# Datasheet

## LuxaLight LED-strip Red Protected (24 Volt, 140 LEDs, 2835, IP64)

### LS24R140X2835PLX

**Version: 2025-03-10.2**

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## Product description

**The LuxaLight Professional LED Strip** is designed for lighting purposes where bright red light is required. The strip produces lighting with a wavelength of 625 nm, resulting in a red glow that gives the space a powerful and functional look. This professional LED strip offers excellent light quality and is equipped with a silicone coating, providing an **IP64 protection rating** against dust and splash water. This makes the strip ideal for use in both indoor and outdoor applications where enhanced protection against the elements is required.

The LED strip has a **light intensity of 284.4 µmol/m² at 5 cm distance**, making it perfect for use in **horticulture** (plant cultivation). The red lighting is crucial for promoting photosynthesis and can be used in greenhouse environments and for growing plants that require specific light wavelengths for optimal growth.

**Key Features:**

- **Red Lighting (625 nm):** The strip provides a bright red glow with a wavelength of 625 nm, ideal for industrial and horticultural applications that require specific light wavelengths.
- **Light Intensity of 284.4 µmol/m² at 5 cm distance:** This intensity makes the LED strip perfect for horticulture, promoting photosynthesis in plant growth.
- **Silicone Coating with IP64 Protection:** The silicone coating offers protection against dust and splash water (IP64), making the strip suitable for use in demanding environments, both indoors and outdoors.
- **140 2835 LEDs per Meter:** The strip contains 140 2835 LEDs per meter, ensuring high light density and even light distribution across the surface for consistent illumination.
- **24V Connection:** The professional LED strip operates on a standard 24V power supply, providing stable and reliable performance.
- **Flexible Design:** The flexible design makes the LED strip suitable for installation in various configurations, such as profiles, fixtures, or as a direct lighting source for custom systems.
- **PCB Thickness:** The PCB has a thickness of 3 oz/ft², providing robust support and efficient heat dissipation, extending the lifespan of the LED strip and maintaining consistent performance.
- **Passive Cooling Required:** Because the LED strip requires passive cooling, it should be integrated into a suitable system that efficiently dissipates heat to ensure optimal performance and a longer lifespan.
- **3M 4905 VHB Tape:** The LED strip is equipped with 3M 4905 VHB tape, ensuring strong and durable adhesion to various surfaces. This makes the strip easy to install in various applications, from wall and ceiling mounting to profiles and other lighting systems.

**Applications:**

- **Horticulture (Plant Cultivation):** The LED strip with a light intensity of 284.4 µmol/m² at 5 cm distance is ideal for promoting photosynthesis in plants. It is perfect for use in greenhouses, vertical gardens, and other cultivation environments where plants benefit from specific light wavelengths for optimal growth.
- **Industrial Lighting:** The LED strip is ideal for industrial applications where a powerful, flexible, and reliable light source is required. It can be used in workshops, warehouses, factories, or production environments where durability and proper light distribution are necessary.
- **Outdoor Applications (with IP64 Protection):** Thanks to the IP64 rating, the LED strip is suitable for use in outdoor applications such as lighting systems in horticulture or industrial outdoor areas, where the strip needs to perform robustly even under harsh conditions.

**Benefits:**

- **Excellent Color Rendering:** The bright red lighting provides accurate color rendering, making it ideal for applications where color perception is crucial.
- **Efficient for Photosynthesis:** The LED strip promotes photosynthesis in plants, making it essential for horticulture applications such as greenhouses and cultivation environments.
- **Flexible and Customizable:** Thanks to its flexible design, the strip can easily be integrated into various industrial lighting systems or cultivation systems.
- **Even Light Distribution:** With 140 2835 LEDs per meter, the strip offers consistent and even light distribution, ensuring pleasant and efficient illumination without harsh shadows.
- **Strong Adhesion:** The 3M 4905 VHB tape offers reliable adhesion for easy and durable installation on various surfaces.

