

OPTRONICTM
LABORATORIES

IMPROVING THE WAY THE WORLD MEASURES LIGHT

OL 459 LED Sphere Calibration Standard

ABOUT OPTRONIC LABORATORIES, INC.

- Optronic Laboratories, Inc. was established in 1970 by two eminent researchers at NIST (then NBS). Facilities were modeled after NIST, and Optronic Laboratories, Inc. achieved a worldwide reputation for excellence in light measurement and calibration.
- For over 50 years we have been improving the way the world measures light with our spectroradiometers, integrating sphere systems, and calibration standards and services

What is the OL 459?

- Tunable 5-channel LED source
- Designed as a standard, reference, or calibration source
- As many as 80 high power LEDs
- Each channel current adjustable from 1.5% to 100%



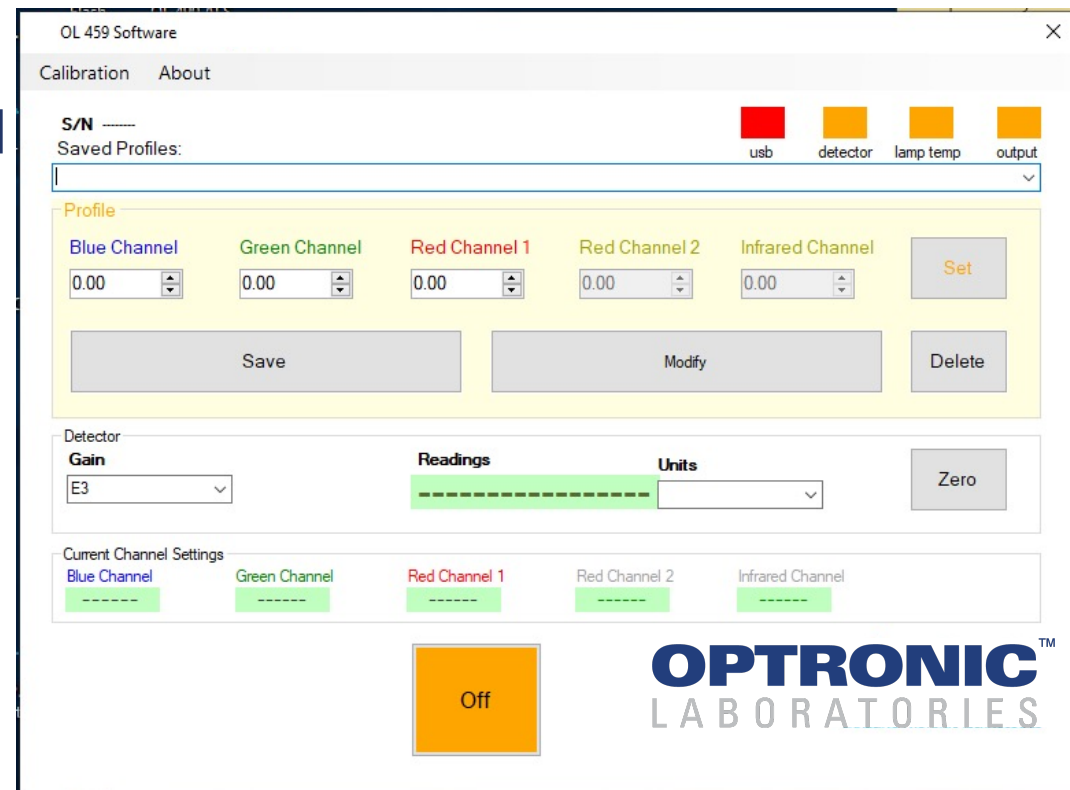
- Stability and repeatability
 - Spectral radiance/ luminance
 - Spectral profile/ shape
- This comes from
 - Precision Power supply
 - Exceptional LED performance
 - Efficient temperature management
 - Stable luminance feedback
 - NIST traceable calibration



