Datasheet

LuxaLight Industrial LED Fixture Transparent IP68 Green 525nm 24.2x16mm (24 Volt, 2835, IP68)

LF-24-525-24.2x16-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 525nm, this LED fixture is a reliable and efficient solution for various industrial processes such as plant growth stimulation, photobiomodulation, and more. The 525nm wavelength is ideal for applications benefiting from green light, such as promoting plant growth, biological research, and other specific industrial processes.

This LED fixture is fully encapsulated in clear polyurethane (PU), providing robust protection against environmental factors while allowing the full 525nm wavelength to pass through effectively. The encapsulation ensures the fixture is IP68 waterproof, making it resistant to immersion in water, and IK10 shock-resistant, guaranteeing that the fixture can withstand heavy mechanical loads and impacts, making it extremely durable for industrial environments.

Key Features:

- **525nm Wavelength**: The 525nm wavelength is ideal for a wide range of industrial and scientific applications, such as promoting plant growth, photobiomodulation, and other processes that benefit from green light.
- **24V Power Supply**: Powered by a reliable 24V power supply, ensuring stable operation in demanding industrial environments.
- **Fully Encapsulated in Clear PU**: The fixture is fully encapsulated in clear polyurethane (PU), offering 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 performance even in harsh environments.
- **IK10 Shock Resistance**: The fixture has an IK10 rating, meaning it is resistant to heavy mechanical shocks, making it suitable for industrial environments with a high risk of impact.
- **Industrial Durability**: Designed for heavy-duty industrial applications, this fixture can withstand extreme conditions, including exposure to dust, moisture, and physical shocks.
- **Real-Time Temperature Monitoring via NTC Sensor**: The fixture is equipped with a temperature sensor that ensures continuous temperature regulation, maintaining an optimal working temperature for consistent and efficient performance.

Applications:

- **Plant Growth Stimulation**: The 525nm wavelength effectively 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 stimulating cellular processes such as photobiomodulation, useful for pain relief, wound healing, and tissue regeneration.
- **Medical Therapy**: Used in phototherapy for skin healing, muscle recovery, and anti-aging treatments. The 525nm light stimulates cell and tissue regeneration for faster recovery.
- **Cosmetic Industry**: In the cosmetic industry, the 525nm light is beneficial for improving skin texture, reducing wrinkles, and promoting collagen production, offering a non-invasive solution for skin treatments.
- **Industrial Process Optimization**: The 525nm wavelength can be applied to specific industrial processes like process optimization and enhancing the performance of photochemical processes.
- **Photochemical Reactions**: The green light wavelength can aid in photochemical reactions that break down harmful substances in industrial environments, such as in water purification or waste treatment processes. These processes are often enhanced by green light wavelengths.

Benefits:

- **High Radiation Intensity**: The fixture can significantly increase radiation intensity through pulsing, resulting in faster reactions and higher productivity in industrial processes.
- **Efficient Temperature Management**: The NTC sensor continuously monitors the temperature, ensuring the fixture operates at optimal levels for maximum performance, preventing overheating, and extending the lifespan of the fixture.
- **Industrial Durability**: The clear PU-encapsulated fixture and IP68 waterproof rating ensure the fixture is protected against moisture, dust, and other environmental factors, making it ideal for use in harsh industrial environments.
- **Shock Resistance**: The IK10 rating guarantees the fixture can withstand heavy mechanical impacts, making it suitable for industrial environments with high impact risks.
- **Fast and Efficient Performance**: The high efficiency of the 525nm LED ensures fast processing speeds, making it ideal for industrial applications that require quick material curing or large-scale production processes.

Technical specifications

General	
Brand	LuxaLight
Application	Horticulture 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	525nm
Beam angle	120 °

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	232900 lx
10cm	79170 lx
15cm	38300 lx
20cm	23070 lx
25cm	15130 lx
30cm	11210 lx

Total PPFD umol/m2 (PAR 400-700nm)
(Object size: 1 piece)

	24V
5cm	2015.42 umol/m2
10cm	685.15 umol/m2
15cm	331.437 umol/m2
20cm	199.541 umol/m2
25cm	130.774 umol/m2
30cm	96.8179 umol/m2

Peak wavelength
(Object size: 1 piece)

521 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

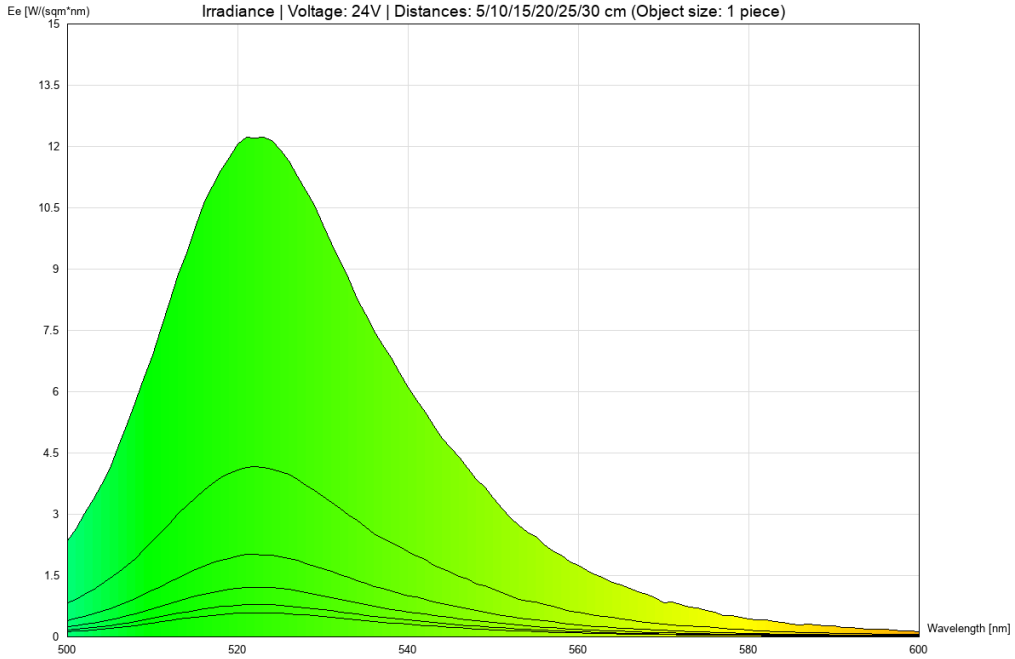
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 68

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 500-600-green (24V)



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