

Datasheet

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

LF-24-860-24.2X16-POL

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Product description

The LuxaLight Industrial LED Fixture Polarised Cover NIR 860 nm (24.2 × 16 mm) is designed for industrial applications requiring near-infrared radiation. Since 860 nm lies outside the visible spectrum, the fixture produces radiation, not visible light. The polarised PMMA cover delivers linearly polarised NIR radiation, suppressing reflections and stray radiation. At 5 cm distance, measurements show ~217.54 W/m² total irradiance and ~0.32 W/m² peak irradiance, with a measured peak wavelength of ~799 nm. With a modular design (220–3000 mm) and compatibility with the MaNima Pollux Industrial System, this fixture is an ideal solution for NIR machine vision, spectral imaging, agricultural sensing, and automation.

Key Specifications

Property	Value / Description
Wavelength	860 nm Near-Infrared (measured peak ~799 nm)
Irradiance (5 cm)	~217.54 W/m ² (Total, 24 V); ~0.32 W/m ² (Peak, 24 V)
Cover	Polarised PMMA – suppresses glare & stray radiation
Beam angle	120°
Dimensions	220 × 24.2 × 16 mm (fixture profile)
Supply & Protection	24 V DC / ~30 W; IP64; integrated NTC sensor (5 kΩ, β=3950)
LEDs per fixture	108 × 2835 SMD LEDs
PCB Protection	Industrial-grade silicone coating
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux
Pulsing/Strobing	Supported when integrated with MaNima Pollux Industrial System
Environment	Designed for industrial conditions (dust, moisture, vibration resistant)

Applications

- **Machine vision & spectral imaging** – NIR radiation enhances contrast on glossy or reflective surfaces; polarisation reduces glare, ideal for OCR, barcode reading, and defect detection
- **Packaging & print inspection** – invisible NIR radiation reveals features or defects not visible in normal light
- **Material & surface analysis** – differentiation of polymers, coatings, labels, and inks via NIR reflectance/absorption characteristics
- **Agricultural & crop sensing** – non-destructive monitoring of plant health, moisture, and vegetation indices
- **Automation & safety systems** – invisible radiation for optical triggers, detection, and machine interlocks
- **Medical & R&D instrumentation** – suitable for spectroscopy, photobiomodulation research, and deep-penetration analysis

Benefits for Engineers

- Polarised NIR radiation – glare-suppressed, high-contrast inspection
- Thermal stability – NTC monitoring ensures consistent performance and long lifetime
- Rugged IP64 housing – resistant to dust, moisture, and vibration
- Modular scalability – lengths up to 3 m
- Automation-ready – plug-and-play integration with Pollux, PLC, SCADA, and UDP

Integration with MaNima Pollux Industrial System

- Real-time NTC monitoring and thermal feedback
- Pulse/strobe support for flexible radiation output control
- Automatic thermal protection for reliable operation
- PLC/SCADA compatibility for automation and logging
- Open UDP-based API for advanced system 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 Polarised transparent	
LEDs per piece	108.00	
Lighting		
Wave length	860nm	
Measurement results		
Peak wavelength (Object size: 1 piece)	852 nm	
Peak irradiance (Object size: 1 piece)		24V
	5cm	5.02 W/sqm
	10cm	2.06 W/sqm
	15cm	1.04 W/sqm
	20cm	0.63 W/sqm
	25cm	0.42 W/sqm
	30cm	0.32 W/sqm
Total irradiance (Object size: 1 piece)		24V
	5cm	217.54 W/sqm
	10cm	87.57 W/sqm
	15cm	44.64 W/sqm
	20cm	27.25 W/sqm
	25cm	18.09 W/sqm
	30cm	13.51 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

