

Datasheet

LuxaLight Industrial LED Fixture Transparent IP68 Near Infrared 860nm 24.2x16mm (24 Volt, 2835, IP68)

LF-24-860-24.2x16-PU

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Product description

The **LuxaLight Industrial LED Fixture Transparent IP68 Near Infrared (NIR) 860 nm (24.2 × 16 mm, 2835 LEDs)** is a fully encapsulated, polyurethane-moulded LED fixture engineered for the most demanding environments. With **IP68-rated housing**, it provides invisible NIR illumination ideal for machine vision, sensing, and covert lighting. Full integration with the **MaNima Pollux Industrial System** ensures precision control, stability, and seamless automation compatibility.

Key Specifications

Property	Value / Description
Wavelength	860 nm near-infrared (invisible to the human eye)
Irradiance Output	~441 W/m ² @ 5 cm; ~139 W/m ² @ 10 cm; ~66 W/m ² @ 15 cm
Cover	Fully moulded transparent polyurethane encapsulation
LED Type / Protection	2835 LEDs; IP68 encapsulated (dust- and waterproof)
Beam Angle	120°
Voltage / Power	24 V DC (~30 W per fixture)
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux
Design	Modular & scalable, 220–3000 mm
Dimensions	24.2 × 16 mm fixture profile
Operating Environment	Outdoor, submerged, marine, industrial (–20...+60 °C)

IP68 Moulded Design – Fully Encapsulated Housing

This fixture is **completely encapsulated in transparent polyurethane**, offering:

- **IP68 waterproofing** – suitable for submerged or wash-down environments
- **IK10 robustness** – resistant to impact and vibration
- **Stable invisible output** – glare-free, consistent NIR illumination
- **Maintenance-free** – sealed against dust, moisture, and contaminants
- **Long-term reliability** – electronics protected from harsh environments
- **Designed for extremes** – marine, outdoor, food & pharma, and industrial setups

Applications

- **Machine Vision & Quality Inspection** – invisible NIR lighting enhances defect detection on reflective or moist surfaces
- **Surveillance & Security Systems** – covert illumination for monitoring in dark or sensitive environments
- **Spectral & Hyperspectral Imaging** – robust NIR source for advanced material analysis and imaging systems
- **Biometric Sensing & Automation** – supports NIR-based applications like iris scanning, gesture recognition, and presence detection
- **Fiber Optic & Sensor Systems** – reliable NIR source for optical communication and monitoring in sealed environments
- **Outdoor & Privacy Lighting** – discrete illumination where visible light is undesirable

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

Benefits for Engineers

- **IP68 polyurethane housing** – waterproof, dustproof, maintenance-free
 - **Invisible NIR illumination** – supports covert and non-intrusive applications
 - **High output stability** – reliable irradiance for industrial and research needs
 - **Extended service life** – resistant to moisture, corrosion, and mechanical stress
 - **Scalable modular design** – flexible lengths up to 3 m
 - **Automation-ready** – seamless integration with Pollux, PLC, and SCADA systems
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Integration with MaNima Pollux Industrial System

- Real-time NTC temperature monitoring
- Pulsing/strobing for enhanced peak output
- Thermal overload protection for continuous use
- 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	Polyurethane
LEDs per piece	108.00

Lighting

Wave length	860nm
Beam angle	120 °

Measurement results

Peak wavelength (Object size: 1 piece)	800 nm
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Peak irradiance
(Object size: 1 piece)

