Datasheet

LuxaLight Industrial LED Fixture Transparent cover Red 640nm 24.2x16mm (24 Volt, 2835, IP64)

LF-24-640-24.2X16-TC

Version: 2025-08-26.1

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Product description

The **LuxaLight Industrial LED Fixture Transparent Cover Red 640nm (24.2 × 16mm)** is built for industrial environments that demand durability, precision, and high radiant intensity. Its **modular design** (scalable from 220 mm up to 3000 mm), transparent cover optimized for red light, and compatibility with the **MaNima Pollux Industrial System** make it a robust and adaptable solution for material curing, biological research, and phototherapy applications.

Specifications

Property	Value / Description
Wavelength	640 nm (red light, measured peak 639 nm)
Optical Output	High radiant intensity, tailored for red-light industrial use
Cover	Transparent cover optimized for efficient 640 nm transmission
PCB Protection	Industrial-grade silicone coating (dust, moisture, chemical resistance)
Thermal Monitoring	Integrated NTC sensor, controllable via MaNima Pollux Industrial System
Pulsing/Strobing	Supported when integrated with MaNima Pollux Industrial System
Design	Modular and scalable, adaptable from 220 mm up to 3000 mm
Dimensions	24.2 × 16 mm (fixture profile)
Environment	Designed for harsh industrial conditions (dust, vibration, moisture)

Applications

- **Material curing (non-UV)** – red-sensitive coatings, adhesives, encapsulations
- **Plant growth stimulation & horticulture** – wavelength beneficial for photosynthesis and biomass accumulation
- **Biological & medical lighting** – photobiomodulation, tissue repair, cell culture enhancement
- **Food & cosmetic processes** – skin treatments, cosmetic illumination, quality inspection
- **Machine vision & marking** – QR/barcode illumination, optical filtering, contrasting inspections

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- **Process efficiency**: leverages pulsing + monitoring via MaNima Pollux for boosted output
- **Consistent performance**: thermal feedback ensures stability and prolonged LED lifetime
- **Robust industrial construction**: protection against dust, moisture, mechanical stress
- **Modular scalability**: customizable length and configuration per application
- **Seamless integration**: plug-and-play readiness for production and R&D environments

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Integration with MaNima Pollux Industrial System

- Real-time NTC sensor control and feedback
- Pulsing/strobing capabilities for higher peak intensity
- Prevents thermal overload while maximizing output
- Delivers process data for PLC/SCADA industrial automation
- **Open API (UDP-based)** support for system integration and custom applications

Technical specifications

General	
Brand	LuxaLight
Application	Barcode Scanning 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	640 nm
BIN	3 SDCM
Beam angle	120 °
LB waarde	L80B50

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	64290 lx
10cm	19860 lx
15cm	9855 lx
20cm	5796 lx
25cm	3840 lx
30cm	2843 lx

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

	24V
5cm	2315.41 umol/m2
10cm	713.909 umol/m2
15cm	356.442 umol/m2
20cm	213.677 umol/m2
25cm	141.164 umol/m2
30cm	104.545 umol/m2

Peak wavelength
(Object size: 1 piece)

