Datasheet

LuxaLight LED-strip Full Spectrum White 5500K Protected (24 Volt, 140 LEDs, 2835, IP64)

LS24FSW140X2835PLX

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Product description

The **LuxaLight Full Spectrum LED Strip** is designed as a high-quality lighting solution for applications that require high light output, precision, and excellent color rendering. With a color temperature of **5500K**, this LED strip provides a balanced light spectrum, making it ideal for a wide range of environments, such as horticulture, research settings, and plant growth applications. The strip is equipped with **140 full spectrum LEDs per meter**, ensuring even and intense light distribution, which is crucial for photosynthesis, plant growth, and scientific research.

The **5500K** color temperature provides cool white light, perfect for environments where bright and natural light is needed for plant growth and research. This LED strip is ideal for applications that require high-quality lighting, such as in cultivation facilities, vertical farming, and controlled research environments.

Key Features:

- **Full Spectrum Lighting:** The LED strip delivers full spectrum light, providing even and powerful illumination that is suitable for promoting photosynthesis and plant growth. This ensures optimal light quality in controlled environments.
- **140 LEDs per Meter:** The strip contains **140 full spectrum LEDs per meter**, providing high light density and even light distribution across the surface, which is essential for consistent, high-quality lighting for plant growth and research.
- **High Lumen Output:** The LED strip offers impressive light intensity, which is essential for promoting photosynthesis and supporting healthy plant growth. This makes it ideal for commercial horticulture applications, research facilities, and controlled growing environments.
- **Flexible Integration:** The LED strip can be easily integrated into existing systems or fixtures, offering versatility for applications in horticulture, plant research, and other lighting needs.
- **Energy-Efficient and Durable:** Thanks to LED technology, this strip provides long-lasting and reliable performance while reducing energy consumption. This makes it a cost-effective and sustainable solution for long-term lighting applications.
- **PCB Thickness of 3 oz/ft²:** The PCB has a thickness of **3 oz/ft²**, providing strong support and efficient heat dissipation, making the strip reliable and durable for long-term use.
- **Use of 3M 4905 VHB Tape:** The strip is equipped with **3M 4905 VHB tape**, ensuring strong and reliable adhesion to various surfaces, making installation in different environments and applications easy and durable.

Applications:

- **Horticulture and Plant Lighting:** The **5500K** color temperature and full spectrum light make this LED strip ideal for commercial greenhouses, vertical farming, and other horticultural applications, where bright, natural light is essential for photosynthesis and plant growth.
- **Plant Research and Growth Optimization:** This LED strip provides the balanced light spectrum needed for scientific research into plant growth, photosynthesis, and biological processes, where controlled light conditions are necessary.
- **Vertical Farming and Controlled Environment Agriculture (CEA):** The powerful lighting provided by this strip makes it suitable for use in greenhouses, hydroponic systems, and other controlled growing environments, where a specific light spectrum and high lumen output are required for maximum yield and healthy plant growth.
- **Plant Quality Control:** This LED strip is also ideal for quality control of plants, crops, or other biological products in commercial agriculture environments, providing consistent lighting that mimics natural growth conditions.

Benefits:

- **Full Spectrum Lighting:** The full spectrum provides powerful lighting for photosynthesis and plant growth, supporting healthy development processes for plants in commercial and research environments.
- **High Lumen Output:** The high lumen output of this LED strip ensures sufficient light intensity to promote healthy plant growth, especially in applications where intensive lighting is needed, such as horticulture.
- **Flexible Integration:** Thanks to its flexible design, the LED strip can be easily integrated into various systems or fixtures for applications in greenhouses, vertical farming, and other horticultural installations.
- **Efficient Performance:** The LED strip offers reliable and efficient performance, which is essential for intensive growth applications such as horticulture and scientific research, where consistent lighting is required over long periods.
- **Reliable Durability:** The **3 oz/ft² PCB thickness** ensures the strip is resistant to demanding environments, while the **3M 4905 VHB tape** ensures safe and easy installation on various surfaces.

