Datasheet

LuxaLight Industrial LED Fixture Polarised cover White 5700K 24.2x16mm (24 Volt, 2835, IP64)

LF-24-5700-24.2X16-POL

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Product description

The **LuxaLight Industrial LED Fixture Polarised Cover White 5700 K** (24.2 × 16 mm) provides daylight-balanced illumination designed for machine vision, inspection, and industrial quality control. Its polarised PMMA cover reduces glare and surface reflections, resulting in high-contrast, accurate imaging even on reflective materials. At 5 cm distance, the fixture delivers ~307.4 W/m² total irradiance, ~2.32 W/m² peak irradiance, ~88,044 lx illuminance, and ~1,347.6 µmol/m²/s PPFD. With modular scalability (220–3000 mm) and seamless integration into the MaNima Pollux Industrial System, it is ideally suited for daylight-based vision applications.

Key Specifications

Property	Value / Description
Color Temperature	Daylight White ~5700 K (measured)
CRI	≥ 95
Peak Wavelength	~454 nm (blue spectral component)
Irradiance (5 cm)	Total: ~307.4 W/m²; Peak: ~2.32 W/m²
Illuminance (5 cm)	~88,044 lx
PPFD (5 cm)	~1,347.6 µmol/m²/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 with MaNima Pollux Industrial System
Environment	Designed for industrial use (dust, moisture, vibration resistant)

Applications

- **Machine vision & line-scan inspection** – daylight spectrum ensures glare-free, high-contrast camera imaging
- **Print & packaging verification** – ideal for barcodes, OCR, labels, and print quality checks
- **Food inspection & QC** – glare-reduced daylight lighting for hygienic, high-contrast inspection
- **Electronics & surface analysis** – detects scratches, soldering defects, and micro-damage on reflective materials
- **Laboratories & calibration setups** – daylight-grade high-CRI source for reference imaging and colour-critical analysis
- **Cleanrooms & precision assembly** – uniform daylight lighting reduces operator eye strain and enhances precision

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Benefits for Engineers

- Daylight spectrum (~5700 K) with very high CRI (≥ 95) for vision applications
- Polarised cover ensures glare-free inspection on reflective materials
- Robust IP64 housing for industrial durability
- Modular scalability up to 3 m
- Automation-ready with Pollux, PLC, SCADA, and UDP

Integration with MaNima Pollux Industrial System

- Real-time thermal monitoring via integrated NTC sensor
- Pulse/strobe modes for dynamic lighting control
- Automatic thermal protection for stable performance

- Seamless PLC/SCADA integration for automation
- Open UDP API for advanced integration and data logging

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	5700 K
Beam angle	120 °

Measurement results

CRI
(Object size: 1 piece)
95

CCT
(Object size: 1 piece)
5833 K

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	88044 lx
10cm	35571.8 lx
15cm	18501.2 lx
20cm	11481.6 lx
25cm	7594.6 lx
30cm	5639.6 lx

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

	24V
5cm	1347.56 umol/m2
10cm	546.44 umol/m2
15cm	284.91 umol/m2
20cm	177.13 umol/m2
25cm	117.7 umol/m2
30cm	87.26 umol/m2

Peak wavelength
(Object size: 1 piece)
454 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	2.32 W/sqm
10cm	0.97 W/sqm
15cm	0.51 W/sqm
20cm	0.32 W/sqm
25cm	0.21 W/sqm
30cm	0.16 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	307.4 W/sqm
10cm	124.75 W/sqm
15cm	64.88 W/sqm
20cm	40.29 W/sqm
25cm	26.76 W/sqm
30cm	19.81 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

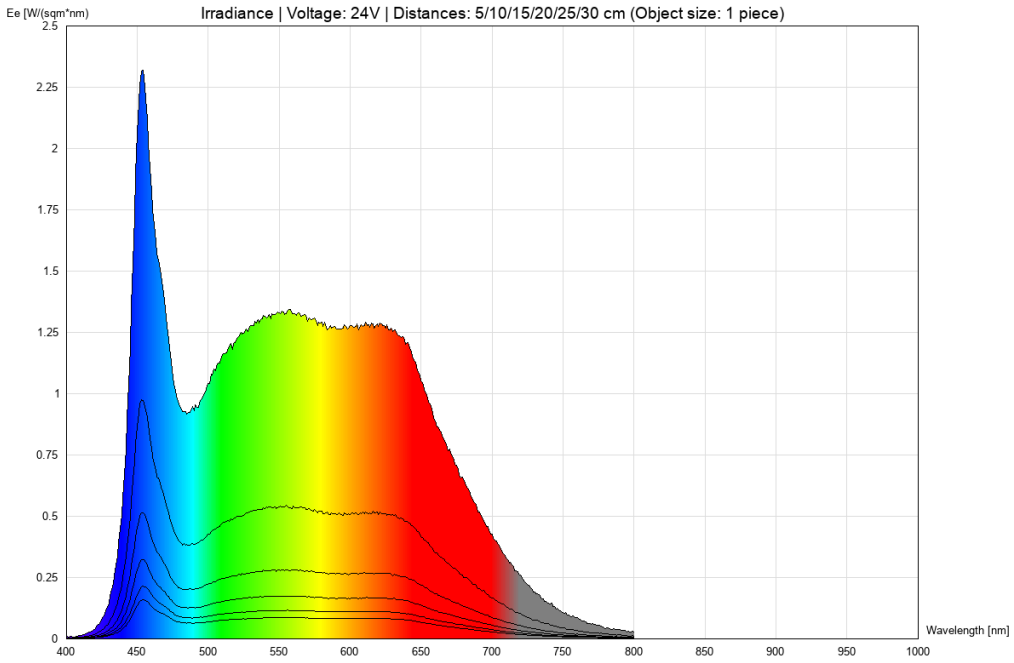
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - full-spectrum (24V)



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