

# Datasheet

## **LuxaLight Industrial LED Fixture Transparent cover White Full Spectrum 5700K 24.2x16mm (24 Volt, 2835, IP64)**

**LF-24-5700-24.2X16-TC**

**Version: 2025-07-09.2**

## Product description

The **LuxaLight Industrial LED Fixture (5700K)** is designed as a high-quality component for industrial applications that require high lumen output, precision, and exceptional color accuracy. With a **CRI of 95+** and a 5700K color temperature, this LED-**fixture** provides an ideal solution for applications such as **food inspection (Agro-Food)**, **hyper-spectral imaging**, **line scan cameras**, and **machine vision systems**, where accurate color rendering and consistent light output are crucial.

This LED-**fixture** can be easily integrated into custom fixtures or housings based on your specific requirements. Its versatility makes it perfect for use in various industrial, research, and inspection environments where high-quality illumination is necessary for detailed analysis and accurate measurements.

### Key Features:

- **5700K Color Temperature:** The 5700K natural white light provides clarity and excellent color accuracy, making it ideal for tasks like food inspection, hyper-spectral imaging, and machine vision systems where precise and clear lighting is essential.
- **CRI 95+:** With a Color Rendering Index (CRI) of 95 or higher, the LED-**fixture** ensures excellent color accuracy and true-to-life color rendering, which is critical for applications requiring accurate color differentiation, such as in food quality control and material inspection.
- **High Lumen Output:** This LED-**fixture** delivers a high lumen output, providing bright and even illumination, essential for imaging applications where clarity and precision are key.
- **Modular Design with Aluminum Heatsink and Transparent Cover:** The modular design, combined with the aluminum heatsink and transparent cover, ensures optimal heat management and mechanical strength, enhancing the durability and reliability of the LED-**fixture**. This makes it suitable for applications that require stability and long-term performance.
- **Integration with MaNima Pollux Industry Pulsing (Strobing):** The LED-**fixture** integrates seamlessly with the MaNima Pollux Industry System, enabling high-speed pulsing (strobing) for quick exposures. This feature is ideal for high-speed imaging, allowing for fast reaction times and precise control over exposure.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor ensures continuous temperature measurement and adjustment, maintaining optimal operating conditions and preventing overheating.

### Applications:

- **Food Inspection (Agro-Food):** The 5700K color temperature and high CRI ensure optimal color rendering, making it ideal for food inspection, where accurate color representation is necessary for defect detection and quality control.
- **Hyper-Spectral Imaging:** The LED-**fixture** with high CRI and lumen output is perfect for hyper-spectral imaging systems, offering clear and consistent illumination for spectral analysis of materials and substances.
- **Line Scan Cameras:** Ideal for use with line scan cameras, the high lumen output and precise color rendering ensure bright, even illumination, crucial for capturing clear, high-quality images of moving objects or surfaces in high-speed scanning applications.
- **Machine Vision Systems:** The **fixture**'s high CRI and bright illumination provide the ideal lighting for machine vision applications, enabling accurate defect detection, object recognition, and automated quality control in manufacturing and industrial automation.

### Benefits:

- **High CRI for Accurate Color Rendering:** The LED-**fixture**'s CRI of 95+ guarantees exceptional color accuracy, making it ideal for applications where precise color differentiation is essential for quality control and analysis.
- **High Lumen Output:** The **fixture**'s high lumen output provides bright and uniform lighting, improving clarity and enhancing the precision of image and video capture in inspection and imaging applications.
- **Fast Exposures with MaNima Pollux Integration:** Thanks to the integration with the MaNima Pollux Industry System for strobing, the **fixture** enables rapid exposures, facilitating high-speed imaging and faster processing in real-time applications.
- **Flexibility in Integration:** The LED-**fixture** can be easily integrated into custom enclosures or systems, offering flexibility for a wide range of applications, including food inspection, imaging, and machine vision.
- **Efficient Performance:** With consistent, high-quality light output and precise color rendering, the LED-**fixture** offers reliable performance, even in demanding environments that require accurate, high-speed processing.
- **Real-Time Temperature Monitoring for Consistent Performance:** The integrated NTC sensor, combined with the MaNima Pollux Industry System, ensures continuous temperature monitoring, preventing overheating and maintaining optimal performance over time.

## 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	
Warranty	5 years	
Cover type	PMMA transparent	
LEDs per piece	108.00	
Lifetime	70000 hours	
Lighting		
Color temperature	5700 ~ 5900 K	
CRI	≥ 95	
Luminous Flux	3720 lm	
BIN	3 SDCM	
Beam angle	120 °	
LB waarde	L80B50	
Measurement results		
CRI (Object size: 1 piece)	95	
CCT (Object size: 1 piece)	5833 K	
Illuminance (Lux) (Object size: 1 piece)		24V
	5cm	191400 lx
	10cm	77330 lx
	15cm	40220 lx
	20cm	24960 lx
	25cm	16510 lx
	30cm	12260 lx
Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)		24V
	5cm	2991.04 umol/m2
	10cm	1212.87 umol/m2
	15cm	632.378 umol/m2
	20cm	393.149 umol/m2
	25cm	261.244 umol/m2
	30cm	193.688 umol/m2
Peak wavelength (Object size: 1 piece)	454 nm	

