

WLS27 Multicolor LED Strip Light with EZ-STATUS™



Instruction Manual

Banner's WLS27 Multicolor LED Strip Light has a sturdy aluminum housing and is encased in a shatterproof, UV-stabilized, copolyester shell, making it ideal for harsh indoor and outdoor applications.

- EZ-STATUS combines lighting and indication in one device to illuminate an area or machine, and show status change
- Models with 3 or 5 colors available, all with only 3 inputs
- Rugged, water-resistant IP69K per DIN 40050-9 rating
- Four available lengths from 285 mm to 1130 mm
- Daisy chain power to multiple lights
- Heavy diffused housing option provides uniform light for indication purposes

Figure 1. Stand-Alone Light or End Light in a Cascade

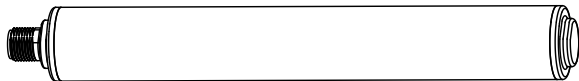


Figure 2. First or Middle of a Cascade



Available as stand-alone models, or as cascade models that can be daisy-chained together for a continuous length of lighting, with a minimum of wiring.

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

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



Important: Read the following instructions before operating the light. Please download the complete WLS27 Multicolor 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.

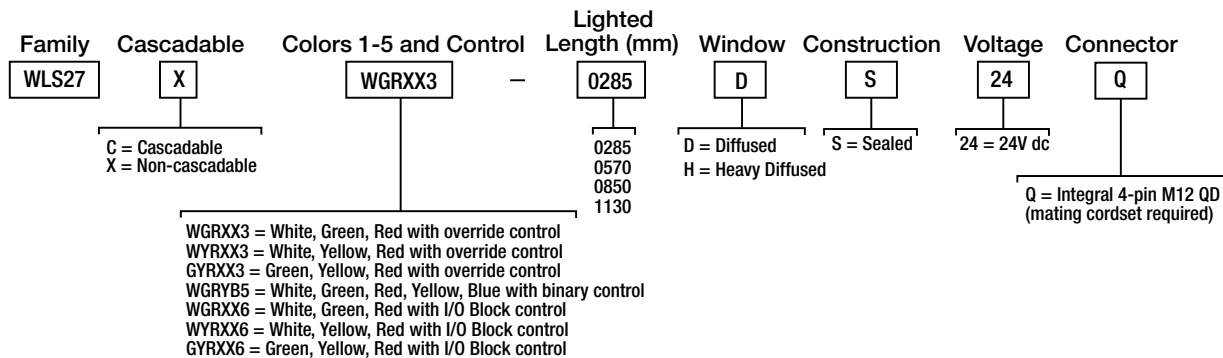


Important: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los WLS27 Multicolor LED Strip Light, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

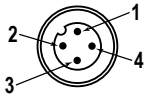
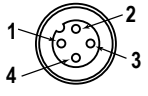


Important: Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des WLS27 Multicolor LED Strip Light sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Models



Wiring Diagrams

Male	Female	Pin	Wire Color	Description
		1	Brown	Input 1
		2	White	Input 3
		3	Blue	DC common
		4	Black	Input 2

3 Color Override Control (Color 3 overrides Colors 1 and 2, Color 2 overrides Color 1)

Input 1: Pin 1 Brown Wire	Input 2: Pin 4 Black Wire	Input 3: Pin 2 White Wire	LED Color
—	—	—	Light OFF
+24 V DC	—	—	Color 1 ON
—	+24 V DC	—	Color 2 ON
+24 V DC	+24 V DC	—	Color 2 ON
—	—	+24 V DC	Color 3 ON
+24 V DC	—	+24 V DC	Color 3 ON
—	+24 V DC	+24 V DC	Color 3 ON
+24 V DC	+24 V DC	+24 V DC	Color 3 ON

3 Color I/O Block Control (Input 1 is always ON through the block)

Input 1: Pin 1 Brown Wire	Input 2: Pin 4 Black Wire	Input 3: Pin 2 White Wire	LED Color
+24 V DC	—	—	Light OFF
+24 V DC	+24 V DC	—	Color 1 ON
+24 V DC	—	+24 V DC	Color 2 ON
+24 V DC	+24 V DC	+24 V DC	Color 3 ON

