WLS15 High Intensity LED Strip Light Product Manual

Original Instructions
p/n: 218326 Rev. E
03-Nov-25
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Chapter Contents

Chapter 1 Features



Banner's WLS15 High Intensity LED Strip Lights have sturdy aluminum inner frames, encased in shatter-resistant, UV-stabilized, polycarbonate shells, making them ideal for indoor and outdoor applications.

- Low-profile, space-saving design
- Rugged, water-resistant design
- Available in four lengths from 360 mm to 1200 mm
- Daisy-chain power to multiple lights
- Optional snap clips for easy installation and repositioning
- Capability to dim lights using the wiring pinout (Hi/Lo/Off)

These strip lights are available as either stand-alone models or as cascade models that can be connected in series or daisy-chained together for longer lighting runs, with a minimum of wiring.

Stand-alone models have one end for power connection and no connections at the opposite end. A stand-alone model may be used as the last in the cascade series.

Cascade models have one end for power connection, and a connection at the opposite end for connecting to other lights in the cascade. A double-ended accessory cordset may be used between each pair of lights in a cascade to extend the distance between lights.



For PWM dimming, use with the LC15T-127AP2RBGQP dimmer module. For more information, refer to the LC15T In-Line Touch Switch datasheet, p/n 217460.

IMPORTANT: Read the following instructions before operating the light. Please download the complete WLS15 High Intensity LED Strip Light technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

IMPORTANT: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los WLS15 High Intensity LED Strip Light, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

IMPORTANT: Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des WLS15 High Intensity LED Strip Light sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

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Chapter 2 Models

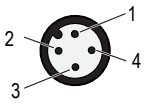
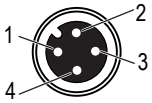
Family	Cascadable	Color	Length	Window	Construction	Voltage	Connector[1]
WLS15H	**C**	**DW**	**0360**	**L**	**S**	**24**	**C2**
	C = Cascadable X = Non-cascadable	DW = Daylight white WW = Warm white	0360 mm (1 ft) 0640 mm (2 ft) 0920 mm (3 ft) 1200 mm (4 ft)	L = Light diffuse	S = Sealed (IP66, IP67)	24 = 24 V DC	C2 = 2 m (6.5 ft) integral PVC-jacketed cable QP = 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 quick-disconnect connector

[1] Models with a quick-disconnect connector require a mating cordset.

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Chapter 3 Wiring

4-pin M12 Male Pinout	4-pin M12 Female Pinout	Pin	Wire Color	Connection
		1	Brown	24 V DC
		2	White	Not used
		3	Blue	DC common
		4	Black	Connect to 24 V DC for 50% of maximum intensity. For 100% maximum intensity, leave the black wire floating or connected to common.

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Chapter 4 Specifications

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

See electrical characteristics on product label

Supply Voltage

24 V DC (+20%/-10%)

Use only with a suitable Class 2 power supply (UL) or a SELV power supply (CE)

Spacing Criterion

Vertical: 1.26

Horizontal: 1.26

Supply Current

Light Length	Typical Current (A) at 25°C[2]	Max. Current (A) at -40°C
0360 mm	0.285	0.36
0640 mm	0.57	0.72
0920 mm	0.855	1.08
1200 mm	1.14	1.44

Connections

2 m (6.5 ft) integral PVC-jacketed cable (all models), 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector (non-cascadable models), or dual 150 mm (6 in) PVC-jacketed cables with 4-pin M12 male and 4-pin M12 female quick-disconnect connectors (cascadable models)

Models with quick-disconnect connectors require a mating cordset

Do not spray cable with high-pressure sprayer or cable damage will result.

LED Lifetime

Lumen Maintenance - L70

When operating within specifications, output will decrease less than 30% after 70,000 hours.

Certifications

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

c UL us LISTED

D

Operating Temperature

–40 °C to +50 °C (–40 °F to +122 °F)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

[2] Values shown at 25°C - current and lumen values decrease 0.4% per 1°C from ambient. For example, a 1200 mm unit will have a maximum current of 1.440 A at -40°C and 1.026 A at +50°C.