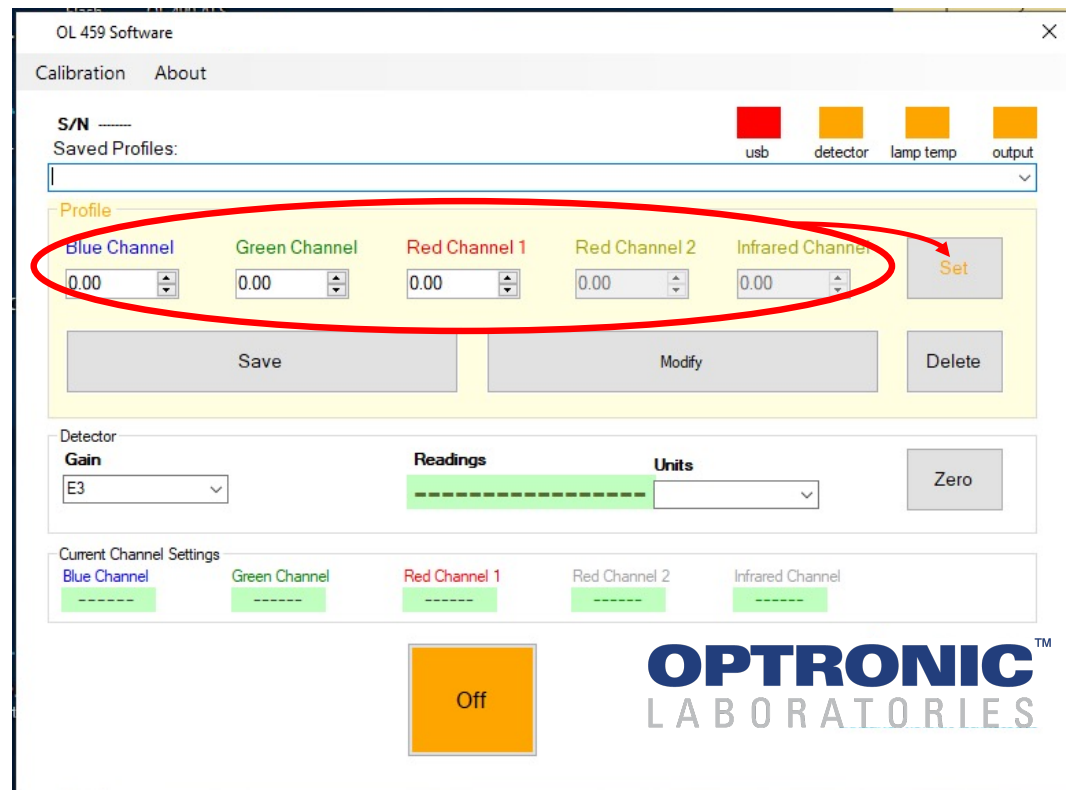
- LED-based source



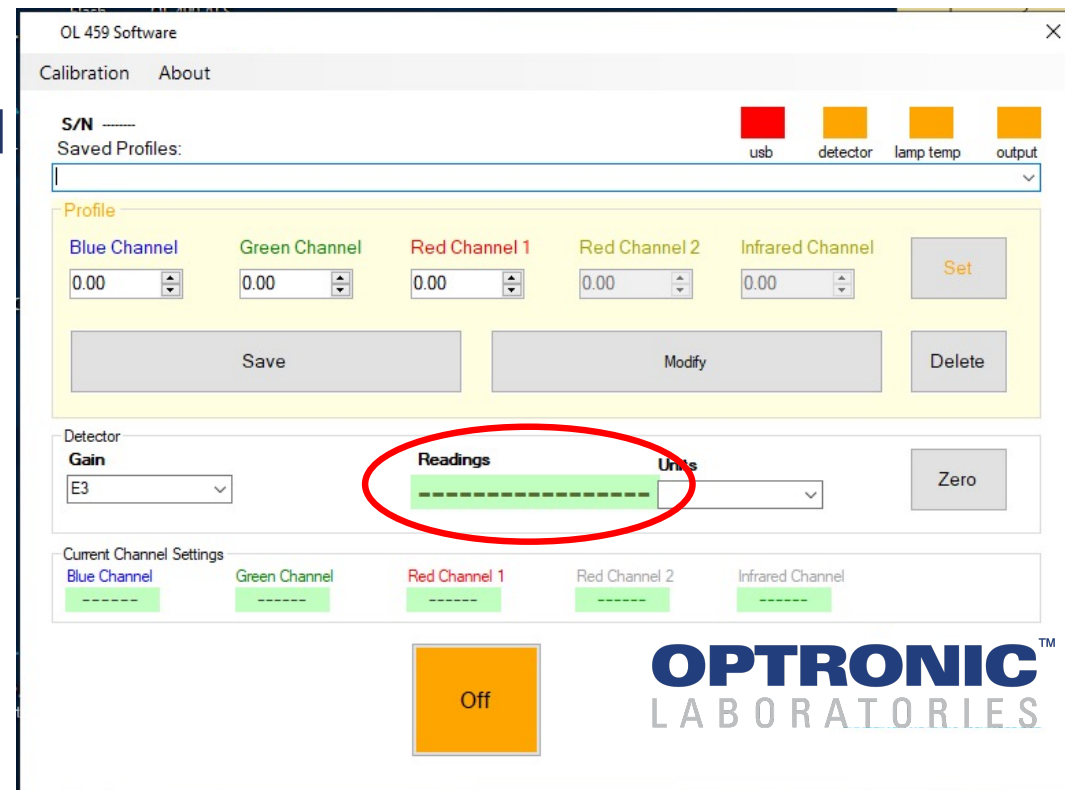
- LED-based source
- Application software provided



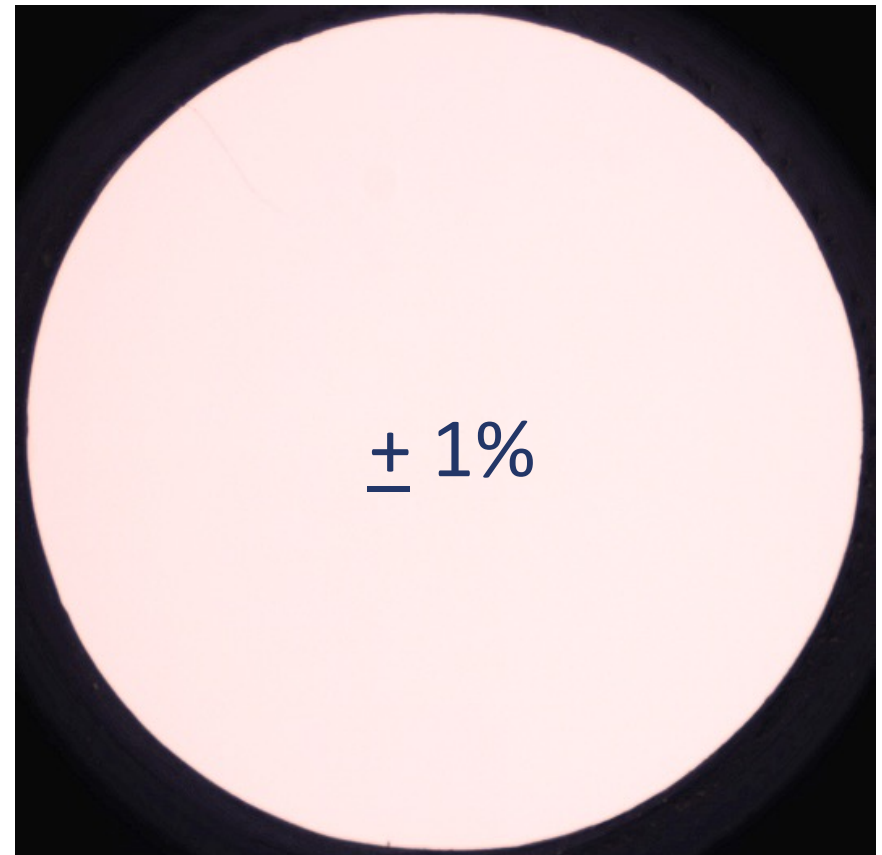
- LED-based source
- Application software provided
- 5 independently tunable channels