5 Color Binary Control (Binary input state controls color)

Input 1: Pin 1 Brown Wire	Input 2: Pin 4 Black Wire	Input 3: Pin 2 White Wire	LED Color
—	—	—	Light OFF
+24 V DC	—	—	Color 1 ON
—	+24 V DC	—	Color 2 ON
—	—	+24 V DC	Color 3 ON
+24 V DC	+24 V DC	—	Color 4 ON
+24 V DC	—	+24 V DC	Color 5 ON
—	+24 V DC	+24 V DC	Light OFF
+24 V DC	+24 V DC	+24 V DC	Light OFF

Specifications

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Leakage Current Immunity

400 µA

Mounting

Bracket LMBWLS27EC included (2 for lights up to 570 mm or 3 for lights 850 mm and longer)

Construction

Clear anodized aluminum inner housing and FDA-grade copolyester outer housing

Application Notes

When connecting cascable 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)

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

LED Lifetime

Lumen Maintenance - L₇₀

When operating within specifications, output decreases less than 30% after 50,000 hours

Connections

Integral 4-pin M12 male quick-disconnect connector

Environmental Rating

Rated IP66, IP67, and IP69K per DIN 40050-9

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

Operating Temperature

-40 °C to +50 °C (-40 °F to +122 °F)

Storage Temperature: -40 °C to +70 °C (-40 °F to +158 °F)

Supply Voltage

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

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

See electrical characteristics on product label

Lighted Length	Typical Current (A) at 25 °C ¹	Maximum Current (A)
285 mm	0.315	0.400
570 mm	0.630	0.800
850 mm	0.945	1.200
1130 mm	1.260	1.600

Light Characteristics

Daylight White Efficacy: 85 lumens/watt typical at 24 V DC at 25 °C (77 °F)

CRI: 80, minimum

Color	Dominant Wavelength (nm) or Color Temperature	Lighted Length Lumens (Typical at 25 °C) ¹			
		285 mm	570 mm	850 mm	1130 mm
Daylight White	5000 K (±300 K)	650	1300	1950	2600
Green	525 nm	400	800	1200	1600
Red	625 nm	185	370	555	740
Yellow	580 nm	570	1140	1710	2280
Blue	470 nm	125	250	375	500

Certifications

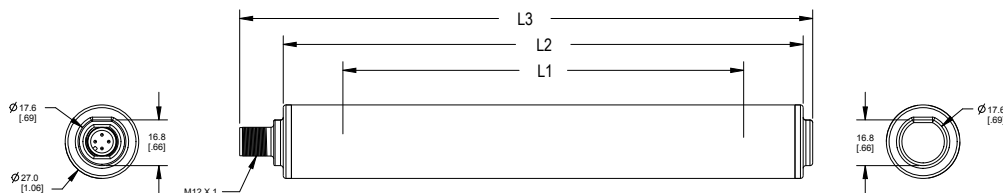


Banner Engineering BV Park Lane,
Culliganlaan 2F bus 3, 1831 Diegem,
BELGIUM

Turck Banner LTD Blenheim House,
Blenheim Court, Wickford, Essex SS11 8YT,
Great Britain

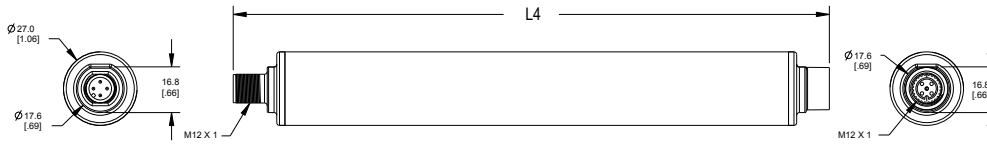
Dimensions

Figure 3. Quick Disconnect Models



¹ Values shown at 25 °C - current and lumen values decrease 0.4% per 1 °C from ambient. For example, a 1130 mm unit will have a maximum current of 1.600 A at -40 °C and 1.134 A at +50 °C.

