

Datasheet

LuxaLight LED Engine White 5700K Protected (24 Volt, 108 LEDs, 2835, IP64)

LE-24-5700K-108X2835PLX

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Product description

The **LuxaLight LED Engine [type/specification] (Protected, 24 V)** is a **semi-finished aluminum PCB module**, designed for engineers and OEMs who require a reliable light source for integration into custom fixtures, optical systems, or R&D setups. Unlike a complete luminaire, this LED engine delivers only the **core light source**, offering full freedom in housing, optics, and thermal management.

Equipped with 108 × 2835 SMD LEDs, an **industrial silicone coating providing IP64 protection**, and an integrated NTC temperature sensor, the module ensures stable performance and long service life in demanding environments. As a semi-finished product, the engine becomes a **complete, high-efficiency lighting solution when combined with the MaNima Pollux Industrial System**, enabling higher efficiency through pulsing and advanced thermal control.

Key Specifications

Property	Value / Description
Type	LED Engine – semi-finished PCB module
LEDs	108 × 2835 SMD LEDs
PCB base	Aluminum
PCB protection	Industrial silicone coating (provides IP64 rating)
Dimensions	200 × 20 × 2 mm (modular design)
Supply	24 V DC / ~30 W
Spectrum / CCT	e.g. Neutral White 4200 K, White 5700 K, 735 nm, 860 nm ...
CRI (for white types)	CRI ≥ 95; 3 SDCM
Beam angle	120°
Thermal monitoring	Integrated NTC sensor (5 kΩ, β = 3950)

Applications

- **Machine vision & inspection systems** – stable, high-quality illumination for defect detection
- **Packaging & print quality control** – consistent light for accurate evaluation
- **Food inspection (Agro-Food)** – reliable assessment of freshness, texture, and color
- **Hyperspectral imaging & line-scan setups** – uniform illumination for spectral analysis
- **Cleanrooms & laboratories** – reference-quality lighting for scientific use
- **Prototyping & OEM lighting designs** – flexible integration into custom fixtures

Also applicable in R&D and specialized lighting setups.

Benefits for Engineers

- **Semi-finished module** – intended for OEM use and R&D integration
- **Perfect Pollux companion** – becomes a complete product when combined with MaNima Pollux
- **Improved efficiency with Pollux** – pulsing and thermal control maximize performance
- **Design freedom** – integrate into your own housing, optics, and cooling strategy
- **High light quality** – CRI ≥ 95 (white engines) with 3 SDCM consistency
- **Modular scalability** – multiple engines can be combined as required
- **Thermal safety** – integrated NTC ensures stable and safe operation
- **Industrial robustness** – IP64 protection via silicone coating

Integration with MaNima Pollux Industrial System

- Real-time NTC temperature monitoring
- Pulse/strobe modes for **higher peak intensities and improved efficiency**
- Prevents overheating while maximizing performance
- Provides data to PLC/SCADA automation systems
- Open UDP-based API for advanced integration and customization

Technical specifications

General		
Brand	LuxaLight	
Application	Food Inspection (Agro-Food) Hyper - spectral Imaging Line Scan Cameras Machine Vision	
LED type	2835	
PCB color	White	
Material	Aluminum	
Dimensions	200 × 20 × 2 mm	
Mounting	3M tape VHB4905	
Warranty	5 years	
LEDs per piece	108.00	
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	632.38 umol/m2
	20cm	393.15 umol/m2
	25cm	261.24 umol/m2
	30cm	193.69 umol/m2
Peak wavelength (Object size: 1 piece)	454 nm	

Peak irradiance

(Object size: 1 piece)

	24V
5cm	5.14 W/sqm
10cm	2.16 W/sqm
15cm	1.14 W/sqm
20cm	0.71 W/sqm
25cm	0.47 W/sqm
30cm	0.35 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