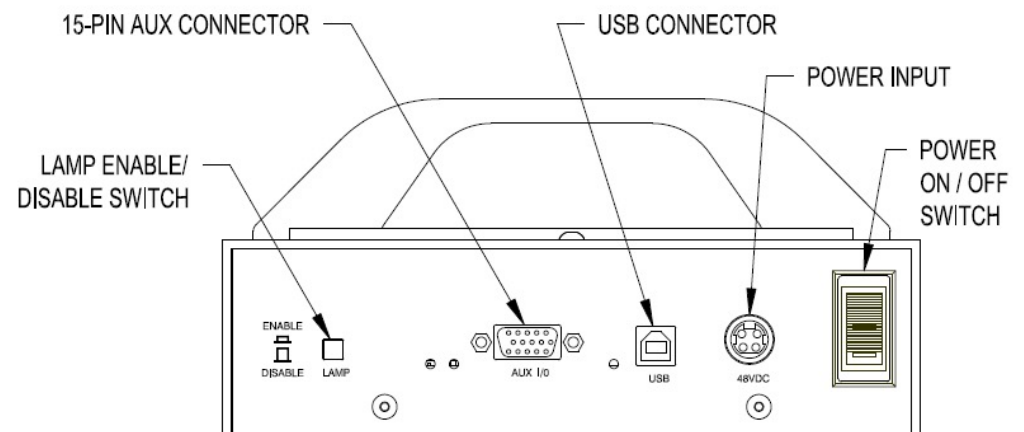
- LED-based source
- Application software provided
- 5 independently tunable channels
- Built-in monitor detector