	24V
5cm	0.88 W/sqm
10cm	0.29 W/sqm
15cm	0.13 W/sqm
20cm	0.08 W/sqm
25cm	0.05 W/sqm
30cm	0.04 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	441 W/sqm
10cm	138.8 W/sqm
15cm	66.22 W/sqm
20cm	39.09 W/sqm
25cm	25.17 W/sqm
30cm	18.35 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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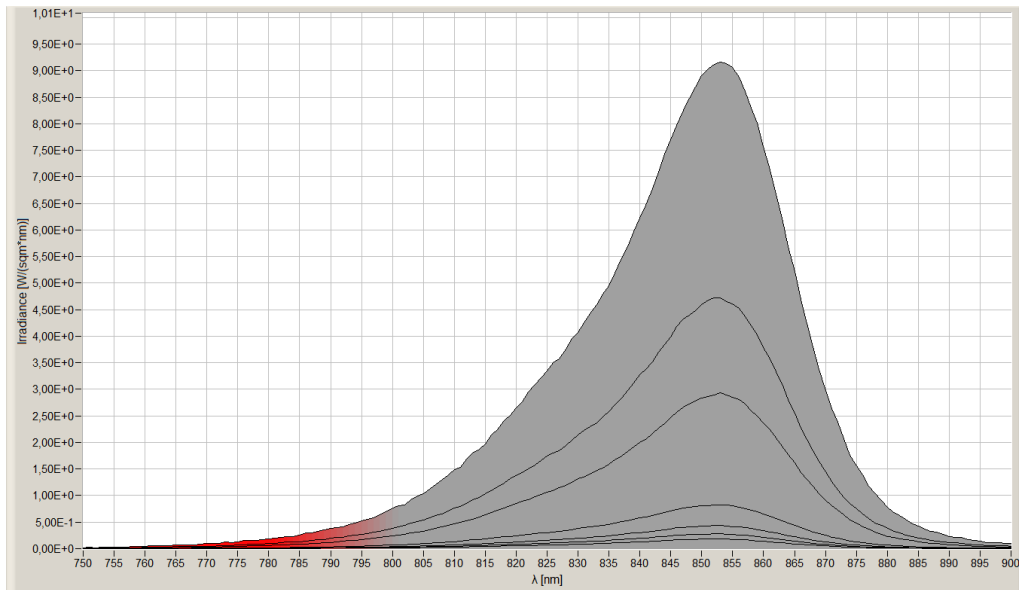
Environmental

Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 68

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

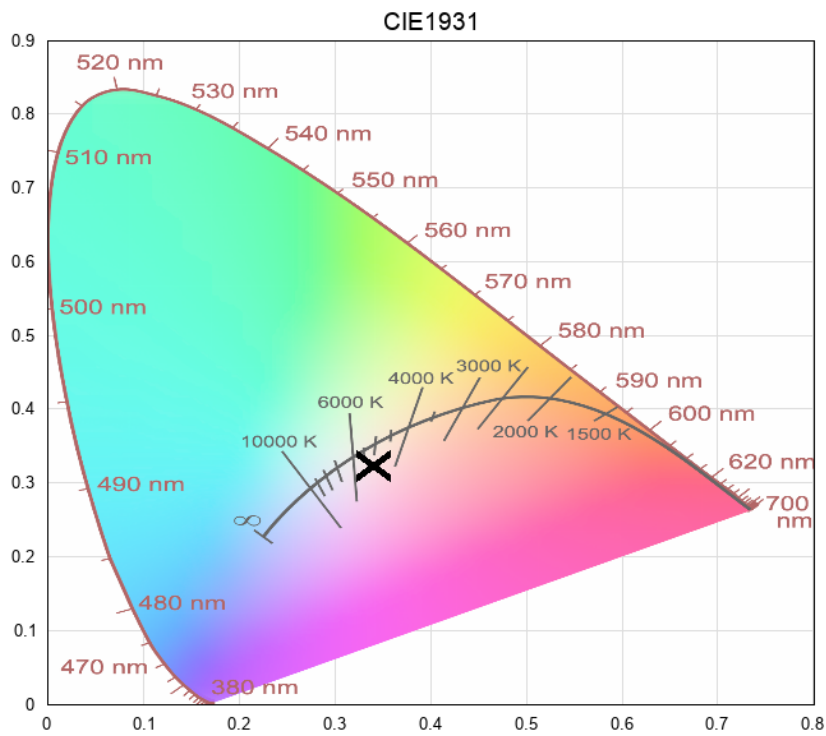
Measurement results



irradiance - 800-nir (24V)



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