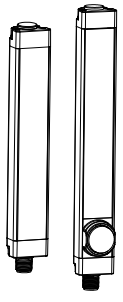
Features

Banner's HLS28 Hazardous Location LED Strip Light has a sturdy aluminum housing, shatterproof windows, and a low-profile, space-saving design for use in enclosures in hazardous locations.



- Nine single-color models and three multicolor models are available in lengths from 145 mm to 570 mm[1]
- Available with an integrated motion sensor for auto-on when motion is detected
- Single color models can dim lights using the wiring pinout (Hi/Lo/Off)
- Automatic temperature protection built into the unit—above 50 °C, the light dims to manage heat and protect product lifetime
- Certification for installations inside appropriately rated enclosures such as cULus and ATEX/UKCA/IECEx, see "Specifications" on page 4

NOTE: When cascading lights, a model with a Motion switch can be used to control the lights cascaded off the switched model.

Models

Single Color Models
HLS28XW145XMQ
HLS28XW145XM
HLS28XW285XM
HLS28XW285XMQ
HLS28XW285DXMQ
HLS28CW285XMQ
HLS28XW285XQ
HLS28XW430XMQ
HLS28XW570XMQ

Multicolor Models
HLS28XWGRXX3-285X24Q
HLS28XWYRXX3-285X24Q
HLS28XWGRYB5-285X24Q

Single Color Model Example: HLS28XW285DXMQ

Each part of the model number defines a feature of the light.

HLS28
Defines the product family of the light

X
Defines the cascadable feature of the light
X = Non-cascadable

W
Defines the color of the light
W = Cool white

285
Defines the length of the light in millimeters (mm)

D
Defines the window
D = Diffused plastic

X
Defines the construction of the light
X = Non-sealed

M
Defines the control of the light
M = Motion switch

Q
Defines the connection of the light
Q = Integral 4-pin M12 quick disconnect

Multicolor Model Example: HLS28XWGRXX3-285X24Q

Each part of the model number defines a feature of the light.

[1] Contact Banner Engineering for custom configurations or lengths up to 1130 mm.

Original Instructions
19-Aug-25

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

221955
p/n: 221955 Rev. B

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

HLS28
Defines the product family of the light

X
Defines the cascadable feature of the light
X = Non-cascadable

WGRXX3
Defines the color combination of the light
WGRXXX3 = White, Green, and Red with override control

—285
Defines the length of the light in millimeters (mm)

[blank]
Defines the window
Blank = Clear Plastic

X
Defines the construction of the light
X = Non-sealed

24
Defines the voltage of the light in volts (V)

Q
Defines the connection of the light
Q = Integral 4-pin M12 quick disconnect

Installation Instructions

Hazardous Location Applications

WARNING:
- **Hazardous Locations**
- It is the user's responsibility to ensure that all local, state, and national laws, rules, codes, or regulations relating to the installation and use of this device in any particular application are satisfied. This device must be installed by Qualified Persons, in accordance with this document and applicable regulations.
- A Qualified Person is a person who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training and experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work.

WARNING:
- **Electrostatic Discharge (ESD) Specific Conditions for Safe Use**
- Parts of the enclosure are non-conducting and can generate an ignition-capable level of ESD.
- To reduce the risk of ignition due to electrostatic discharge, avoid contact with the equipment while an explosive atmosphere is present.
- Clean the equipment with only a damp cloth.

Specific Conditions for Use and General Notes:
- See Specifications and Wiring Diagrams for important information concerning entity parameters, permissible locations, electrical connections and certifications.
- In addition to the warning above concerning user responsibility, the installation must comply with the following:
  - All installations must comply with all manufacturers' instructions.
    - Must be installed within an enclosure only accessible with a tool, such as a key, and appropriately rated for the application and the environment.
      - NEC/CEC: For Class I Division 2, Groups A, B, C, D classified locations, these luminaires shall be installed within an enclosure that is appropriately rated for the environment per NEC/CEC requirements.
      - ATEX/UKCA/IECEx: The luminaires shall be installed in an enclosure that provides a degree of protection not less than IP54 in accordance with IEC/EN 60079-0. All enclosure materials must be UV blocking.
    - Do not mount these luminaires near heat-generating sources (for example, devices) that will increase the surrounding temperatures within the enclosure greater than the ambient temperature ratings.
    - Division 2 / Zone 2 wiring methods must comply with the following:
      - U.S. Installations: The relevant requirements of the National Electrical Code® (ANSI/NFPA-70 NEC®).
      - Canadian Installations: The relevant requirements of the Canadian Electrical Code (CSA C22.1).
      - ATEX, UKCA, and IECEx Installations: The relevant requirements of EN/IEC 60079-14 and applicable National regulations.
    - The device must be powered by a Class 2 or SELV power supply.
    - Clean with a damp cloth only.