# Technical specifications

| General | |
|---|---|
| Brand | LuxaLight |
| LEDs / meter | 140 |
| LED type | 2835 |
| Length per reel | 10 m |
| Length per segment | 50 mm |
| LED strip width | 10.00 mm |
| LED strip thickness | 4.00 mm |
| PCB color | White |
| Mantle material | Silicon |
| Warranty | 5 years |
| Lifetime | 70000 hours |

| Lighting | |
|---|---|
| Wave length | 620~630 nm |
| BIN | 3 SDCM |
| Beam angle | 120 ° |
| LB waarde | L90B50 |

**Measurement results**

PPFD

| Value | Measuring distance |
|---|---|
| 689,8 µmol/m2 | 25 mm |
| 284,4 µmol/m2 | 50 mm |
| 152,9 µmol/m2 | 75 mm |
| 102,2 µmol/m2 | 100 mm |
| 39 µmol/m2 | 200 mm |
| 21,3 µmol/m2 | 300 mm |

Irradiance

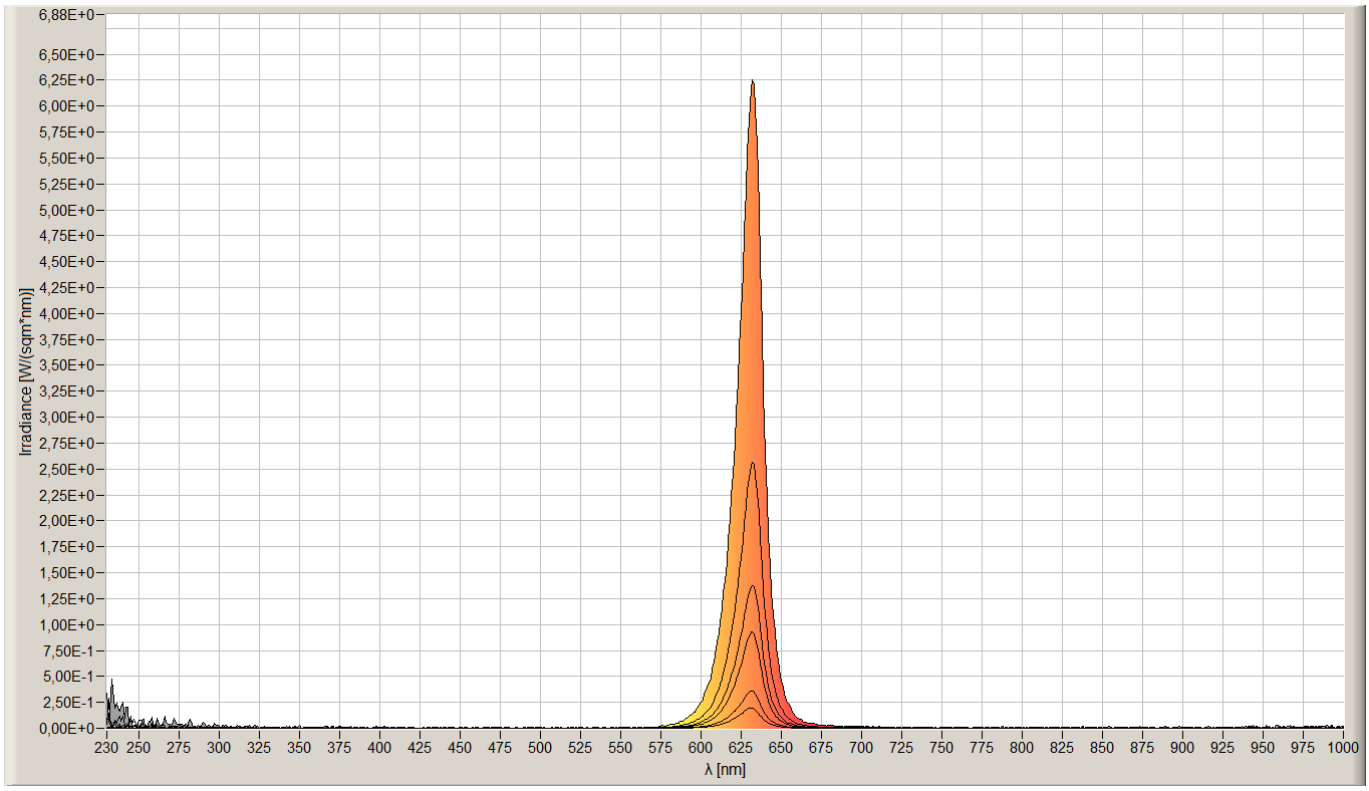
| Value | Measuring distance |
|---|---|
| 141 W/m2 | 25 mm |
| 58,2 W/m2 | 50 mm |
| 30,9 W/m2 | 75 mm |
| 20,5 W/m2 | 100 mm |
| 7,61 W/m2 | 200 mm |
| 4,11 W/m2 | 300 mm |

