Datasheet

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

LS24B140X2835PLX

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Product description

The LuxaLight Professional LED Strip is designed for lighting purposes where powerful blue lighting is required. The strip produces light with a wavelength of 455 nm, resulting in a bright blue glow that gives the space a functional and visually appealing appearance. This professional LED strip is equipped with a **silicone coating** and offers **IP64 protection**, meaning the strip is resistant to splashing water and dust infiltration, making it suitable for use in a wide range of environments.

With a **light intensity of 351 µmol/m² at 5 cm distance**, this LED strip is perfect for **horticulture** (plant cultivation). The blue light promotes photosynthesis and is ideal for use in greenhouses, vertical gardens, and other cultivation environments where plants require a specific light wavelength for optimal growth and health.

Key Features:

- **Blue Lighting (455 nm):** The strip delivers a powerful blue glow with a wavelength of 455 nm, ideal for industrial and horticultural applications requiring specific light wavelengths.
- **Light Intensity of 351 µmol/m² at 5 cm distance:** This light intensity makes the LED strip ideal for promoting photosynthesis in plants, making it perfect for horticultural and cultivation environments.
- **Silicone Coating with IP64 Protection:** The LED strip is equipped with a silicone coating, offering IP64 protection against splashing water and dust, making it suitable for use in a variety of environments.
- **140 2835 LEDs per Meter:** The strip contains 140 2835 LEDs per meter, ensuring high light density and even light distribution across the surface.
- **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.
- **3M 4905 VHB Tape:** The LED strip is equipped with 3M 4905 VHB tape, ensuring strong and durable adhesion to various surfaces. This makes it easy to install in various applications.

Applications:

- **Horticulture (Plant Cultivation):** The LED strip with a light intensity of 351 µmol/m² at 5 cm distance is ideal for promoting photosynthesis in plants. It is suitable 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 perfect for industrial applications where a robust, flexible, and reliable light source is required. It can be used in workshops, warehouses, factories, or production environments that need to withstand harsh conditions such as dust, but no exposure to water.
- **Visual Inspection in Production:** Blue light is used for visual inspection in production processes to make details of products more visible that are hard to see under normal light. It is applied in electronics and automotive industries for quality control.
- **Color Recognition in Production Environments:** Blue light helps identify color variations in material production in the food industry or for sorting products sensitive to color nuances.
- **UV-sensitive Applications:** Blue light is used in applications such as the printing industry to activate certain inks or coatings without using actual UV light.
- **Robotics and Automation:** Blue light is used for visual marking in automated production processes and robotics, helping to identify objects that robots need to move.
- **Storage of Sensitive Materials:** In industry, blue light is applied to store sensitive materials, such as in the chemical or pharmaceutical sector, without affecting the products.
- **Drying and Curing Processes:** Blue light is used to dry or cure certain materials quickly in the production of adhesives, paints, and coatings.

Benefits:

- **Efficient for Photosynthesis:** The LED strip promotes photosynthesis in plants, making it essential for horticultural applications such as greenhouses and cultivation environments.
- **Even Light Distribution:** With 140 2835 LEDs per meter, the strip provides consistent and even light distribution, ensuring pleasant and efficient lighting without harsh shadows.
- **Reliable Performance:** The LED strip operates on a standard 24V power supply and delivers efficient, stable performance, making it an ideal choice for long-term use in industrial and commercial environments.
- **Strong Adhesion:** The 3M 4905 VHB tape ensures 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	455~470 nm
BIN	3 SDCM
Beam angle	120 °
LB waarde	L90B50

Measurement results

PPFD

Product length: 200 mm

Value	Measuring distance
846 µmol/m2	25 mm
351 µmol/m2	50 mm
205 µmol/m2	75 mm
127 µmol/m2	100 mm
44,7 µmol/m2	200 mm
25 µmol/m2	300 mm

Irradiance

Product length: 200 mm

Value	Measuring distance
231 W/m2	25 mm
94 W/m2	50 mm
55,5 W/m2	75 mm
33,9 W/m2	100 mm
11,7 W/m2	200 mm
6,53 W/m2	300 mm

