Datasheet

LuxaLight Industrial LED Fixture Polarised cover Blue 450nm 24.2x16mm (24 Volt, 2835, IP64)

LF-24-450-24.2X16-POL

Version: 2025-08-27.3

LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

Product description

The LuxaLight Industrial LED Fixture Polarised Cover Blue 450 nm (24.2 × 16 mm) is engineered for demanding industrial applications requiring precision, robustness, and glare-free illumination. The polarised PMMA cover delivers linearly polarised light, suppressing surface reflections. Measurements at 5 cm show ~249.6 W/m² total irradiance, ~8.85 W/m² peak irradiance, ~11,316 lx illuminance, and ~945 µmol/m²/s PPFD. With its modular design (220–3000 mm) and seamless integration into the MaNima Pollux Industrial System, this fixture provides a powerful and flexible solution for machine vision, photochemistry, horticulture, and quality control.

Key Specifications

Property	Value / Description
Wavelength	450 nm Blue (measured peak ~452 nm)
Irradiance (5 cm)	~249.6 W/m² (Total, 24 V); ~8.85 W/m² (Peak, 24 V)
Illuminance (5 cm)	~11,316 lx
PPFD (5 cm)	~945 µmol/m²/s (PAR 400–700 nm)
Cover	Polarised PMMA – suppresses glare & stray light
Beam angle	120°
Dimensions	220 × 24.2 × 16 mm (fixture profile)
Supply & Protection	24 V DC / ~30 W; integrated NTC sensor; IP64
LEDs per fixture	108 × 2835 SMD LEDs
PCB Protection	Industrial-grade silicone coating (dust, moisture, chemical resistance)
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux
Pulsing/Strobing	Supported when integrated with MaNima Pollux Industrial System
Environment	Designed for industrial use (dust, moisture, vibration resistant)

Applications

- **Machine vision & quality control** – polarised blue light improves detection of scratches, dents, or contamination on reflective metals, foils, and coatings
- **Photochemical activation & curing** – supports curing of adhesives and coatings responsive to visible blue light
- **Fluorescence excitation** – excites blue-sensitive dyes, tracers, and labels for industrial marking and detection
- **Horticulture & agritech** – essential for plant morphology, compact growth, stomatal regulation, and pigment (chlorophyll/anthocyanin) synthesis
- **Surface & material analysis** – highlights defects on glossy or transparent substrates by reducing glare and reflections

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- Polarised blue output – reduces glare and enhances inspection accuracy
- Thermal stability – integrated NTC sensor ensures consistent performance and extended LED lifetime
- Industrial durability – IP64 protection against dust, moisture, and vibration
- Modular design – scalable lengths up to 3000 mm
- Automation-ready – plug-and-play integration with Pollux, PLC, SCADA, and open API (UDP)

Integration with MaNima Pollux Industrial System

- Real-time NTC sensor monitoring and feedback
- Pulse/strobe functionality for higher peak output

- Automatic thermal protection for reliable long-term use
- Provides process data to PLC/SCADA automation systems
- Open UDP-based API for advanced control and system integration

LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

Technical specifications

General	
Brand	LuxaLight
Application	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	450nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	11316 lx
10cm	5027.8 lx
15cm	2567.26 lx
20cm	1585.62 lx
25cm	1071.34 lx
30cm	817.42 lx

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

	24V
5cm	945.42 umol/m2
10cm	410.14 umol/m2
15cm	209.57 umol/m2
20cm	130.24 umol/m2
25cm	88.16 umol/m2
30cm	67.31 umol/m2

Peak wavelength
(Object size: 1 piece)
452 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	8.85 W/sqm
10cm	3.8 W/sqm
15cm	1.93 W/sqm
20cm	1.18 W/sqm
25cm	0.8 W/sqm
30cm	0.61 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	249.57 W/sqm
10cm	113.13 W/sqm
15cm	57.78 W/sqm
20cm	35.43 W/sqm
25cm	24.21 W/sqm
30cm	18.68 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

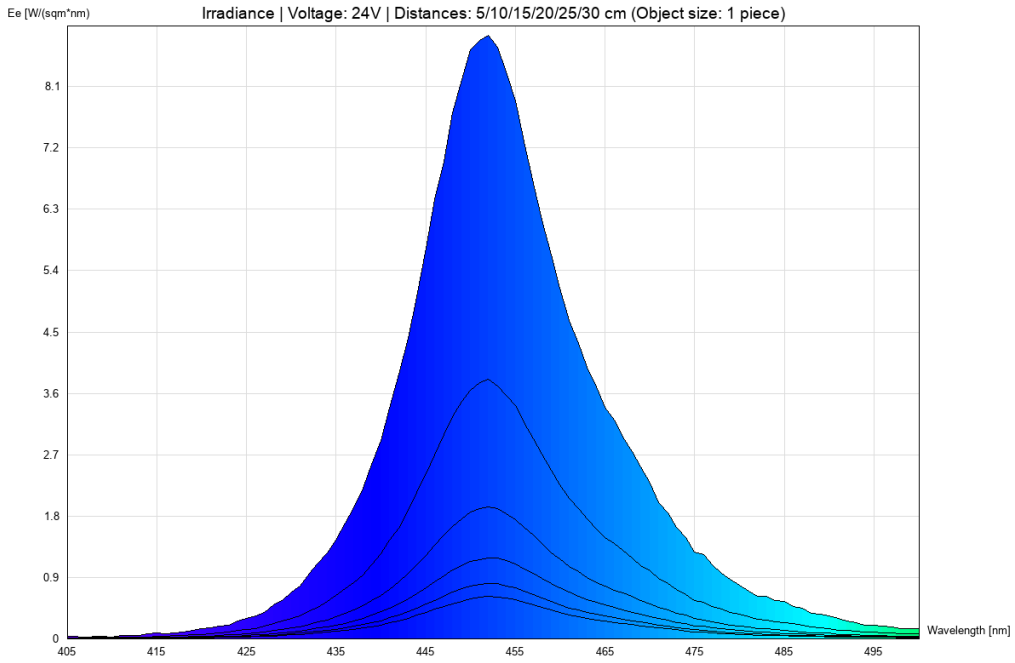
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 405-500-blue (24V)



cie1931