Datasheet

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

LS24NW140X2835PLX

Version: 2025-03-03.7

LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

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

PPFD

Product length: 200 mm

Value	Measuring distance
1209 µmol/m2	25 mm
491 µmol/m2	50 mm
273 µmol/m2	75 mm
197 µmol/m2	100 mm
66,5 µmol/m2	200 mm
34,7 µmol/m2	300 mm

Irradiance

Product length: 200 mm

Value	Measuring distance
273 W/m2	25 mm
111 W/m2	50 mm
61,6 W/m2	75 mm
44,3 W/m2	100 mm
15 W/m2	200 mm
7,62 W/m2	300 mm

Illuminance

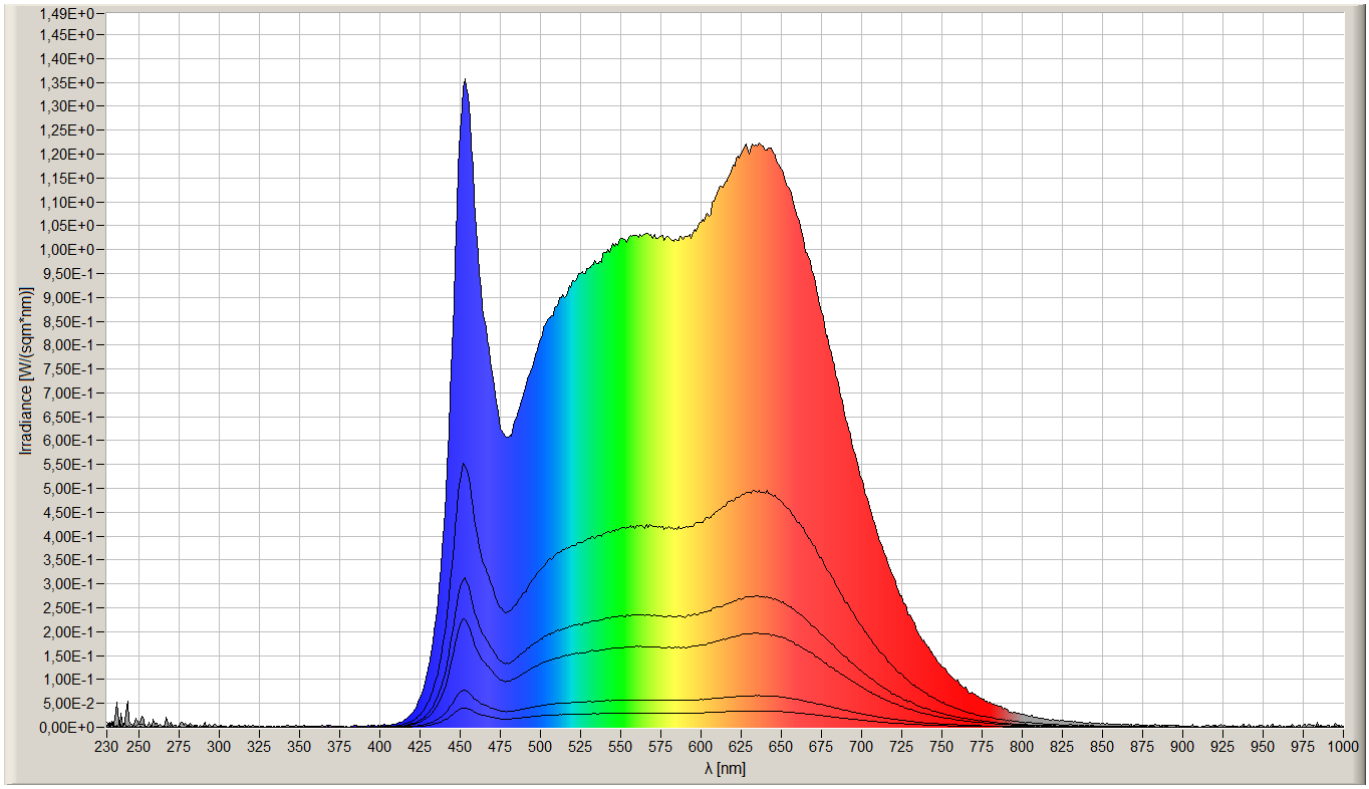
Product length: 200 mm

Value	Measuring distance
73 klux	25 mm
29,8 klux	50 mm
16,6 klux	75 mm
11,9 klux	100 mm
4,03 klux	200 mm
2,11 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

