Datasheet

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

LF-24-735-24.2X16-POL

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Product description

The LuxaLight Industrial LED Fixture is designed for intensive industrial applications that require high radiation intensity for a wide range of processes, such as material curing, biological research, and more. With a **735nm** deep red wavelength, this LED fixture provides a reliable and efficient solution for processes that benefit from deep red light, such as plant growth stimulation, tissue regeneration, and more.

The LED fixture is made of durable aluminum, ensuring efficient heat dissipation and long-term performance. It is equipped with a **polarized cover** available in four different angles (30°, 60°, 90°, and 120°), offering flexibility to adjust the light distribution according to the specific needs of each application. Additionally, the fixture is coated with silicone on the PCB, providing extra protection against moisture, dust, and other environmental factors.

Key Features:

- **735nm Deep Red Wavelength:** The 735nm wavelength is ideal for applications requiring deep red light, such as horticulture, biological research, and specific industrial processes. It helps promote plant growth, tissue regeneration, and therapeutic applications.
- **Aluminum Fixture:** The durable aluminum housing ensures excellent heat dissipation, contributing to the long-term efficiency and stability of the LED fixture.
- **Polarized Cover with Adjustable Angles:** The LED fixture comes with a polarized cover available in four different angles (30°, 60°, 90°, and 120°), allowing for customized light distribution. This ensures the fixture meets the unique requirements of various applications.
- **Silicone Coating on PCB:** The PCB is coated with silicone to provide protection against environmental factors such as moisture and dust, ensuring durability in harsh industrial environments.
- **Integration with MaNima Pollux Industry Pulsing (Strobing):** The LED fixture supports integration with the MaNima Pollux Industry System for pulsing (strobing), significantly increasing radiation intensity. This feature enables faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor provides continuous temperature measurement and adjustment through the MaNima Pollux Industry System. This helps maintain the optimal operating temperature for maximum radiation output and consistent performance.

Applications:

- **Horticulture & Agriculture:** The **735nm** wavelength is highly effective in promoting plant growth, especially in encouraging blooming and fruiting. This makes it ideal for use in greenhouses and other agricultural applications where plant health and growth are critical.
- **Biological Research:** In scientific and medical applications, **735nm** light can be used for processes such as promoting tissue regeneration, cell cultivation, and photobiomodulation therapy (PBM), which can aid in pain relief and wound healing.
- **Medical Therapy: 735nm** deep red light is used in phototherapy treatments for skin healing, anti-aging treatments, and muscle recovery, stimulating cells and tissues with the benefits of red light.
- **Food Industry:** The **735nm** wavelength can be used for applications such as stimulating growth in food production environments or in the pasteurization process of certain foods.
- **Industrial Material Curing (Non-UV):** The deep red light is used for curing coatings and materials that react to red wavelengths, ensuring effective and rapid curing processes in industrial settings.

Benefits:

- **High Radiation Intensity:** The ability to pulse with the MaNima Pollux Industry System allows for a significant increase in radiation intensity, resulting in faster reactions and higher productivity.
- **Real-Time Temperature Monitoring for Consistent Performance:** The NTC sensor, combined with the MaNima Pollux Industry System, ensures continuous temperature monitoring, helping to maintain optimal operating conditions and prevent overheating. This extends the lifespan of the LED and enhances efficiency.
- **Customizable Light Distribution:** The polarized cover, available in angles of 30°, 60°, 90°, and 120°, allows for customized light distribution, making it versatile for different industrial, research, and medical applications.
- **Industrial Durability:** The aluminum housing provides durability and excellent heat dissipation, while the silicone coating on the PCB protects against environmental factors like dust and moisture, making the fixture ideal for harsh industrial environments.

