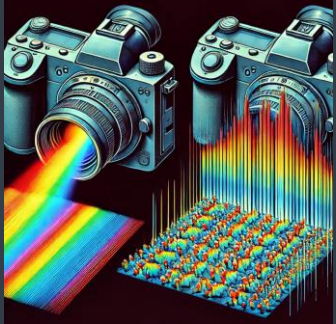


# Product guide Broadband LEDs

350 nm – 1100 nm



**Hyperspectral Imaging  
Spectroscopy**



**Agriculture  
Quality control**



**Medical research  
Tissue analysis**



**Fresh food  
illumination**

## Applications for Broadband conversion LEDs

- Hyperspectral imaging
- Spectroscopy
- Environmental monitoring
- Agriculture
- Mineral exploration
- Quality control
- Waste management
- Agriculture
- Medicine
- Food illumination
- Security

*Broadband conversion LEDs covering the 350nm to 1100nm range are essential in various fields, such as hyperspectral imaging, spectroscopy, and medical diagnostics, where broad spectral coverage is critical for detailed analysis. These LEDs are also used in environmental monitoring to detect pollutants, in material analysis to assess chemical properties, and in industrial inspection for quality control. Their ability to emit across UV, visible, and near-infrared wavelengths makes them versatile for numerous applications requiring comprehensive spectral data.*

## Agriculture

*Leaf analysis*

*Produce analysis*

Broadband LEDs are used in agriculture for leaf and produce analysis by detecting plant health indicators, such as chlorophyll content, water stress, ripeness, nutrient content and detect spoilage, enhancing food quality control. They allow precise monitoring of crop conditions, improving yield prediction and optimizing growth conditions.

### EPIGAP OSA Products:

[https://www.epigap-osa.com/datasheet/OCL-480\\_XE428-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_XE428-XD.pdf)

[https://www.epigap-osa.com/datasheet/OCL-480\\_GIR-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_GIR-XD.pdf)

[https://www.epigap-osa.com/datasheet/OCL-480\\_XE650BR-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_XE650BR-XD.pdf)



## Medical

*Tissue analysis*

*Protein characterization*

In medical applications, broadband LEDs enable tissue analysis by providing the necessary spectral range to examine tissue properties and detect abnormalities such as cancer or inflammation. For protein characterization, they help identify protein structures and interactions by emitting specific wavelengths that interact with biomolecules, aiding in disease diagnosis and drug development.

### EPIGAP OSA Products:

[https://www.epigap-osa.com/datasheet/OLS-330\\_MW.pdf](https://www.epigap-osa.com/datasheet/OLS-330_MW.pdf)

[https://www.epigap-osa.com/datasheet/OCL-480\\_XE428-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_XE428-XD.pdf)



## Spectroscopy

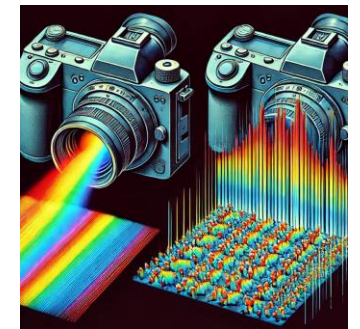
*Alternative to xenon or halogen light sources*

In spectroscopy, broadband LEDs serve as an alternative to xenon or halogen light sources by offering similar spectral coverage but with greater energy efficiency and longer lifespans. They provide a stable light source for analysing the chemical composition of materials, detecting pollutants, or identifying substances, making them valuable in both research and industrial applications.

### EPIGAP OSA Products:

[https://www.epigap-osa.com/datasheet/OCL-490-20\\_GE565-XE.pdf](https://www.epigap-osa.com/datasheet/OCL-490-20_GE565-XE.pdf)

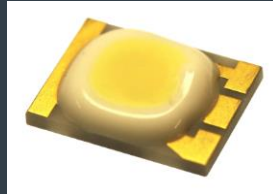
[https://www.epigap-osa.com/datasheet/OCL-490-20\\_W4K-XG.pdf](https://www.epigap-osa.com/datasheet/OCL-490-20_W4K-XG.pdf)



