

Datasheet

LuxaLight LED-strip Neutral White 4300K Protected (24 Volt, 140 LEDs, 2835, IP64)

LS24NW140X2835PLX

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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 exceptional color rendering. With a color temperature of **4300K**, this LED strip offers a broad and balanced light spectrum, ideal for a variety of environments such as horticulture, research, and plant growth applications. It features **140 full spectrum LEDs per meter**, ensuring an even and intense light distribution that covers the full spectrum necessary for optimal photosynthesis, plant health, and research.

Key Features:

- **Full Spectrum with Red and Blue Light Peaks:** The strip delivers a complete spectrum, emphasizing red light wavelengths (650 nm and 675 nm) and a high peak at **450 nm** for blue light. This combination is essential for promoting photosynthesis and plant growth, making it suitable for horticulture, plant research, and growth optimization.
- **140 LEDs per Meter:** With **140 full spectrum LEDs per meter**, this LED strip ensures high light density and uniform light distribution across the surface, providing consistent and powerful lighting for plant growth and research.
- **High Lumen Output:** The LED strip provides impressive light intensity, essential for enhancing photosynthesis and plant health. This makes it ideal for applications such as commercial horticulture, research labs, and controlled plant growth environments.
- **Flexible Integration:** The LED strip can be easily integrated into existing systems or fixtures, making it a versatile solution for various applications in horticulture, plant research, and growth optimization.
- **Energy-Efficient and Durable:** LED technology ensures long-lasting, reliable performance, reducing energy consumption while providing consistent and efficient light output for prolonged periods.
- **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 demanding environments.
- **Use of 3M 4905 VHB Tape:** The strip comes equipped with **3M 4905 VHB tape**, ensuring strong and reliable adhesion to various surfaces, making it easy to install in a variety of setups, including wall, ceiling, and profile applications.

Applications:

- **Horticulture and Plant Lighting:** The **4300K** color temperature and **full spectrum** light make this LED strip ideal for use in commercial greenhouses, vertical farming, and other horticultural applications where a broad spectrum of light is necessary to promote photosynthesis and plant growth. The emphasis on red and blue light wavelengths (650 nm & 675 nm for red, 450 nm for blue) supports plant development, making it suitable for a wide range of crops and plant species.
- **Plant Research and Growth Optimization:** Due to its balanced spectrum, including red and blue peaks, this LED strip is ideal for plant growth studies, photosynthesis research, and scientific analyses that require controlled lighting conditions.
- **Vertical Farming and Controlled Environment Agriculture (CEA):** This strip provides powerful and uniform lighting for controlled agricultural environments such as vertical farms, indoor gardens, and hydroponic systems, where precise light conditions are required for maximum yield and healthy plant growth.
- **Plant Quality Control:** This LED strip is also suitable for plant quality control in commercial agricultural settings. The consistent and accurate lighting helps replicate natural growth conditions, ensuring the optimal development of plants.

Benefits:

- **Full Spectrum with Red and Blue Peaks:** The full spectrum lighting with significant red light (650 nm & 675 nm) and blue light (450 nm) supports robust photosynthesis and plant growth.
- **High Lumen Output:** The intense light output makes this LED strip perfect for horticulture and growth optimization, ensuring adequate light intensity to promote healthy plant development.
- **Flexible Integration:** The flexibility of this LED strip makes it easy to integrate into various horticultural setups, including greenhouses, vertical farming, and hydroponic systems.
- **Efficient Performance:** With its consistent light output and energy-efficient design, this LED strip ensures long-lasting and reliable performance, which is crucial for large-scale horticulture and research applications.
- **Reliable Durability:** The **3 oz/ft² PCB thickness** ensures that the LED strip can withstand tough environments, while the **3M 4905 VHB tape** allows for secure and easy installation.

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		
Color temperature	4000 ~ 4300 K	
CRI	≥ 95	
Luminous Flux	≈ 3000 lm	
BIN	3 SDCM	
Beam angle	120 °	
LB waarde	L90B50	
Measurement results		
CRI (Object size: 1 piece)	96	
CCT (Object size: 1 piece)	4254 K	
Illuminance (Lux) (Object size: 1 piece)		24V
	5cm	30020 lx
	10cm	12430 lx
	15cm	6455 lx
	20cm	4005 lx
	25cm	2714 lx
	30cm	2044 lx
Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)		24V
	5cm	492.656 umol/m2
	10cm	204.238 umol/m2
	15cm	106.22 umol/m2
	20cm	65.9184 umol/m2
	25cm	44.669 umol/m2
	30cm	33.6164 umol/m2
Peak wavelength (Object size: 1 piece)	448 nm	

Peak irradiance
(Object size: 1 piece)

