

Datasheet

LuxaLight Industrial LED Fixture Opaline cover Near Infrared 960nm 24.2x16mm (24 Volt, 2835, IP64)

LF-24-960-24.2X16-OC

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Product description

The **LuxaLight Industrial LED Fixture Opaline Cover Near Infrared 960 nm** is an industrial-grade LED fixture housed in a 24.2 × 16 mm aluminum profile with a **PMMA opaline cover**. The opaline optic ensures **diffuse, uniform NIR illumination**, essential for sensor-based and imaging applications where glare-free invisible light is required. With **IP64 protection, 24 V DC (~30 W)** and an integrated **NTC sensor**, the fixture is optimized for indoor and sheltered industrial environments. The **MaNima Pollux Industrial System** enables pulsing, real-time temperature monitoring, and automation.

Key Specifications

Property	Value / Description
Wavelength	960 nm Near Infrared (NIR, invisible to the eye)
Output	High radiant intensity; uniform through opaline cover
Cover	PMMA opaline (diffuse, glare-reduced)
LED Type / Protection	2835 LEDs; IP64 dust- and splashproof
Beam Angle	120° (diffused by opaline cover)
Voltage / Power	24 V DC (~30 W per fixture)
Thermal Monitoring	Integrated NTC sensor, compatible with Pollux
Design	Modular & scalable, 220–3000 mm
Dimensions	24.2 × 16 mm profile fixture
Operating Environment	Indoor/sheltered industrial (–20...+60 °C)

Opaline Cover – Engineering Notes

- **Uniform NIR emission** without hotspots
- **Glare-free** lighting for imaging and sensor stability
- **Non-moulded IP64 design** – dust- and splashproof (not immersion-proof)
- Aluminum profile ensures **durability and heat management**

Applications

- **Industrial Quality Control & Machine Vision** – Invisible NIR light enhances subsurface defect detection, packaging inspection, and process monitoring without visible glare
- **Sensor-Based Process Monitoring & Safety** – Supports proximity sensors, optical encoders, and IR-based safety interlocks on industrial lines
- **Medical Diagnostics & Patient Monitoring** – Widely used in pulse oximeters and NIR spectroscopy for non-invasive tissue monitoring
- **Deep Tissue Therapy & Photobiomodulation** – 960 nm penetrates deeper than visible/red light, aiding wound healing, circulation, and anti-inflammatory treatments
- **Scientific & Environmental Research** – Stable NIR source for biological imaging, spectroscopy, and lab-based optical systems

Also applicable in optical bonding and advanced R&D environments.

Benefits for Engineers

- **Invisible NIR output** – discreet and sensor-optimized
- **IP64 protection** – dust- and splash-resistant

- **Diffuse, uniform illumination** – no glare or hotspots
 - **NTC monitoring** – for safety and longevity
 - **Automation-ready** – seamless integration with Pollux, PLC, and SCADA
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Integration with MaNima Pollux System

- Real-time NTC temperature monitoring
- Pulsing/strobing for irradiance control
- Thermal overload protection
- PLC/SCADA compatibility
- **Open API (UDP-based)** for advanced automation

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	960nm
Beam angle	120 °

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	115.7 lx
10cm	28.39 lx
15cm	8.01 lx
20cm	6.11 lx
25cm	3.61 lx
30cm	2.82 lx

Total PPFD umol/m2 (PAR 400-700nm)
(Object size: 1 piece)

	24V
5cm	2.19 umol/m2
10cm	0.54 umol/m2
15cm	0.15 umol/m2
20cm	0.11 umol/m2
25cm	0.07 umol/m2
30cm	0.06 umol/m2

Peak wavelength
(Object size: 1 piece)

963 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	5.99 W/sqm
10cm	2.23 W/sqm
15cm	1.15 W/sqm
20cm	0.71 W/sqm
25cm	0.47 W/sqm
30cm	0.36 W/sqm

Total irradiance

(Object size: 1 piece)

	24V
5cm	298.3 W/sqm
10cm	111.44 W/sqm
15cm	57.44 W/sqm
20cm	35.53 W/sqm
25cm	23.78 W/sqm
30cm	17.94 W/sqm

- By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.
- We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.