Technical specifications

General	
Brand	LuxaLight
Application	Food Inspection (Agro-Food) Line Scan Cameras Machine Vision
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	
Color temperature	5400 ~ 5600 K
CRI	≥ 95
Luminous Flux	≈ 3100 lm
BIN	3 SDCM
Beam angle	120 °
LB waarde	L90B50

Measurement results	
CRI (Object length: 200 mm)	94
CCT (Object length: 200 mm)	5791 K

Illuminance (Lux)
(Object length: 200 mm)

	24V
5cm	34570 lx
10cm	12960 lx
15cm	6743 lx
20cm	4192 lx
25cm	2844 lx
30cm	2139 lx

Total PPFD umol/m2 (PAR 400-700nm)
(Object length: 200 mm)

	24V
5cm	555.09 umol/m2
10cm	208.234 umol/m2
15cm	108.67 umol/m2
20cm	67.6533 umol/m2
25cm	45.8407 umol/m2
30cm	34.457 umol/m2

Peak wavelength (Object length: 200 mm)	453 nm

Peak irradiance
(Object length: 200 mm)

	24V
5cm	1.0941 W/sqm
10cm	0.421708 W/sqm
15cm	0.223102 W/sqm
20cm	0.139152 W/sqm
25cm	0.0932601 W/sqm
30cm	0.0700927 W/sqm

Total irradiance
(Object length: 200 mm)

	24V
5cm	127.5 W/sqm
10cm	47.69 W/sqm
15cm	24.92 W/sqm
20cm	15.5 W/sqm
25cm	10.49 W/sqm
30cm	7.874 W/sqm

Electronics

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

Environmental

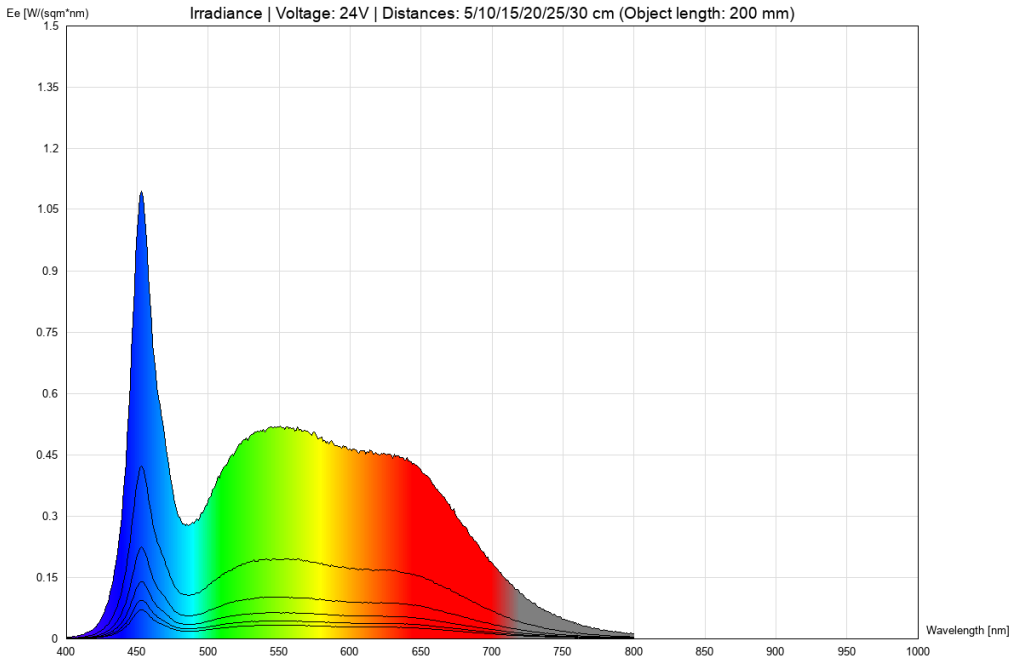
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - full-spectrum (24V)



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