Datasheet

LuxaLight Industrial LED Fixture Transparent IP68 Blue 450nm 24.2x16mm (24 Volt, 2835, IP68)

LF-24-450-24.2x16-PU

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Product description

The **LuxaLight Industrial LED Fixture Transparent IP68 Blue 450 nm (24.2 × 16 mm, 2835 LEDs)** is a fully encapsulated LED solution engineered for demanding environments. With **polyurethane-moulded housing (IP68)**, high-intensity blue illumination, and seamless integration with the **MaNima Pollux Industrial System**, this fixture delivers reliable performance, uniform output, and exceptional durability in industrial, outdoor, and submerged conditions.

Key Specifications

Property	Value / Description
Wavelength	450 nm blue (measured peak ~450 nm)
Illuminance / Output	~45.6 k lx @ 5 cm; PPFD ~4743 µmol/m²/s @ 5 cm; Irradiance ~662 W/m² @ 5 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	Industrial, outdoor, underwater, or chemical environments (–5…+60 °C)

IP68 Moulded Design – Fully Encapsulated Housing

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

- **IP68 waterproofing** – ideal for submerged, outdoor, or harsh industrial environments
- **Superior mechanical durability** – protects against shock, vibration, and impact (IK10 equivalent)
- **Stable illumination** – consistent, glare-free blue output through the encapsulated lens
- **Maintenance-free operation** – sealed design resists dust, moisture, and corrosion
- **Extended service life** – electronics and LEDs safeguarded from environmental stressors
- **Built for extremes** – reliable even in corrosive, marine, or heavy-duty settings

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Applications

- **Machine Vision & Surface Inspection in Harsh Conditions** – high-contrast detail detection in dusty, wet, or oily production lines
- **Optical Bonding & Assembly** – controlled blue output for bonding and alignment, with protection against contamination
- **Fluorescence Excitation** – reliable activation of fluorescent markers in dusty or humid testing environments
- **Calibration & Metrology in Outdoor or Rugged Facilities** – stable light source for field QA setups
- **Food Sorting & Quality Control** – detection of contaminants or flaws on food surfaces that may be damp or exposed
- **Marine & Submerged Inspection** – underwater or splash-prone inspection tasks benefited by sealed design

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

Benefits for Engineers

- **Robust, sealed design** – waterproof, dustproof, and sealed against environmental damage
- **Consistent, glare-free output** – molded lens delivers stable blue illumination under difficult conditions

- **Industrial-grade resilience** – polyurethane encapsulation enhances durability and lifespan
- **Scalable modular format** – adaptable lengths up to 3 meters for versatile system integration
- **Automation-ready** – integrated with Pollux, ready for PLC/SCADA deployment

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Integration with MaNima Pollux Industrial System

- Real-time NTC temperature monitoring
- Pulsing/strobing for peak light output control
- Thermal protection for long-term operation
- PLC/SCADA system compatibility
- **Open API (UDP-based)** for custom automation integration

Technical specifications

General	
Brand	LuxaLight
Application	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	450
Beam angle	120 °

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
10cm	10400 lx
15cm	5192 lx
20cm	3116 lx
25cm	2064 lx
30cm	1533 lx

Total PPFD umol/m2 (PAR 400-700nm)
(Object size: 1 piece)

	24V
10cm	985.457 umol/m2
15cm	486.885 umol/m2
20cm	291.171 umol/m2
25cm	191.974 umol/m2
30cm	143.277 umol/m2

