

Datasheet

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

LF-24-450-24.2X16-TC

Version: 2025-08-26.1

Product description

The **LuxaLight Industrial LED Fixture Transparent PMMA Cover Blue 450 nm (24.2 × 16 mm)** delivers high-intensity blue illumination with excellent stability and durability. Its **modular design** (220–3000 mm), robust **PMMA cover**, and integration with the **MaNima Pollux Industrial System** make it suitable for advanced machine vision, photochemical processes, fluorescence excitation, and industrial inspection tasks.

Key Specifications

Property	Value / Description
Wavelength	450 nm blue (measured peak ~451 nm)
Optical Output	Illuminance ~29,100 lx @ 5 cm; PPFD ~2,648 µmol/m²/s @ 5 cm; Irradiance ~702 W/m² @ 5 cm
Cover	Transparent PMMA – high optical transmission & mechanical protection
PCB Protection	Industrial-grade silicone coating (dust, moisture, chemical resistance)
Environmental Protection	IP64 – dust-tight and splash-resistant
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux
Design	Modular & scalable, 220–3000 mm
Dimensions	24.2 × 16 mm (fixture profile)
Environment	Suitable for harsh industrial conditions (dust, vibration, moisture)

Applications

- **Machine Vision & Surface Inspection** – improves contrast for scratches, defects, and surface textures
- **Optical Quality Control** – inspection of coatings, foils, reflective surfaces
- **Photochemical Processes** – activation of polymerization and catalytic reactions with blue light
- **Fluorescence Excitation** – source for biological and chemical fluorescence imaging
- **Printing & Packaging** – detection of fluorescent inks, adhesives, and security markers
- **Plant Research / Horticulture** – blue spectrum supports photosynthesis and growth regulation

Benefits for Engineers

- **High Contrast Illumination:** optimized blue wavelength for inspection
- **Stable Output:** thermal feedback via Pollux ensures consistent performance
- **Industrial Robustness:** aluminum housing + IP64 PMMA protection
- **Scalable Design:** modular lengths 220–3000 mm
- **Easy Integration:** compatible with Pollux, PLC, and SCADA systems

