

Datasheet

LuxaLight Industrial LED Fixture Opaline cover Far Red 735nm 24.2x16mm (24 Volt, 2835, IP64)

LF-24-735-24.2X16-OC

Version: 2025-08-27.3

Product description

The LuxaLight Industrial LED Fixture **Opaline Cover Far Red 735 nm** (24.2 × 16 mm) provides **uniform, diffused far-red illumination**. The opaline PMMA diffuser minimizes glare and prevents hotspots, ensuring smooth coverage. With modular scalability (220 mm up to 3000 mm) and full compatibility with the **MaNima Pollux Industrial System**, this fixture is ideal for horticulture, plant research, and specialized laboratory setups.

Key Specifications

Property	Value / Description
Wavelength	Far Red 735 nm (peak ~739 nm)
Irradiance (5 cm)	~300 W/m ² (Total); ~7.08 W/m ² (Peak)
Illuminance (5 cm)	~653 lx
PPFD (5 cm, PAR 400–700 nm)	~75 µmol/m ² /s
Cover	Opaline PMMA for diffused, uniform emission
Beam angle	120°
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; NTC 5 kΩ, β = 3950
Environmental rating	IP64; operating –20 °C...+60 °C; storage –40 °C...+80 °C

Applications

- **Horticulture & end-of-day treatments** – far red (735 nm) influences flowering, stem elongation, and photoperiod responses; opaline cover ensures uniform canopy coverage.
- **Plant research** – stable far red fields for controlled R:FR ratio studies.
- **Photobiology & biomedical research** – diffuse far red supports tissue interaction studies and experimental setups.
- **Scientific test setups** – homogeneous far red illumination for calibration and light-controlled experiments.
- **Specialized signaling & display** – niche applications requiring deep/dark red illumination.

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- Even far red illumination ensures reproducible plant and biological experiments.
- Modular design, scalable in length and power.
- Rugged industrial construction: IP64 housing, aluminum profile, opaline cover.
- Ready for integration with MaNima Pollux (temperature monitoring, pulsing control).
- Plug-and-play use for horticulture, labs, and R&D.

Integration with MaNima Pollux Industrial System

- Real-time NTC sensor monitoring and safety feedback.
- Pulse/strobe functionality for enhanced peak output.
- Thermal control prevents overheating, ensuring long-term stability.
- Provides process data for PLC/SCADA systems.
- Open UDP API for easy custom integration.

Technical specifications

General		
Brand	LuxaLight	
Application	Barcode Scanning Machine Vision	
LED type	2835	
Material	Aluminum	
Dimensions	220 × 24,2 × 16 mm	
Mounting	Surface mounted	
Cover type	PMMA opal	
LEDs per piece	108.00	
Lighting		
Wave length	735nm	
Beam angle	120 °	
Measurement results		
Illuminance (Lux) (Object size: 1 piece)		24V
	5cm	653.32 lx
	10cm	230.37 lx
	15cm	108.03 lx
	20cm	72.07 lx
	25cm	42.86 lx
	30cm	29.8 lx
Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)		24V
	5cm	75.34 umol/m2
	10cm	28.91 umol/m2
	15cm	14.79 umol/m2
	20cm	9.23 umol/m2
	25cm	6.2 umol/m2
	30cm	4.57 umol/m2
Peak wavelength (Object size: 1 piece)	739 nm	
Peak irradiance (Object size: 1 piece)		24V
	5cm	7.08 W/sqm
	10cm	2.72 W/sqm
	15cm	1.4 W/sqm
	20cm	0.86 W/sqm
	25cm	0.58 W/sqm
	30cm	0.43 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	299.74 W/sqm
10cm	114.98 W/sqm
15cm	59.51 W/sqm
20cm	36.78 W/sqm
25cm	24.83 W/sqm
30cm	18.48 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

