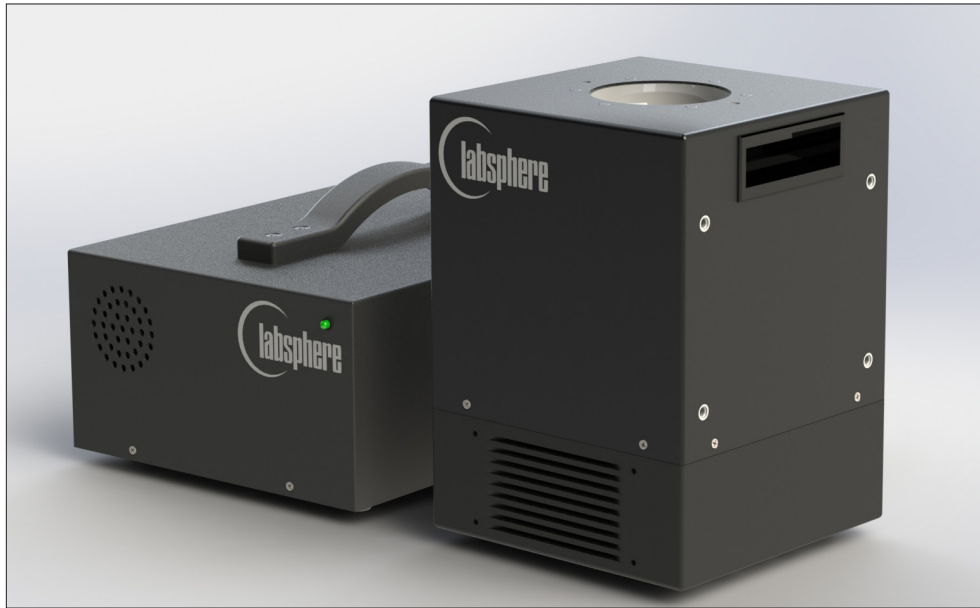


# Wide Angle FOV Color Tunable Sources for Image Sensor Characterization



## Highly Uniform Illumination Over Wide FOV

The 7.5 cm diameter port enables test and calibration with highly uniform illumination over 360° x 200° field of view. **Ideal for flat fielding fish eye lens imagers.**

## Trusted Test Data

Labsphere is a recognized leader in image sensor calibration sources. Our Tunable Image Sensor Characterization Sources are engineered for the high performance requirements in image sensor production testing and calibration.

## Save Money, Save Space

One instrument produces multiple spectrums. Large area uniform luminance field in a compact and robust instrument. The sources are designed to easily mount in a production test station with active spectral feedback loop and user recalibration features.

## Repeatable, Reproducible Results

With Labsphere's diffuse reflectance material, Spectralon®, and thermal-controlled LED module, long term repeatability and reproducibility are ensured.

# Specifications

Light Source: Integrating Sphere  
 Tunable LED light engine and discrete color channels  
 Current regulated DC driver control  
 Spectral Range:  
 CCS-1000-WAF: Visible, 850 nm and 940 nm  
 CCS-1100-WAF: Visible, 850 nm and calibration lamp

Typical Spectral Output CIE 1931 Illuminants and more:	CCS-1000-WAF	CRI (Typical)	Duv Tolerance
Illuminant A		98	± 0.001
Illuminant B		98	± 0.002
Illuminant C		98	± 0.002
Illuminant D50		98	± 0.002
Illuminant D55		98	± 0.002
Illuminant D65		98	± 0.002
Illuminant D75		98	± 0.002
Illuminant F2		64	± 0.002
Illuminant F12		81	± 0.003
Neutral E		96	± 0.002
SSL-VWV		81	± 0.003
840 nm			
950nm			

Luminance Spatial Uniformity: >94% over 360° x 200° field of view

Output Port: 75 mm diameter

Luminance Range: 10 to 700 cd/m<sup>2</sup>

Long Term Stability: +/- 1%

Short Term Stability: +/- 0.1% COV after 500 msec

Initial Warm-Up Time: 500 msec

Control: Software Development Kit and LabVIEW User Software  
 Individual Light Channel Control  
 Preset Functions for Illuminant Spectrums  
 Luminance, x, y, CCT, CRI, Duv  
 Stability Indicator  
 Active Spectral Feedback Loop  
 Embedded User Recalibration Process

With Spectrometer Monitor Option

Spectral Radiance (μW/cm<sup>2</sup>-sr-μm)  
 Luminance (cd/m<sup>2</sup>)  
 Illuminance (lux) (optional)  
 CRI  
 Duv

Operating Temperature: 20 - 40 degrees C, 0 - 70% RH

Computer Requirements: Windows®, 32 bit  
 RS-232 DB9 or USB

Power Input: 110/220 VAC, 50/60 Hz

Dimensions: Integrating Sphere Source Module 25 cm x 18 cm x 18 cm (H x W x L)  
 Power Module 14 cm x 23 cm x 37 cm (H x W x L)

Weight: Integrating Sphere Source Module 8 kg  
 Power Module 6 kg

## Ordering Information

Order Number	Model Number	Description
AA-01367-200	CCS-1000-WAF	Tunable LED Source Without Spectrometer Wide angle field of view. Includes Visible, 850nm and 940nm LEDs
AA-01367-300	CCS-1100-WAF	Tunable LED Source With Spectrometer Wide angle field of view. Includes Visible, 850nm LED and calibration lamp