Integration with MaNima Pollux Industrial System

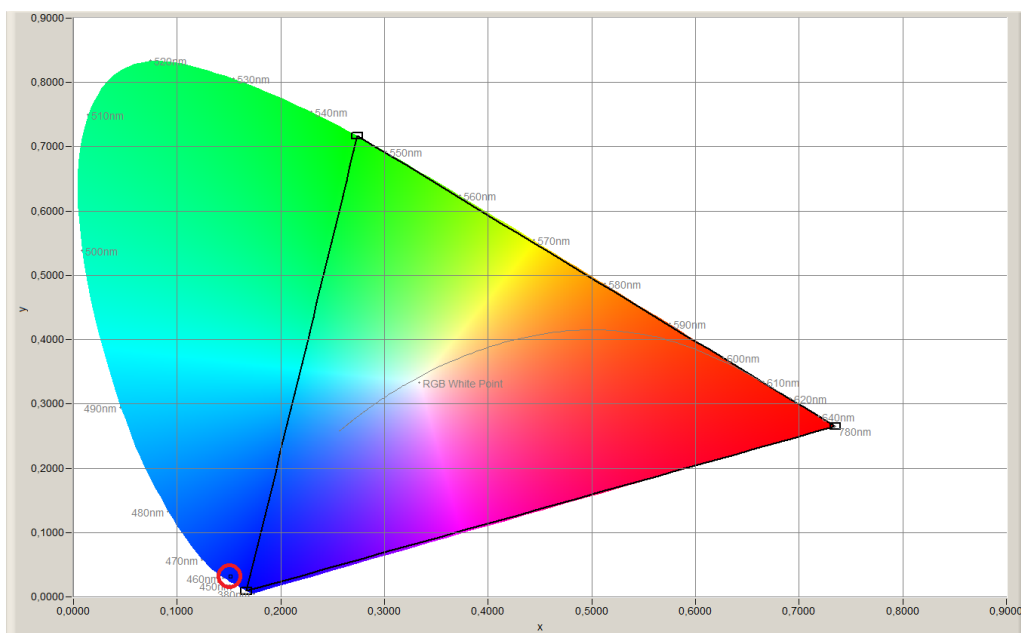
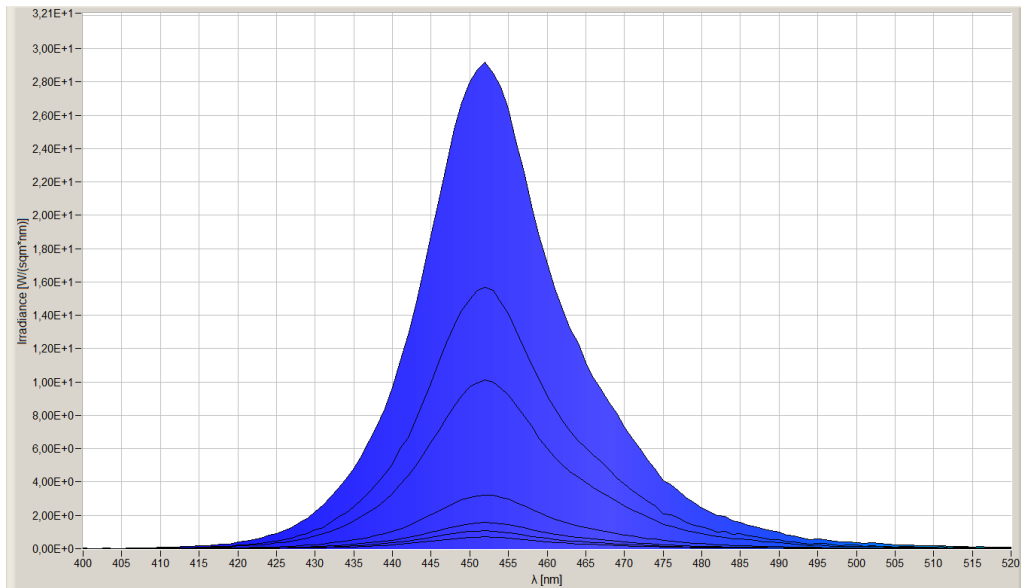
- Real-time NTC temperature monitoring
- Pulsing/strobing for peak intensity boost
- Thermal overload protection during long-term operation
- Compatible with PLC/SCADA systems
- **Open API (UDP-based)** for custom automation

