



CLS100

Chromaticity and Luminance Standard

- **Small and Portable**
- **Low Cost**
- **Easy to Use**
- **NIST Traceable**
- **Long Life**
- **LED and Incandescent Models**

Essential

All users of measurement devices which include photometers, colorimeters and spectroradiometers will find the CLS100 an indispensable tool.

Applications include:

- Measurement procedure validation
- Instrument performance evaluation
- Comparison of results between instruments and labs

Longevity

The CLS100 encloses a seasoned and selected light source within a sintered PTFE light mixing cavity and illuminating an opal diffusing glass target. Advantages include:

- Sintered PTFE construction resists flaking, oxidization and deterioration unlike paint and other coatings
- Opal glass target is easily cleaned
- Closed light mixing cavity prevents contamination from dust and debris
- Up to 50 hours of use between re-calibrations

Simple Operation

Operation of the CLS100 requires only a current source and voltmeter connected via banana jacks.

Simply supply the required current to the CLS then input the resulting forward voltage into the Light Metrics Calculator.

LED Temperature Correction

Our Excel™ based Light Metrics Calculator adjusts the results to account for changes in LED junction temperature by knowing the LED's forward voltage. The compensation allows the CLS100 to provide reliable results over a wide range of ambient temperatures without the use of either temperature monitoring or control.

Corrected results include: cd/m^2 , fL, u' , v' , x, y, CCT, dominant, peak and centroid wavelengths, purity, radiance, and FWHM.

Other optional results include spectral radiance (at 1nm interval), NVISA and NVISB, (scaled and un-scaled radiance). Contact Lumetrix for your data requirements.

The Light Metrics Calculator includes a section designed to keep track of lamp usage time and user notes.

Superior Target Uniformity

To ensure your measurements are reliable and repeatable, we manufacture each unit to maintain uniformity to within 2% of the average (central 1 cm target diameter).

Custom Colors and Luminance Levels

If you require something other than our standard models, Lumetrix can integrate light sources and filters to closely match your required artifacts. Custom luminance levels and spectral signatures such as NVIS (white, greenA, greenB, yellow and red) are available.

Specifications

Calibration Uncertainty	x y u' v'	0.002
	Dominant Wavelength	+/- 0.5 nm
	Luminance	+/- 3%
Precision for LED Standards	CIE x y u' v'	< 0.0005
	Dominant Wavelength	<0.2 nm (450 to 604 nm)
	Luminance	+/- 1.5% (5 mm measurement aperture)
General	Reported Values	cd/m ² , fL, u', v', x, y, CCT, dominant wavelength, purity, radiance, peak, centroid and FWHM. Optional: Spectral Radiance @1 nm, NVISA, NVISB (Scaled and Un-Scaled)
	Non-Uniformity	<2% over central 1cm of target
	Recommended Cal Cycle	50 hours LED, 10 hours for incandescent
	Temperature	15 °C to 35C to spec. 0 °C to 45 °C operating
	Dimensions	45 x 45 x 140 (mm), 1.25 cm target diameter
	Weight	200 g
	Construction	Sintered PTFE lined optical cavity and opal glass diffuser target
	Source recommended	Typically 10 mA to 100 mA at 0.1% uncertainty
	Voltmeter recommended	0 to 10 V scale with 0.03 % uncertainty
	Software	PC with Windows and Excel 2003 or later, USB port

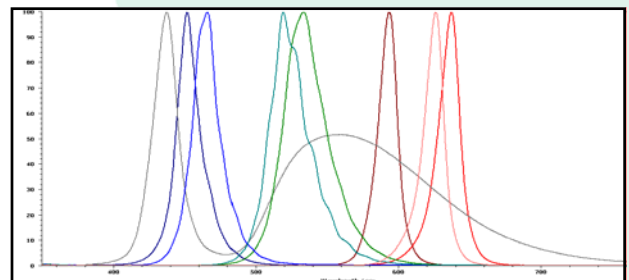
Ordering Information

Lamp types

Lamp types	Luminance (cd/m ²)
Tungsten <i>White</i> 2400K	10 or 30
LED <i>White</i> 5500K	10, 30, 100, 150
LED <i>White</i> 3300K	10, 30, 100
LED <i>Royal Blue</i> 455nm	10, 30, 50
LED <i>Blue</i> 470nm	10, 30, 80
LED <i>Cyan</i> 505nm	10, 30, 100, 150, 200
LED <i>Green</i> 530nm	10, 30, 100, 150, 200
LED <i>Amber</i> 590nm	10, 30, 100, 150
LED <i>Red-Orange</i> 615nm	10, 30, 100
LED <i>Red</i> 625nm	10, 30, 100

Ordering Examples:

Incandescent at 10cd/m²: *CLS100-Tungsten-2400K-10*
 White 3300K LED at 30cd/m²: *CLS100-LED-5500K-30*
 Red 615nm LED at 30 & 100cd/m²: *CLS100-LED-625nm-30, 100*
 NOTE: CLS100-Tungsten may be calibrated at one luminance only.



Sample LED spectra



CLS package includes standard, case, calibration report and software on a USB flash drive.