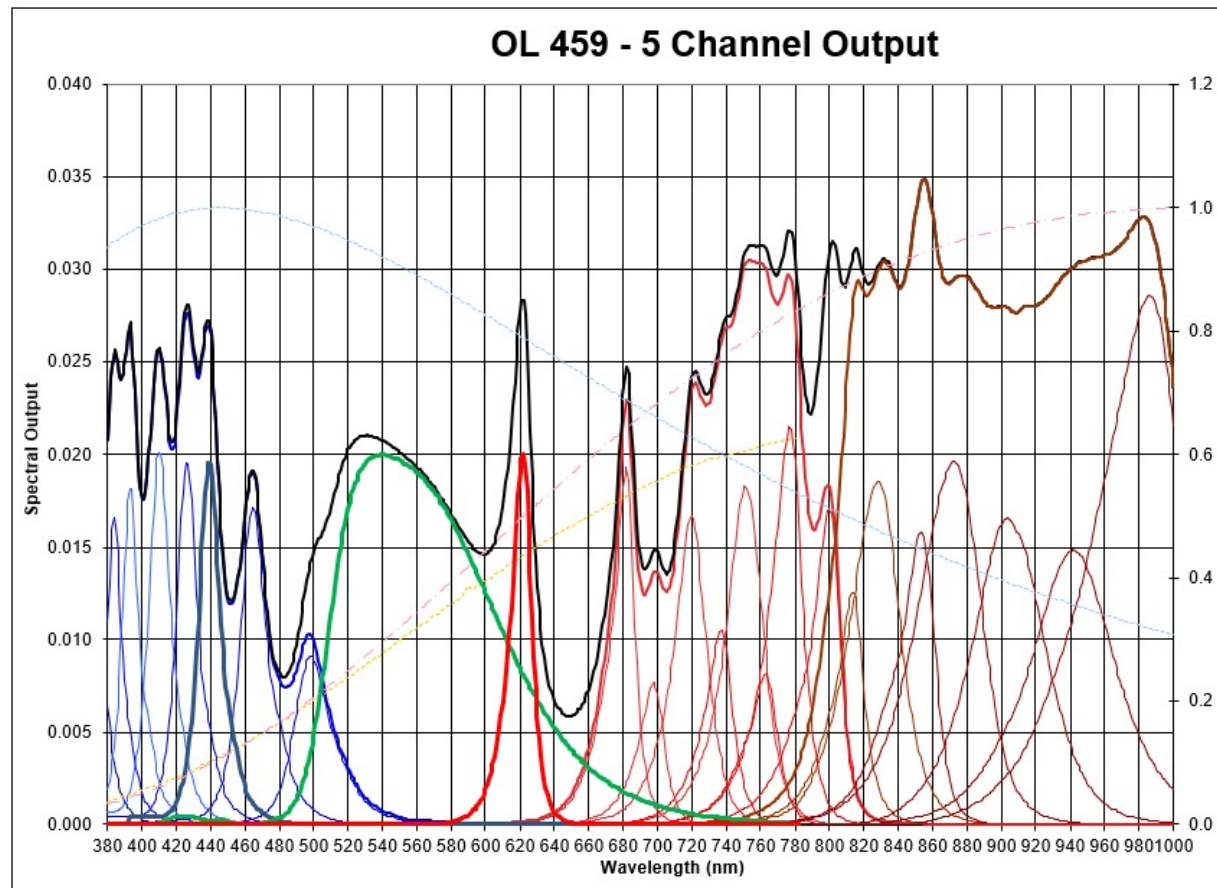


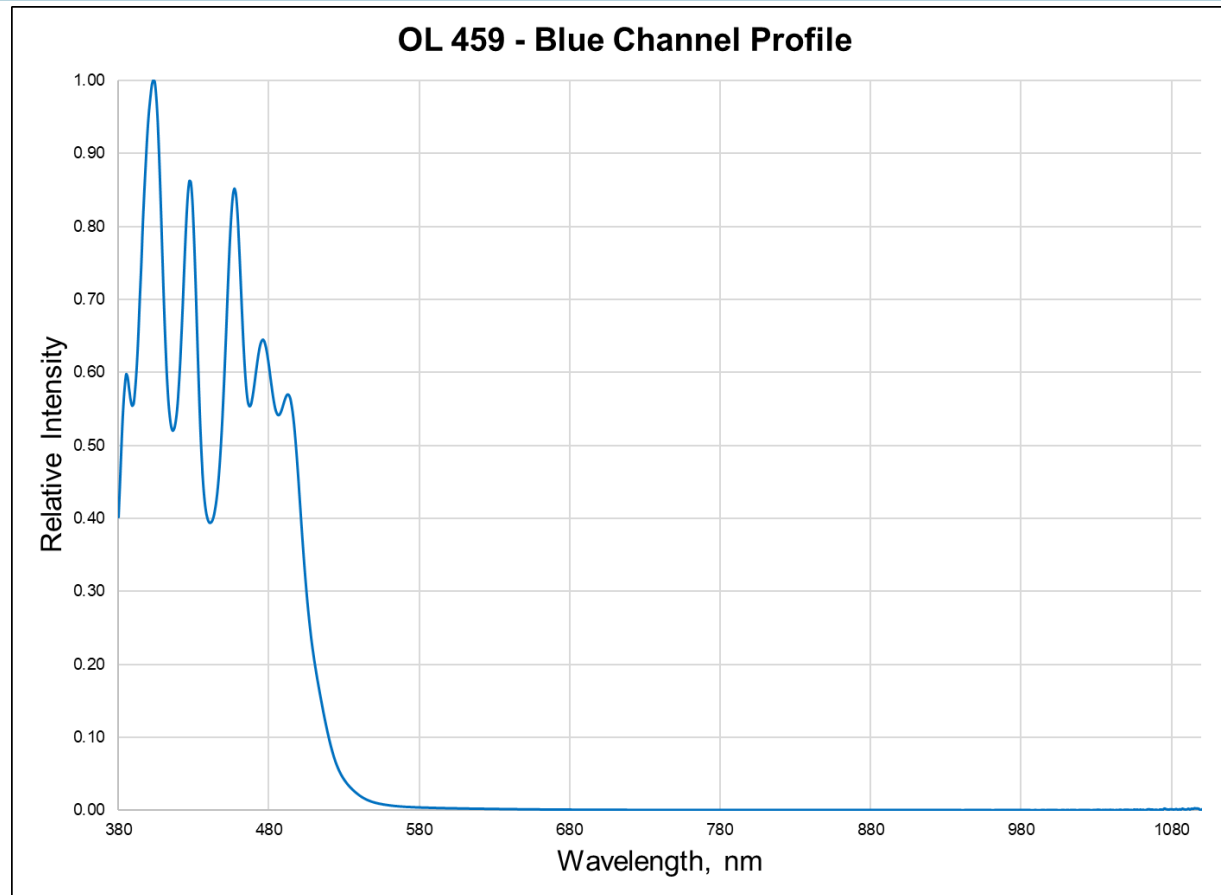
- LED-based source
- Application software provided
- 5 independently tunable channels
- Built-in monitor detector
- High spatial uniformity

