

Datasheet

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

LF-24-525-24.2X16-OC

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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, 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 an **opal cover**, providing diffuse light for uniform distribution while protecting the LED from dust and mechanical damage.

Key Features:

- **525nm Wavelength:** The **525nm** wavelength is perfect for a range of industrial and scientific applications, including plant growth stimulation 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 Opal Transparent Cover for Mechanical Protection:** The durable aluminum housing provides robust protection against physical impacts, and the opal transparent cover ensures the LED fixture remains protected while allowing the **525nm** wavelength to pass through effectively. The opal cover also diffuses the light for more even distribution, ensuring long-lasting reliability and performance.
- **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:

- **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 opal 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	Horticulture Machine Vision
LED type	2835
Material	Aluminum
Dimensions	220 × 24,2 × 16 mm
Mounting	Surface mounted
Cover type	PMMA opal
LEDs per piece	108.00

Lighting

Wave length	525nm
Beam angle	120 °

Measurement results

PPFD	Value	Measuring distance
	1961 µmol/m ²	50 mm
991 µmol/m ²	75 mm	
619 µmol/m ²	100 mm	
187 µmol/m ²	200 mm	
95 µmol/m ²	300 mm	
59 µmol/m ²	400 mm	
42 µmol/m ²	600 mm	

Irradiance	Value	Measuring distance
	455 W/m ²	50 mm
232 W/m ²	75 mm	
144 W/m ²	100 mm	
43 W/m ²	200 mm	
22 W/m ²	300 mm	
13 W/m ²	400 mm	
9,6 W/m ²	600 mm	

Illuminance	Value	Measuring distance
	229 klux	50 mm
116 klux	75 mm	
72 klux	100 mm	
22 klux	200 mm	
11 klux	300 mm	
6,8 klux	400 mm	
4,9 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
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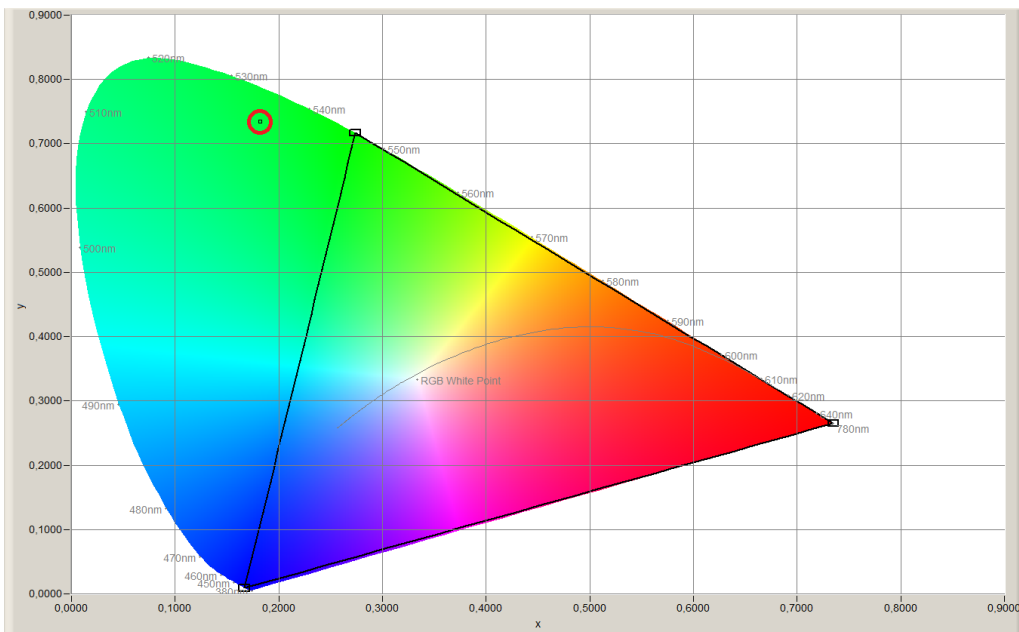
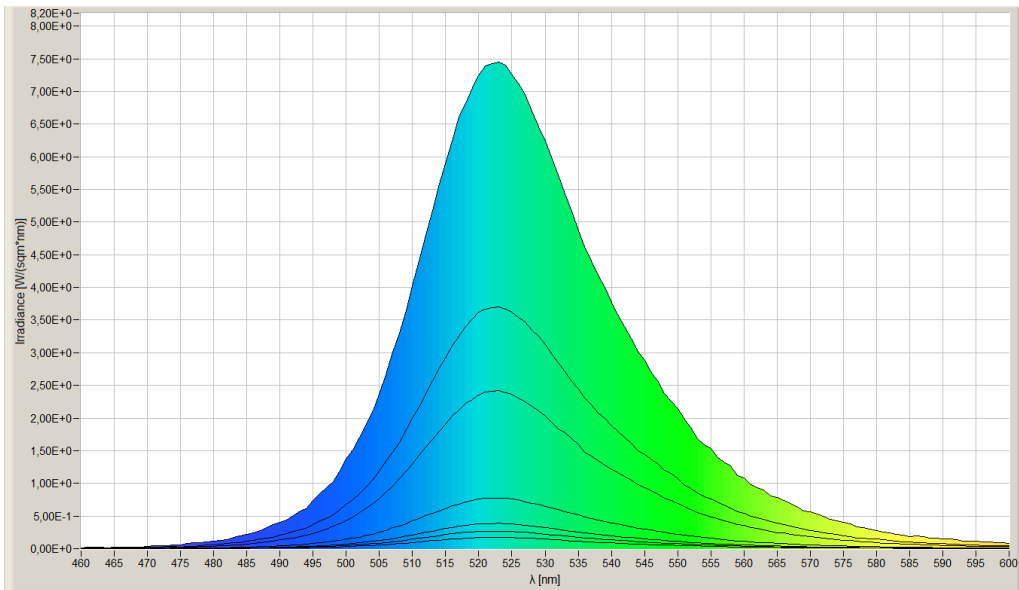
Environmental

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



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