639 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

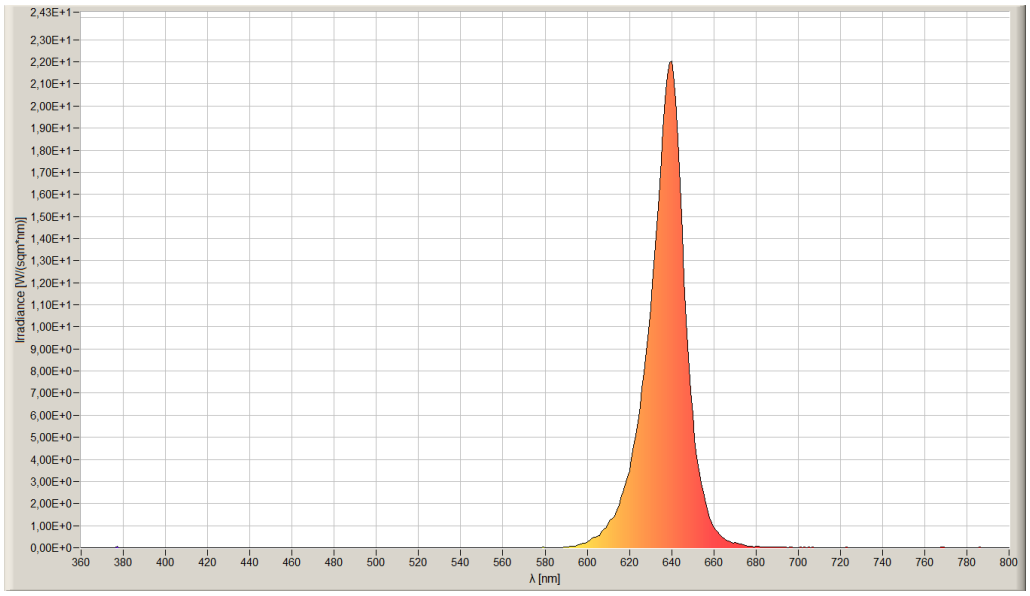
Environmental

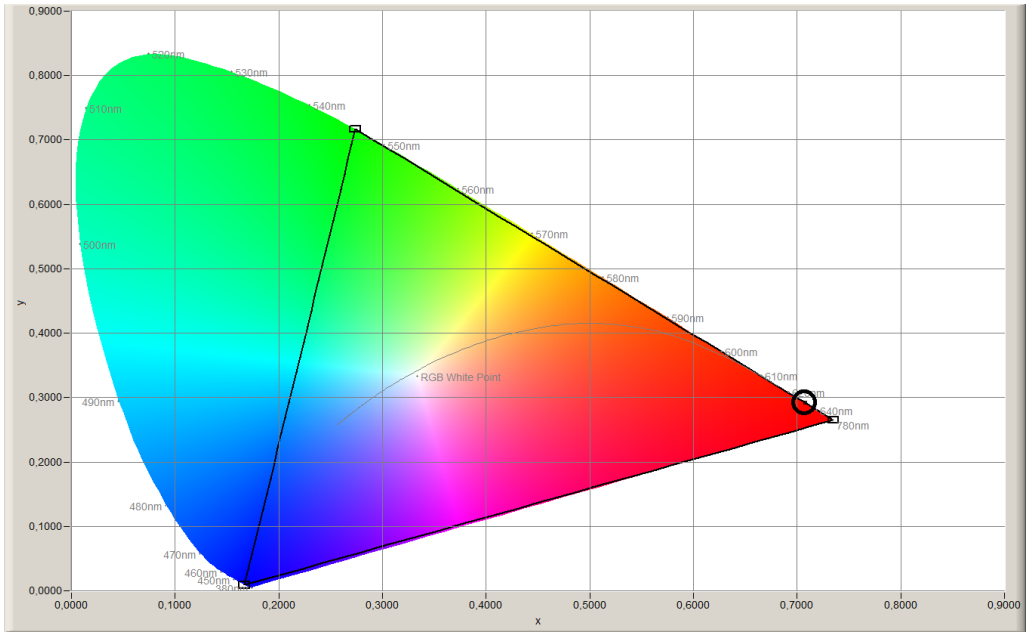
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