Figure 4. Cascade Models



Models	L1	L2	L3	L4
WLS27..0285..	286 mm (11.3 in)	332 mm (13.1 in)	351.5 mm (13.8 in)	360 mm (14.2 in)
WLS27..0570..	568 mm (22.4 in)	614 mm (24.2 in)	633.5 mm (24.9 in)	642 mm (25.3 in)
WLS27..0850..	850 mm (33.4 in)	896 mm (35.3 in)	915.5 mm (36 in)	924 mm (36.4 in)
WLS27..1130..	1132 mm (44.6 in)	1178 mm (46.4 in)	1197.5 mm (47.1 in)	1206 mm (47.5 in)

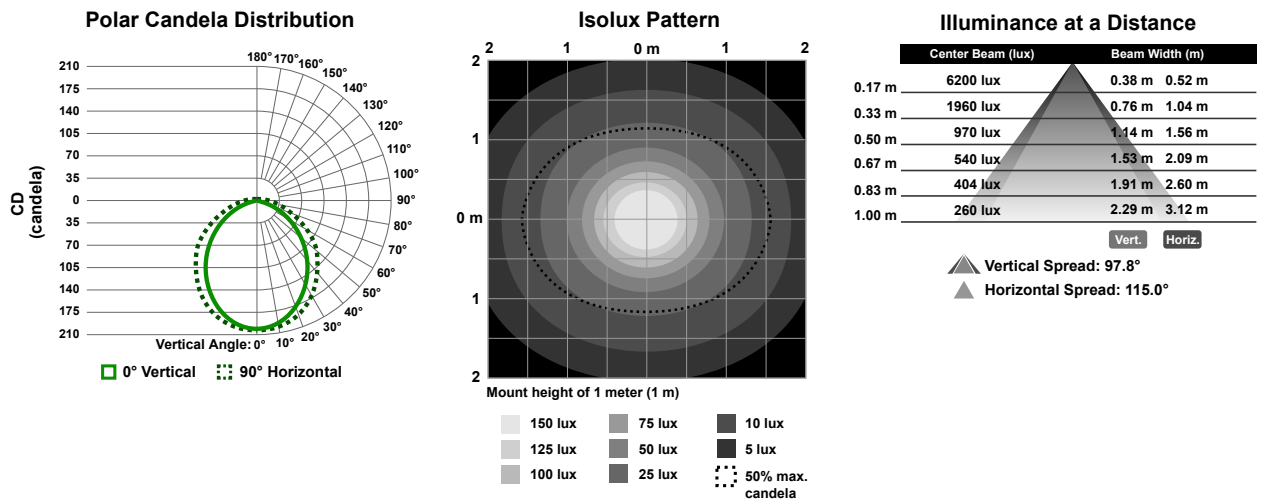
Performance Curves

Optical data shown below is for daylight white only. To get lux and candela values for green, red, yellow, and blue, multiply the values shown on the charts by the following factors:

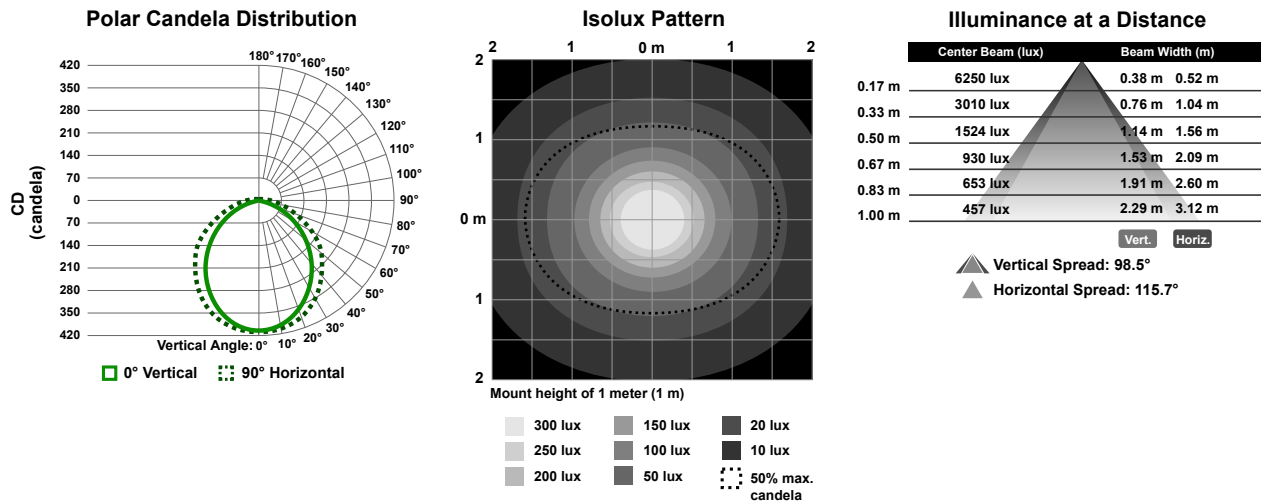
- Green: 0.615
- Red: 0.285
- Yellow: 0.875
- Blue: 0.195