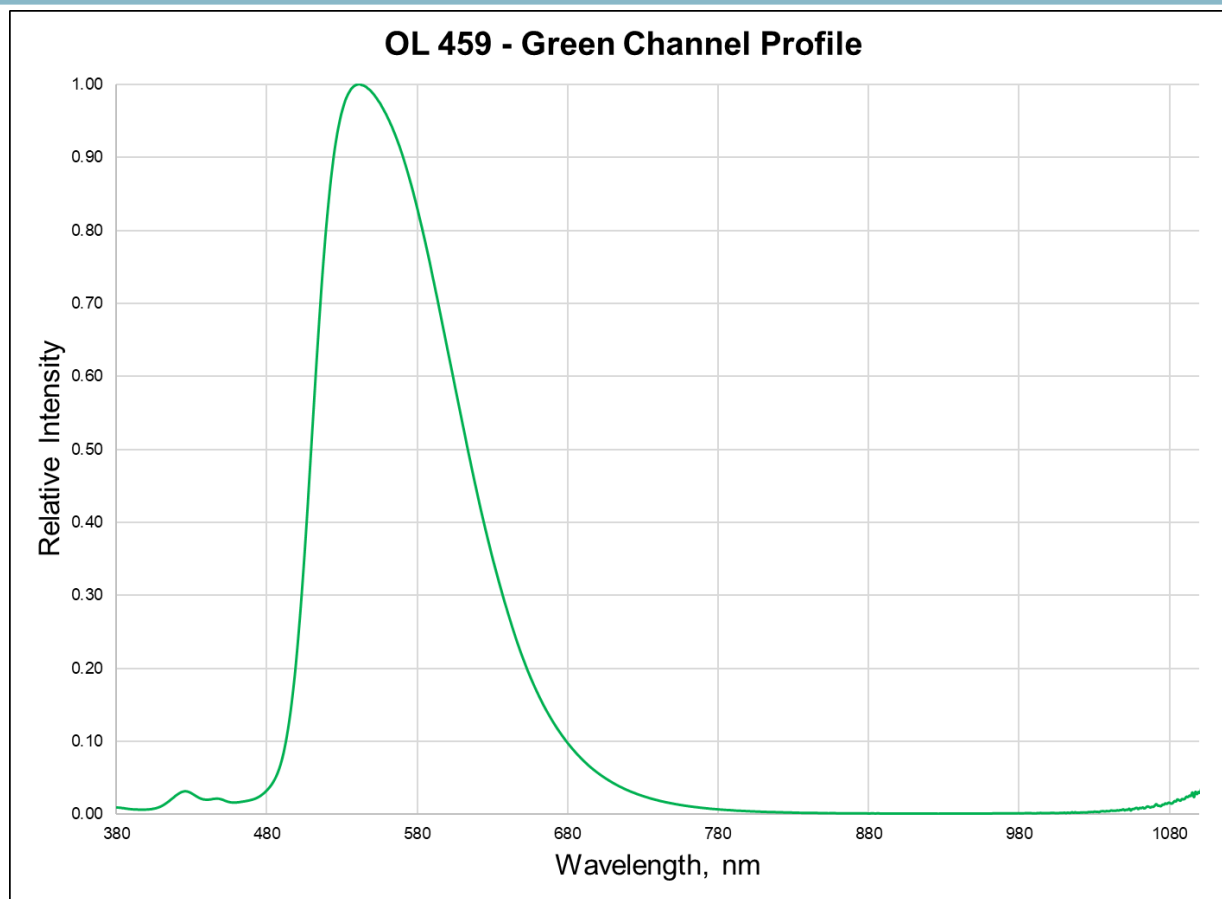


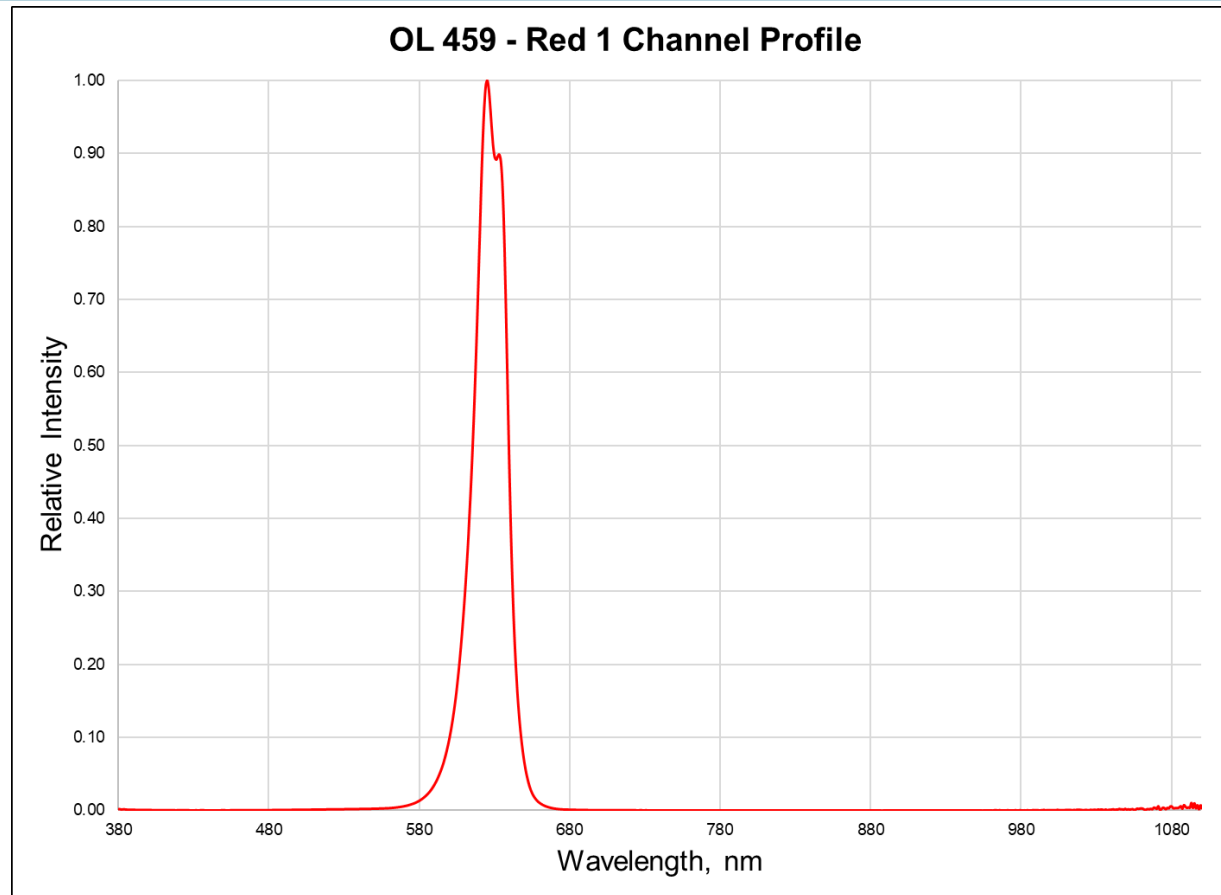
- LED-based source
- Application software provided
- 5 independently tunable channels
- Built-in monitor detector
- High spatial uniformity
- Internal hour meter/tracker
- Remote control via USB