Illuminance

Product length: 200 mm

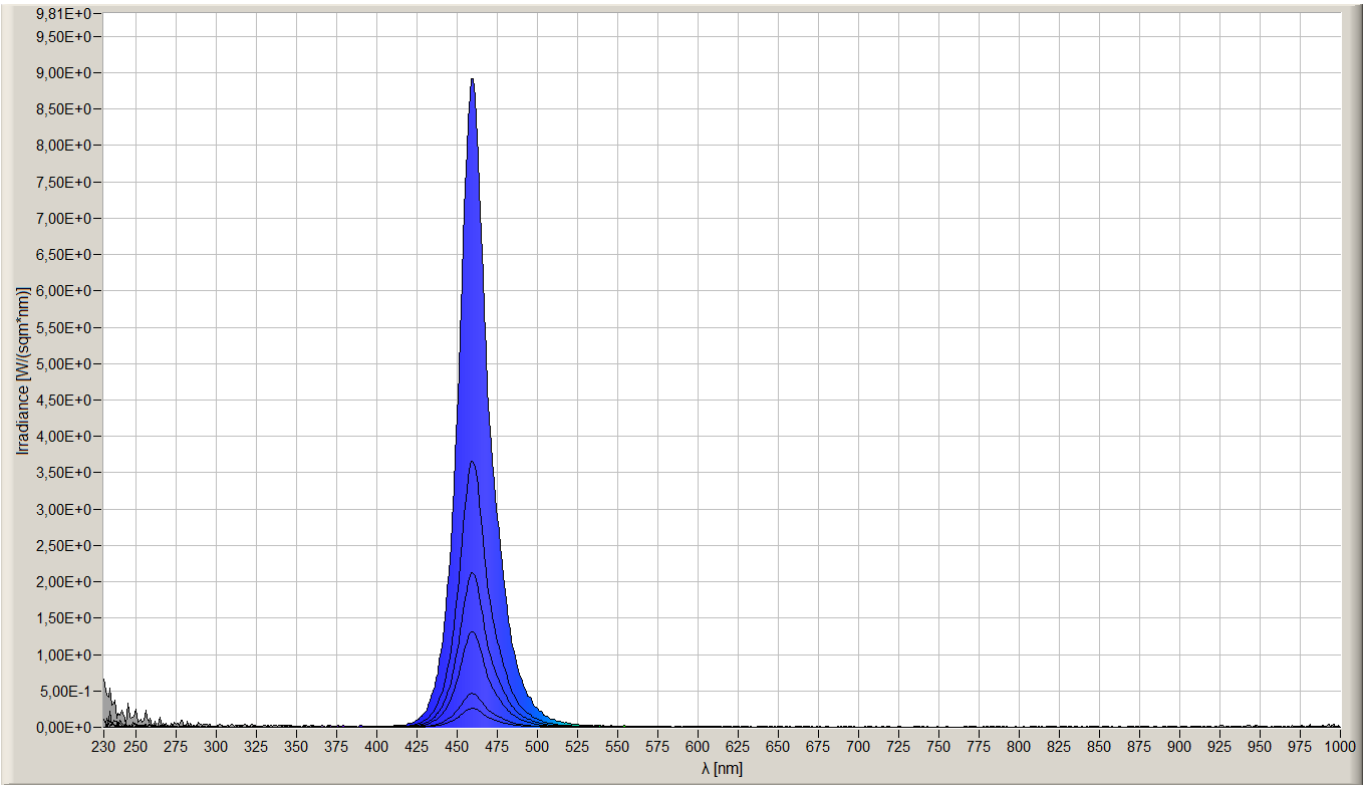
Value	Measuring distance
12,3 klux	25 mm
5,1 klux	50 mm
3 klux	75 mm
1,8 klux	100 mm
0,6 klux	200 mm
0,4 klux	300 mm

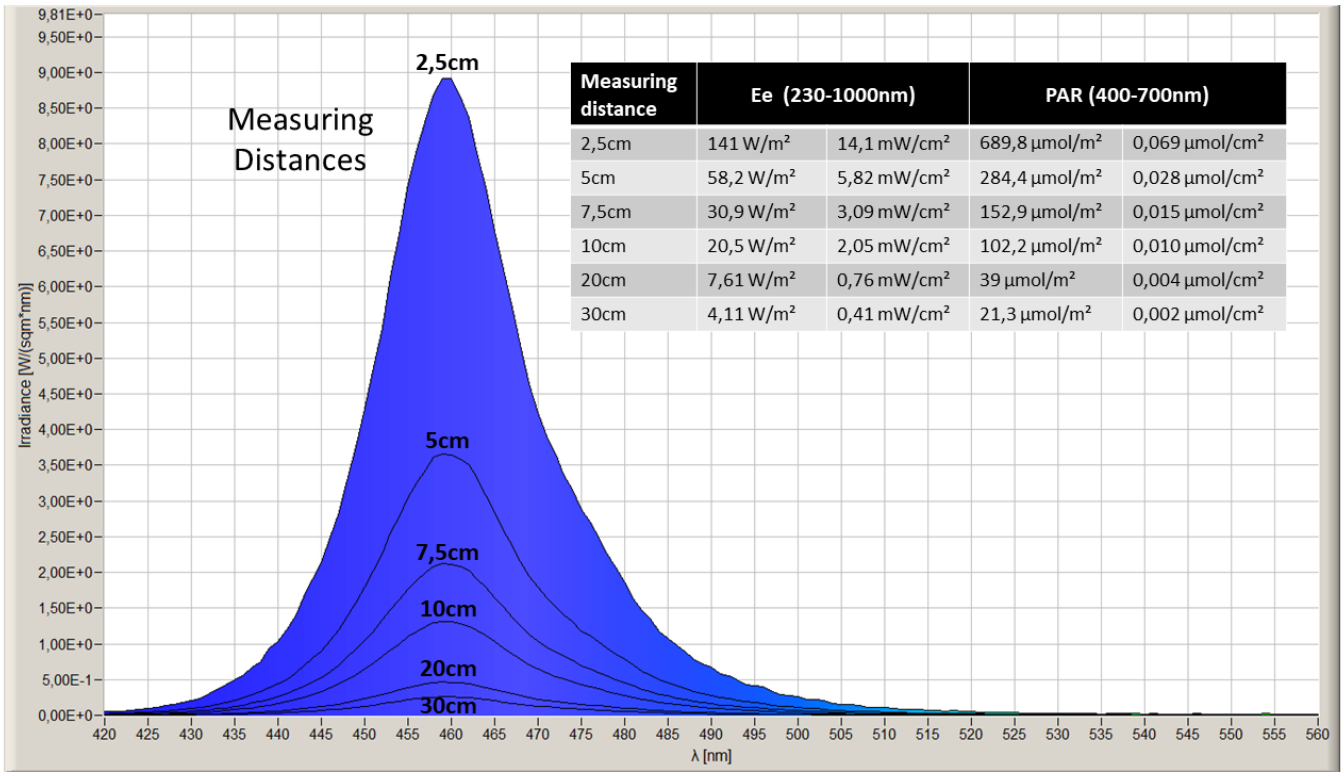
Electronics	
Working voltage	24V
Current / meter	1.00 A / meter
Power consumption per meter	24.00 W / meter
PCB material	Copper