**Peak irradiance**  
(Object size: 1 piece)

	24V
5cm	5.14373 W/sqm
10cm	2.15944 W/sqm
15cm	1.13656 W/sqm
20cm	0.714405 W/sqm
25cm	0.470971 W/sqm
30cm	0.349696 W/sqm

**Total irradiance**  
(Object size: 1 piece)

	24V
5cm	682.3 W/sqm
10cm	276.9 W/sqm
15cm	144 W/sqm
20cm	89.42 W/sqm
25cm	59.4 W/sqm
30cm	43.98 W/sqm

- 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

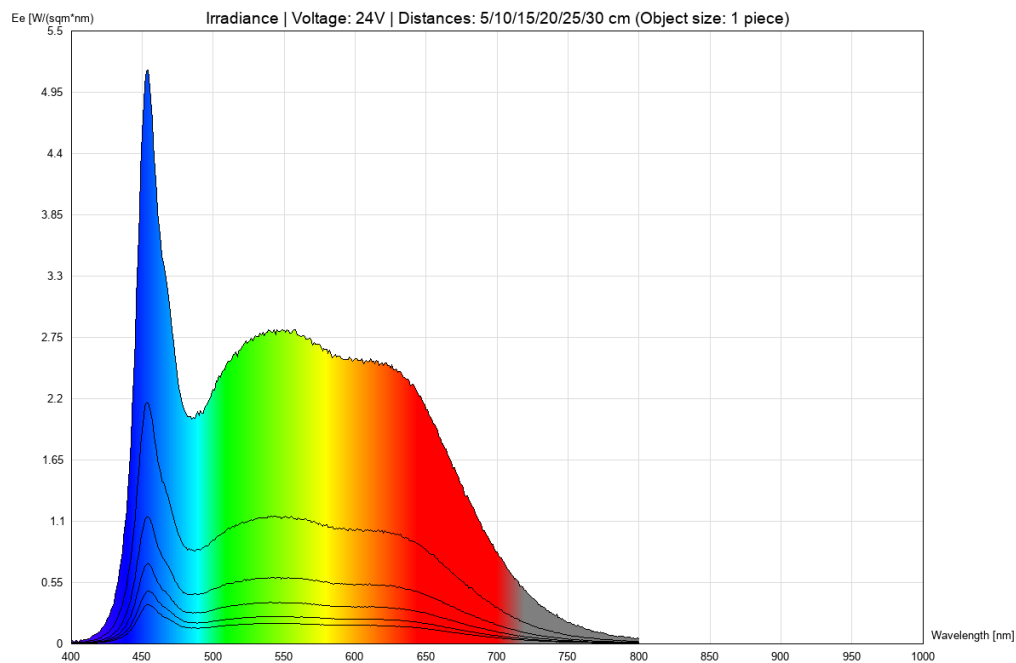
## Directives - standards - certificates

Directives RoHS  
CE

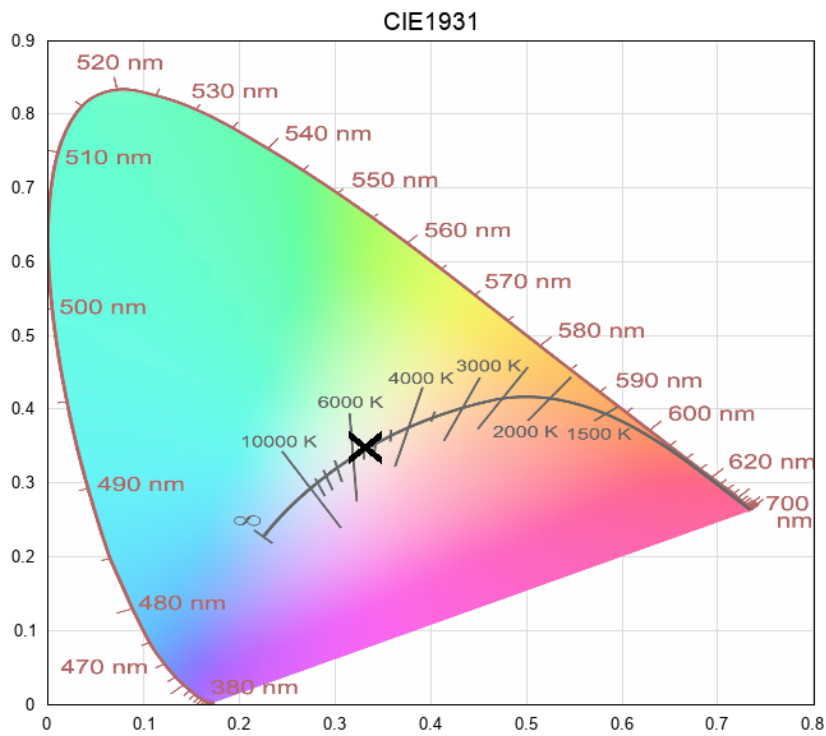
Safety standards EN60598-1  
EN62031  
IEC62471

## Measurement results

### irradiance - full-spectrum (24V)



## cie1931



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