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.
- **24V Power Supply:** The fixture operates on a reliable 24V power supply, ensuring stable and consistent operation, perfect for demanding industrial 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.
- **Cosmetic Industry:** The fixture is ideal for applications in the cosmetic industry, where red light is used for skin treatments such as reducing wrinkles, improving skin tone, and promoting collagen production.

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.
- **Efficiency and Speed:** The LED fixture provides ample power for fast and efficient performance, making it essential for industrial production systems that need to process or cure large quantities of material quickly.

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

PPFD

Value	Measuring distance
1144 µmol/m2	50 mm
528 µmol/m2	75 mm
356 µmol/m2	100 mm
109 µmol/m2	200 mm
53 µmol/m2	300 mm
32 µmol/m2	400 mm
22 µmol/m2	600 mm

Irradiance

Value	Measuring distance
283 W/m2	50 mm
139 W/m2	75 mm
88 W/m2	100 mm
26 W/m2	200 mm
13 W/m2	300 mm
7,9 W/m2	400 mm
5,2 W/m2	600 mm

Electronics	
Working voltage	24V
Current per piece	1.25 A / piece
Power consumption per piece	30.00 W / piece
PCB material	Aluminium

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

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