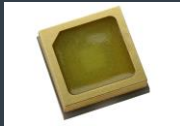
## High power LEDs



Series 490



Series 480



Series 450

Series	λ (nm)	PN	Output (mW/sr)	Output (mcd)	Test Current	Lens	View Angle	Datasheet:
490	450-650	OCL-490-20_GE565	500mW/sr		350 mA	Lens	20	<a href="https://www.epigap-osa.com/datasheet/OCL-490-20_GE565-XE.pdf">https://www.epigap-osa.com/datasheet/OCL-490-20_GE565-XE.pdf</a>
490	420-670	OCL-490-20_W4K		450000 mcd	350 mA	Lens	20	<a href="https://www.epigap-osa.com/datasheet/OCL-490-20_W4K-XG.pdf">https://www.epigap-osa.com/datasheet/OCL-490-20_W4K-XG.pdf</a>
480	360-470	OCL-480_XE428	37 mW/sr		350 mA	Glob	120	<a href="https://www.epigap-osa.com/datasheet/OCL-480_XE428-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-480_XE428-XD.pdf</a>
480	420-1100	OCL-480_GIR	95 mW/sr	12000 mcd	350 mA	Glob	120	<a href="https://www.epigap-osa.com/datasheet/OCL-480_GIR-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-480_GIR-XD.pdf</a>
480	500-800	OCL-480_XE650BR	50 mW/sr		350 mA	Glob	120	<a href="https://www.epigap-osa.com/datasheet/OCL-480_XE650BR-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-480_XE650BR-XD.pdf</a>
450	370-470	OCL-450_XE428	37 mW/sr		350 mA	Flat	120	<a href="https://www.epigap-osa.com/datasheet/OCL-450_XE428.pdf">https://www.epigap-osa.com/datasheet/OCL-450_XE428.pdf</a>
480	420-1100	OCL-450_GIR	55 mW/sr	7500 mcd	350 mA	Flat	120	<a href="https://www.epigap-osa.com/datasheet/OCL-450_GIR-X.pdf">https://www.epigap-osa.com/datasheet/OCL-450_GIR-X.pdf</a>