Illuminance

| Value | Measuring distance |
|---|---|
| 25,6 klux | 25 mm |
| 10,6 klux | 50 mm |
| 5,7 klux | 75 mm |
| 3,8 klux | 100 mm |
| 1,5 klux | 200 mm |
| 0,8 klux | 300 mm |

| **Electronics** | |
|---|---|
| Working voltage | 24V |
| Current / meter | 1.00 A / meter |
| Power consumption per meter | 24.00 W / meter |
| PCB material | Copper |
| **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

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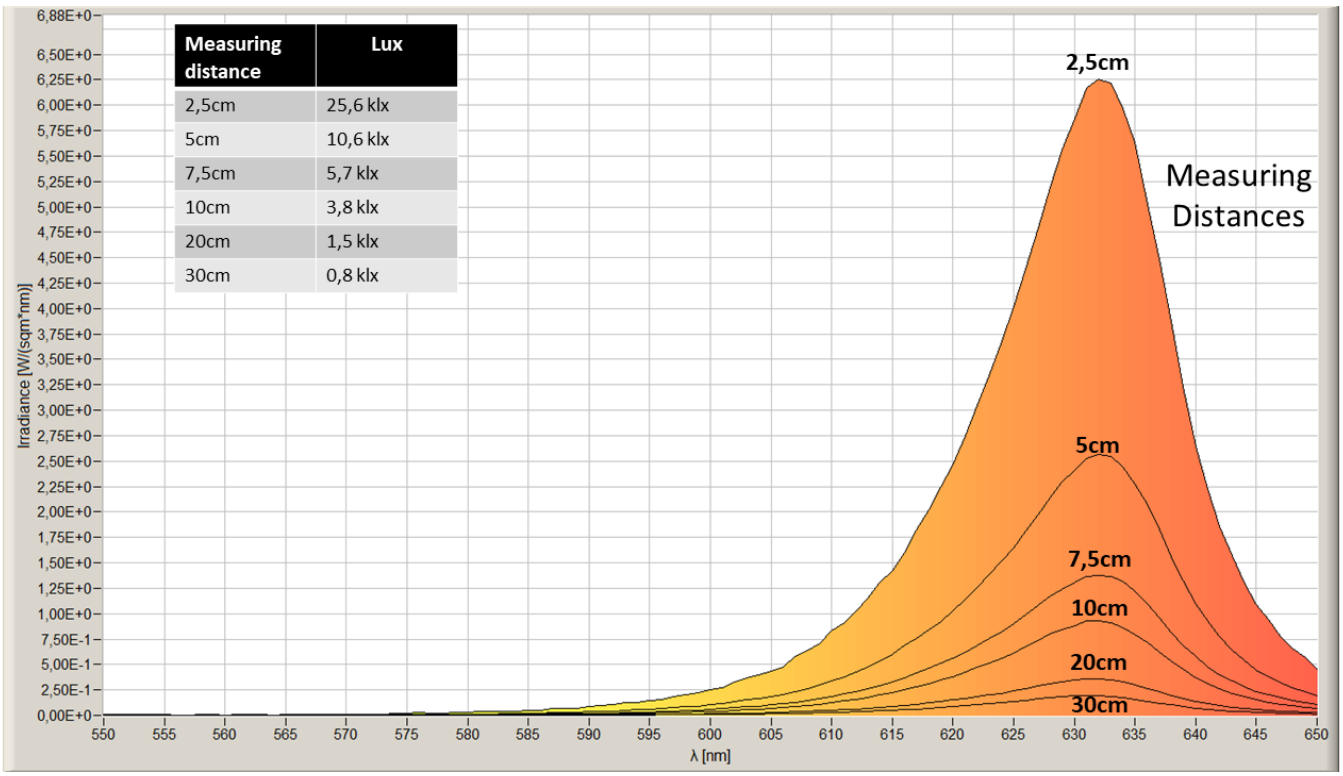
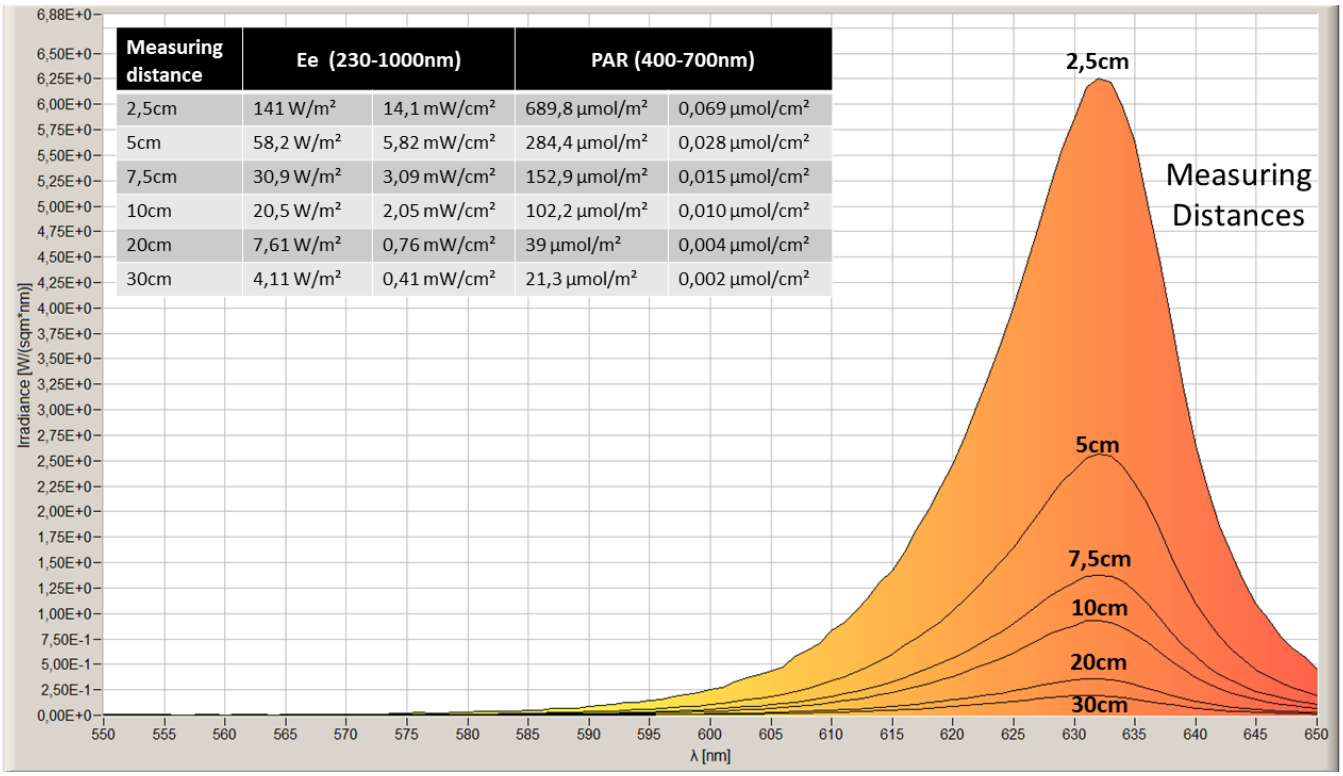
## Wave Length