NOTE: For quick disconnect models only: use Banner MQDC-4## and MQDEC-4## cordsets (shown in "Accessories" on page 11), or suitable M12 quick disconnect cordsets with threaded retaining nut (see "Specifications" on page 4). The cordset must be securely fastened using the M12 × 1 QD retaining nut to prevent disconnection.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

- Do not attempt any repairs to this device; it contains no field-replaceable parts or components. Tampering and/or replacement with non-factory components may adversely affect the safe use of the system.
- The nonconducting materials of this device may be susceptible to ignition-capable level of electrostatic charging and precautions must be taken to avoid this. The user/installer shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which are conducive to creating a build-up of electrostatic charges.

Install the HLS28

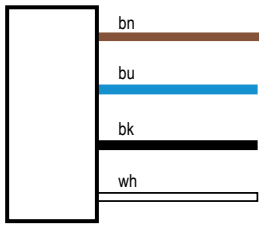
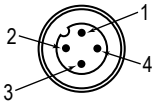
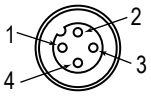
1. Remove power at the DC power supply.
2. Remove the light from the packaging and inspect it for damage before installing it.
3. Attach the included SMBWLS28RA brackets, or other compatible brackets, to the light.
   Refer to "Accessories" on page 11 for a complete list of compatible brackets.
4. Select a suitable mounting location inside the appropriately rated enclosure for the application as described above.

> **IMPORTANT:** Do not mount these luminaires near heat generating sources (for example, devices) that will increase the surrounding temperatures within the enclosure greater than the ambient temperature ratings (see Operating Temperature in "Specifications" on page 4 for further details).

5. Place the light in the mounting location and mark the positions of the bracket mounting holes.
6. Use appropriate fasteners (screws) to secure the bracket to the mounting location.
7. Wire the leads of the cables per the wiring diagram onto the light. Terminate wire as appropriate per application. On QD models, secure the cordset M12 × 1 QD retaining nut to the HLS28 mating QD; do not over-tighten.
8. Installation is complete. Reapply power at the DC power supply.

WARNING:
- **Explosion Hazard**
- Do not disconnect equipment unless the power has been switched off or the area is known to be non-hazardous.

Wiring

Diagram	Wire	Single Color Models	Multicolor Models	Pinout (Male)	Pinout (Female)
	1 - Brown	12 V DC to 30 V DC	Input 1	 1 = Brown 2 = White 3 = Blue 4 = Black	 1 = Brown 2 = White 3 = Blue 4 = Black
	2 - White	Not used	Input 3		
	3 - Blue	DC common	DC Common		
	4 - Black	Connect to 12 V DC to 30 V DC for 50% maximum intensity. For maximum intensity, leave the black wire floating or connected to common.	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

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

Continued on page 4

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 3

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**
—	+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

HLS28 Single Color Specifications

Supply Voltage and Current

12 V DC to 30 V DC (See Table 1)

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

See electrical characteristics on product label

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Light Characteristics

Cool white

Color Temperature (CCT): 6500K (+500K, -400K)
Lumen output: 800 (± 5%) per foot, typical at 25 °C (77 °F)
Luminous efficacy: 110 lumens/Watt typical at 24 V dc at 25 °C (77 °F)
CRI: 85, typical

Leakage Current Immunity

400 µA

LED Lifetime

Lumen Maintenance = L_{70}

When operating within specifications, output will decrease less than 30% after 75,000 hours.

