

Datasheet

LuxaLight Industrial LED Fixture Polarised cover Neutral White 4800K 24.2x16mm (24 Volt, 2835, IP64)

LF-24-4800-24.2X16-POL

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Product description

LuxaLight Industrial LED Fixture (4800K)

The **LuxaLight Industrial LED Fixture (4800K)** is designed as a high-quality lighting component for applications requiring high light output, precision, and excellent color rendering. This LED fixture consists of **54 LEDs with 4200K** and **54 LEDs with 5700K**, resulting in a total color temperature of **4800K**. This balanced spectrum offers an ideal solution for **horticulture, plant research, and scientific environments**, where a full spectrum of light is essential for photosynthesis and plant growth.

Key Features:

- **4800K Color Temperature:** The combination of 4200K and 5700K LEDs creates a balanced 4800K spectrum, offering neutral white light that is ideal for applications in **horticulture** and **plant research**. This spectrum is optimized for plant growth and supports effective photosynthesis.
- **High PPFD Output (3226 $\mu\text{mol}/\text{m}^2/\text{s}$ at 5 cm):** The LED fixture produces high light intensity, ideal for promoting photosynthesis and healthy plant growth. This makes it an excellent choice for **scientific research** and other related applications requiring powerful lighting.
- **Aluminum Housing for Heat Management:** The fixture is made from **aluminum**, which ensures efficient heat dissipation and optimal performance, even during extended use. This contributes to the long lifespan and performance of the fixture.
- **Polarized Covers for Light Spread:** The **polarized covers** offer different light spread options with angles of **0°, 60°, 90°, and 120°**, making the LED fixture highly versatile, suitable for various applications where light distribution needs to be adapted based on the environment's specific requirements.
- **Fully Finished Product:** The LED fixture is a **fully finished product**, ready for direct integration into systems or installations. This provides convenience and saves time when implementing applications in **horticulture, plant research**, or other light-related environments.
- **Real-Time Temperature Monitoring via NTC Sensor (in combination with Pollux Industry):** The integrated **NTC sensor** ensures continuous temperature measurement and adjustment. When used in combination with **Pollux Industry**, the sensor maintains optimal operating conditions, preventing overheating and ensuring the LED fixture consistently performs at its best. This combination maximizes output and contributes to reliable, long-lasting results.

Applications:

- **Horticulture and Plant Lighting:** The 4800K color temperature and high PPFD output make this LED fixture ideal for **horticultural** applications, where a broad light spectrum is required to promote photosynthesis. This makes the LED fixture perfect for **growing facilities, vertical farming, and commercial cultivation**.
- **Plant Research and Growth Optimization:** With its balanced light spectrum, the LED fixture is ideal for scientific research into plant growth, photosynthesis, and other biological processes influenced by light intensity and quality.
- **Scientific Research Environments:** The LED fixture provides powerful lighting for controlled research environments, where specific light spectrums and high PPFD output are essential for studying plant growth and photosynthesis in scientific applications.
- **Quality Control in Agriculture and Horticulture:** The LED fixture is also suitable for quality control of plants, crops, or other biological products in **agriculture and horticulture**, offering consistent lighting that accurately simulates growth conditions.

Benefits:

- **Full Spectrum Lighting:** The combination of **4200K** and **5700K** LEDs provides a broad spectrum, delivering powerful lighting for photosynthesis and plant growth, ideal for **horticulture and research**.
- **High PPFD Output:** The high PPFD output of **3226 $\mu\text{mol}/\text{m}^2/\text{s}$ at 5 cm** ensures sufficient light intensity, promoting healthy plant growth, especially in **scientific research** and commercial applications.
- **Integration Flexibility:** The LED fixture can be easily integrated into existing systems or enclosures, offering flexibility for applications in **growing facilities, vertical farming, laboratories, and other horticulture and research applications**.
- **Efficient Performance:** The LED fixture provides reliable and efficient performance with consistent light output, making it ideal for intensive growth applications like **horticulture and scientific research**, where long-lasting and dependable lighting is required.

