Datasheet

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

LF-24-640-24.2X16-POL

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Product description

The LuxaLight Industrial LED Fixture is specifically engineered for demanding industrial applications that require high radiation intensity. With a wavelength of 640nm, this LED fixture is a reliable and efficient solution for a variety of industrial processes, including material curing, biological research, and more. The 640nm wavelength is ideal for applications such as plant growth stimulation, biological studies, and other specific industrial needs that benefit from red light.

This LED fixture is designed with a robust **aluminum** housing and a **polarized cover**, providing mechanical strength and durability while allowing the full 640nm wavelength to pass through effectively. The **polarized cover** offers a choice of light distribution angles (0°, 60°, 90°, and 120°), providing flexibility to adapt to different industrial needs and ensuring optimal performance in even the most demanding environments.

Key Features:

- **640nm Wavelength:** The 640nm wavelength is perfect for a range of industrial and scientific applications, including plant growth enhancement, material curing, and biological research, where red light is essential.
- **24V Power Supply:** Powered by a reliable 24V power supply, ensuring stable operation across demanding industrial environments.
- **Aluminum Housing with Polarized Cover for Mechanical Protection:** The durable **aluminum** housing provides robust protection against physical impacts, and the **polarized cover** ensures the fixture is protected while offering a choice of light distribution angles (0°, 60°, 90°, and 120°) for customized performance.
- **Industrial-Grade Durability:** Designed with an industrial focus, this fixture withstands the rigors of tough environments, offering resistance to moisture, dust, and mechanical stresses.
- **Real-Time Temperature Monitoring via NTC Sensor:** Integrated with a temperature monitoring system, the fixture ensures continuous temperature regulation, maintaining an optimal operating temperature for consistent and efficient performance.

Applications:

- **Industrial Material Curing (Non-UV):** The 640nm wavelength is ideal for curing specific materials and coatings that respond to red light, ensuring faster and more efficient curing processes in industrial manufacturing.
- **Plant Growth Stimulation:** The 640nm wavelength promotes robust plant growth, making it ideal for greenhouse environments, agricultural applications, and other horticultural needs.
- **Biological and Medical Research:** The fixture supports biological research by promoting cell growth and regeneration, making it valuable for cell cultivation, tissue studies, and medical applications such as photobiomodulation therapy (PBM).
- **Medical Therapy:** Used in phototherapy for skin healing, muscle recovery, and anti-aging treatments, the 640nm light stimulates cell and tissue regeneration for faster recovery.
- **Food Industry:** The deep red light is utilized in food production environments to stimulate growth or assist in processes such as pasteurization of certain food products.
- **Cosmetic Industry:** In the cosmetic industry, 640nm light is beneficial for reducing wrinkles, enhancing skin tone, and promoting collagen production, offering a non-invasive solution for skin treatments.

Benefits:

- **High Radiation Intensity:** With the ability to pulse, the fixture can significantly increase radiation intensity, resulting in faster reaction times and higher productivity in industrial processes.
- **Efficient Temperature Management:** The NTC sensor continuously monitors temperature, ensuring that the fixture remains at optimal levels for peak performance, thus preventing overheating and extending the lifespan of the fixture.
- **Industrial Durability:** The **aluminum** housing, combined with the **polarized cover**, provides robust protection against physical damage while ensuring reliable performance in harsh industrial conditions, extending the fixture's lifespan and minimizing maintenance.
- **Customizable Light Distribution:** The **polarized cover** offers flexible light distribution with options of 0°, 60°, 90°, and 120°, allowing for tailored light output suited for specific industrial applications.
- **Fast and Efficient Performance:** The high efficiency of the 640nm LED ensures fast processing speeds, ideal for high-throughput industrial applications such as material curing and large-scale production processes.

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 Polarised transparent
LEDs per piece	108.00

Lighting	
Wave length	640nm
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

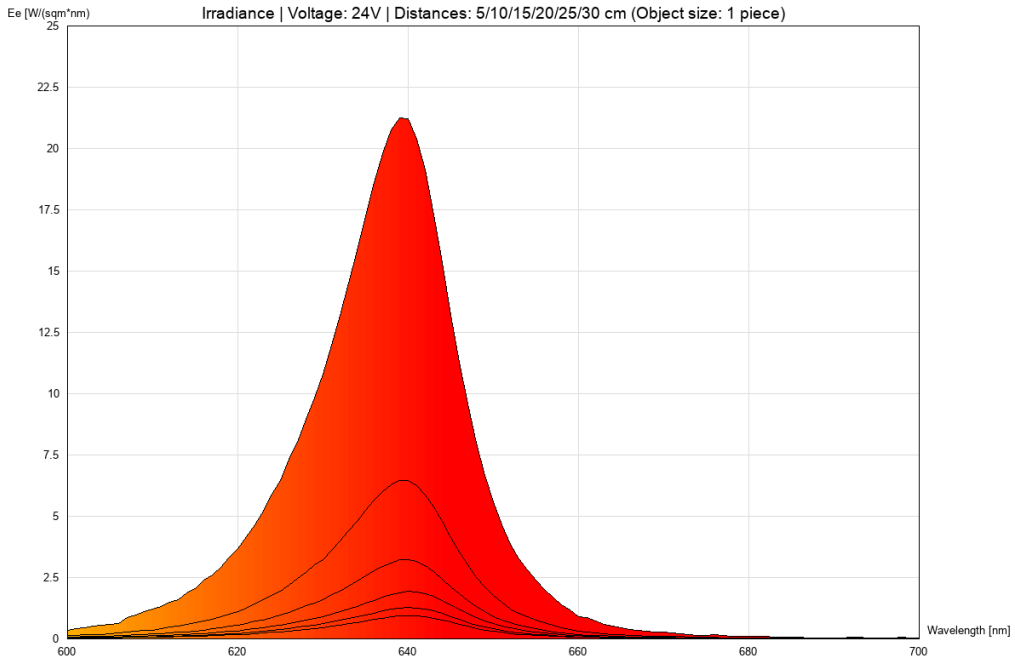
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 600-700-red (24V)



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