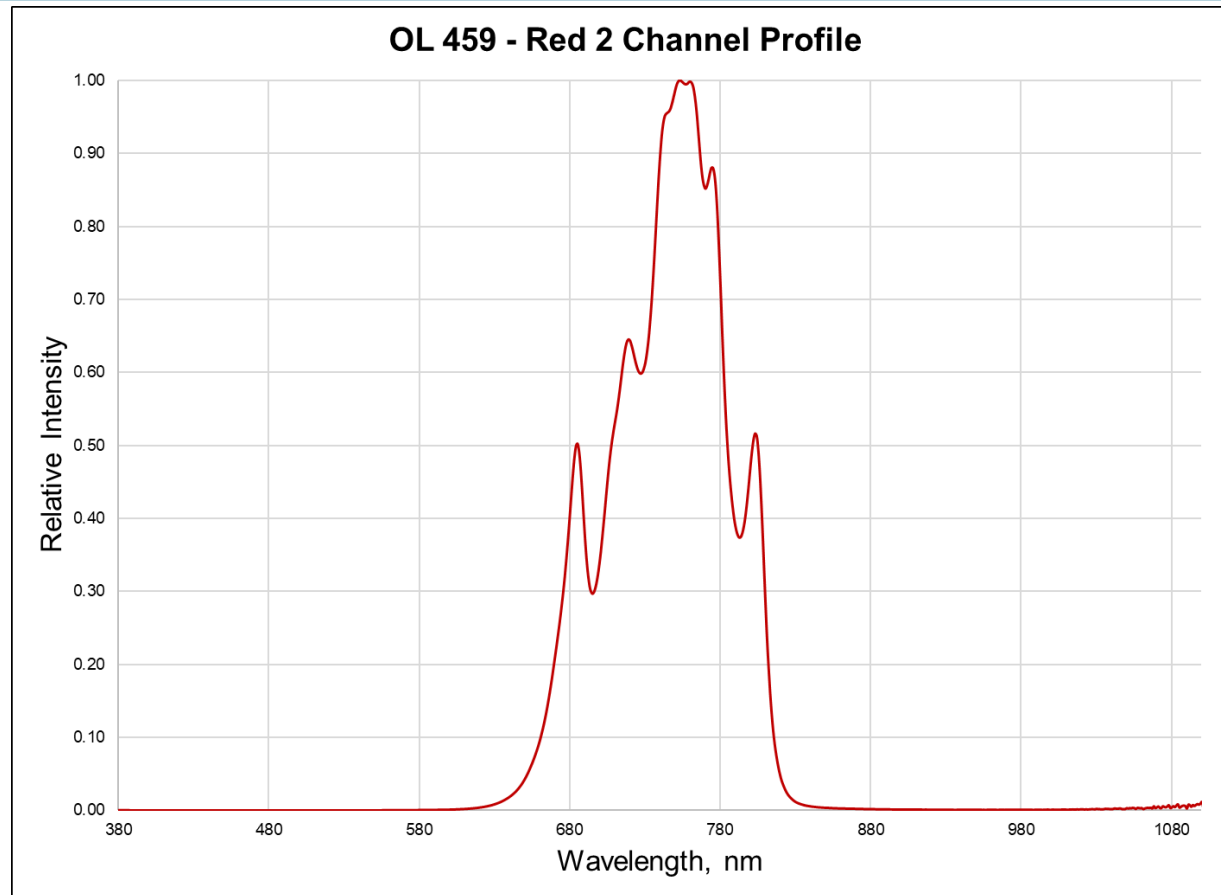


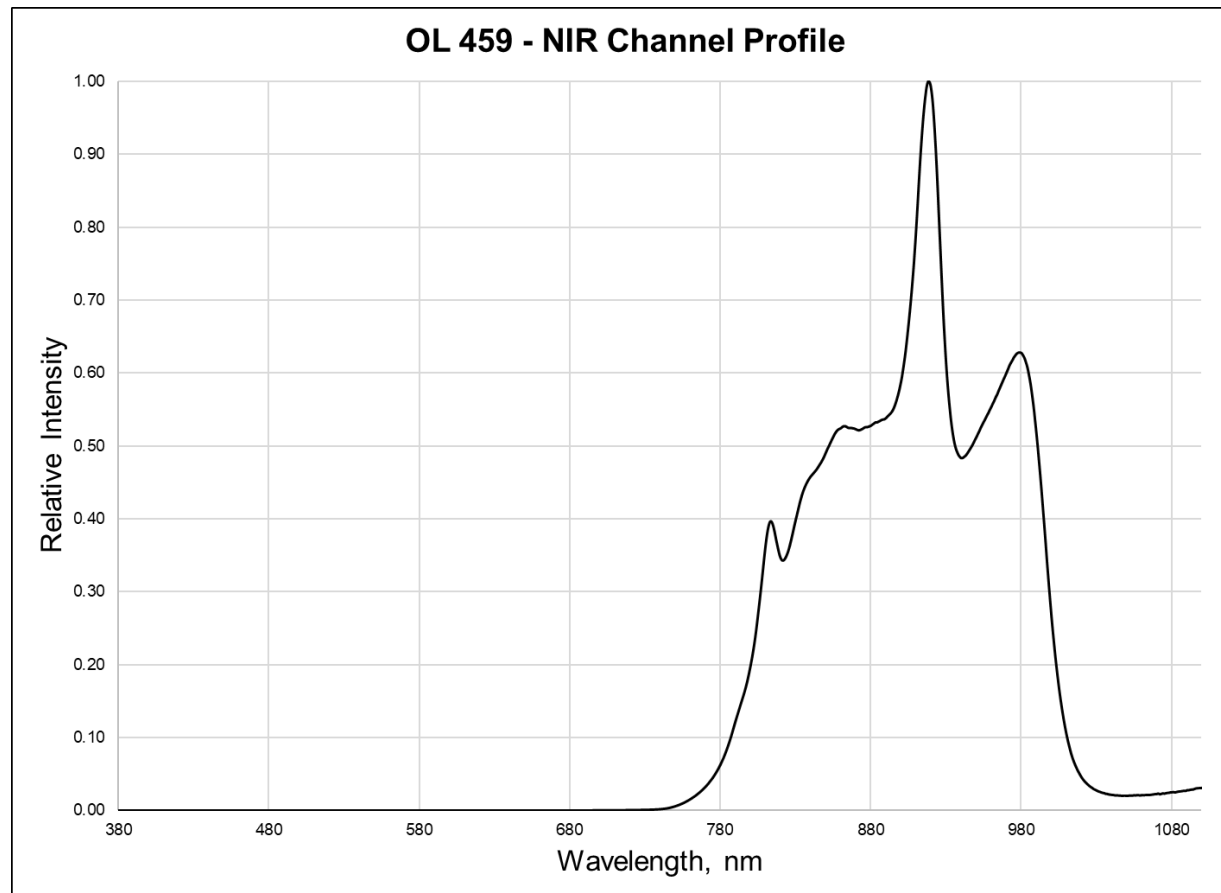


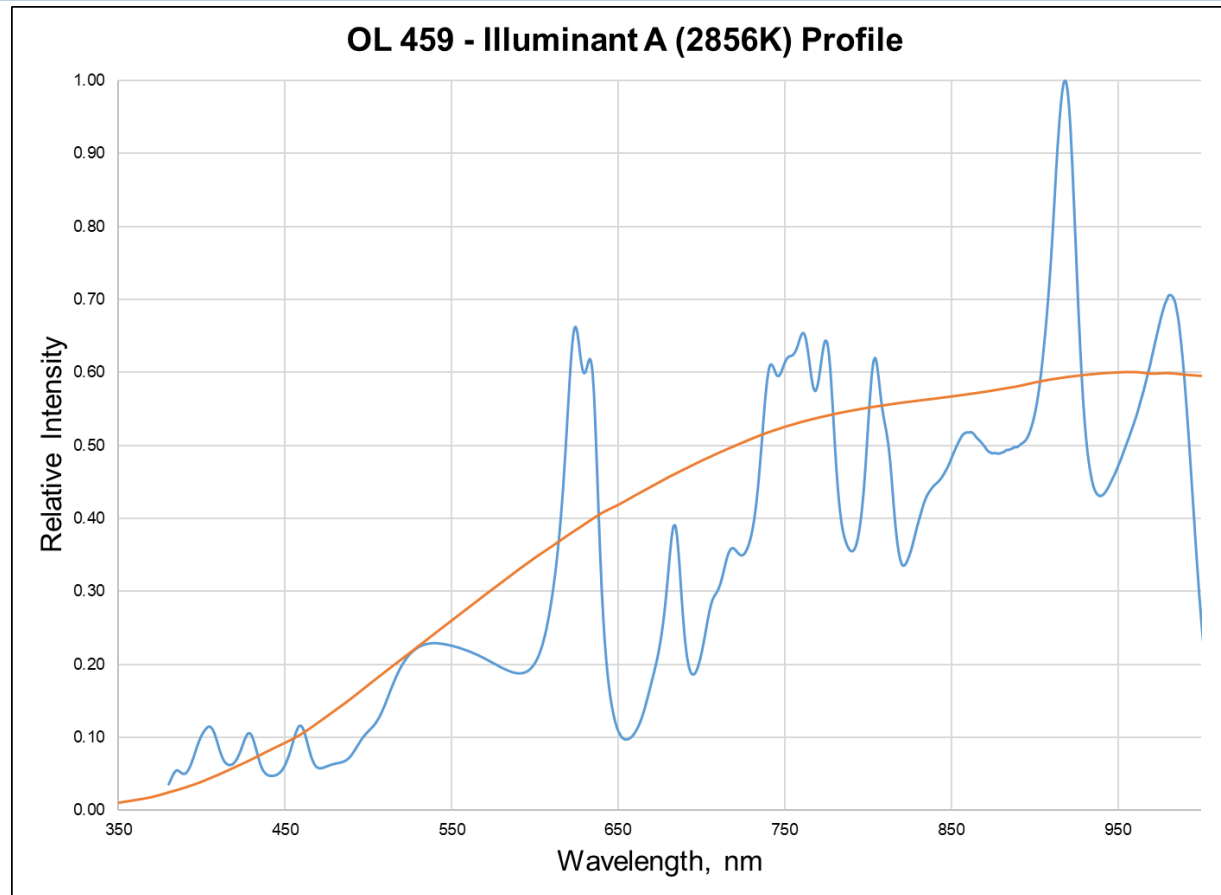


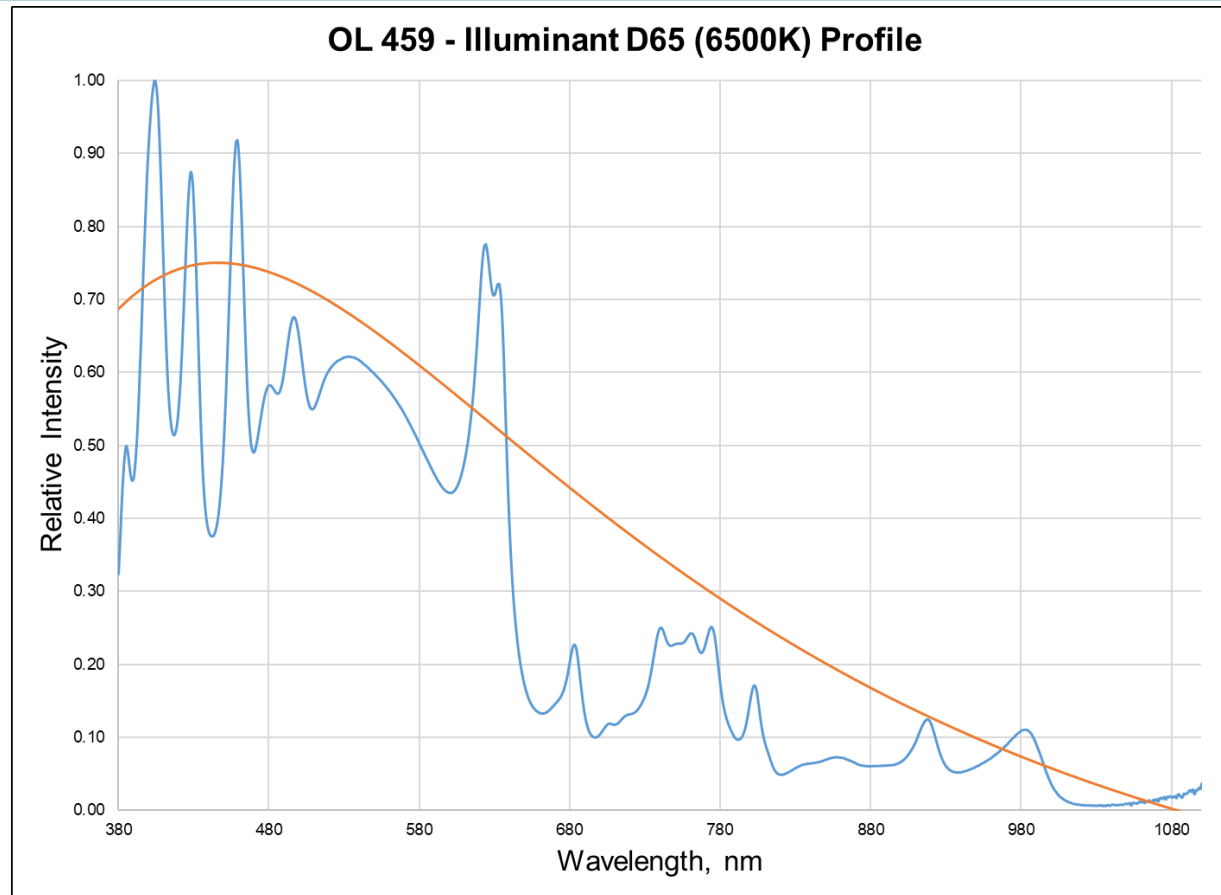












Sphere Size	6.0 inches (15.2 cm) Diameter
Exit Port Aperture Size Diameter	1.50 inches (38.1 mm)
Sphere Coating Reflectance	>98 % Reflectivity
Wavelength Range	400 nm to 1000 nm
Sphere Luminance Monitor (Built-In)	Silicon detector with filtered CIE photopic response
Uniformity	± 1%
Operating Temperature	41° F to 104° F (5° C to 40° C)
Source Power Input	48 VDC, 5.8 Amps
AC Power Input Communications Interface	100-240 VAC, 50/60 Hz, 4.5 A USB
Dimensions	11" L x 7.5" W x 9.75" H