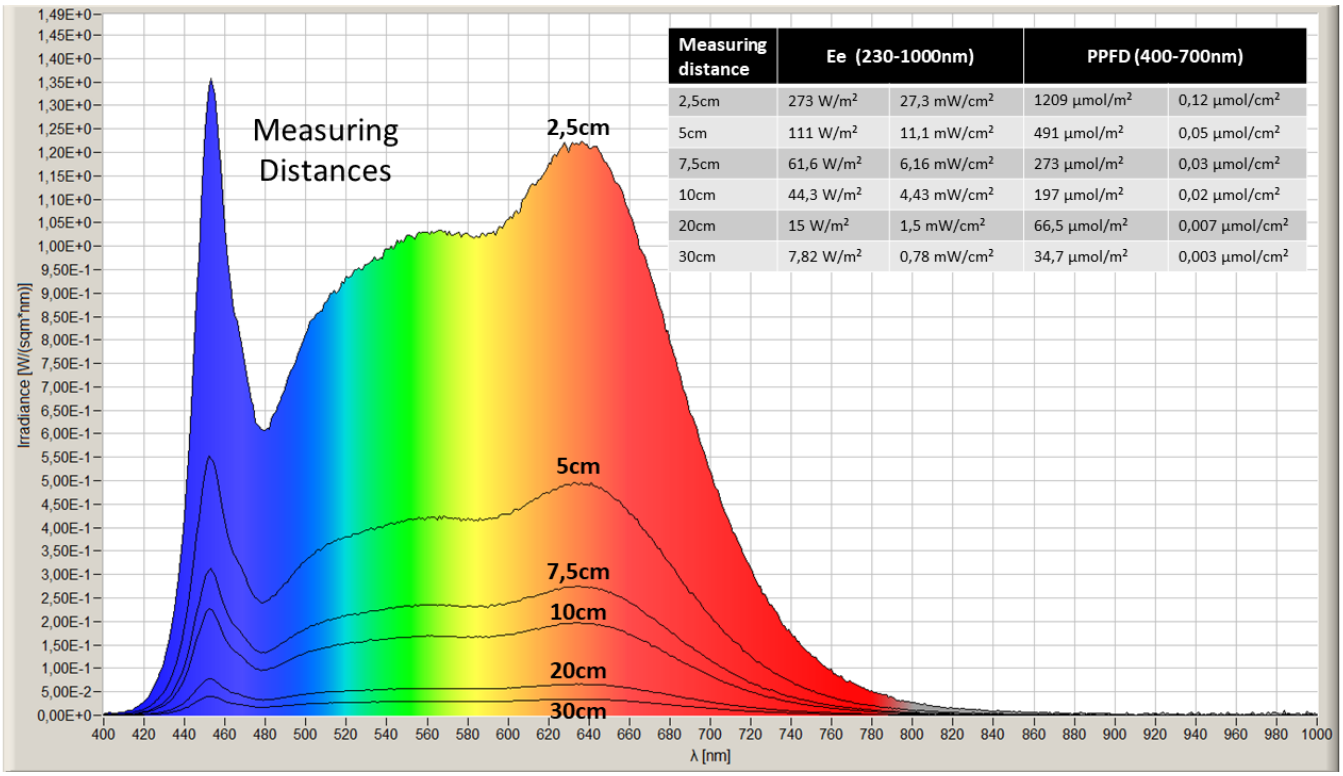
Wave Length



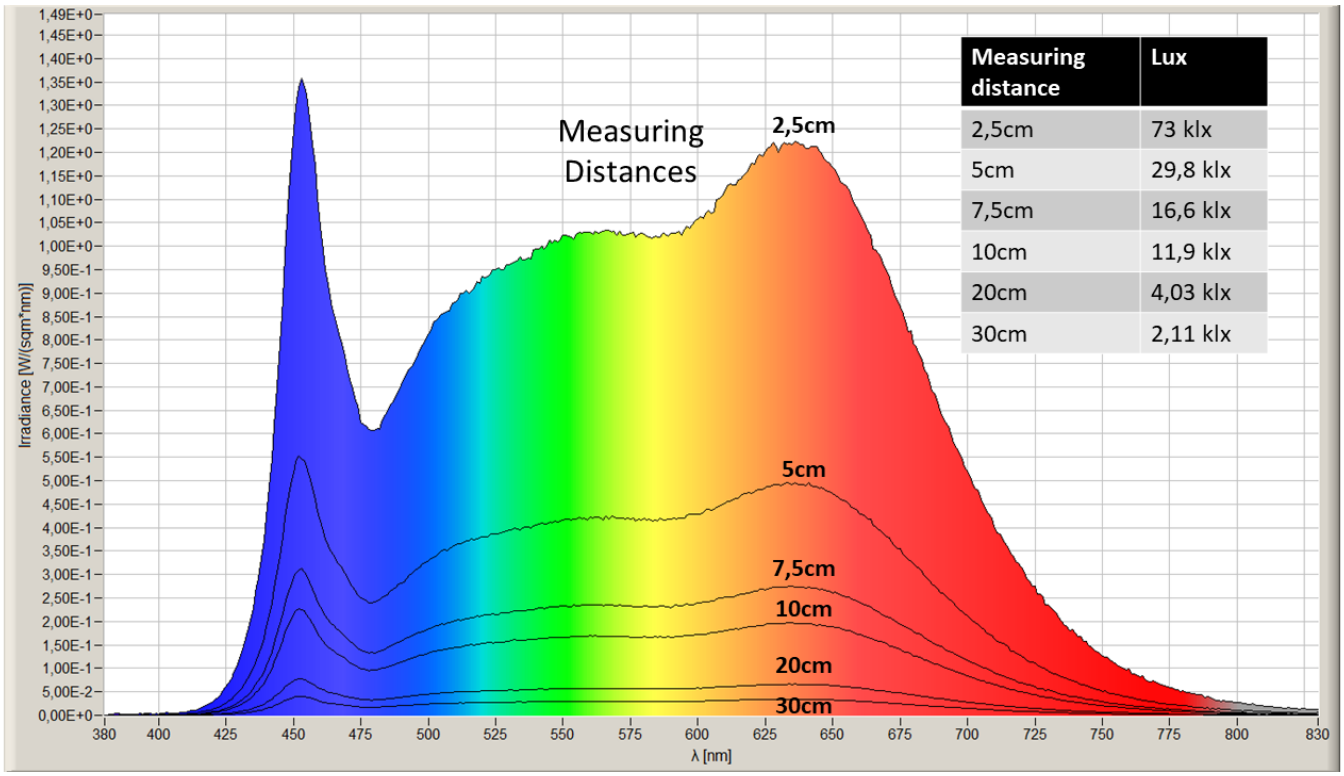
LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04



Measuring distance	Ee (230-1000nm)		PPFD (400-700nm)	
2,5cm	273 W/m²	27,3 mW/cm²	1209 µmol/m²	0,12 µmol/cm²
5cm	111 W/m²	11,1 mW/cm²	491 µmol/m²	0,05 µmol/cm²
7,5cm	61,6 W/m²	6,16 mW/cm²	273 µmol/m²	0,03 µmol/cm²
10cm	44,3 W/m²	4,43 mW/cm²	197 µmol/m²	0,02 µmol/cm²
20cm	15 W/m²	1,5 mW/cm²	66,5 µmol/m²	0,007 µmol/cm²
30cm	7,82 W/m²	0,78 mW/cm²	34,7 µmol/m²	0,003 µmol/cm²



