Datasheet

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

LF-24-960-24.2x16-PU

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Product description

The **LuxaLight Industrial LED Fixture** is designed for intensive industrial applications that require high radiation intensity for a wide range of processes. With a **960nm near-infrared (NIR)** wavelength, this LED fixture offers a reliable and efficient solution for industrial processes benefiting from **near-infrared light**, such as material curing, quality control, and more.

Key Features:

- **960nm Near-Infrared (NIR) Wavelength:** The **960nm near-infrared wavelength** is ideal for industrial applications that require **near-infrared light**. It is especially effective for enhancing industrial processes like material curing, photochemical reactions, and quality control.
- **Transparent PU Coating:** The fixture is fully encapsulated in a transparent polyurethane (PU) coating, offering exceptional protection against moisture, dust, and other environmental factors. The transparent coating allows for optimal light transmission while safeguarding internal components.
- **IP68 Waterproof:** The PU coating ensures the fixture is fully waterproof according to the highest standard (IP68), making it suitable for use in outdoor and wet environments where exposure to water is common.
- **IK10 Impact Resistance:** The high mechanical strength of **IK10** ensures the fixture is resistant to physical impact, making it ideal for industrial environments that require robust and durable lighting solutions.
- **Integration with MaNima Pollux Industry Pulsing (Strobing):** The LED fixture supports integration with the MaNima Pollux Industry System for pulsing (strobing), which significantly increases radiation intensity. This feature enables faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor ensures continuous temperature measurement and adjustment through the MaNima Pollux Industry System. This helps maintain the optimal operating temperature for maximum radiation output and consistent performance.

Industrial Applications:

- **Material Curing & Drying:** The **960nm near-infrared light** is commonly used in industrial applications for curing coatings, adhesives, and materials that react to infrared radiation. It accelerates the curing process and improves efficiency in production environments.
- **Photochemical Processes:** The **960nm wavelength** can be utilized in industrial and scientific settings where specific photochemical reactions are required. It can enhance the speed of reactions in laboratories or industrial environments, boosting efficiency.
- **Quality Control & Inspection: 960nm NIR** is used in quality control applications where it helps scan and inspect products in industrial production lines. It can detect material irregularities, such as defects or incomplete coatings.
- **Food Processing & Sterilization:** The **960nm wavelength** is useful in food production and processing, especially in sterilization and pasteurization processes. The deep penetration of materials ensures even processing and sterilization.
- **Non-UV Industrial Applications:** The **960nm near-infrared light** is suitable for industries that do not require UV radiation but still benefit from this specific wavelength. It is used in processes such as plastic molding, metalworking, and other industrial curing applications.
- **Natural and Artificial Drying:** The **960nm NIR** wavelength is widely used in drying processes for various materials, such as wood, textiles, and paper. It accelerates drying without causing damage to the product.
- **Material & Metal Processing: 960nm near-infrared light** is used for treating materials and metals, such as improving the properties of coatings or accelerating the curing of certain metals or alloys.

Benefits:

- **Real-Time Temperature Monitoring for Consistent Performance:** The NTC sensor, combined with the MaNima Pollux Industry System, provides continuous temperature monitoring, helping maintain optimal operating temperature and prevent overheating, which extends LED lifespan and improves efficiency.
- **Superior Environmental Protection:** The fully encapsulated PU coating ensures the fixture is **IP68 waterproof**, making it suitable for outdoor and wet environments. It also provides **IK10 impact resistance**, ensuring the fixture can withstand physical impact, ideal for robust industrial environments.
- **Industrial Durability:** The aluminum housing offers durability and excellent heat dissipation, while the PU coating provides protection against moisture, dust, and other environmental factors, ensuring long-lasting performance even in harsh environments.

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	0.25971 W/sqm
10cm	0.0616903 W/sqm
15cm	0.0276698 W/sqm
20cm	0.0104197 W/sqm
25cm	0.0105533 W/sqm
30cm	0.0040822 W/sqm

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

Environmental

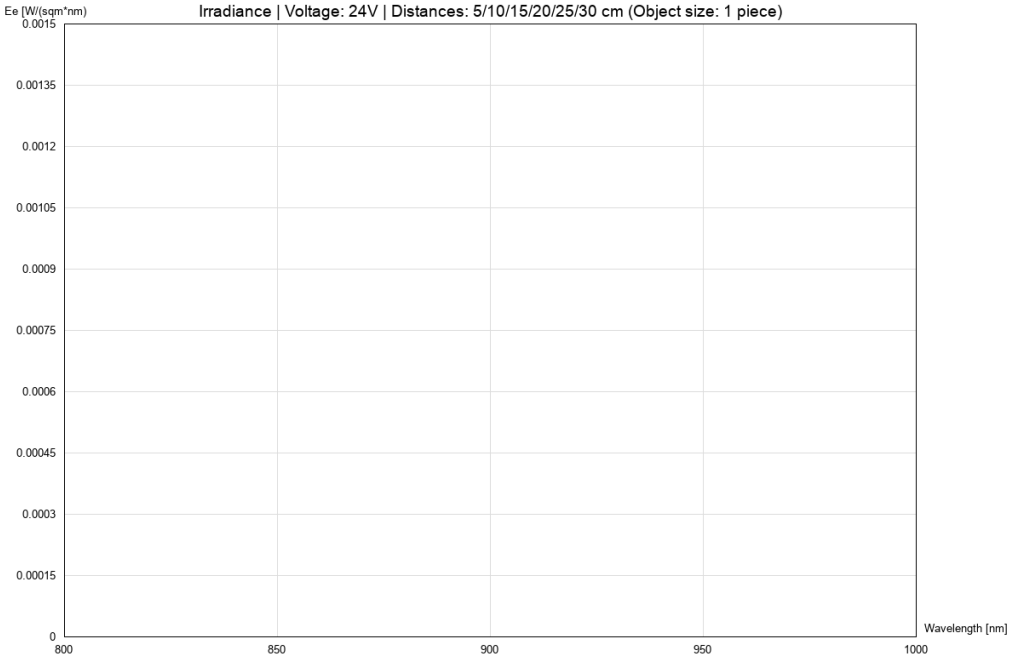
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 68

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 800-nir (24V)



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