Datasheet

LuxaLight Industrial LED Fixture Transparent IP68 Red 640nm 24.2x16mm (24 Volt, 2835, IP68)

LF-24-640-24.2x16-PU

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Product description

The LuxaLight Industrial LED Fixture is specifically designed for demanding industrial applications that require high radiation intensity. With a wavelength of 640nm, this LED fixture is a reliable and efficient solution for various 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 fully encapsulated in **clear polyurethane (PU)**, providing robust protection against environmental factors while allowing the full 640nm wavelength to pass through effectively. The encapsulation ensures that the fixture is **IP68 waterproof**, making it resistant to immersion in water, and **IK10 impact-resistant**, guaranteeing that the fixture can withstand harsh mechanical stresses and impacts, making it highly durable for industrial environments.

Key Features:

- **640nm Wavelength:** The 640nm wavelength is perfect for a wide 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.
- **Fully Encapsulated in Clear PU:** The fixture is completely encased in **clear polyurethane (PU)**, providing a high level of protection against dust, moisture, and other environmental factors.
- **IP68 Waterproof:** With an **IP68** rating, this fixture is fully waterproof and protected against dust and moisture, ensuring reliable operation even in challenging environments.
- **IK10 Impact Resistance:** Rated **IK10**, this fixture can withstand heavy mechanical impacts, making it suitable for high-impact industrial applications.
- **Industrial-Grade Durability:** Designed for heavy-duty industrial applications, this fixture can endure harsh conditions, including exposure to dust, moisture, and physical impacts.
- **Real-Time Temperature Monitoring via NTC Sensor:** Integrated with a temperature monitoring system, the fixture ensures continuous temperature regulation, maintaining optimal operating conditions for 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 **clear PU encapsulation** and **IP68 waterproof** rating ensure that the fixture is protected from moisture, dust, and other environmental factors, making it highly durable for use in harsh industrial conditions.
- **Impact Resistance:** The **IK10** rating guarantees that the fixture can withstand heavy mechanical impacts, making it suitable for high-impact environments.
- **Fast and Efficient Performance:** The high efficiency of the 640nm LED ensures fast processing speeds, ideal for 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	Polyurethane
LEDs per piece	108.00

Lighting	
Wave length	640nm
Beam angle	120 °

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

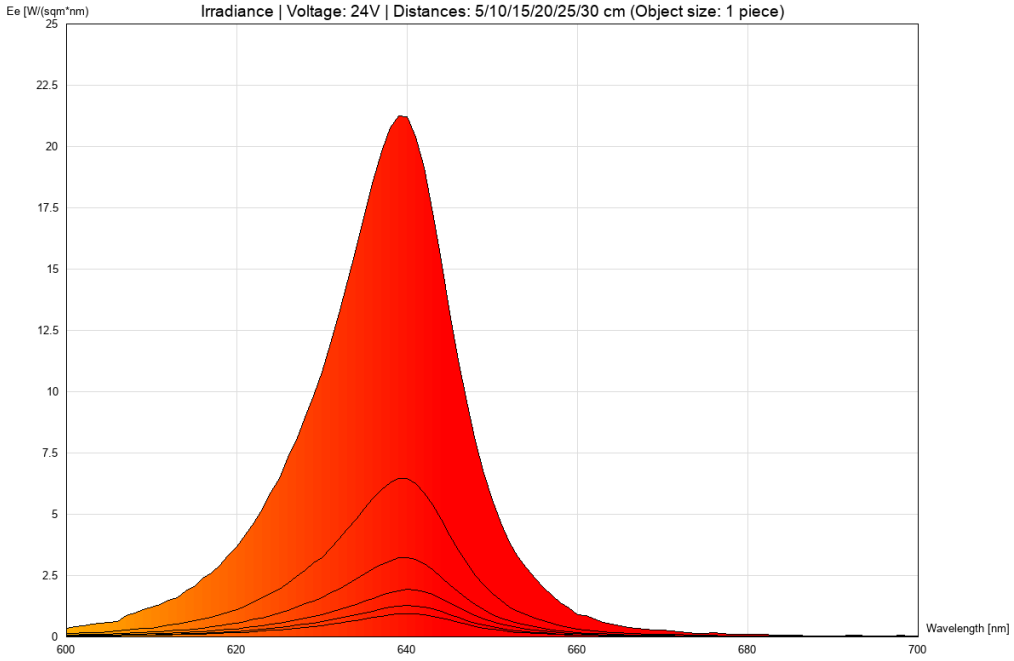
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 68

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 600-700-red (24V)



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