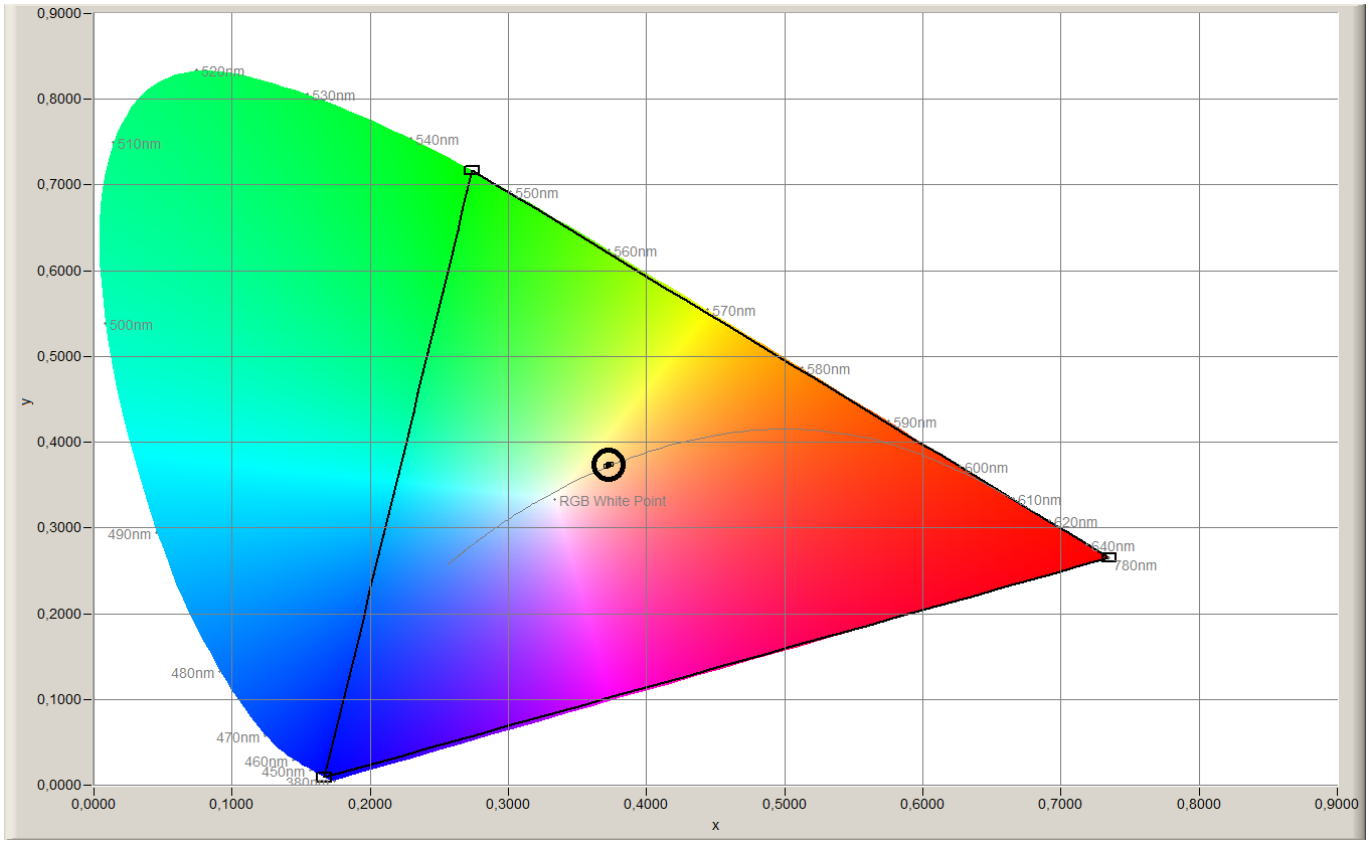
Measuring distance	Lux
2,5cm	73 klx
5cm	29,8 klx
7,5cm	16,6 klx
10cm	11,9 klx
20cm	4,03 klx
30cm	2,11 klx

LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

CIE1931


0,9000
0,8000
0,7000
0,6000
0,5000
0,4000
0,3000
0,2000
0,1000
0,0000
y
0,0000
0,1000
0,2000
0,3000
0,4000
0,5000
0,6000
0,7000
0,8000
0,9000
x
510nm
540nm
550nm
560nm
570nm
580nm
590nm
600nm
610nm
620nm
640nm
780nm
500nm
490nm
480nm
470nm
460nm
450nm
RGB White Point

While LuxaLight has made every reasonable effort to ensure the accuracy of the information in this brochure, LuxaLight does not guarantee that it is error - free, nor does LuxaLight make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. LuxaLight reserves the right to make any adjustments to the information contained herein at any time without notice. LuxaLight expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalogue are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult LuxaLight for the latest dimensions and design specifications.