

Datasheet

LuxaLight Industrial LED Fixture Polarised cover Neutral White 4800K 24.2x16mm (24 Volt, 2835, IP64)

LF-24-4800-24.2X16-POL

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Product description

The **LuxaLight Industrial LED Fixture Polarised Cover Neutral White 4800 K** (24.2 × 16 mm) combines 54 LEDs at 4200 K and 54 LEDs at 5700 K to produce a full-spectrum neutral white light (~4920 K, CRI 93). The polarised PMMA cover suppresses glare, delivering high-contrast, accurate imaging—perfect for machine vision, line-scan, and spectral inspection systems. At 5 cm distance, it delivers ~298.34 W/m² total irradiance, ~1.99 W/m² peak irradiance, ~86,066 lx illuminance, and ~1,314.85 µmol/m²/s (PPFD PAR 400–700 nm). With modular lengths up to 3 m and seamless integration with the MaNima Pollux Industrial System, it offers both flexibility and reliability.

Key Specifications

Property	Value / Description
Color Temperature	Full Spectrum Neutral White (~4920 K)
CRI	~93
Peak Wavelength	~454 nm (blue spectral component)
Irradiance (5 cm)	Total: ~298.34 W/m ² ; Peak: ~1.99 W/m ²
Illuminance (5 cm)	~86,066 lx
PPFD (5 cm)	~1,314.85 µmol/m ² /s (PAR 400–700 nm)
Cover	Polarised PMMA – suppresses glare & stray reflections
Beam Angle	120°
Dimensions	220 × 24.2 × 16 mm (fixture profile)
LEDs per Fixture	108 × 2835 SMD LEDs
Supply & Protection	24 V DC / ~30 W; IP64; integrated NTC sensor (5 kΩ, β = 3950)
PCB Protection	Industrial-grade silicone coating
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux
Pulsing/Strobing	Supported when integrated with MaNima Pollux
Environment	Designed for industrial conditions (dust, moisture, vibration resistant)

Applications

- **Machine vision & line-scan inspection** – full-spectrum neutral white enhances feature contrast and accuracy in high-speed imaging
- **Print & packaging verification** – uniform light ensures consistent colour accuracy for labels, barcodes, and security features
- **Food inspection & QC** – glare-suppressed neutral white improves detection of contaminants and defects
- **Material & surface analysis** – reveals texture anomalies and surface defects in coatings and polymers
- **Hyperspectral systems & R&D imaging** – ideal as a reference full-spectrum source for spectral analysis and lab use
- **Professional lighting environments** – balanced spectral output for studio, lab, or ergonomic task lighting

Benefits for Engineers

- Broad spectral light (~4920 K) delivers both colour fidelity and high intensity via full-spectrum LEDs
- Polarised cover eliminates glare on glossy and reflective surfaces
- IP64-rated ruggedness supports industrial deployment
- Modular length up to 3 m adapts to system design needs
- Ready for automation: integration with Pollux, PLC, SCADA, and UDP control systems

Integration with MaNima Pollux Industrial System

- **Real-time thermal feedback** via embedded NTC sensor ensures stable performance over time
- **Pulse & strobe modes** provide dynamic output control for advanced imaging

- **Automatic thermal protection** prevents overheating during intensive use
- **PLC/SCADA compatibility** streamlines industrial integration
- **Open UDP API** supports custom control and data capture workflows

Technical specifications

General

Brand	LuxaLight
Application	Food Inspection (Agro-Food) Hyper - spectral Imaging Line Scan Cameras 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

Color temperature	4800 K
Beam angle	120 °

Measurement results

CRI (Object size: 1 piece)	93
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CCT (Object size: 1 piece)	4920 K
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Illuminance (Lux) (Object size: 1 piece)	24V	
	5cm	86066 lx
	10cm	34385 lx
	15cm	17700.8 lx
	20cm	10984.8 lx
	25cm	7433.6 lx
	30cm	5598.2 lx

Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)	24V	
	5cm	1314.85 umol/m2
	10cm	525.8 umol/m2
	15cm	270.64 umol/m2
	20cm	168.21 umol/m2
	25cm	113.73 umol/m2
	30cm	85.55 umol/m2

Peak wavelength (Object size: 1 piece)	454 nm
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Peak irradiance (Object size: 1 piece)	24V	
	5cm	1.99 W/sqm
	10cm	0.8 W/sqm
	15cm	0.42 W/sqm
	20cm	0.26 W/sqm
	25cm	0.18 W/sqm
	30cm	0.13 W/sqm

Total irradiance

(Object size: 1 piece)