	24V
5cm	0.619519 W/sqm
10cm	0.271502 W/sqm
15cm	0.143172 W/sqm
20cm	0.0896186 W/sqm
25cm	0.0603145 W/sqm
30cm	0.0456133 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	111.3 W/sqm
10cm	46.16 W/sqm
15cm	24 W/sqm
20cm	14.89 W/sqm
25cm	10.11 W/sqm
30cm	7.601 W/sqm

Electronics

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

Environmental

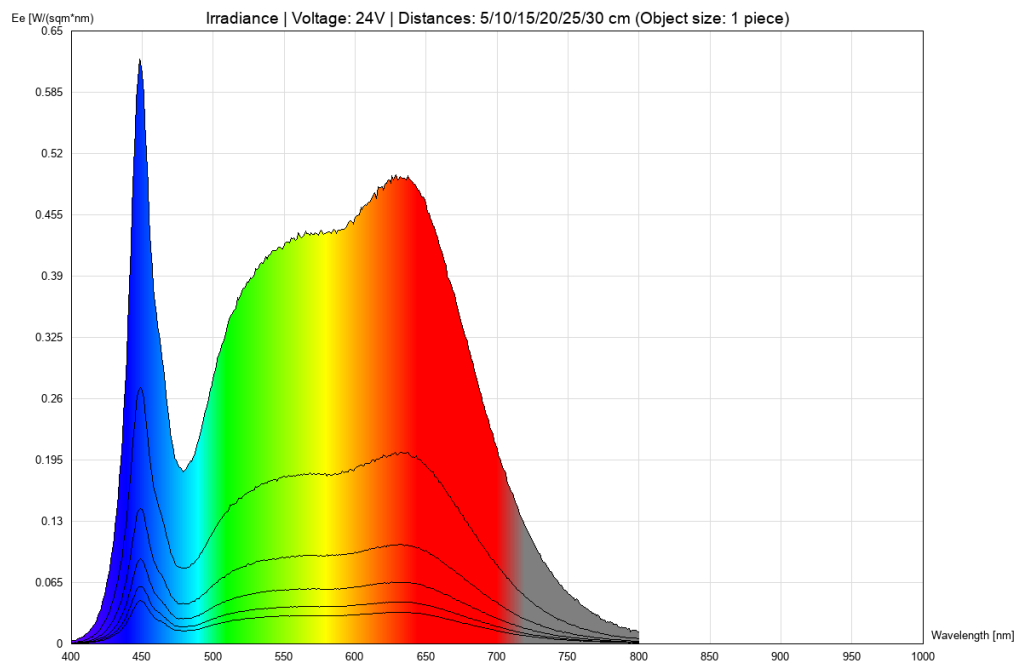
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

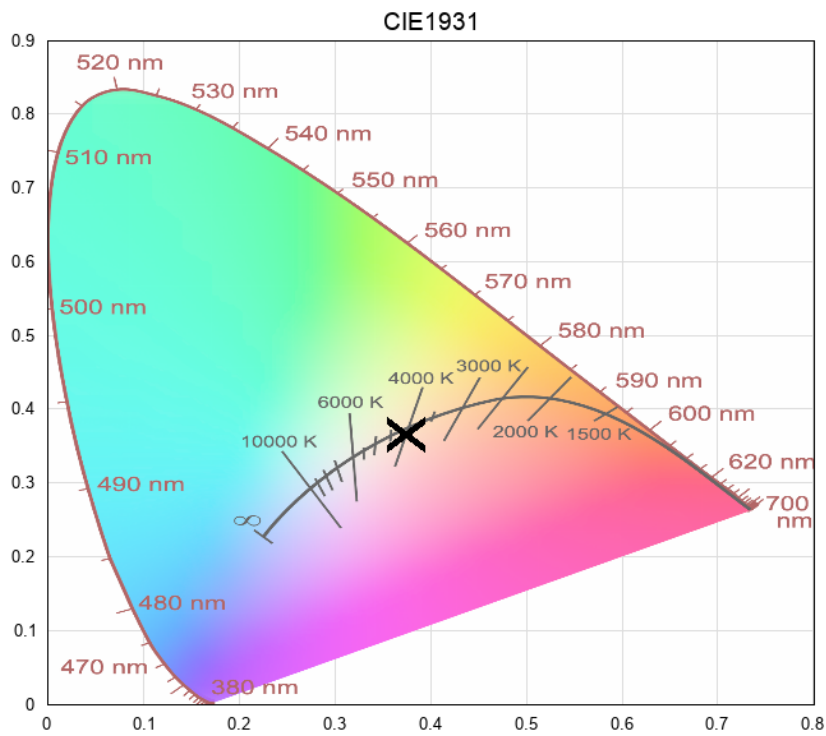
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - full-spectrum (24V)



cie1931



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