Datasheet

LuxaLight Industrial LED Fixture Polarised cover Green 525nm 24.2x16mm (24 volt, 2835, IP64)

LF-24-525-24.2x16-POL

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LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

Product description

The LuxaLight Industrial LED Fixture is specifically engineered for demanding industrial applications that require high radiation intensity. With a wavelength of **525nm**, this LED fixture is a reliable and efficient solution for a variety of industrial processes, including plant growth stimulation, water purification, biological research, and more. The **525nm** wavelength is ideal for applications such as plant growth enhancement, biological studies, and other specific industrial needs that benefit from green light. The fixture features a **polarized cover** (0°, 60°, 90°, and 120°), allowing you to adjust the light distribution for different applications.

Key Features:

- **525nm Wavelength:** The **525nm** wavelength is perfect for a range of industrial and scientific applications, including plant growth stimulation, water purification, and biological research, where green light is essential.
- **24V Power Supply:** Powered by a reliable 24V power supply, ensuring stable operation across demanding industrial environments.
- **Aluminum Housing with Polarized Transparent Cover (0°, 60°, 90°, and 120°):** The durable aluminum housing provides robust protection against physical impacts, and the polarized cover ensures that light distribution can be customized depending on your needs. You can choose from 0°, 60°, 90°, or 120° for different levels of light spread, providing flexibility for diverse industrial and scientific applications.
- **Industrial-Grade Durability:** Designed with an industrial focus, this fixture withstands the rigors of tough environments, offering resistance to moisture, dust, and mechanical stresses.
- **Real-Time Temperature Monitoring via NTC Sensor:** Integrated with a temperature monitoring system, the fixture ensures continuous temperature regulation, maintaining an optimal operating temperature for consistent and efficient performance.

Applications:

- **Water Purification:** The **525nm** wavelength is highly effective in water purification processes, promoting photochemical reactions that help break down pollutants and harmful substances in water.
- **Plant Growth Stimulation:** The **525nm** wavelength is ideal for stimulating plant growth, making it perfect 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 **525nm** light stimulates cell and tissue regeneration for faster recovery.
- **Food Industry:** The green light is utilized in food production environments to stimulate growth or assist in processes such as the pasteurization of specific food products.
- **Cosmetic Industry:** In the cosmetic industry, **525nm** light is beneficial for enhancing skin tone, reducing wrinkles, and promoting collagen production, providing 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 aluminum housing, combined with the polarized transparent cover, provides robust protection against physical damage while ensuring reliable performance in harsh industrial conditions, extending the fixture's lifespan and minimizing maintenance.
- **Fast and Efficient Performance:** The high efficiency of the **525nm** LED ensures fast processing speeds, ideal for high-throughput industrial applications such as material curing, water purification, and large-scale production processes.

Technical specifications

General	
Brand	LuxaLight
Application	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	525nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

PPFD

Value	Measuring distance
896 µmol/m2	50 mm
426 µmol/m2	75 mm
263 µmol/m2	100 mm
80 µmol/m2	200 mm
42 µmol/m2	300 mm
27 µmol/m2	400 mm
18 µmol/m2	600 mm

Irradiance

Value	Measuring distance
213 W/m2	50 mm
100 W/m2	75 mm
62 W/m2	100 mm
18 W/m2	200 mm
10 W/m2	300 mm
6,2 W/m2	400 mm
4,1 W/m2	600 mm

Illuminance

Value	Measuring distance
104 klux	50 mm
49 klux	75 mm
31 klux	100 mm
10 klux	200 mm
5 klux	300 mm
3,1 klux	400 mm
2,1 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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