	24V
5cm	298.34 W/sqm
10cm	119.03 W/sqm
15cm	61.27 W/sqm
20cm	38.07 W/sqm
25cm	25.71 W/sqm
30cm	19.31 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

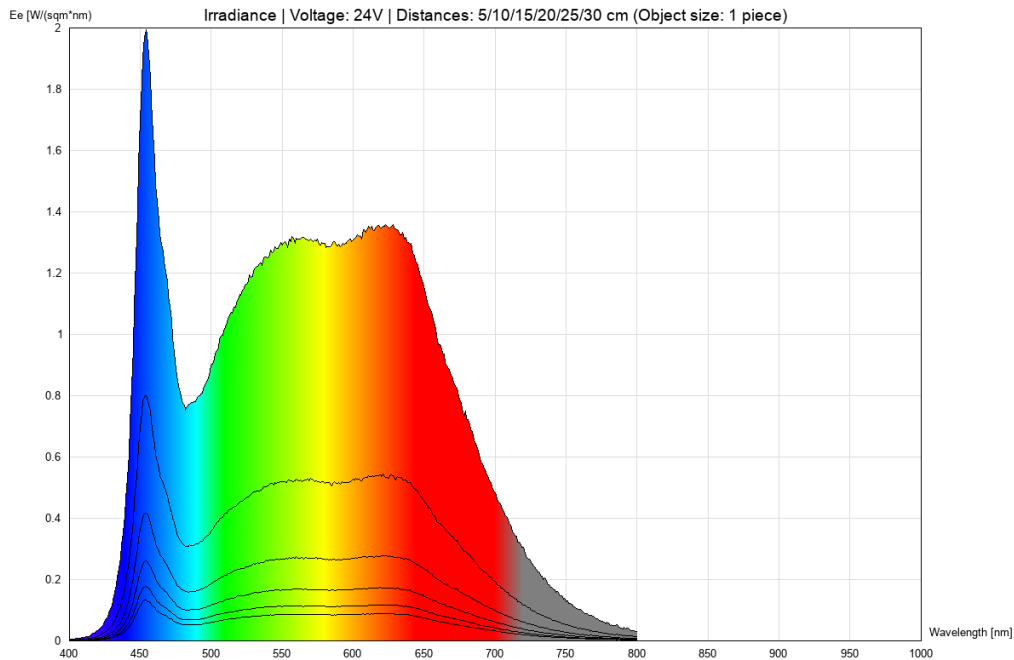
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

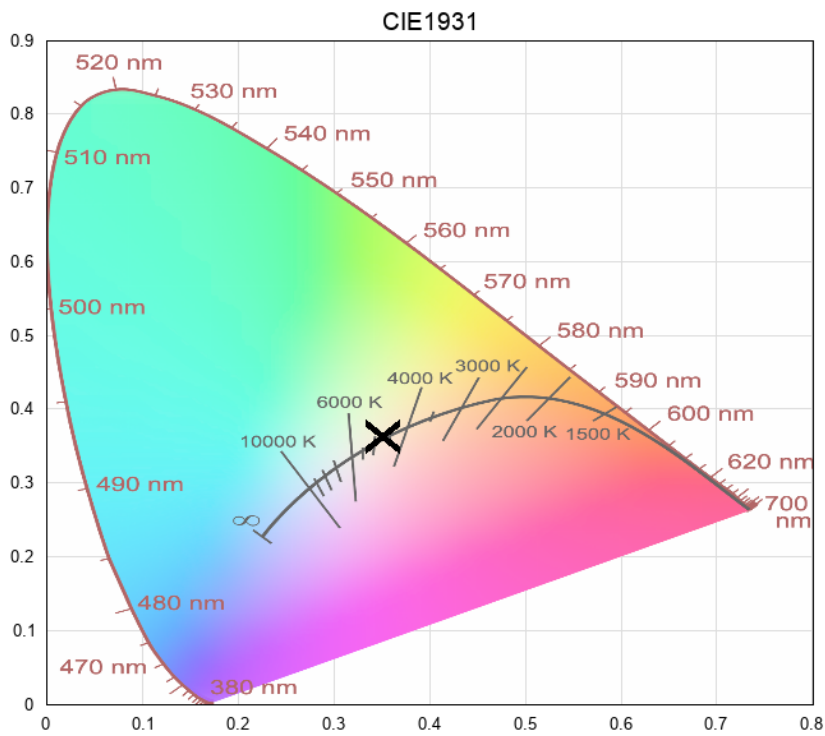
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - full-spectrum (24V)



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