

## Datasheet

### **LuxaLight Industrial LED Fixture Opaline cover Near Infrared 860nm 24.2x16mm (24 Volt, 2835, IP64)**

**LF-24-860-24.2X16-OC**

**Version: 2025-08-27.2**

## Product description

The LuxaLight Industrial LED Fixture **Opaline Cover Near Infrared 860 nm** (24.2 × 16 mm) provides **uniform, diffused NIR illumination**. The opaline PMMA diffuser eliminates glare and hotspots, creating a smooth field of near-infrared light. With modular scalability (220 mm up to 3000 mm) and full compatibility with the **MaNima Pollux Industrial System**, this fixture is especially suited for machine vision, imaging, biomedical research, and optical calibration.

## Key Specifications

Property	Value / Description
Wavelength	Near Infrared 860 nm (peak ~852 nm)
Irradiance (5 cm)	~345 W/m <sup>2</sup> (Total); ~8.03 W/m <sup>2</sup> (Peak)
Illuminance (5 cm)	N/A (non-visible spectrum)
Cover	Opaline PMMA for diffused, homogeneous emission
Beam angle	120°
Dimensions	220 × 24.2 × 16 mm (fixture profile)
Supply & Protection	24 V DC / ~30 W, integrated NTC sensor, IP64
Electronics (ref.)	24 V, 1.25 A; NTC 5 kΩ, β = 3950
Environmental rating	IP64; operating -20 °C...+60 °C; storage -40 °C...+80 °C

## Applications

- **Machine vision & industrial inspection** – diffuse 860 nm light enhances sensor performance for material, surface, and quality control.
- **Hyperspectral and NIR imaging** – homogeneous NIR field ideal for analysis of food, plastics, textiles, and biological samples.
- **Biomedical & photobiological research** – used for studies of tissue interaction, blood flow, and absorption properties.
- **Moisture and defect detection** – diffuse NIR improves contrast for hidden flaws or contamination in imaging systems.
- **Optical calibration setups** – uniform NIR illumination for laboratory reference and sensor calibration.

*Also applicable in R&D and specialized lighting setups.*

## Benefits for Engineers

- Uniform NIR output minimizes artifacts in imaging and measurements.
- Modular, scalable design adapts to various system requirements.
- Rugged IP64-rated construction with opaline diffuser for industrial durability.
- Integrates seamlessly with MaNima Pollux for real-time monitoring and pulse operation.
- Plug-and-play functionality for production environments and laboratories.

## Integration with MaNima Pollux Industrial System

- Real-time NTC sensor monitoring for thermal safety.
- Pulse/strobe operation for higher peak intensities.
- Thermal regulation protects LEDs and ensures stable performance.
- PLC/SCADA-compatible data for automation systems.
- Open UDP-based API for custom integration.

## Technical specifications

General		
Brand	LuxaLight	
Application	Hyper - spectral Imaging Machine Vision	
LED type	2835	
Material	Aluminum	
Dimensions	220 × 24,2 × 16 mm	
Mounting	Surface mounted	
Cover type	PMMA opal	
LEDs per piece	108.00	
Lighting		
Wave length	860nm	
Beam angle	120 °	
Measurement results		
Peak wavelength (Object size: 1 piece)	799 nm	
Peak irradiance (Object size: 1 piece)		24V
	5cm	0.48 W/sqm
	10cm	0.2 W/sqm
	15cm	0.1 W/sqm
	20cm	0.06 W/sqm
	25cm	0.04 W/sqm
	30cm	0.03 W/sqm
Total irradiance (Object size: 1 piece)		24V
	5cm	279.69 W/sqm
	10cm	112.59 W/sqm
	15cm	57.4 W/sqm
	20cm	35.04 W/sqm
	25cm	23.26 W/sqm
	30cm	17.37 W/sqm
<div>• By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.</div> <div>• We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.</div>		
Electronics		
Working voltage	24V	
Current per piece	1.25 A / piece	
Power consumption per piece	30.00 W / piece	
PCB material	Aluminium	

Pinout

Symbol	Function
V+	V+
GND	Ground
NTC	NTC sensor
NTC_GND	NTC ground

NTC parameters	Resistance: 5000 Ohm Beta value: 3950
----------------	--

## Environmental

Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

## Directives - standards - certificates

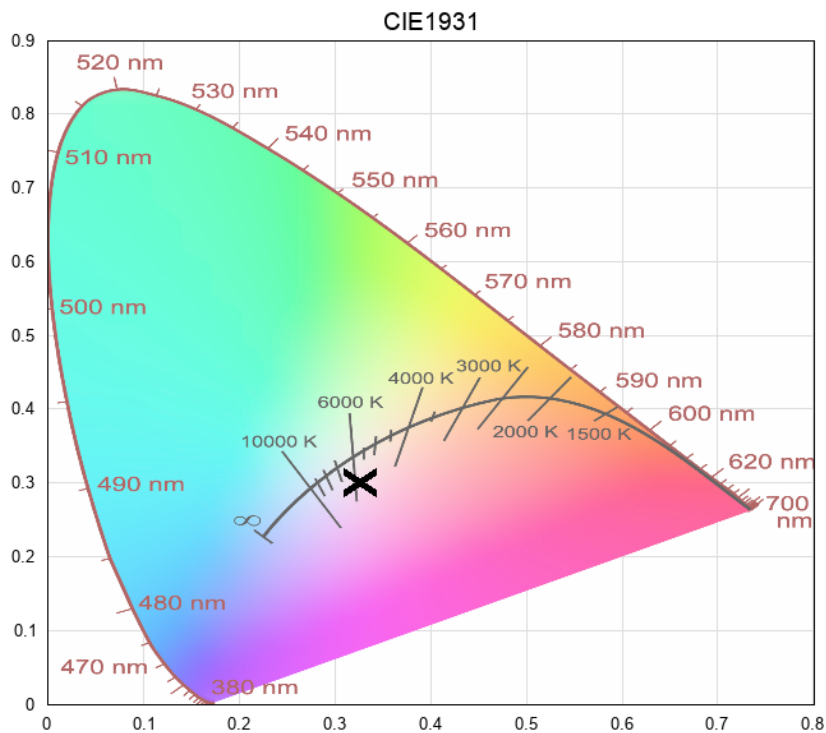
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

## Measurement results

### irradiance - 800-nir (24V)



## cie1931



While LuxaLight has made every reasonable effort to ensure the accuracy of the information in this brochure, LuxaLight does not guarantee that it is error - free, nor does LuxaLight make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. LuxaLight reserves the right to make any adjustments to the information contained herein at any time without notice. LuxaLight expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalogue are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult LuxaLight for the latest dimensions and design specifications.