Weight	13.5 lbs (5.7 kg)

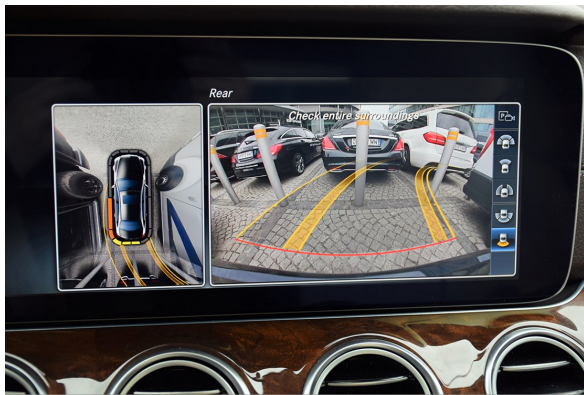


- Reliable Performance
 - Luminance stability: $\pm 0.5\%$
- Wide range of LEDs for customization of spectral profiles
- Suited for method or product development and routine calibration of inspection instruments at mass production facilities
 - Weight: 13.5 lbs
 - Dimensions 11" L x 7.5" W x 9.75" H

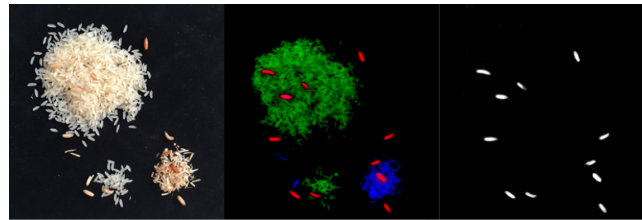


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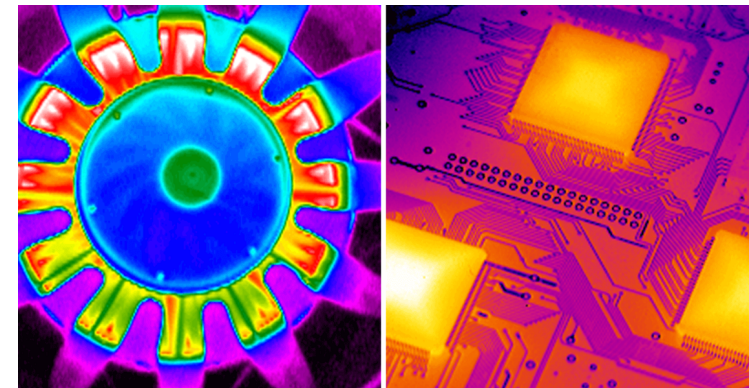
Applications



<https://www.whichcar.com.au/car-advice/360-degree-parking-monitors-explained>



<https://www.sortexgroup.com/color-sorter/>

