

Datasheet

LuxaLight Industrial LED Fixture Polarised cover UV-A 405nm 24.2x16mm (24 volt, 2835, IP64)

LF-24-405-24.2x16-POL

Version: 2025-08-27.4

Product description

The LuxaLight Industrial LED Fixture Polarised Cover UV-A 405 nm (24.2 × 16 mm) is designed for industrial environments requiring durability, precision, and glare-free UV illumination. The polarised optical cover transmits linearly polarised UV-A light, suppressing glare and surface reflections. Measurements show ~131.87 W/m² total irradiance at 5 cm and ~8.59 W/m² peak irradiance at 5 cm. Its modular design (scalable from 220 mm up to 3000 mm) and compatibility with the MaNima Pollux Industrial System make it a robust solution for curing, inspection, and photochemical processes.

Key Specifications

Property	Value / Description
Wavelength	405 nm UV-A (measured peak ~405 nm)
Irradiance (5 cm)	~131.87 W/m ² (Total, 24 V); ~8.59 W/m ² (Peak, 24 V)
Cover	Polarised PMMA cover – suppresses glare & stray light
Beam angle	120° ±5°
Dimensions	220 × 24.2 × 16 mm (fixture profile)
Supply & Protection	24 V DC / ~30 W, integrated NTC sensor, IP64
Electronics (ref.)	24 V, 1.25 A, ~30 W; NTC 5 kΩ, β=3950
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 conditions (dust, vibration, moisture)

Applications

- **UV-A curing** – effective for adhesives, coatings, and resins; 405 nm penetrates deeper into some photoinitiators than shorter UV wavelengths
- **Industrial quality control & machine vision** – polarised 405 nm light enhances defect detection on glossy, reflective, or coated surfaces
- **Fluorescence inspection** – excitation of UV-sensitive tracers and dyes, useful in adhesives, inks, and quality marking
- **Forensic applications** – detection of certain dyes, inks, and biological fluids under polarised illumination
- **Surface & material analysis** – inspection of polymers, glass, coatings where reduced glare improves imaging contrast
- **Biotech & agritech** – 405 nm supports microbial suppression (bacteria, fungi) and can trigger photomorphogenic responses in plants

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- Polarised UV-A output – reduces glare, enhances detection accuracy
- Stable performance – integrated NTC monitoring ensures consistent output and lifetime
- Industrial durability – IP64 housing resistant to dust, moisture, vibration
- Scalable – modular lengths from 220 mm to 3000 mm
- Automation-ready – integration with Pollux, PLC, SCADA, and open API (UDP)

Integration with MaNima Pollux Industrial System

- Real-time thermal monitoring via NTC sensor
- Pulse/strobe modes supported for higher peak irradiance

- Prevents overheating while maximizing usable UV output
- Industrial integration with PLC/SCADA automation
- Open API (UDP-based) for advanced control and monitoring

Technical specifications

General

Brand	LuxaLight
Application	Curing & Aging Machine Vision UV Inspection
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

Beam angle	120 °
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Measurement results

Peak wavelength (Object size: 1 piece)	404 nm
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Peak irradiance (Object size: 1 piece)		24V
	5cm	7.4 W/sqm
	10cm	2.99 W/sqm
	15cm	1.5 W/sqm
	20cm	0.9 W/sqm
	25cm	0.59 W/sqm
	30cm	0.46 W/sqm

Total irradiance (Object size: 1 piece)		24V
	5cm	131.87 W/sqm
	10cm	55.3 W/sqm
	15cm	28.03 W/sqm
	20cm	17.2 W/sqm
	25cm	11.32 W/sqm
	30cm	8.66 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