Technical specifications

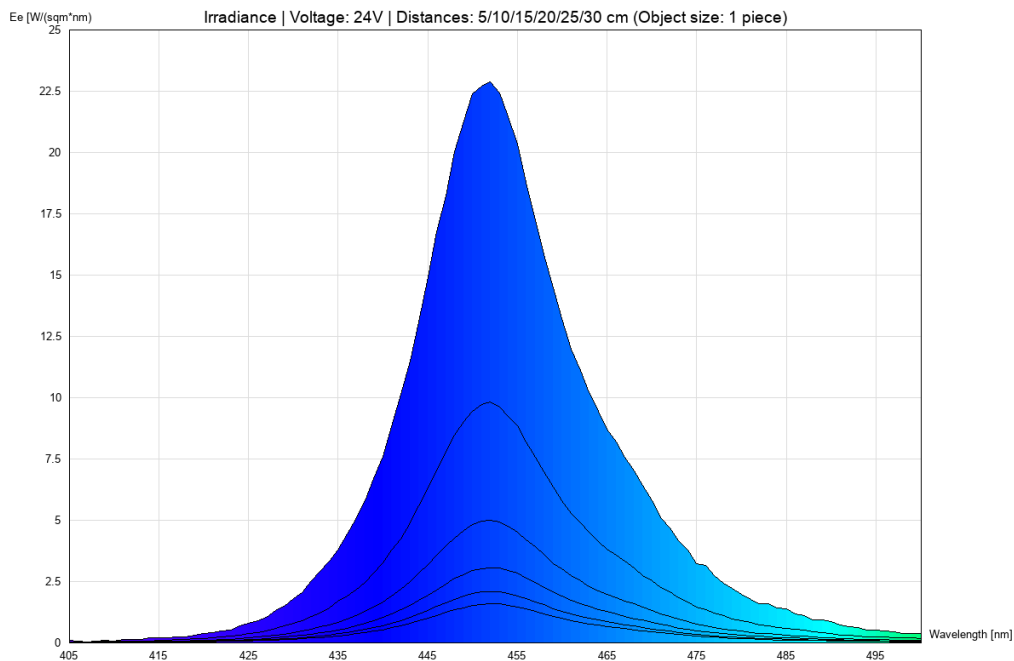
General	
Brand	LuxaLight
Application	Machine Vision
LED type	2835
Material	Aluminum
Dimensions	220 × 24,2 × 16 mm
Mounting	Surface mounted
Warranty	5 years
Cover type	PMMA transparent
LEDs per piece	108.00
Lifetime	70000 hours
Lighting	
Wave length	450 nm
Beam angle	120 °
LB waarde	L80B50
Measurement results	
Illuminance (Lux) (Object size: 1 piece)	24V
	5cm 24600 lx
	10cm 10930 lx
	15cm 5581 lx
	20cm 3447 lx
	25cm 2329 lx
	30cm 1777 lx
Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)	24V
	5cm 2100.93 umol/m2
	10cm 911.416 umol/m2
	15cm 465.719 umol/m2
	20cm 289.431 umol/m2
	25cm 195.906 umol/m2
	30cm 149.571 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 64	
Directives - standards - certificates		
Directives	RoHS CE	
Safety standards	EN60598-1 EN62031 IEC62471	

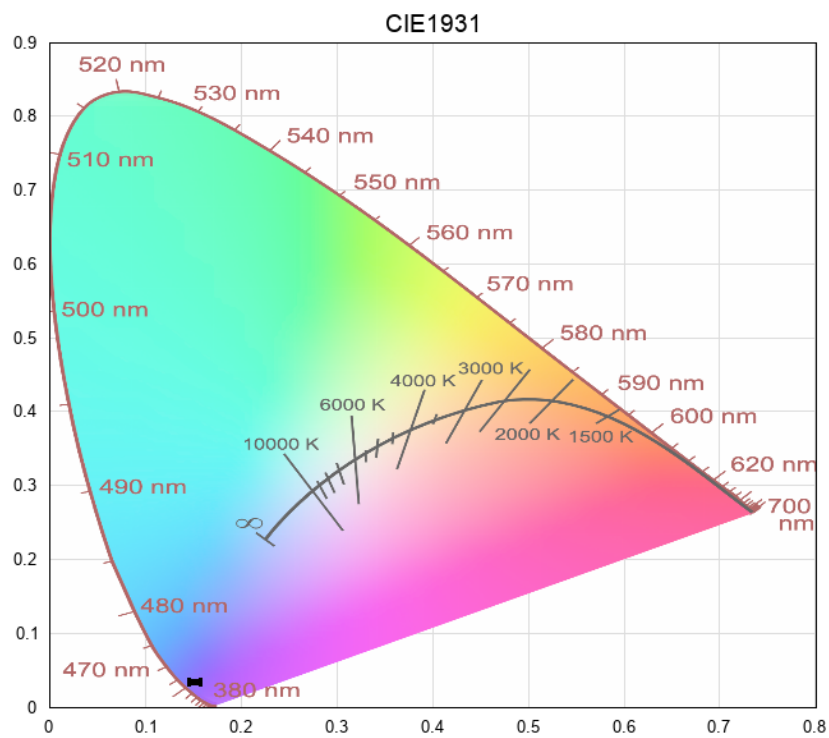
Measurement results



irradiance - 405-500-blue (24V)



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