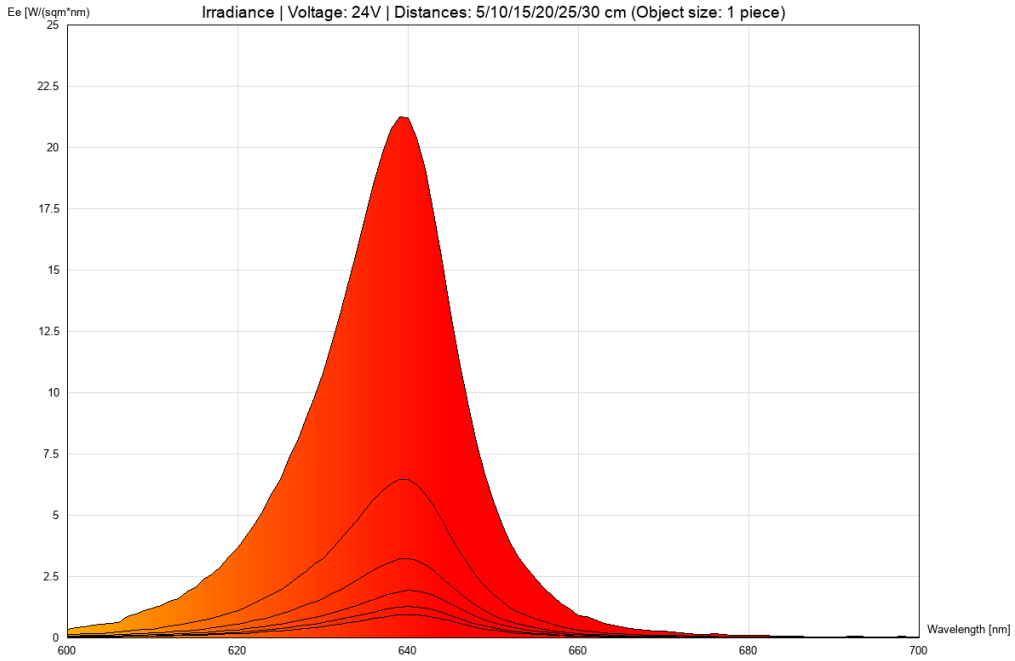
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results





irradiance - 600-700-red (24V)



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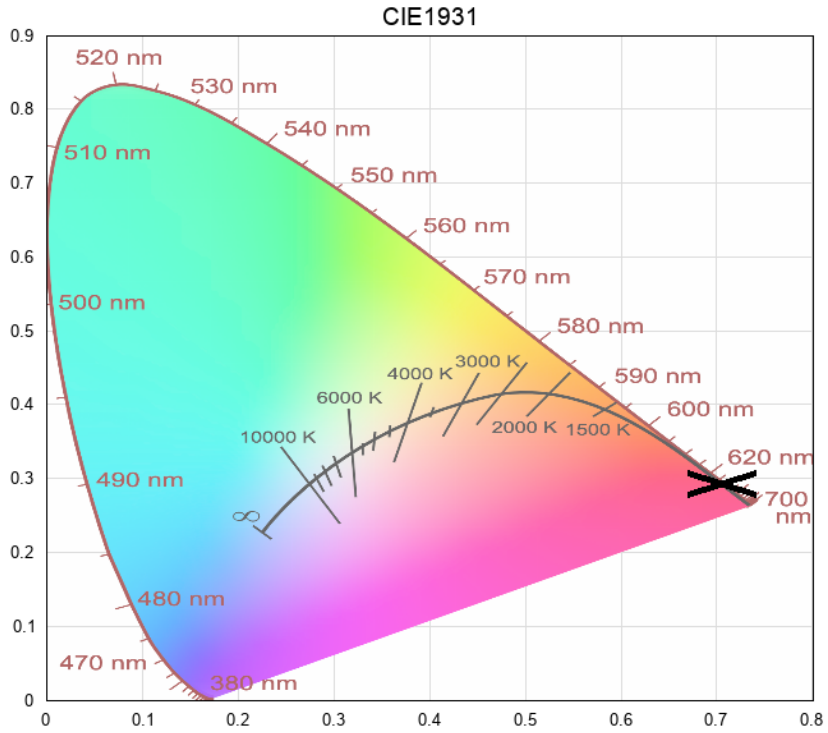

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