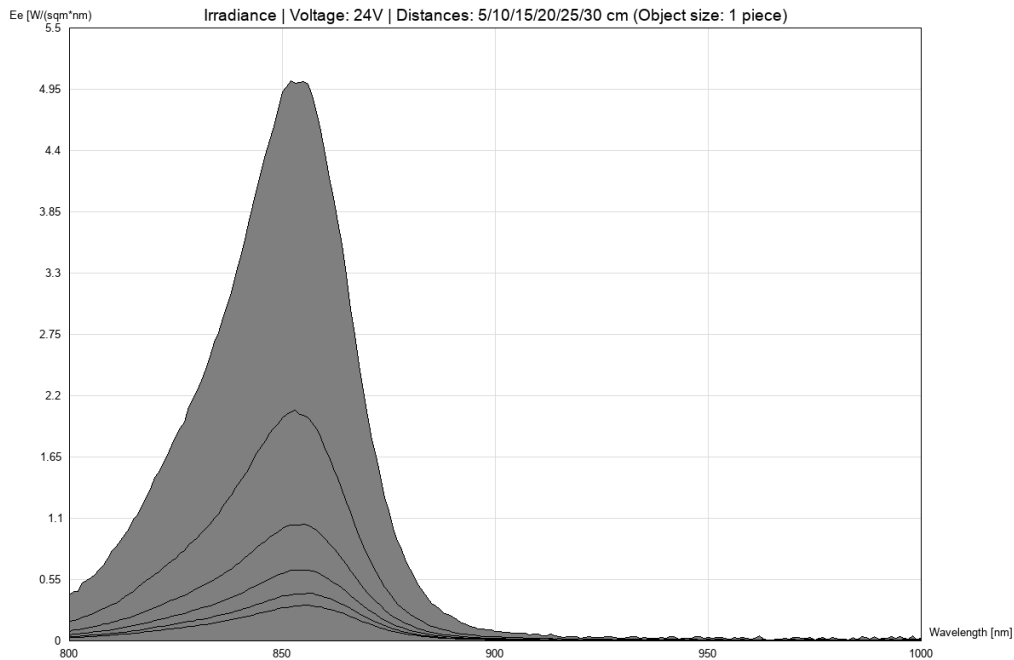
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

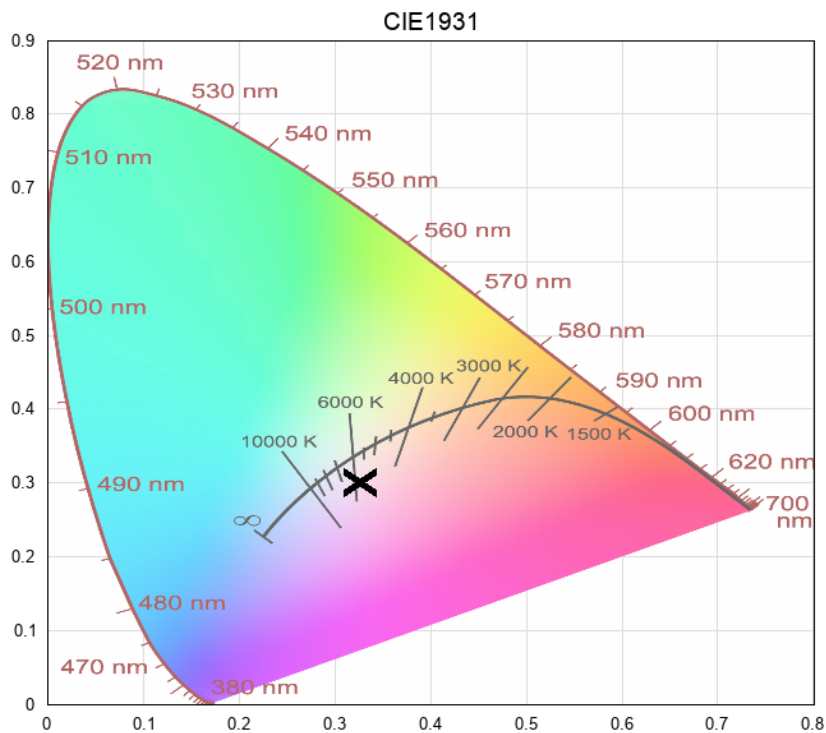
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 800-nir (24V)



cie1931



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