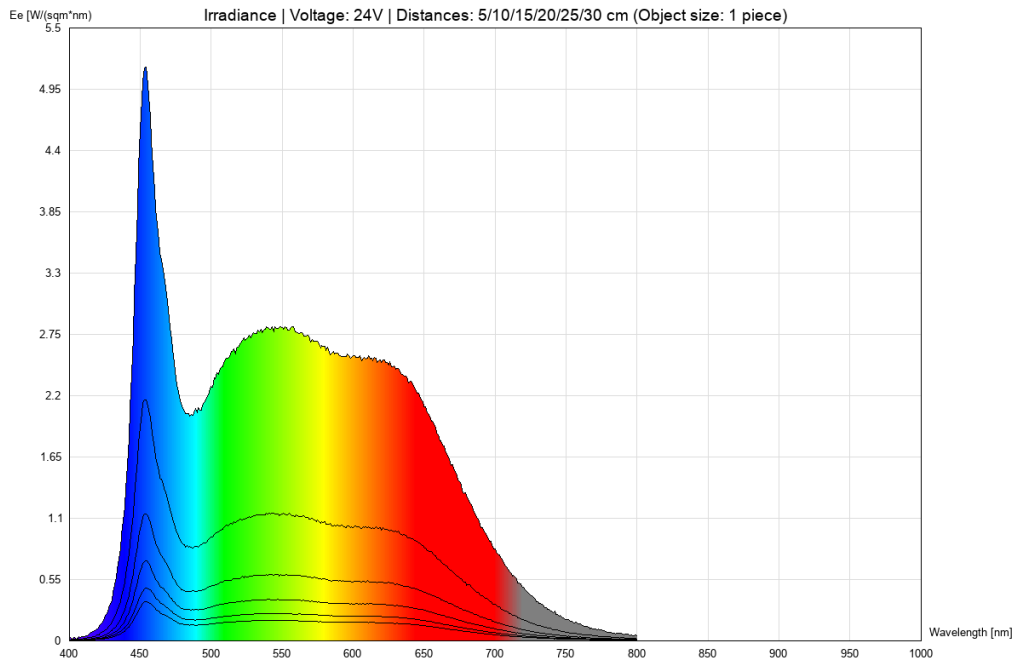
Directives - standards - certificates

Directives RoHS
CE

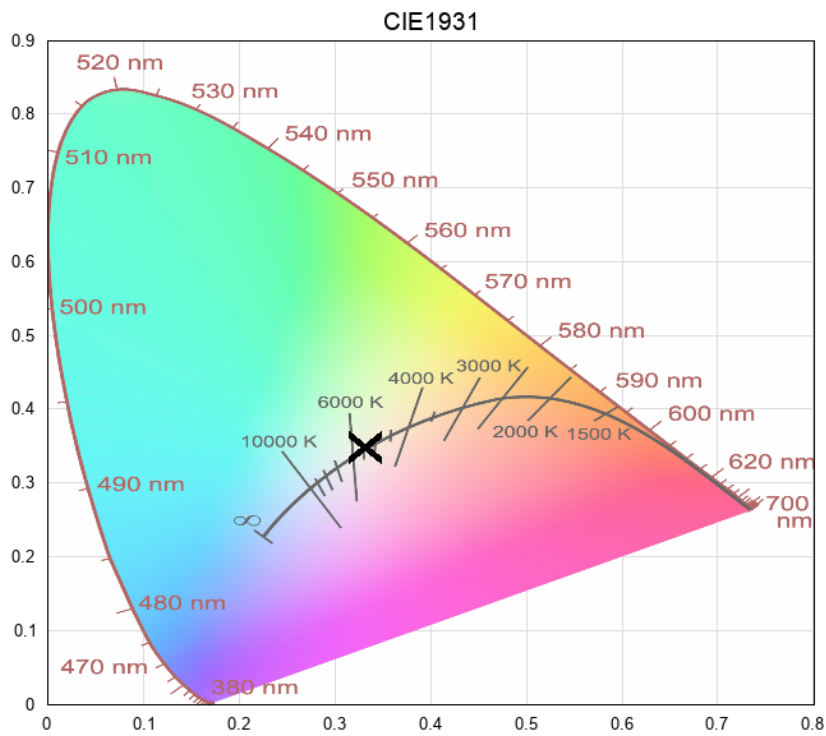
Safety standards EN60598-1
EN62031
IEC62471

Measurement results

irradiance - full-spectrum (24V)



cie1931



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