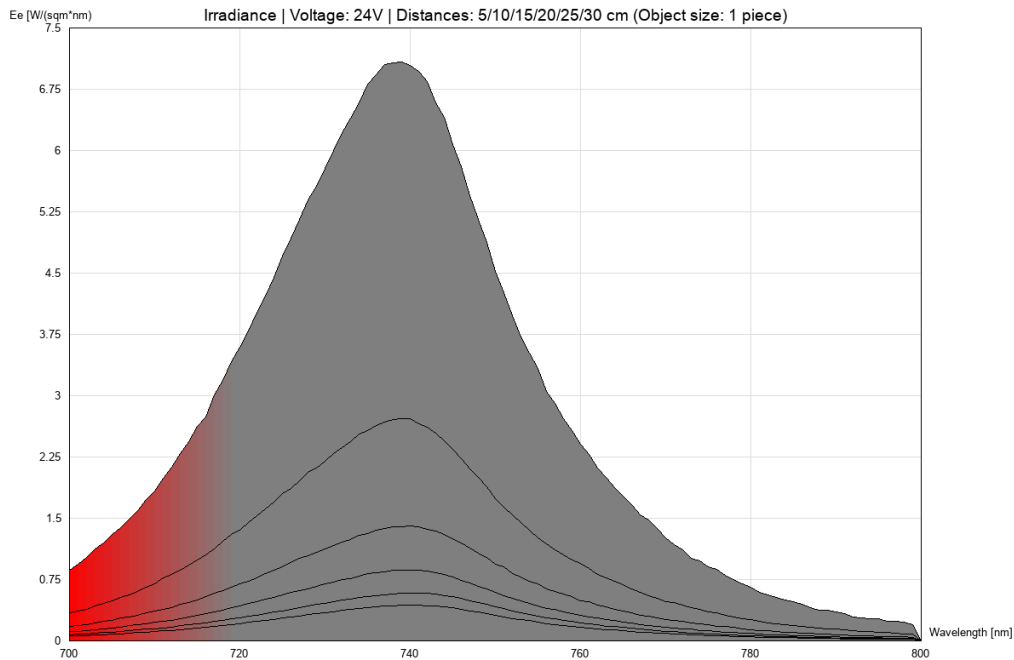
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

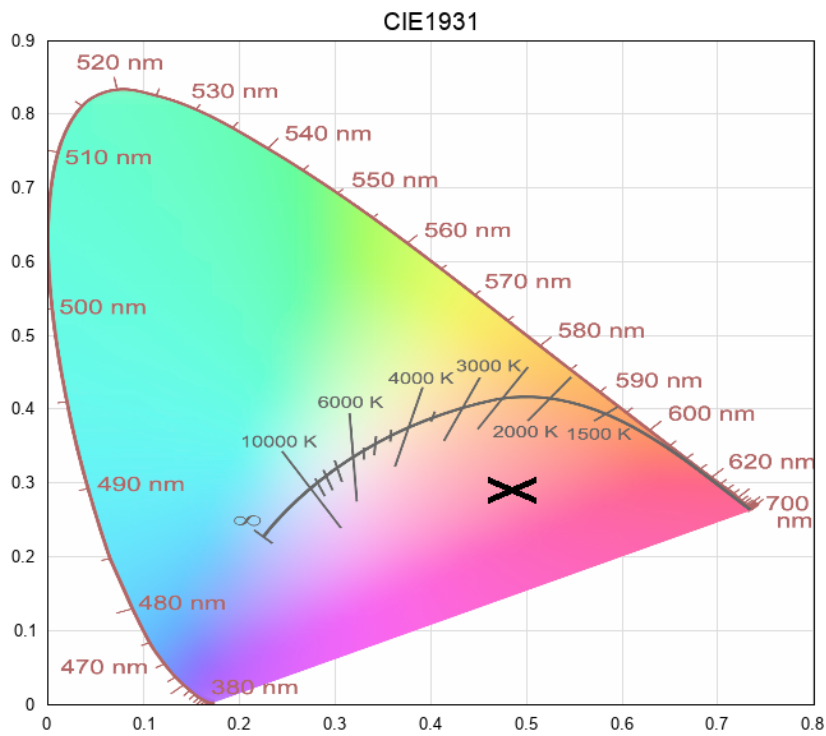
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 700-800-deep-far-red (24V)



cie1931



While LuxaLight has made every reasonable effort to ensure the accuracy of the information in this brochure, LuxaLight does not guarantee that it is error - free, nor does LuxaLight make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. LuxaLight reserves the right to make any adjustments to the information contained herein at any time without notice. LuxaLight expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalogue are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult LuxaLight for the latest dimensions and design specifications.