

Datasheet

LuxaLight Industrial LED Fixture Transparent IP68 Near Infrared 960nm 24.2x16mm (24 Volt, 2835, IP68)

LF-24-960-24.2x16-PU

Version: 2025-08-26.1

Product description

The **LuxaLight Industrial LED Fixture Transparent IP68 Near Infrared (NIR) 960 nm (24.2 × 16 mm, 2835 LEDs)** is a fully encapsulated, polyurethane-moulded LED fixture engineered for harsh environments. Its **IP68 housing** delivers invisible deep-NIR illumination ideal for medical, sensing, and covert industrial applications. Seamless integration with the **MaNima Pollux Industrial System** ensures precision, stability, and automation readiness.

Key Specifications

Property	Value / Description
Wavelength	960 nm near-infrared (invisible to the human eye)
Irradiance Output	~398 W/m ² @ 5 cm; ~124 W/m ² @ 10 cm; ~60 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

- **IP68 waterproofing** – ready for submerged or hygienic wash-down environments
- **IK10 robustness** – withstands vibration, shock, and mechanical stress
- **Invisible deep-NIR output** – glare-free and stable illumination
- **Maintenance-free** – sealed against dust, moisture, and contaminants
- **Extended reliability** – protected against chemicals and corrosion
- **Engineered for extremes** – marine, outdoor, pharma, and heavy industry

Applications

- **Medical & Photobiomodulation Systems** – 960 nm supports deep tissue penetration for therapeutic and diagnostic use
- **Industrial & Scientific Sensing** – NIR source for spectroscopy, moisture detection, and material analysis
- **Surveillance & Security** – invisible illumination for covert monitoring in rugged or outdoor environments
- **Machine Vision in Harsh Conditions** – improves contrast where visible light interferes, suitable for wet or dusty areas
- **Marine & Submerged Installations** – IP68 design ensures reliability in aquaculture, offshore, and underwater sensing
- **Food & Pharmaceutical Processing** – stable illumination in wash-down, hygiene-sensitive production zones

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

Benefits for Engineers

- **IP68 polyurethane housing** – waterproof, dustproof, maintenance-free
- **Deep-NIR illumination** – supports medical, sensing, and covert use cases
- **Stable output** – reliable irradiance for industrial and scientific needs
- **Long lifespan** – resistant to moisture, corrosion, and physical stress

- **Scalable design** – modular lengths up to 3 m
 - **Automation-ready** – Pollux, PLC, and SCADA compatible
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Integration with MaNima Pollux Industrial System

- Real-time NTC temperature monitoring
- Pulsing/strobing for enhanced irradiance
- Thermal overload protection for continuous operation
- PLC/SCADA integration
- **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	960nm	
Beam angle	120 °	
Measurement results		
Peak wavelength (Object size: 1 piece)	234 nm	
Peak irradiance (Object size: 1 piece)		24V
	5cm	0.26 W/sqm
	10cm	0.06 W/sqm
	15cm	0.03 W/sqm
	20cm	0.01 W/sqm
	25cm	0.01 W/sqm
	30cm	
Total irradiance (Object size: 1 piece)		24V
	5cm	417.2 W/sqm
	10cm	121.9 W/sqm
	15cm	57.88 W/sqm
	20cm	34.31 W/sqm
	25cm	22.38 W/sqm
	30cm	16.54 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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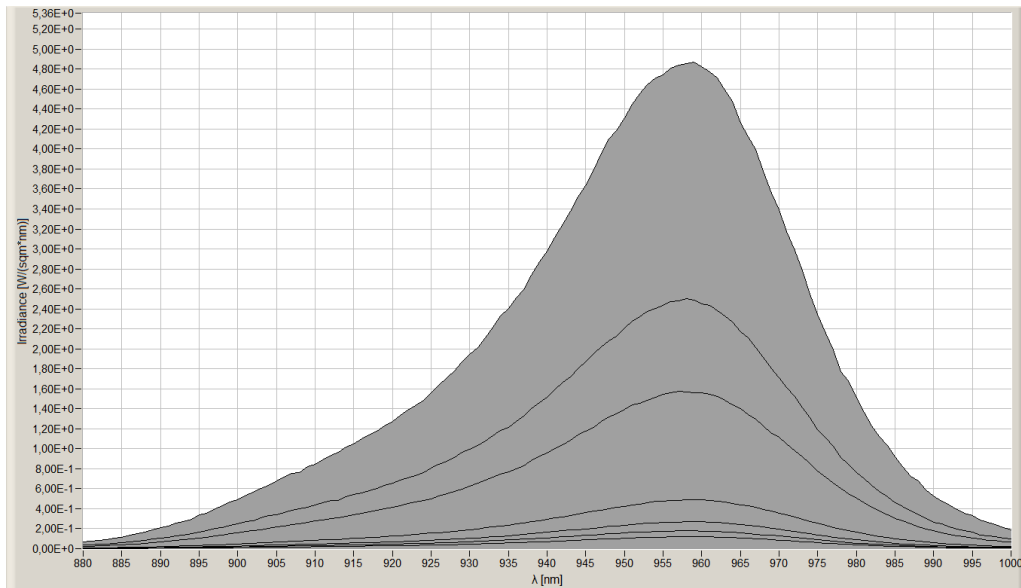
Environmental

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

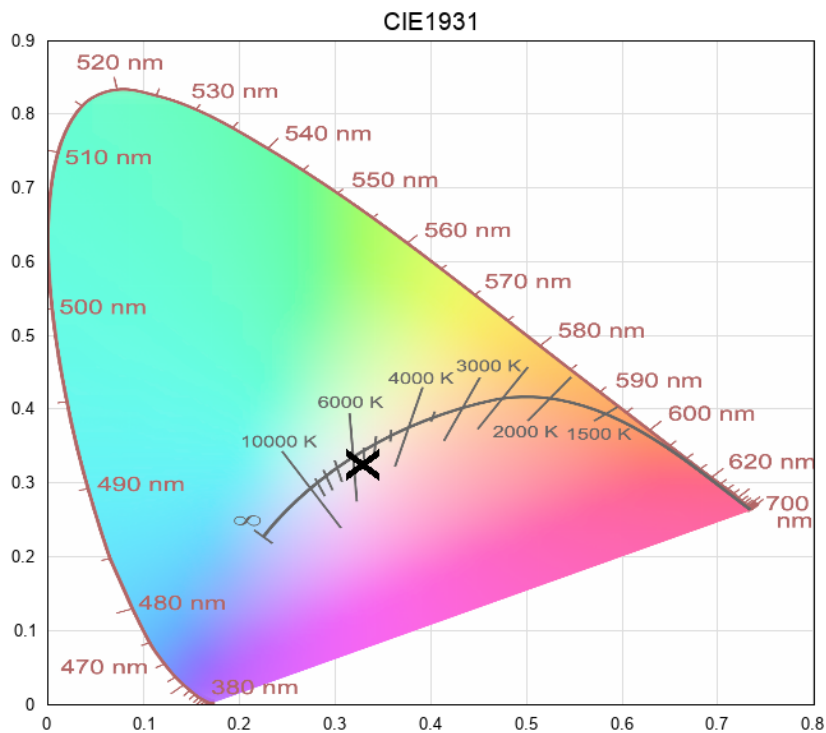
Measurement results



irradiance - 800-nir (24V)



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