Environmental Rating

Rated IP66 and IP67

Suitable for wet locations per UL 2108

Vibration and Mechanical Shock

Vibration: 10 Hz to 55 Hz, 1.0 mm peak-to-peak amplitude per IEC 60068-2-6

Shock: 15G 11 ms duration, half sine wave per IEC 60068-2-27

Construction

Clear anodized aluminum housing; Polycarbonate outer housing, Polyamide end caps

Application Note

When connecting cascadable lights in series, it is important not to exceed maximum current limitations:

- Maximum length of light at 24 V DC: 3.0 m (9.8 ft)
- At 50% intensity, double the lengths

Required Overcurrent Protection

WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

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Mounting

Integral mounting slots for M4 (#8) screws, tighten to 5 in·lbf max torque

Multiple bracket options available

Secure cables within 150 mm (5.9 inches) of the light

NOTE: For 920 mm and 1200 mm models in environments that vary more than 10 °C (18 °F), it is recommended to use one of the mounting bracket options instead of the endcap slots. If using the LMBWLS15 clip bracket and additional attachment is desired, only one end may be fastened using one of the spacers provided in the LMBWLS15 hardware packet to allow the opposite end to expand and contract. See for bracket and tape options that allow expansion and contraction over temperature variations.

Light Characteristics

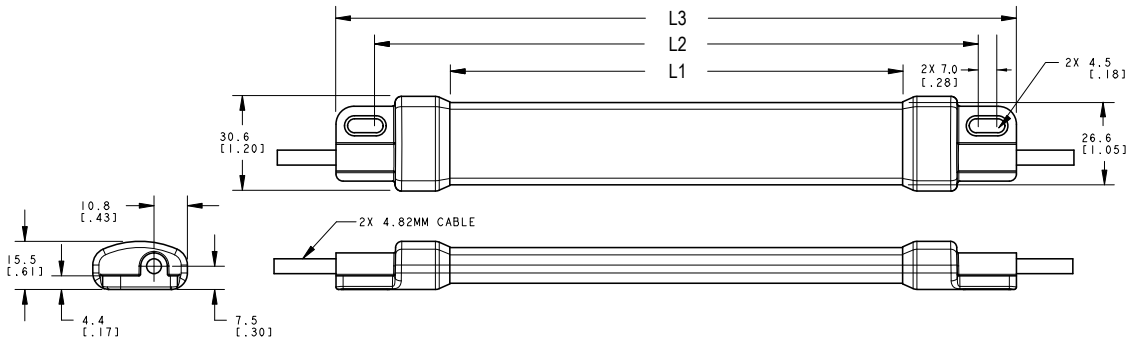
Daylight White Efficacy: 110 lumens/watt typical at 24 V DC at 25 °C (77 °F)

CRI: 80, minimum

Color	Dominant Wavelenth (nm) or Color Temperature	Lighted Length Lumens (Typical at 25°C)[2]			
		360 mm	640 mm	920 mm	1200 mm
Daylight White	5000K (±300K)	750	1500	2250	3000
Warm White	3000K (±200K, -100K)	700	1400	2100	2800

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.



Models	L1	L2	L3
WLS15..0360..	286.4 mm (11.28 inches)	334 mm (13.15 inches)	360 mm (14.17 inches)
WLS15..0640..	566.4 mm (22.3 inches)	614 mm (24.17 inches)	640 mm (25.2 inches)
WLS15..0920..	846.4 mm (33.32 inches)	894 mm (35.2 inches)	920 mm (36.22 inches)
WLS15..1200..	1126.4 mm (44.35 inches)	1174 mm (46.22 inches)	1200 mm (47.24 inches)

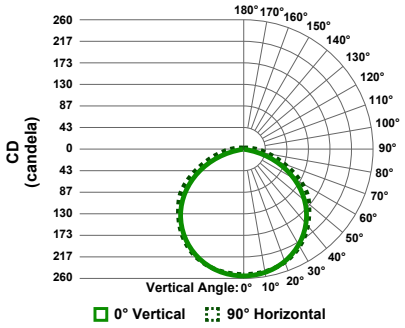
Optical Data

The optical data shown below is for daylight white only. To get lux and candela values for warm white, multiply the values shown on the charts by 0.933.

