# Datasheet

## LuxaLight LED Engine Deep Red 660nm Protected (24 Volt, 108 LEDs, 2835, IP64)

### LE-24-660-108X2835PLX

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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 660nm wavelength, this LED engine provides an efficient solution for processes that benefit from deep red light, such as plant growth stimulation, tissue regeneration, and more.

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 660nm wavelength can deliver targeted results. The engine is designed for easy integration into larger systems or custom enclosures.

**Key Features:**

- **660nm Wavelength:** The 660nm wavelength is ideal for applications that require deep red light, such as horticulture, biological research, and certain industrial processes.
- **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 high-efficiency processes and applications that require significant light output.
- **Semi-Finished Product:** The LED engine is designed to be integrated into custom systems or housings, providing flexibility for adapting to 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 and consistent performance.

**Applications:**

- **Horticulture & Agriculture:** The 660nm 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 promoting tissue regeneration, cell cultivation, and photobiomodulation therapy (PBM), assisting in pain relief and wound healing.
- **Medical Therapy:** 660nm light is used in phototherapy treatments such as skin healing, anti-aging treatments, and muscle recovery, where red light stimulates cells and tissues.
- **Food Industry:** The 660nm wavelength can be used for applications such as stimulating growth in food production environments or in the pasteurization of certain food items.
- **Industrial Material Curing (Non-UV):** The deep red light can cure specific coatings and materials that react to red wavelengths, providing effective and fast curing processes in industrial settings.
- **Cosmetic Industry:** The LED engine is suitable for use in the cosmetic industry for skin treatments such as wrinkle reduction, skin tone improvement, and stimulating collagen production.

**Benefits:**

- **High Radiation Intensity:** The engine provides high radiation intensity, allowing for faster reactions and increased productivity in applications that require deep 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<br>Machine Vision |
| LED type | 2835 |
| PCB color | White |
| Material | Aluminum |
| Dimensions | 200 × 20 × 2 mm |
| Mounting | 3M tape VHB4905 |
| LEDs per piece | 108.00 |
| Lifetime | 70000 hours |

| Lighting | |
|---|---|
| Wave length | 660 nm |
| Beam angle | 120 ° |
| LB waarde | L80B50 |

**Measurement results**

Illuminance (Lux)
(Object size: 1 piece)

| | 24V |
|---|---|
| **5cm** | 26980 lx |
| **10cm** | 10420 lx |
| **15cm** | 5294 lx |
| **20cm** | 3242 lx |
| **25cm** | 2179 lx |
| **30cm** | 1653 lx |

Total PPFD umol/m2 (PAR 400-700nm)
(Object size: 1 piece)

| | 24V |
|---|---|
| **5cm** | 2485.19 umol/m2 |
| **10cm** | 928.214 umol/m2 |
| **15cm** | 473.499 umol/m2 |
| **20cm** | 295.018 umol/m2 |
| **25cm** | 198.704 umol/m2 |
| **30cm** | 150.551 umol/m2 |

Peak wavelength
(Object size: 1 piece)

662 nm

• 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<br>Beta value: 3950 |

## Environmental

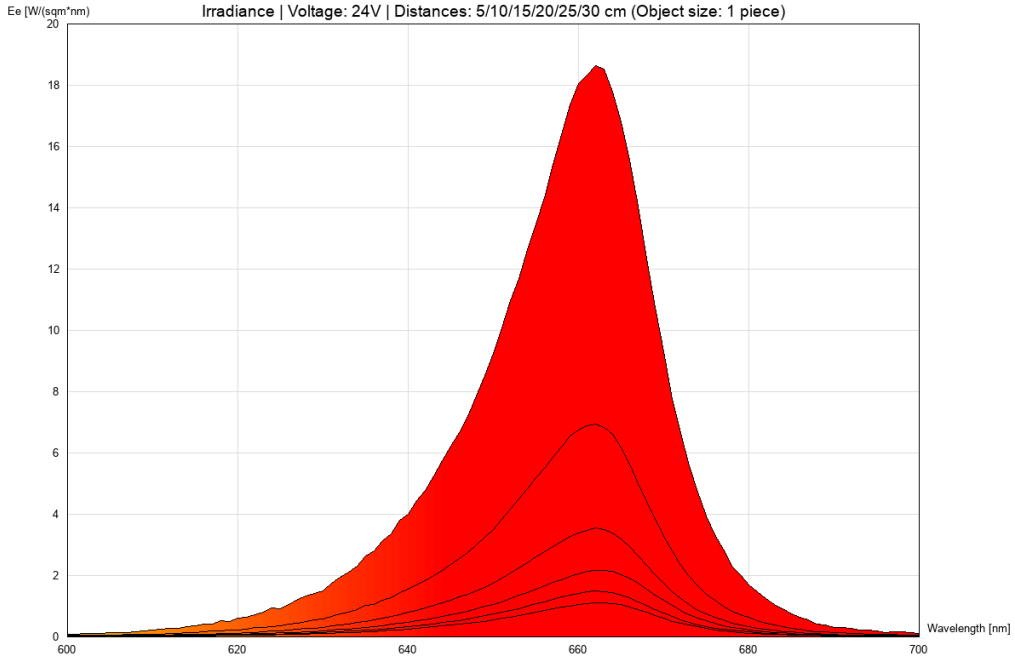
| | |
|---|---|
| Operating temperature | -20 ~ +60 °C |
| Storage temperature | -40 ~ +80 °C |
| IP class | IP 64 |

## Directives - standards - certificates

| | |
|---|---|
| Directives | RoHS<br>CE |
| Safety standards | EN60598-1<br>EN62031<br>IEC62471 |

# Measurement results

## irradiance - 600-700-red (24V)



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