## Standard SMD LEDs

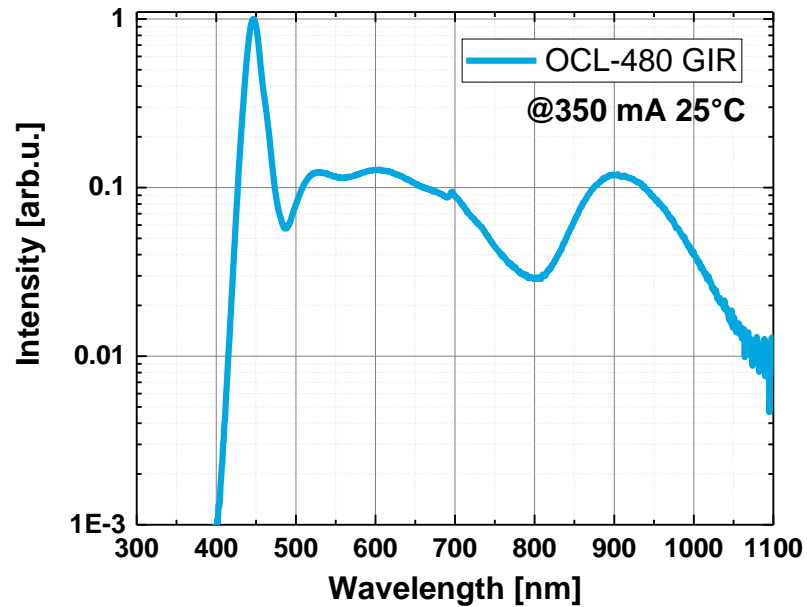


Series 330

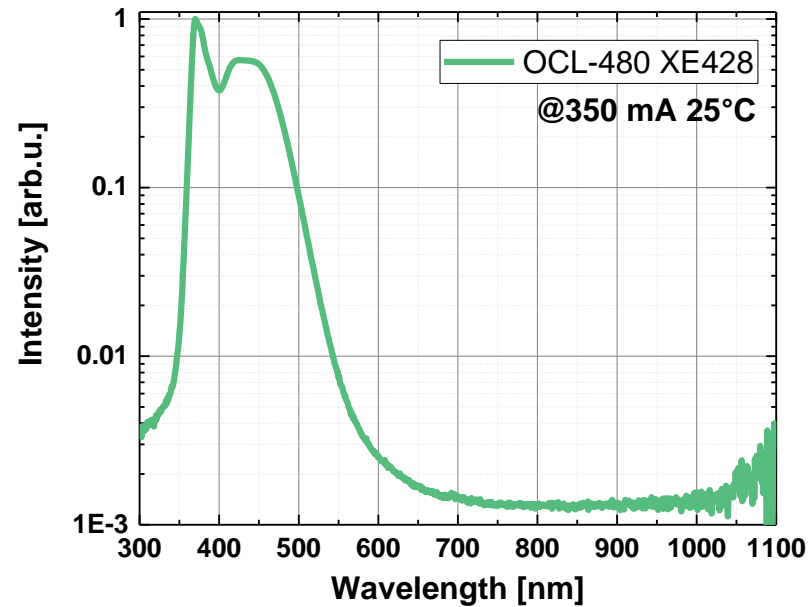


Series 400

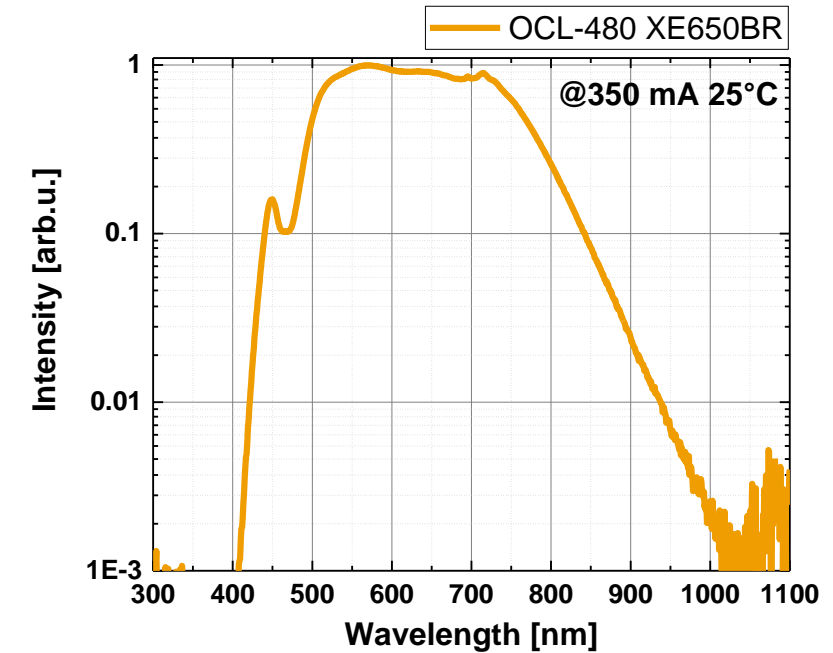
Series	λ (nm)	PN	Output (mW/sr)	Output (mcd)	Test Current	Lens	View Angle	Datasheet:
330	white	OLS-330_MW		1200 mcd	20 mA	Lens	40	<a href="https://www.epigap-osa.com/datasheet/OLS-330_MW.pdf">https://www.epigap-osa.com/datasheet/OLS-330_MW.pdf</a>
400	cool white	OCL-400_OWT		350 mcd	20 mA	Flat	120	<a href="https://www.epigap-osa.com/datasheet/OCL-400_OWT-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-400_OWT-XD.pdf</a>
400	cool white	OCL-400_SW		500 mcd	20 mA	Flat	120	<a href="https://www.epigap-osa.com/datasheet/OCL-400_SW-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-400_SW-XD.pdf</a>
400	warm white	OCL-400_SWW		650 mcd	20 mA	Flat	120	<a href="https://www.epigap-osa.com/datasheet/OCL-400_SWW-XD.pdf">https://www.epigap-osa.com/datasheet/OCL-400_SWW-XD.pdf</a>



[https://www.epigap-osa.com/datasheet/OCL-480\\_GIR-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_GIR-XD.pdf)



[https://www.epigap-osa.com/datasheet/OCL-480\\_XE428-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_XE428-XD.pdf)

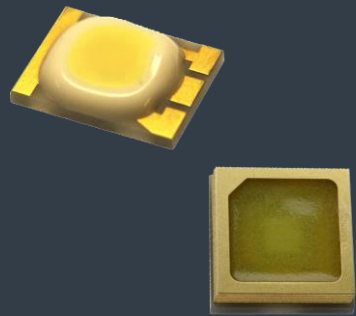


[https://www.epigap-osa.com/datasheet/OCL-480\\_XE650BR-XD.pdf](https://www.epigap-osa.com/datasheet/OCL-480_XE650BR-XD.pdf)

Broadband conversion LEDs have very stable emission spectra over a wide range of temperatures and currents. Request addition information at: [sales@epigap-osa.de](mailto:sales@epigap-osa.de)

