Datasheet

LuxaLight Industrial LED Fixture Polarised cover Deep Red 660nm 24.2x16mm (24 Volt, 2835, IP64)

LF-24-660-24.2X16-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, including material curing, biological research, and more. With a 660nm 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 equipped with a silicone coating on the PCB, offering extra protection against moisture, dust, and other environmental factors. The polarized cover not only provides protection against mechanical damage but also regulates light transmission, ensuring that the 660nm wavelength is effectively delivered for maximum performance and reliability. This product is available with multiple polarizers: 30°, 60°, 90°, and 120°, depending on the specific requirements of the application.

Key Features:

- **660nm Wavelength:** The 660nm wavelength is ideal for applications requiring deep red light, such as horticulture, biological research, and specific industrial processes.
- **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 like moisture and dust, ensuring durability in harsh industrial environments.
- **Polarized Cover with Mechanical Protection:** The polarized cover offers mechanical protection against physical damage while allowing the 660nm wavelength to pass through effectively. This cover regulates light transmission and is available with different polarizers: 30°, 60°, 90°, and 120°, for customized light distribution and intensity.
- **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 allows for faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor ensures continuous temperature measurement and adjustment through the MaNima Pollux Industry System. This maintains the optimal operating temperature for maximum radiation output and consistent performance.

Applications:

- **Horticulture & Agriculture:** The 660nm wavelength is highly effective for stimulating plant growth, making it ideal for greenhouses and other agricultural applications where plant health and growth are crucial.
- **Biological Research:** In scientific and medical applications, 660nm light can be used for processes such as promoting tissue regeneration, cell cultivation, and photobiomodulation therapy (PBM), which can assist in pain relief and wound healing.
- **Medical Therapy:** 660nm light is used in phototherapy treatments such as skin healing, anti-aging treatments, and muscle recovery, where the benefits of red light are utilized to stimulate cells and tissues.
- **Food Industry:** The 660nm wavelength can be used for applications such as stimulating growth in food production environments or in the pasteurization process of certain food items.
- **Industrial Material Curing (Non-UV):** The deep red light is used for curing certain coatings and materials that react to red wavelengths, ensuring effective and fast curing processes in industrial environments.
- **Cosmetic Industry:** The fixture is ideal for applications in the cosmetic industry, where red light is used for skin treatments such as wrinkle reduction, skin tone improvement, and collagen production stimulation.

Benefits:

- **High Radiation Intensity:** The ability to pulse with the MaNima Pollux Industry System allows radiation intensity to be significantly increased, 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 measurement, helping to maintain the optimal operating temperature and prevent overheating, which extends the LED's lifespan and improves efficiency.
- **Industrial Durability:** The silicone coating on the PCB provides extra protection against dust, moisture, and other environmental factors, making the fixture resistant to the challenges of heavy industrial environments.
- **Efficiency and Speed:** The LED fixture provides sufficient power for fast and efficient performance, which is essential for industrial production systems that need to process or cure large volumes 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	660nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

PPFD

Value	Measuring distance
1462 µmol/m2	50 mm
713 µmol/m2	75 mm
458 µmol/m2	100 mm
137 µmol/m2	200 mm
69 µmol/m2	300 mm
43 µmol/m2	400 mm
28 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

Illuminance

Value	Measuring distance
17 klux	50 mm
8 klux	75 mm
5 klux	100 mm
1,5 klux	200 mm
0,8 klux	300 mm
0,5 klux	400 mm
0,3 klux	600 mm

• 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

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