For models with heavy diffused housing, multiply lumen values by 0.8.

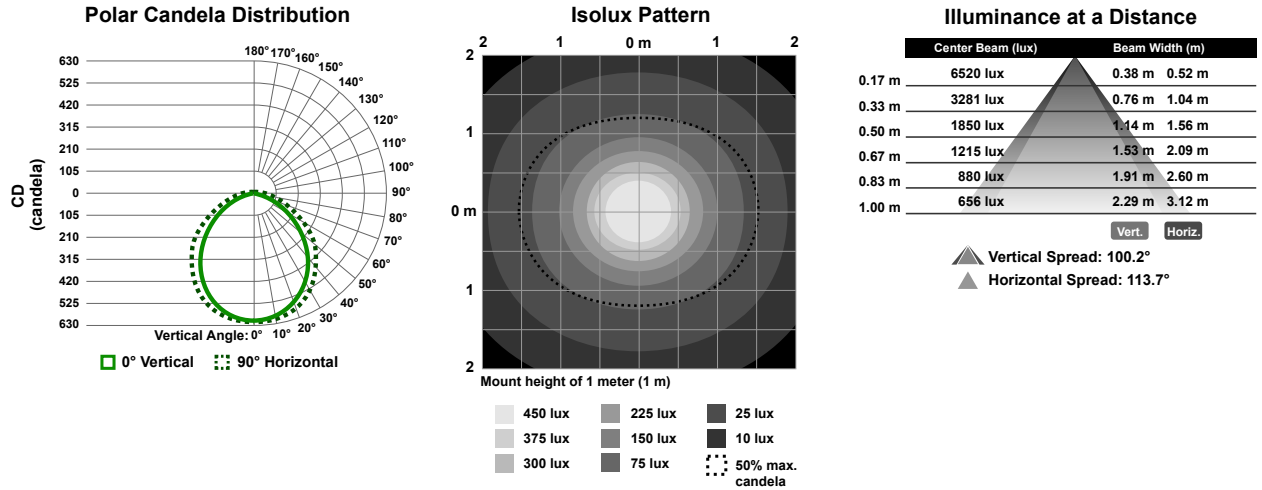
285 mm Models



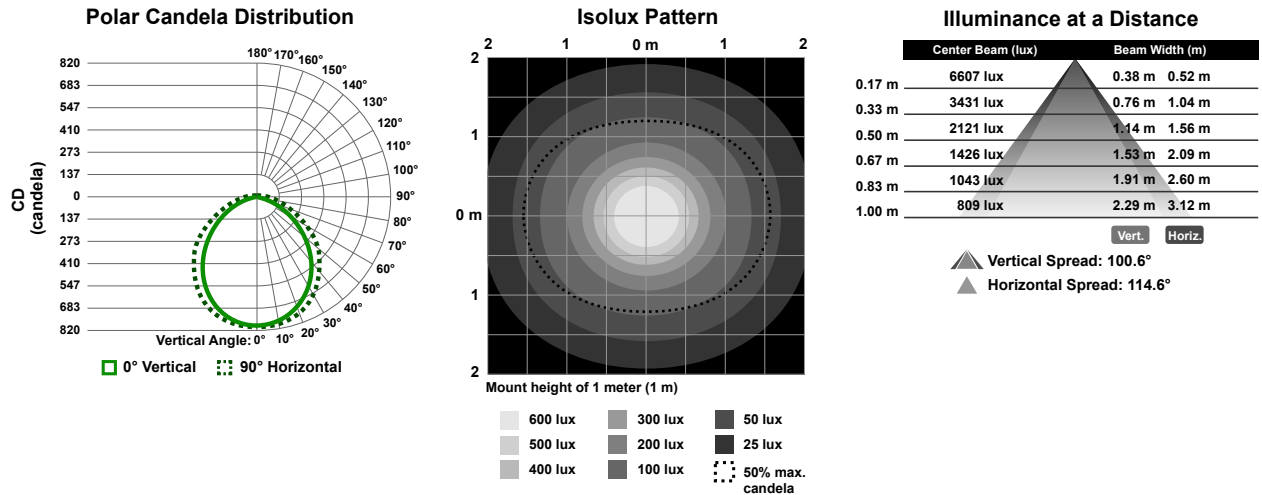
570 mm Models



850 mm Models



1130 mm Models



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.

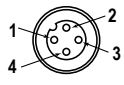
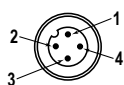
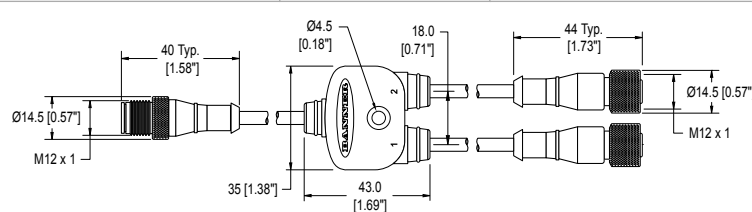
4-Pin Threaded M12 Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	2 m (6.56 ft)	Straight	<p>44 Typ. M12 x 1 ø 14.5</p>	<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused</p>
MQDC-415	5 m (16.4 ft)			
MQDC-430	9 m (29.5 ft)			
MQDC-450	15 m (49.2 ft)			

4-Pin Threaded M12 Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
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)			

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

4-Pin Threaded M12 Cordsets—Washdown, Stainless Steel, Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-WDSS-0406	2 m (6.56 ft)	Straight		
MQDC-WDSS-0415	5 m (16.4 ft)			
MQDC-WDSS-0430	9 m (29.5 ft)			
				1 = Brown 2 = White 3 = Blue 4 = Black

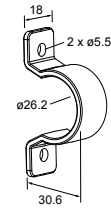
4-Pin Threaded M12 Cordsets—Double Ended, Washdown, Stainless Steel				
Model	Length	Style	Dimensions	Pinout
MQDEC-WDSS-401SS	0.31 m (1 ft)	Male Straight/ Female Straight		Female
