	16 mm, 20 mm, and 25.4 mm
Luminance Port Orientation:	Up, Down, and Side (feet and mounting interfaces provided)
RGB Source Dimensions:	27.6 x 27.6 x 26.4 cm (10.88 x 10.88 x 10.38 in.) (H x W x D)
RGB Source Weight:	13 kg (28.7 lbs.)
Heat Exchanger Dimensions:	17.1 x 30.5 x 8.3 cm (6.75 x 12.00 x 3.25 in.) (H x W x D)
Heat Exchanger Weight:	5.7 kg (12.5 lbs.)
Heat Exchanger Positioning Options:	Flexible (1, 2, 3, and 6 m tubing lengths available)

Electrical and Control

Power Input:	100 - 240 VAC, 50/60 Hz, <12 A
Command Control Interface:	RS-232 (over USB)

Safety and Environmental

Certification:	CE Certified
Operating Temperature:	15 - 35 °C

Product Description

Choose one from each column

Family	Level	Sphere Diameter	Exit Port Size	Cooling and Line Length	Red Peak Wavelength λ_p (initial tolerance +/- 5 nm)	Green Peak Wavelength λ_p (initial tolerance +/- 5 nm)	Blue Peak Wavelength λ_p (initial tolerance +/- 5 nm)	Attenuator	Monitor
ReaLité	Silver	SD10 10 cm	EP16 16 mm	CL1M 1 m	R625T05 625 nm (620 - 630)	G520T05 520 nm (515 - 525)	B470T05 470 nm (465 - 475)	VA	DETFB
			EP20 20 mm	CL2M 2 m					
			EP25 25 mm	CL3M 3 m					
				CL6M 6 m					

Product Description Example: ReaLité-Silver-SD10-EP20-CL2M-R625T05-G520T05-B470T05-VA-DETFB

Standard Features: Variable Light Attenuator, Detector Monitor

Product Dimensions