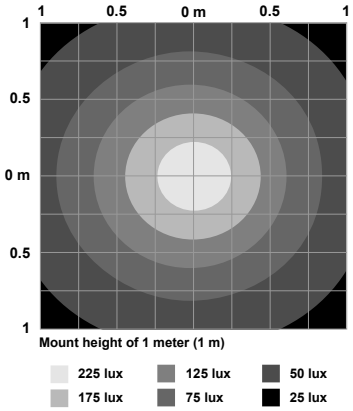
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360 mm Models

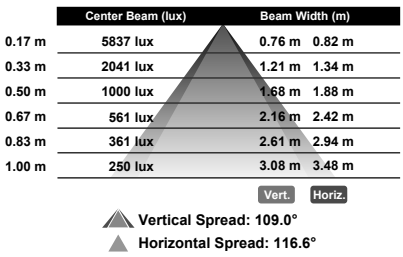
Polar Candela Distribution



Isolux Pattern

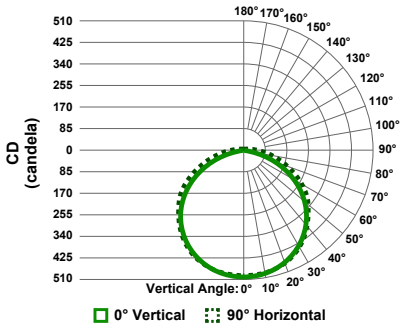


Illuminance at a Distance

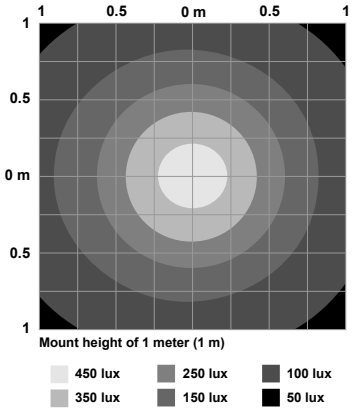


640 mm Models

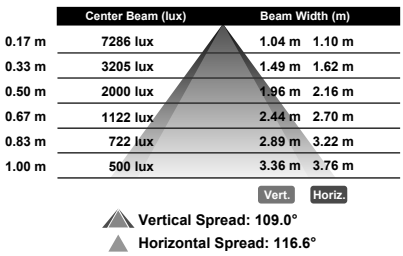
Polar Candela Distribution



Isolux Pattern

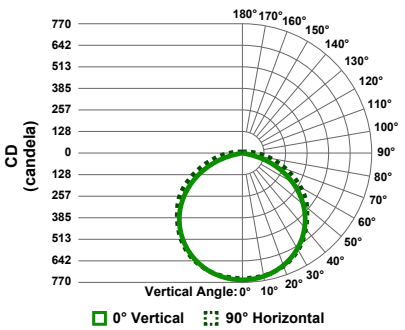


Illuminance at a Distance

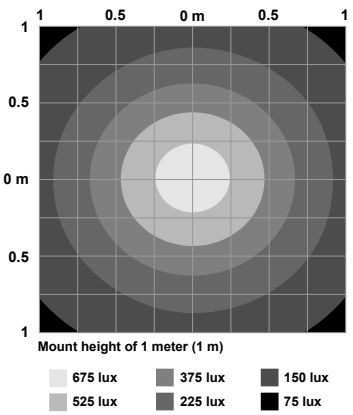


920 mm Models

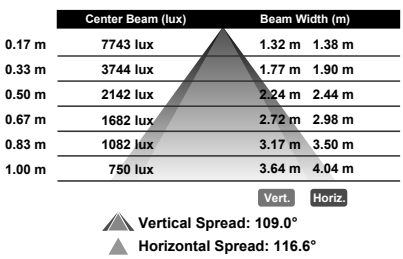
Polar Candela Distribution



Isolux Pattern



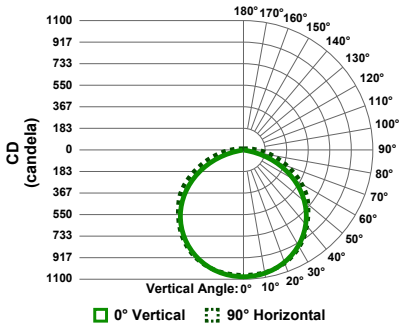
Illuminance at a Distance



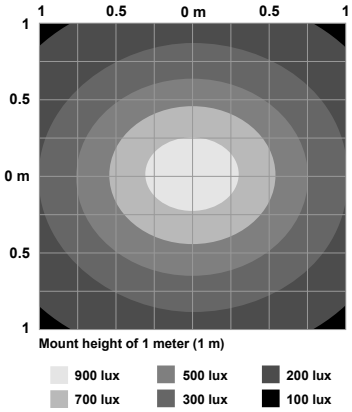
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1200 mm Models

Polar Candela Distribution



Isolux Pattern



Illuminance at a Distance

	Center Beam (lux)	Beam Width (m)	
0.17 m	7767 lux	1.60 m	1.66 m
