

# Datasheet

## LuxaLight LED Engine Red 640nm Protected (24 Volt, 108 LEDs, 2835, IP64)

**LE-24-640-108X2835PLX**

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## Product description

The LuxaLight Industrial LED Engine is designed as a high-performance component for intensive industrial applications that require high radiation intensity. With a 640nm wavelength, this LED engine offers an efficient solution for processes that benefit from red light, such as plant growth stimulation, seedling optimization, and certain medical treatments.

This LED engine is a semi-finished product, allowing it to be integrated into custom fixtures or housings depending on your specific requirements. It offers flexibility for use in various industrial, research, and medical applications, where the powerful 640nm wavelength can deliver targeted results. The engine is designed for easy integration into larger systems or custom enclosures.

### Key Features:

- **640nm Wavelength:** The 640nm wavelength is ideal for applications that benefit from red light, such as plant growth stimulation, photobiomodulation, and certain medical applications.
- **24V Power Supply:** The LED engine operates on a reliable 24V power supply, ensuring stable and consistent operation, perfect for demanding applications.
- **High Radiation Intensity:** This LED engine delivers high radiation intensity, making it suitable for processes that require significant light output.
- **Semi-Finished Product:** The LED engine is designed to be integrated into custom systems or housings, providing flexibility for various industrial, research, or medical setups.
- **Integration with MaNima Pollux Industry Pulsing (Strobing):** The LED engine supports integration with the MaNima Pollux Industry System for pulsing (strobing), significantly increasing radiation intensity. This feature allows for faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor ensures continuous temperature measurement and adjustment through the MaNima Pollux Industry System. This helps maintain the optimal operating temperature for maximum radiation output.

### Applications:

- **Horticulture & Agriculture:** The 640nm wavelength is highly effective for stimulating plant growth, making it ideal for integration into custom lighting solutions for greenhouses and agricultural applications.
- **Biological Research:** The LED engine can be used in scientific and medical applications for processes such as photobiomodulation, cell stimulation, and tissue regeneration, which is useful for pain relief and wound healing.
- **Medical Therapy:** 640nm light is used in phototherapy treatments such as promoting skin healing, muscle recovery, and stimulating collagen production for anti-aging treatments.
- **Cosmetic Industry:** The LED engine is suitable for use in the cosmetic industry for skin treatments, such as improving skin texture, reducing wrinkles, and stimulating collagen production.
- **Industrial Material Curing (Non-UV):** The red light can cure specific coatings and materials that react to red wavelengths, providing effective and fast curing processes in industrial settings.
- **Phytopathology:** The 640nm wavelength can also be used in applications related to plant diseases, such as monitoring pathogen growth in crops and reducing pest damage.

### Benefits:

- **High Radiation Intensity:** The engine provides high radiation intensity, allowing for faster reactions and increased productivity in applications that require red light.
- **Flexibility in Integration:** As a semi-finished product, the LED engine offers flexibility for integration into custom housings or systems tailored to specific industrial, research, or medical applications.
- **Efficient Performance:** The LED engine provides efficient performance with stable output, making it ideal for environments that need consistent light delivery.
- **Real-Time Temperature Monitoring for Consistent Performance:** The integrated NTC sensor, combined with the MaNima Pollux Industry System, ensures continuous temperature monitoring, helping to prevent overheating and maintain optimal operating conditions for long-term reliability.

## Technical specifications

General	
Brand	LuxaLight
Application	Barcode Scanning 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
Lifetime	70000 hours

Lighting	
Luminous Flux	755,1 lm
Wave length	640 nm
BIN	3 SDCM
Beam angle	120 °
LB waarde	L80B50

### Measurement results

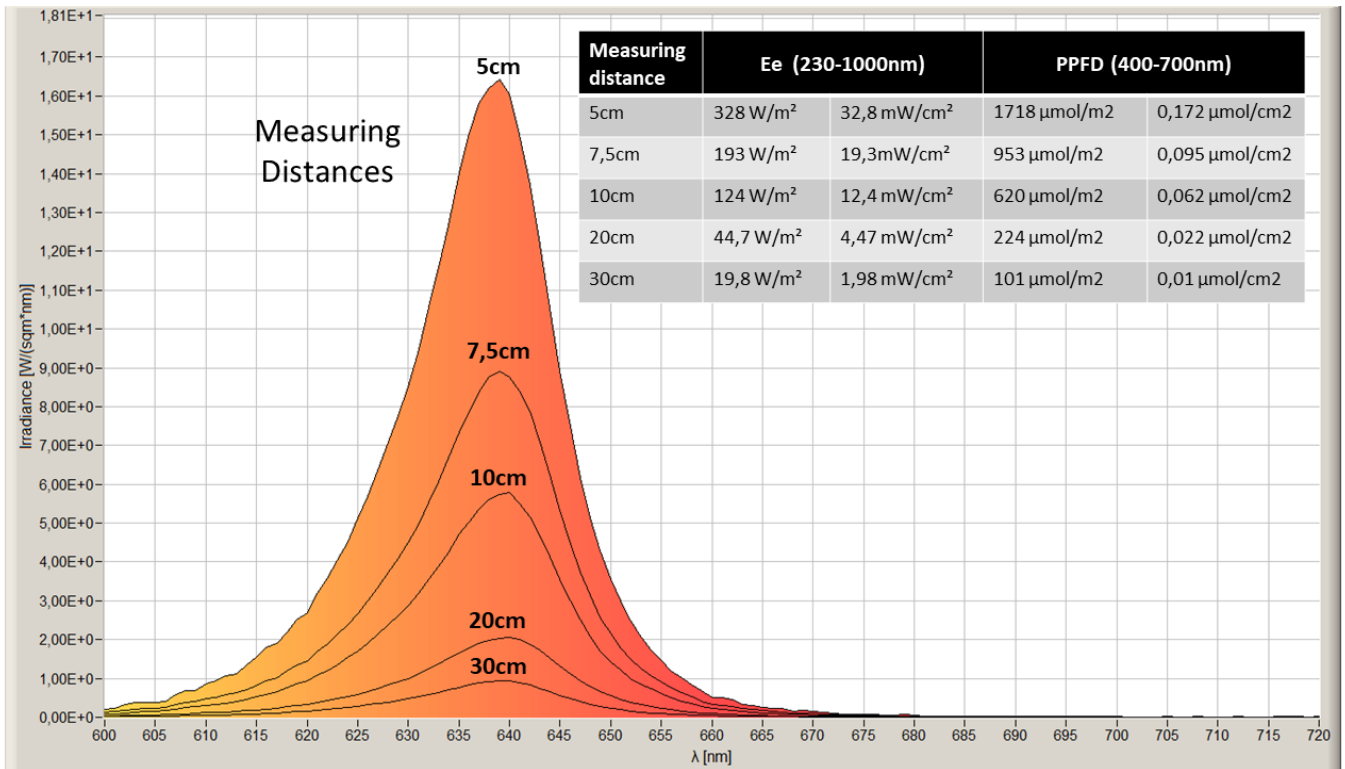
PPFD	Value	Measuring distance
	1718 µmol/m2	50 mm
953 µmol/m2	75 mm	
620 µmol/m2	100 mm	
224 µmol/m2	200 mm	
101 µmol/m2	300 mm	