MQDEC-WDSS-403SS	0.91 m (2.99 ft)			
MQDEC-WDSS-406SS	1.83 m (6 ft)			Male
MQDEC-WDSS-412SS	3.66 m (12 ft)			
				1 = Brown 2 = White 3 = Blue 4 = Black

4-Pin Threaded M12 Splitter Cordsets—Flat Junction			
Model	Branches (Female)	Trunk (Male)	Pinout
CSB-M1240M1240	No branch	No trunk	<p>Female</p>  <p>Male</p>  <p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
CSB-M1240M1241	2 × 0.3 m (1 ft)	No trunk	
CSB-M1241M1241		0.30 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 (25.0 ft) Unterminated	
			

Brackets

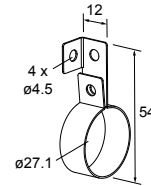
LMBWLS27EC

- Clear copolyester
- Clearance for M5 or #10 hardware



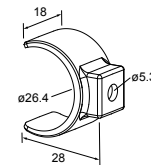
LMBWLS27H

- 300 series stainless steel mounting brackets
- M4 stainless steel hardware included



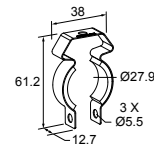
LMBWLS27SP

- Clear copolyester
- Clearance for M5 or #10 hardware
- Snap bracket for light duty applications



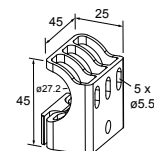
LMBWLS27T

- Stainless steel mounting brackets with rubber grips
- M5 stainless steel hardware included
- Clearance for M5 or #10 hardware



LMBWLS27U

- Clear copolyester
- Clearance for M5 or #10 hardware
- Clamps securely around the light body



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