Vibration and Mechanical Shock

Vibration 10-55 Hz 1.0 mm p-p amplitude per IEC 60068-2-6

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

Operating Temperature

Models without motion detection:–40 °C to +70 °C (–40 °F to +158 °F)

Models with motion detection: –20 °C to +60 °C (–4 °F to +140 °F)

Light output begins to decrease above 50 °C (122 °F) and will be approximately 65% of max intensity at 60 °C (140 °F) and 30% of max intensity at 70 °C (158 °F)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Application Note

When connecting cascadable lights in series at 100% intensity, it is important not to exceed maximum current limitations:

Maximum length of light at 12 V DC: 1.4 m (4.6 ft)
Maximum length of light at 24 V DC: 3.0 m (9.8 ft)
Maximum length of light at 30 V DC: 3.1 m (10.2 ft)

At 50% intensity, double the lengths.

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

Models with Motion Detection

Light turns off after approximately 60 seconds without detecting motion

Range: 12 meters; ± 45° field of view

Standby current: 170 µA

Construction

Clear anodized aluminum housing; painted zinc end caps; polycarbonate window on clear and diffuse plastic models; zinc plated steel brackets

Mounting

Two swivel brackets SMBWLS28RA included and four screws

Connections

Integral 4-pin M12 male quick-disconnect connector (4-pin connecting QD cordset required); or 2 m (6.5 ft) integral PVC-jacketed cable

Connecting 4-pin M12 QD Cordsets (see Cordsets):

Female single-ended or male/female double-ended;
Multiconductor cable (at minimum): UL AVLV2 Style 2517, 24 AWG wire, rated ≥ 80 °C;
M12 QD connector: per IEC 61076-2-101, must have threaded M12 × 1 retaining nut.

Environmental Rating

IP50

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

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Typical Current

Light Length	Typical Current			Max. Current	Lumens [2] (Typical @25 °C)
	12 V DC	24 V DC	30 V DC	A	Cool White
145 mm	0.33 A	0.15 A	0.12 A	0.4	400
285 mm	0.66 A	0.30 A	0.24 A	0.8	800
430 mm	1.01 A	0.46 A	0.36 A	1.2	1200
570 mm	1.36 A	0.61 A	0.48 A	1.6	1600
710 mm	1.75 A	0.77 A	0.60 A	2.0	2000
850 mm	2.13 A	0.92 A	0.73 A	2.4	2400
990 mm	2.59 A	1.08 A	0.85 A	2.8	2800
1130 mm	3.04 A	1.24 A	0.97 A	3.2	3200

[2] Lumen values lowered by 25% on diffused window and 25 degree lensed models.

HLS28 Multicolor Specifications

Supply Voltage and Current

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	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

Typical Current values are 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.

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Approvals

NEC and CEC:

Models without motion detection option: –40°C ≤ T_a ≤ +70°C
Models with motion detection option: –20°C ≤ T_a ≤ +60°C
Class I Zone 2 IIC T4 / Class I Div 2 Groups ABCD T4

c UL us LISTED
LUMINAIRE FOR HAZARDOUS LOCATIONS
E467619

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

ATEX/UKCA/IECEX:

Models without motion detection option: –40°C ≤ T_a ≤ +70°C
Models with motion detection option: –20°C ≤ T_a ≤ +60°C
Ex II 3 G Ex ec IIC T4 Gc (Group IIC Zone 2)

UL 21 ATEX 2508X
IECEx UL 21.0007X

IEC 60079-0:2017
IEC 60079-7:2017

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

UKCA Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

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)			
		285 mm	570 mm	850 mm	1130 mm
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
Daylight White	5000 K (±300 K)	650	1300	1950	2600

Lighted Lengh Lumens values are 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.

Connections

Integral 4-pin M12 male quick-disconnect connector (4-pin connecting QD cordset required); or 2 m (6.5 ft) integral PVC-jacketed cable

Connecting 4-pin M12 QD Cordsets (see Cordsets):

Female single-ended or male/female double-ended; Multiconductor cable (at minimum): UL AVLV2 Style 2517, 24 AWG wire, rated ≥ 80 °C;
M12 QD connector: per IEC 61076-2-101, must have threaded M12 × 1 retaining nut.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Construction

Clear anodized aluminum housing; painted zinc end caps; polycarbonate window on clear and diffuse plastic models; zinc plated steel brackets

Environmental Rating

IP50

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 +50 °C (–40 °F to +122 °F)

Application Notes

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)