Measuring distance
Lux
2,5cm
25,6 klx
5cm
10,6 klx
7,5cm
5,7 klx
10cm
3,8 klx
20cm
1,5 klx
30cm
0,8 klx
Measuring Distances
2,5cm
5cm
7,5cm
10cm
20cm
30cm
Irradiance [W/(sqm*nm)]
λ [nm]

| Measuring distance | Ee (230-1000nm) | | PAR (400-700nm) | |
|---|---|---|---|---|
| 2,5cm | 141 W/m² | 14,1 mW/cm² | 689,8 µmol/m² | 0,069 µmol/cm² |
| 5cm | 58,2 W/m² | 5,82 mW/cm² | 284,4 µmol/m² | 0,028 µmol/cm² |
| 7,5cm | 30,9 W/m² | 3,09 mW/cm² | 152,9 µmol/m² | 0,015 µmol/cm² |
| 10cm | 20,5 W/m² | 2,05 mW/cm² | 102,2 µmol/m² | 0,010 µmol/cm² |
| 20cm | 7,61 W/m² | 0,76 mW/cm² | 39 µmol/m² | 0,004 µmol/cm² |
| 30cm | 4,11 W/m² | 0,41 mW/cm² | 21,3 µmol/m² | 0,002 µmol/cm² |



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