Datasheet

LuxaLight Industrial LED Fixture Polarised cover Green 525nm 24.2x16mm (24 volt, 2835, IP64)

LF-24-525-24.2x16-POL

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LuxaLight B.V.
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Product description

The LuxaLight Industrial LED Fixture Polarised Cover Green 525 nm (24.2 × 16 mm) is designed for industrial applications requiring precision, durability, and glare-free illumination. The polarised PMMA cover provides linearly polarised green light, effectively suppressing reflections. Measurements at 5 cm distance show ~82,938 lx illuminance, ~711 µmol/m²/s PPFD, and ~162 W/m² irradiance (derived from PPFD at 525 nm). With a modular design (220–3000 mm) and full compatibility with the MaNima Pollux Industrial System, this fixture is a reliable solution for machine vision, material inspection, horticulture, and research lighting.

Key Specifications

Property	Value / Description
Wavelength	525 nm Green (measured peak ~524 nm)
Irradiance (5 cm)	~162 W/m² (Total, 24 V, derived from PPFD)
Illuminance (5 cm)	~82,938 lx
PPFD (5 cm)	~711 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
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 & quality inspection** – polarised green light improves detection on glossy, metallic, and coated surfaces
- **Fluorescence excitation** – excites green-sensitive dyes and tracers for labeling and industrial inspection
- **Surface & material analysis** – glare-free illumination of glass, laminates, and foils for defect detection
- **Horticulture & agritech** – complements red and blue lighting; penetrates the plant canopy to support uniform growth and morphology research
- **Medical & biotech visualization** – suitable for imaging and fluorescence detection requiring green excitation

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- Polarised green output – glare-free inspection lighting with improved accuracy
- Thermal stability – integrated NTC monitoring ensures consistent performance and long LED life
- Rugged design – IP64 protection against dust, moisture, and vibration
- Modular scalability – available in lengths up to 3000 mm
- Automation-ready – plug-and-play with Pollux, PLC, SCADA, and UDP-based control systems

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Integration with MaNima Pollux Industrial System

- Real-time monitoring via integrated NTC sensor
- Pulse/strobe operation for flexible output control
- Automatic thermal protection for reliable performance

- Full PLC/SCADA automation integration
- Open UDP-based API for advanced system interfacing

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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	525nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	82938 lx
10cm	30447.4 lx
15cm	15695.2 lx
20cm	9660 lx
25cm	6536.6 lx
30cm	4981.8 lx

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

	24V
5cm	711.13 umol/m2
10cm	262.38 umol/m2
15cm	135.41 umol/m2
20cm	83.31 umol/m2
25cm	56.28 umol/m2
30cm	42.88 umol/m2

Peak wavelength
(Object size: 1 piece)

524 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	3.59 W/sqm
10cm	1.37 W/sqm
15cm	0.72 W/sqm
20cm	0.44 W/sqm
25cm	0.29 W/sqm
30cm	0.22 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	166.89 W/sqm
10cm	61.04 W/sqm
15cm	31.55 W/sqm
20cm	19.44 W/sqm
25cm	12.95 W/sqm
30cm	9.85 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

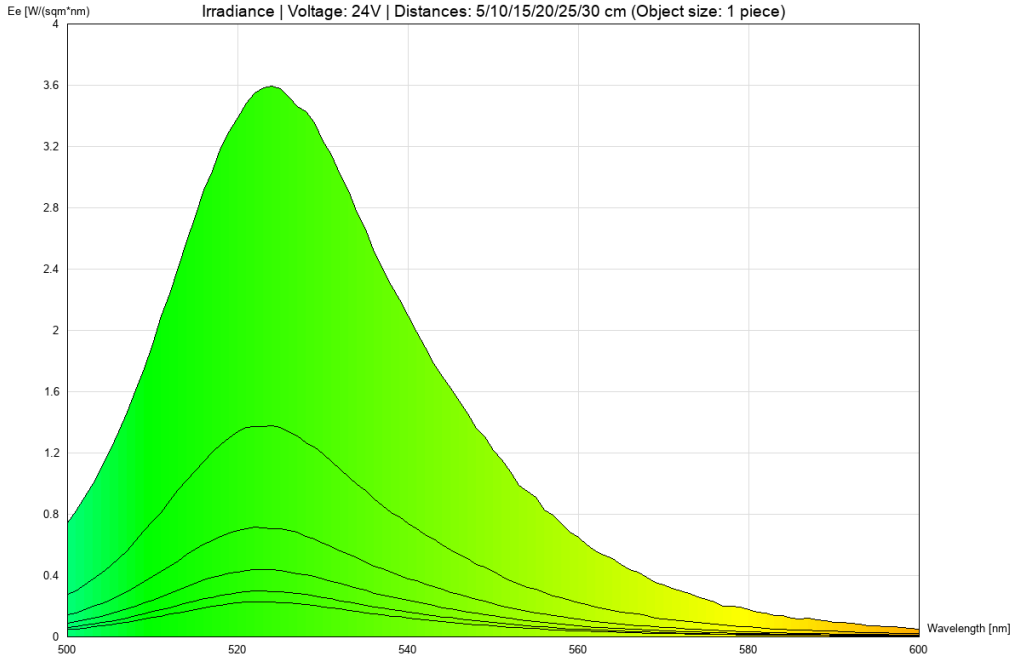
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 500-600-green (24V)



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