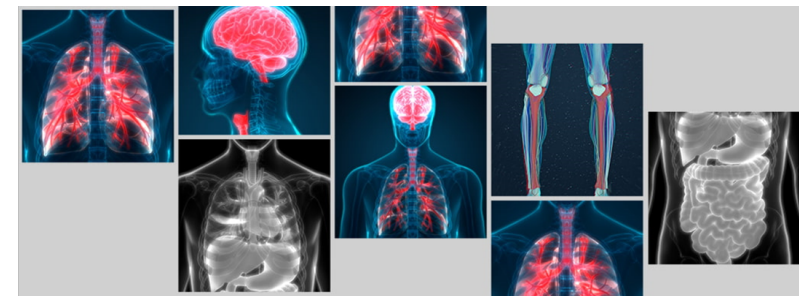


<https://www.flir.com/discover/rd-science/7-things-to-know-when-selecting-an-ir-camera-for-research-development/>

- Camera and image sensor calibration
- Photodiode detector responsivity characterization
- Spectrum/Illuminant simulation
- Diagnostic medical imaging
- Technical and industrial photography



<https://www.colorimetryresearch.com/>



https://en.wikipedia.org/wiki/CIE_1960_color_space

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Other Calibration Options at OLI

Calibration Standards



Spectroradiometric
Workstations



Accessories



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