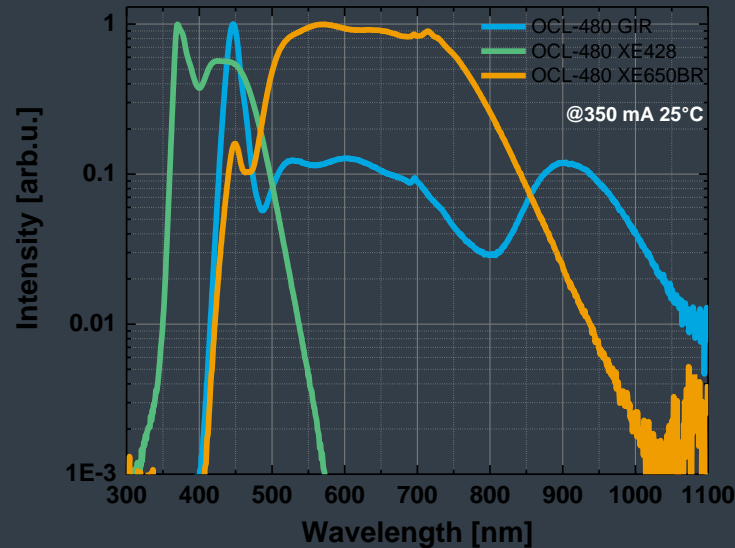
## Two options for creating a multi-wavelength light source

### Single Broadband LED



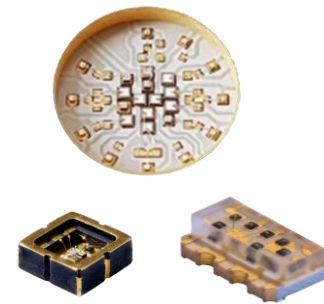
#### Single SMD LED:

- Small footprint
- Continuous spectrum
- Temperature stability
- Simpler manufacturing



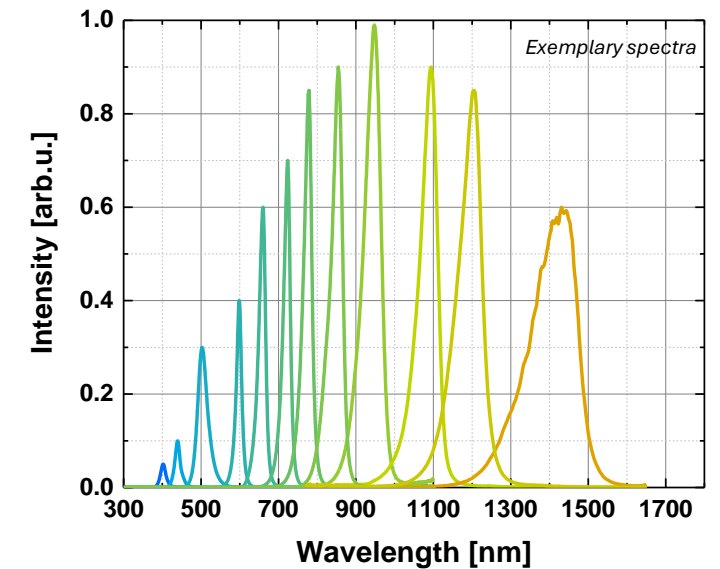
Single Broadband LED is preferred for simpler, cost-effective solutions covering broad continuous spectra.

### LED Module with Multiple LEDs



#### Multi-Chip LED Matrix:

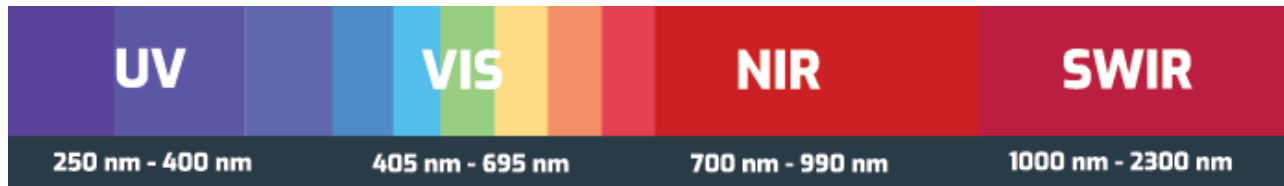
- Higher efficiency
- Better control over the spectra
- Wider spectral range
- Larger footprint



LED Module with Multiple LEDs is preferred for applications requiring precise control over specific wavelengths and a wider, more detailed spectral range.

Both options are available at EPIGAP OSA!

**EPIGAP OSA has a broad portfolio of LED from UV-C to SWIR**



## **Unique capability of EPIGAP-OSA:**

- Flexibility on SMD forms and lenses
- Rapid prototyping
- Exact binning and pre-selection (*Output power, Wavelength, View Angle*)
- Long-Term Stability of performance and supply availability
- Multi-Chip COB assemblies