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

Directives - standards - certificates	
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

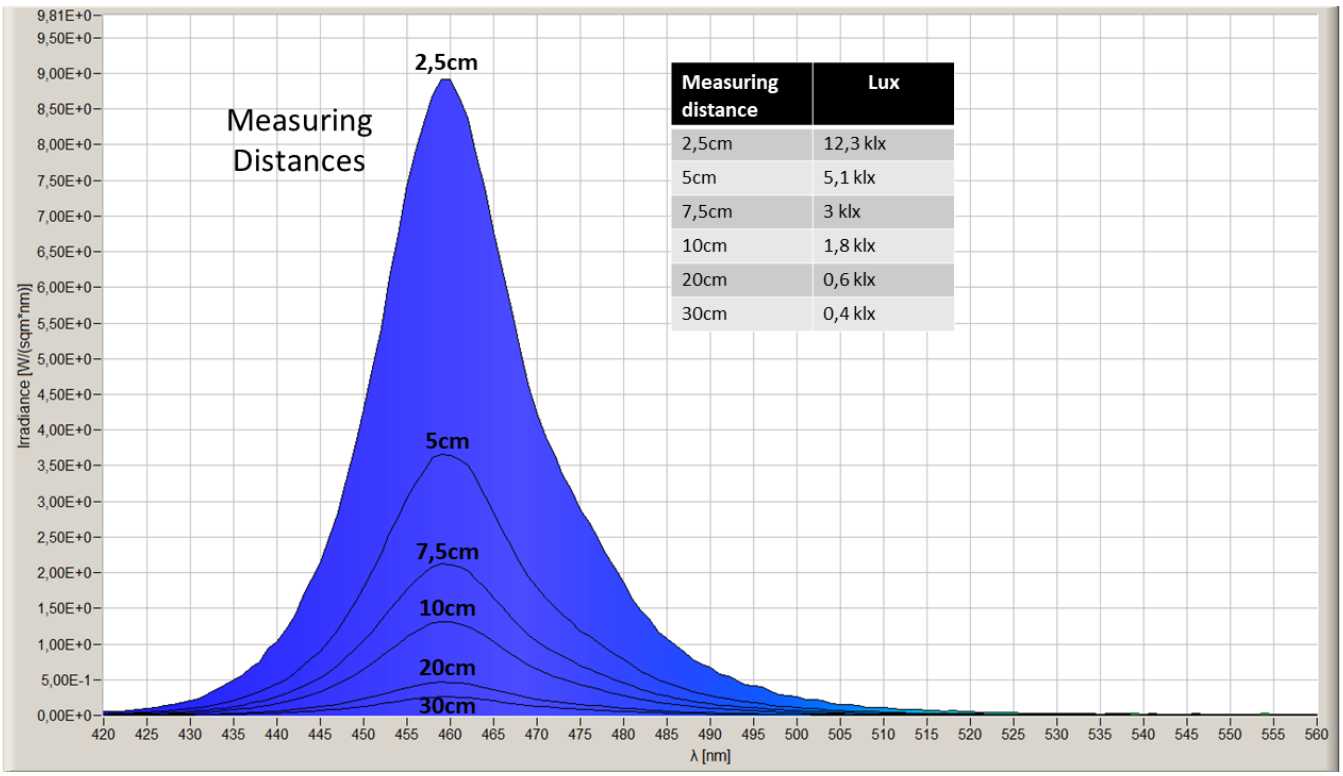
Measurement results





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

Wavelength



Measuring distance	Lux
2,5cm	12,3 klx
5cm	5,1 klx
7,5cm	3 klx
10cm	1,8 klx
20cm	0,6 klx
30cm	0,4 klx

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