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
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Environmental

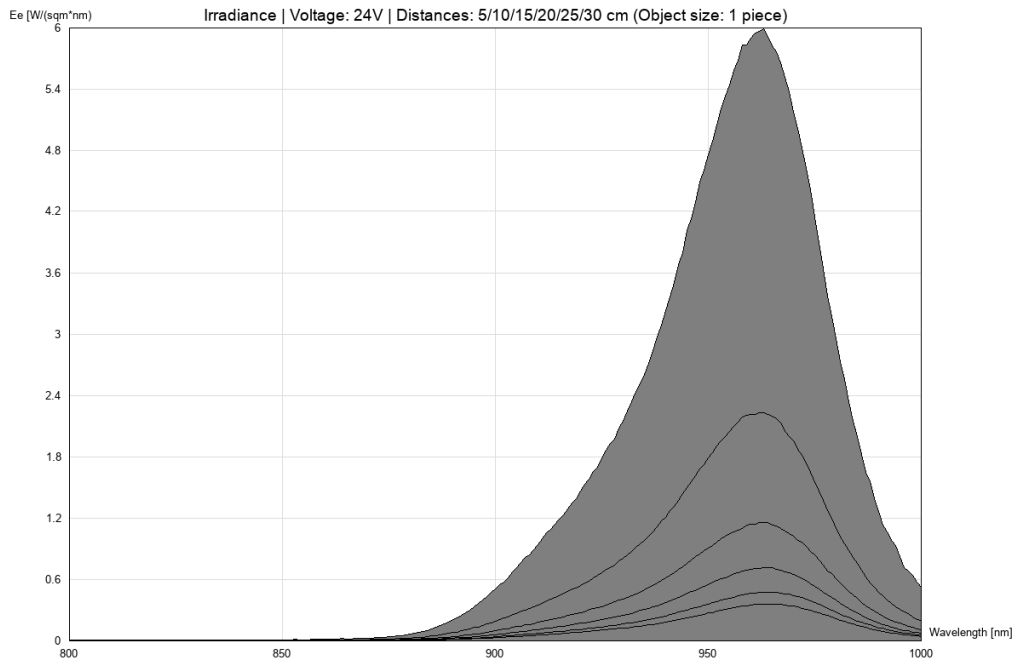
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

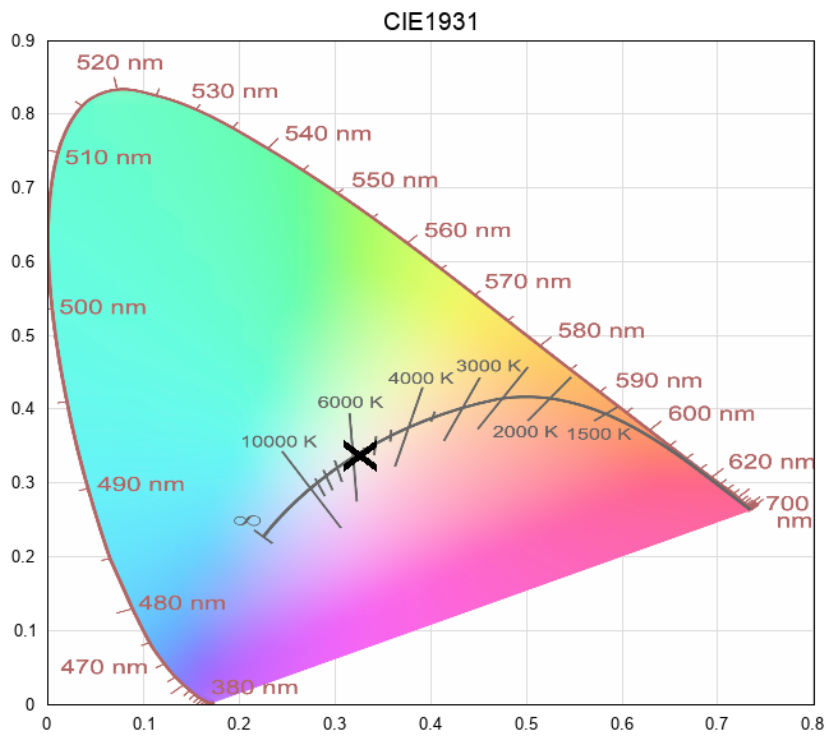
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 800-nir (24V)



cie1931



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