0.33 m	3944 lux	2.05 m	2.18 m
0.50 m	2362 lux	2.52 m	2.72 m
0.67 m	1585 lux	3.00 m	3.26 m
0.83 m	1264 lux	3.45 m	3.78 m
1.00 m	1000 lux	3.92 m	4.32 m
		Vert.	Horiz.

Vertical Spread: 109.0°
Horizontal Spread: 116.6°

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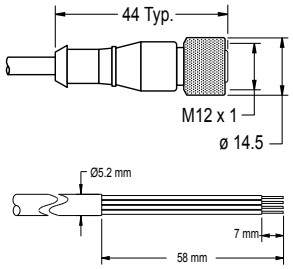
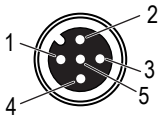
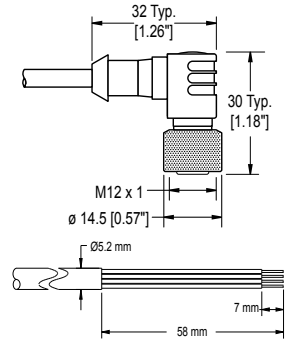
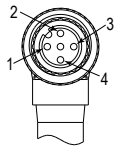
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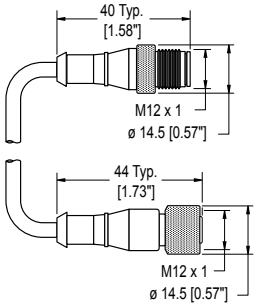
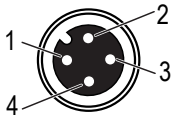
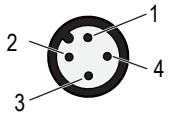
Chapter 5 Accessories

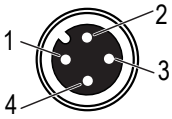
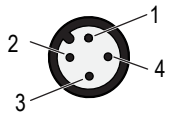
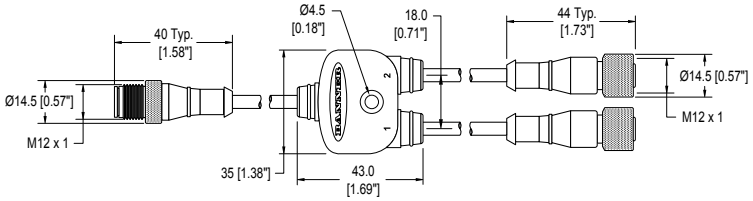
Cordsets

Use single-ended cordsets between the power source and the quick-disconnect connection of a stand-alone light or the first light in a cascade. Use double-ended cordsets between lights in a cascade.