Peak wavelength
(Object size: 1 piece)
452 nm

• 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

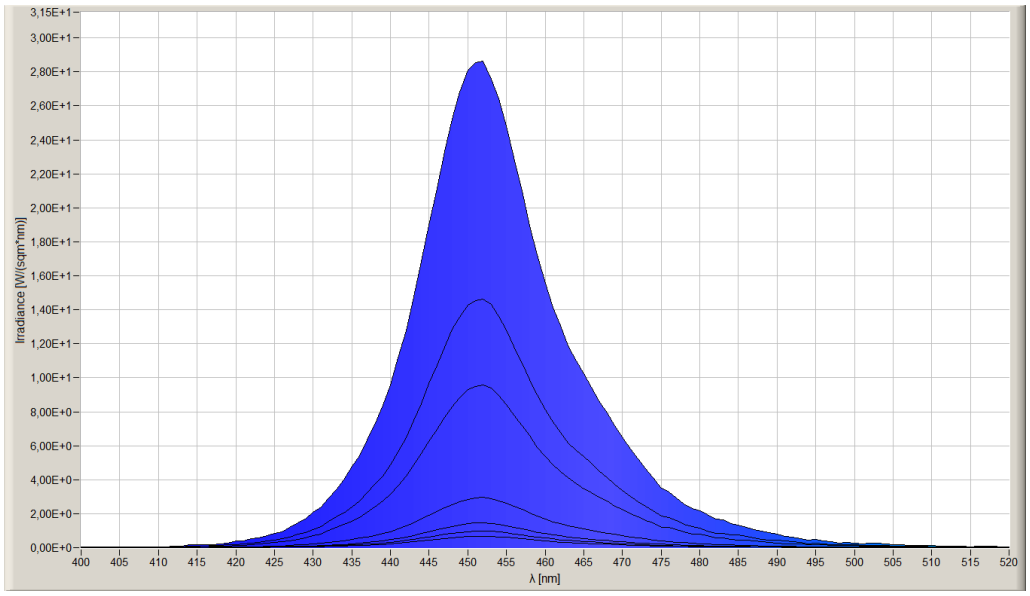
Environmental

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

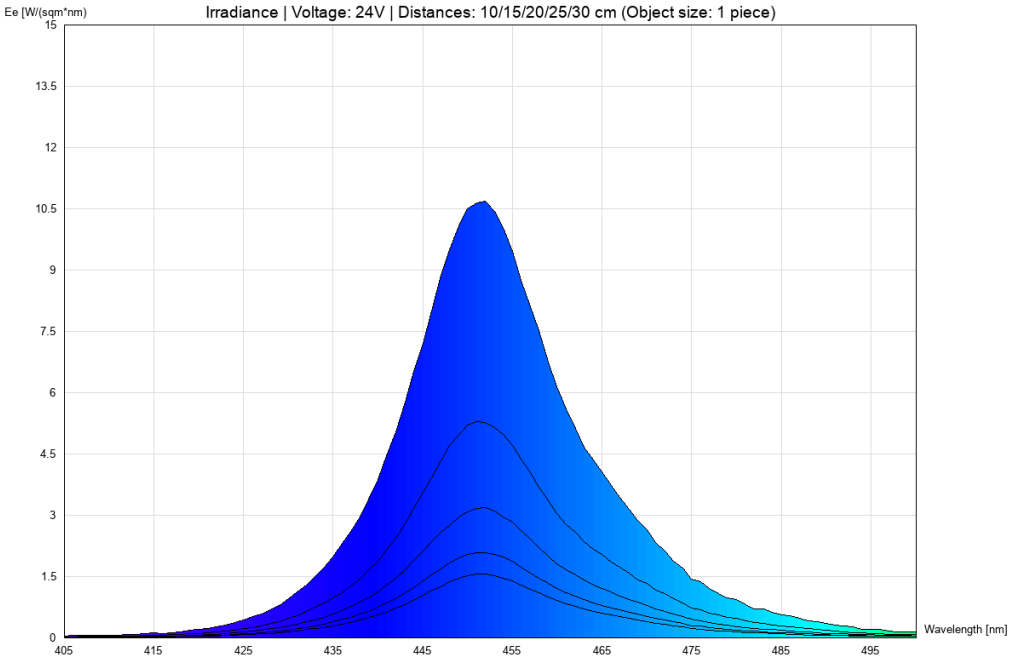
Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results



irradiance - 405-500-blue (24V)



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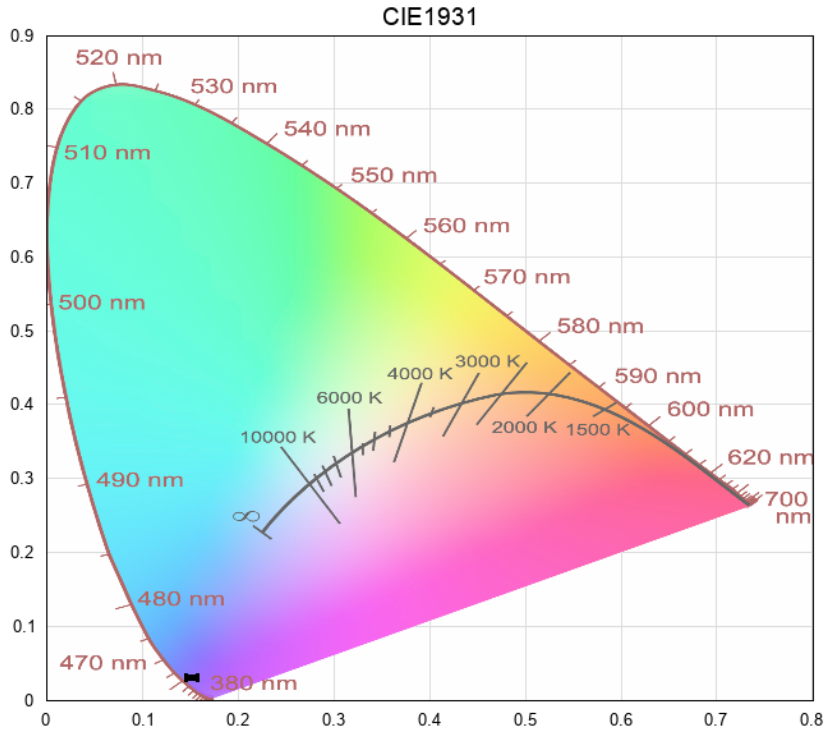

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