Technical specifications

General	
Brand	LuxaLight
Application	Food Inspection (Agro-Food) Hyper - spectral Imaging Line Scan Cameras 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	
Color temperature	4800 K
Beam angle	120 °

Measurement results

PPFD	Value	Measuring distance
	1777 µmol/m ²	50 mm
935 µmol/m ²	75 mm	
535 µmol/m ²	100 mm	
167 µmol/m ²	200 mm	
84 µmol/m ²	300 mm	
52 µmol/m ²	400 mm	
32 µmol/m ²	500 mm	

Irradiance	Value	Measuring distance
	408 W/m ²	50 mm
205 W/m ²	75 mm	
129 W/m ²	100 mm	
40 W/m ²	200 mm	
20 W/m ²	300 mm	
12 W/m ²	400 mm	
8 W/m ²	600 mm	

illuminance

Value	Measuring distance
115 klux	50 mm
60 klux	75 mm
34 klux	100 mm
11 klux	200 mm
5,4 klux	300 mm
3,3 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
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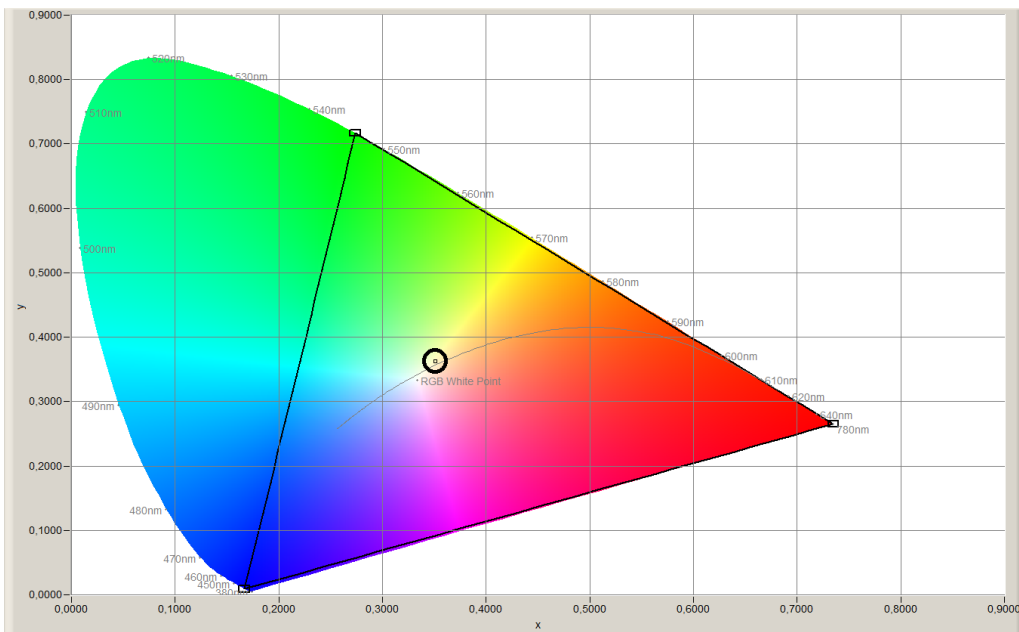
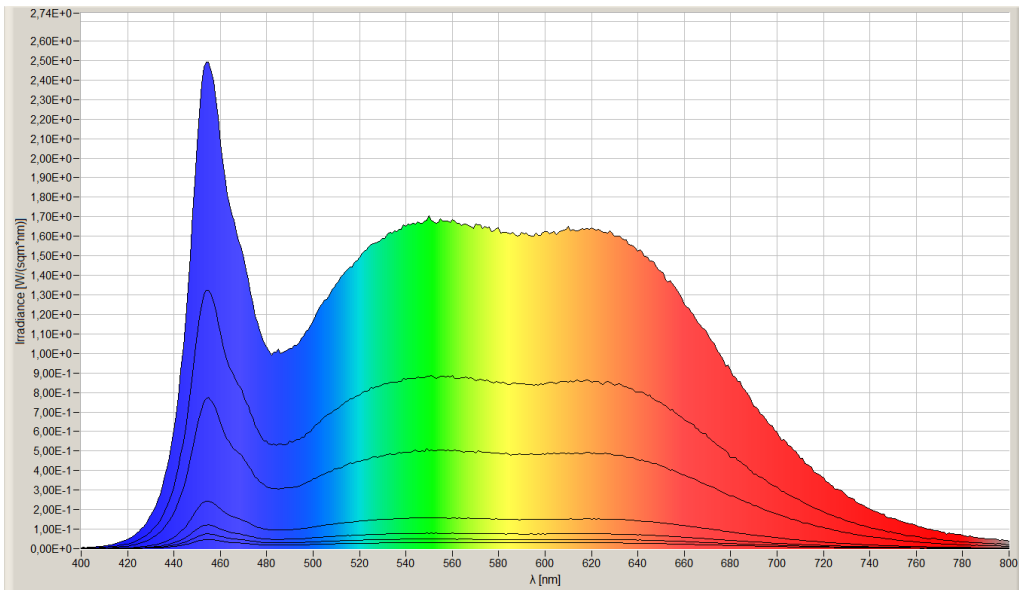
Environmental

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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