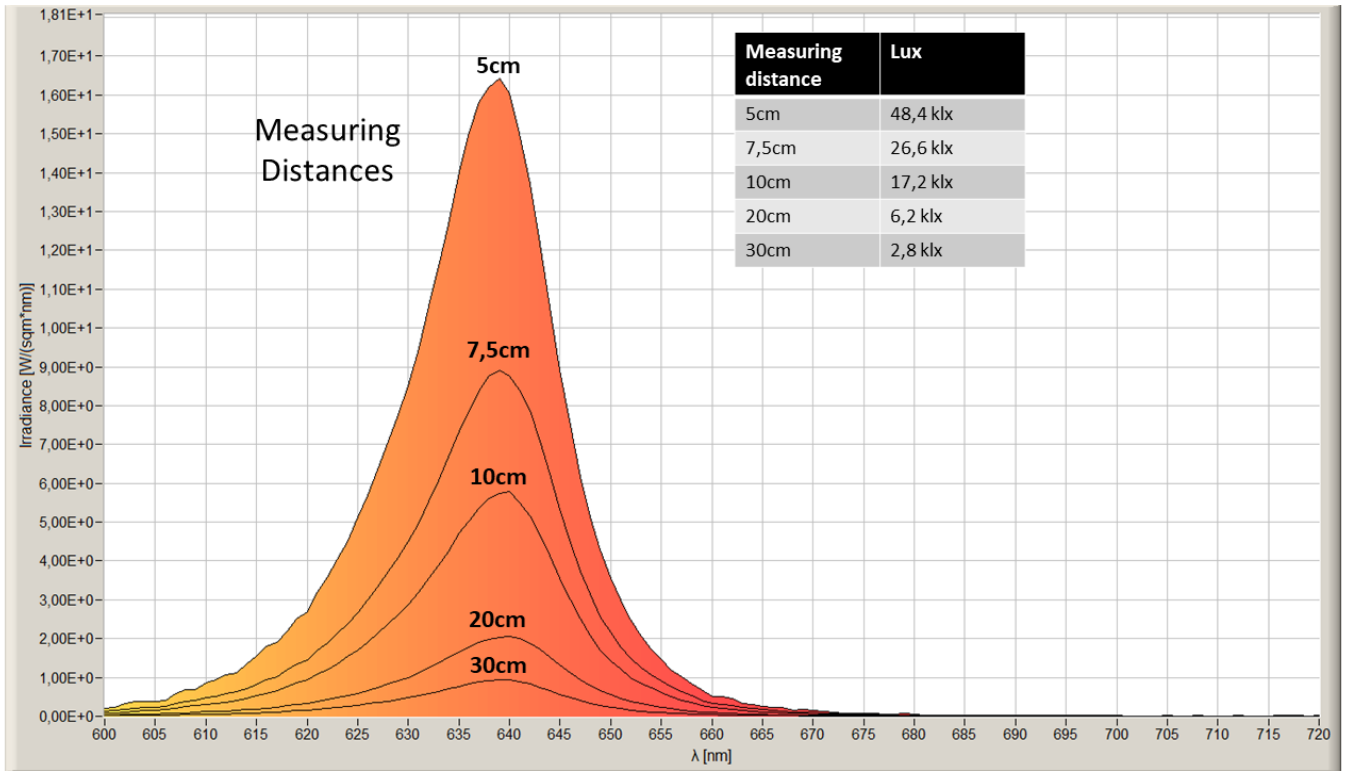
Irradiance	Value	Measuring distance
	328 W/m2	50 mm
193 W/m2	75 mm	
124 W/m2	100 mm	
44,7 W/m2	200 mm	
19,8 W/m2	300 mm	

Illuminance	Value	Measuring distance
	48,4 klux	50 mm
26,6 klux	75 mm	
17,2 klux	100 mm	
6,2 klux	200 mm	
2,8 klux	300 mm	

Electronics	
Working voltage	24V
Current per piece	1.25 A / piece
Power consumption per piece	30.00 W / piece
PCB material	Aluminium
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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