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	735nm
Beam angle	120 °

Measurement results	
Peak wavelength (Object size: 1 piece)	739 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	9.67481 W/sqm
10cm	3.71685 W/sqm
15cm	1.91466 W/sqm
20cm	1.17996 W/sqm
25cm	0.792167 W/sqm
30cm	0.593195 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	416.3 W/sqm
10cm	159.7 W/sqm
15cm	82.65 W/sqm
20cm	51.08 W/sqm
25cm	34.48 W/sqm
30cm	25.66 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

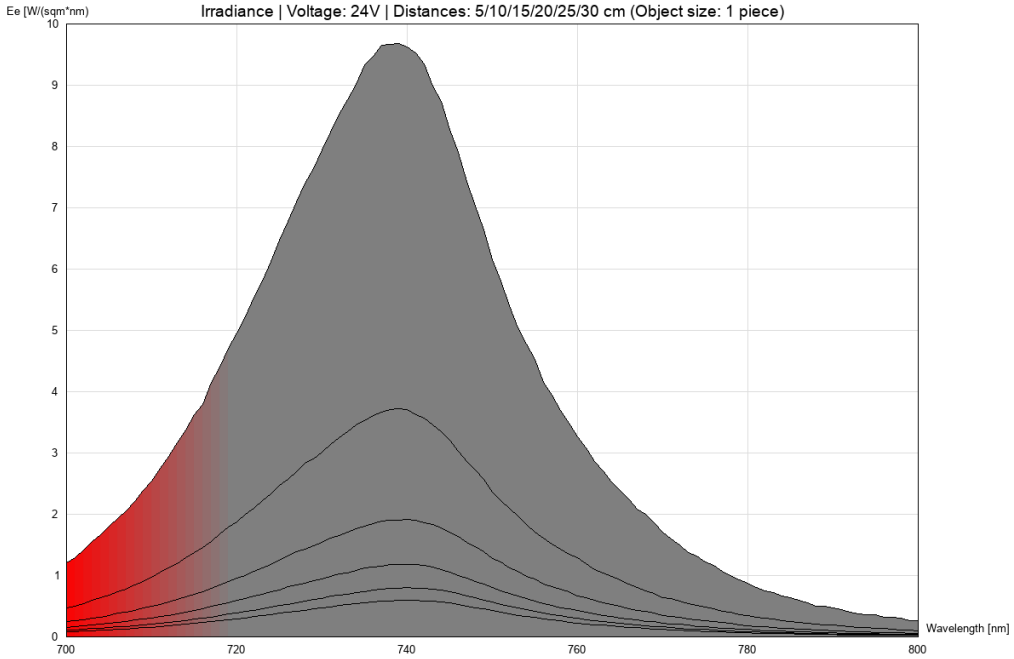
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

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



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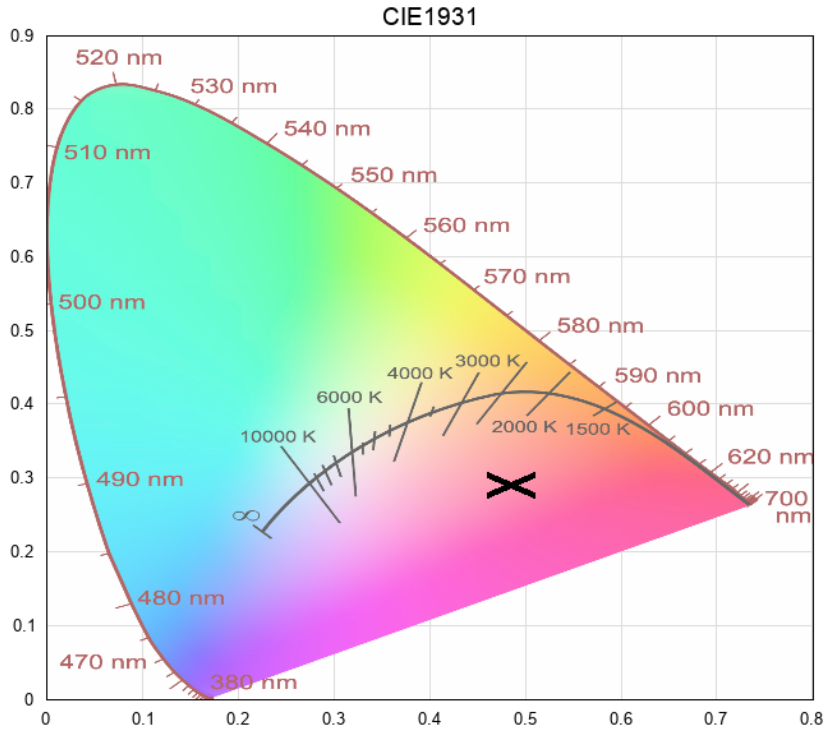

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