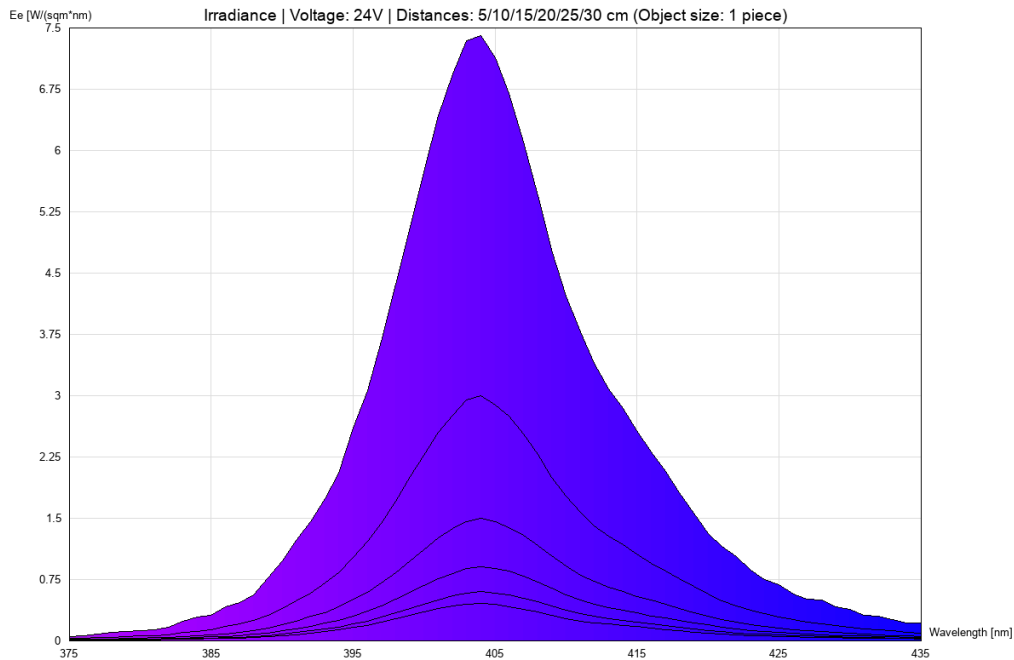
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

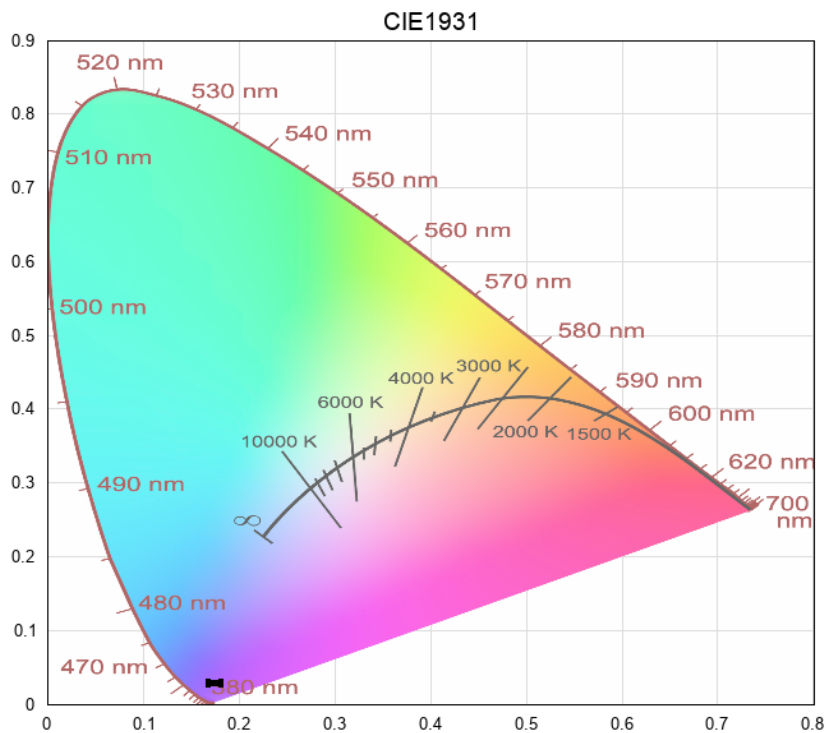
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 375-435-uv-ablue (24V)



cie1931



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