4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-406	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				
MQDC-406RA	2 m (6.56 ft)	Right-Angle			
MQDC-415RA	5 m (16.4 ft)				
MQDC-430RA	9 m (29.5 ft)				
MQDC-450RA	15 m (49.2 ft)				

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4-Pin Double-Ended M12 Female to M12 Male Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-415SS	4.58 m (15 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30.2 ft)			
MQDEC-450SS	15.2 m (49.9 ft)			

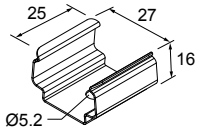
4-Pin Flat Junction M12 Female Branch to M12 MaleTrunk Splitter Cordsets			
Model	**Branches (Female)**	**Trunk (Male)**	**Pinout**
CSB-M1240M1240	No branch	No trunk	Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
CSB-M1240M1241	2 × 0.3 m (1 ft)	No trunk	
CSB-M1241M1241		0.31 m (1 ft)	
CSB-M1248M1241		2.44 m (8 ft)	
CSB-M12415M1241		4.57 m (15 ft)	
CSB-M12425M1241		7.60 m (25 ft)	
CSB-UNT425M1241		7.60 m (25 ft) Unterminated	
CSB-M1243M1243	2 × 1 m (3.28 ft)	1 m (3.28 ft)	
			

Mounting Accessories

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

LMBWLS15

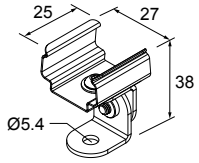
- Stainless steel clip bracket
- Includes 3 clip brackets and 2 plastic spacers
- Clearance hole for M5 hardware



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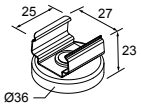
LMBWLS15-150S

- Set of 2 stainless steel swivel brackets, allows for 150° of movement
- Clearance hole for M5 button head screw



LMBWLS15MAG

- Set of 2 brackets
- Magnetic mounting bracket for attachment to steel and iron surfaces



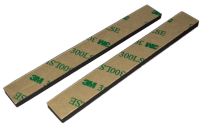
LMBWLS15TD

- Includes 4 100 mm (4 in) strips of 3M™ Dual Lock™ reclosable fasteners
- Recommended for mounting to metal and plastic surfaces
- Strong, pressure-sensitive adhesive bonds on contact



LMBWLS15TF

- Includes 2 100 mm (4 in) strips of double-sided foam urethane strips
- Acrylic adhesive provides high bond strength to most surfaces
- Bonds to low surface energy plastics such as polypropylene and powder-coated paints



ACC-CAP M12-10

- 10 Caps
- Seal and protect exposed, unterminated M12 quick-disconnect connectors



Power Supplies

For use with lights connected in series (cascades of lights) that do not exceed a total maximum operating current of 4A (refer to maximum current specifications):

PSD-24-4

- 90 to 264 V AC 50/60 Hz input
- Includes a 1.8 m (6 ft) US-style 5-15P input plug
- 24 V DC UL Listed Class 2 M12 connector output
- 4 A total current



For use with all non-cascadable lights, or with lights connected in series (cascades of lights) that do not exceed a total maximum operating current of 1A (refer to maximum current specifications):

PSW-24-1

- 24 V DC, 1 A Class 2 UL Listed power supply
- 100 V AC to 240 V AC 50/60 Hz input
- 2 m (6.5 ft) PVC cable with M12 quick disconnect
- Includes Type A (US, Canada, Japan, Puerto Rico, Taiwan), Type C (Germany, France, South Korea, Netherlands, Poland, Spain, Turkey), Type G (United Kingdom, Ireland, Singapore, Vietnam), and Type I (China, Australia, New Zealand) AC detachable input plugs



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Chapter 6 Product Support and Maintenance

Clean with Mild Detergent and Warm Water

Wipe down the device with a soft cloth dampened with a mild detergent and warm water solution. Do not use any other chemicals for cleaning.

Repairs

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

> **IMPORTANT:** If instructed to return the device, pack it with care. Damage that occurs in return shipping is not covered by warranty.

Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

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Banner Engineering Corp Limited Warranty

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