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

Leakage Current Immunity

400 µA

LED Lifetime

Lumen Maintenance - L_{70}

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

Mounting

Two SMBWLS28RA swivel brackets and four screws included

Approvals

NEC and CEC:

Models without motion detection option: –40°C ≤ T_a ≤ +50°C

Class I Zone 2 IIC T4 / Class I Div 2 Groups ABCD T4

c UL us LISTED

LUMINAIRE FOR HAZARDOUS LOCATIONS E467619

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

ATEX/UKCA/IECEX:

Models without motion detection option: –40°C ≤ T_a ≤ +50°C

Ex II 3 G Ex ec IIC T4 Gc (Group IIC Zone 2)

UL 21 ATEX 2508X
IECEx UL 21.0007X

IEC 60079-0:2017
IEC 60079-7:2017

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

UKCA Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

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

FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

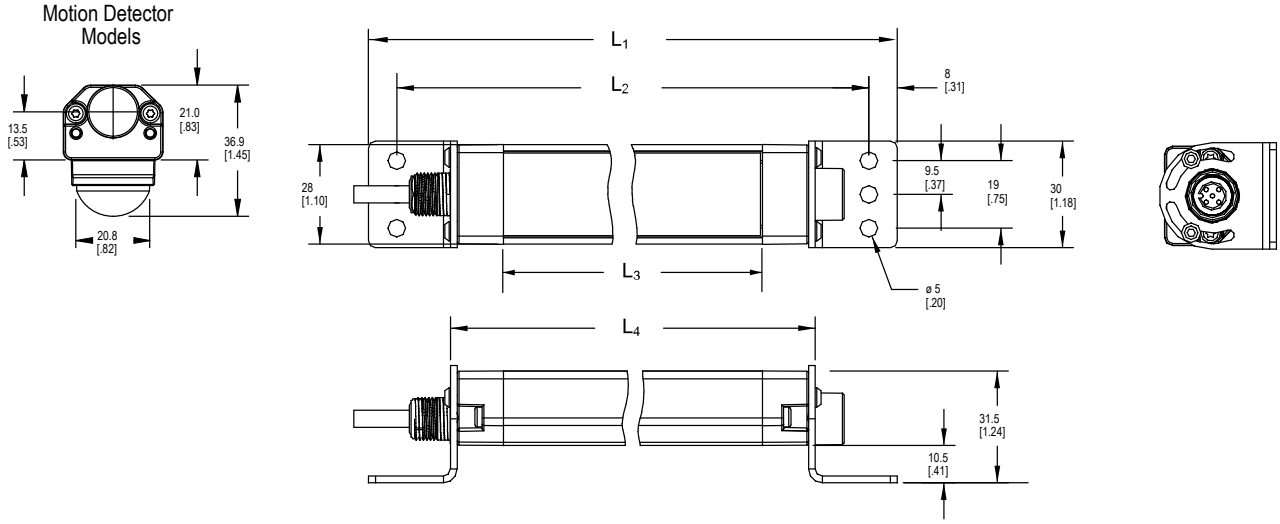
Industry Canada ICES-003(B)

This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

Dimensions

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



Dimensions are shown with the included SMBWLS28RA bracket.

Models without motion detection				
Model	**L_1**	**L_2**	**L_3**	**L_4**
HLS28..145X	221 mm (8.7 in)	205 mm (8.1 in)	145 mm (5.71 in)	175 mm (6.9 in)
HLS28..285X	362 mm (14.3 in)	346 mm (13.6 in)	286 mm (11.26 in)	316 mm (12.4 in)
HLS28..430X	503 mm (19.8 in)	487 mm (19.2 in)	427 mm (16.81 in)	457 mm (18.0 in)
HLS28..570X	644 mm (25.4 in)	628 mm (24.7 in)	568 mm (22.36 in)	598 mm (23.5 in)
HLS28..710X	785 mm (30.9 in)	769 mm (30.3 in)	709 mm (27.91 in)	739 mm (29.1 in)
HLS28..850X	926 mm (36.5 in)	910 mm (35.8 in)	850 mm (33.46 in)	880 mm (34.6 in)
HLS28..990X	1067 mm (42 in)	1051 mm (41.4 in)	991 mm (39.02 in)	1021 mm (40.2 in)
HLS28..1130X	1208 mm (47.6 in)	1192 mm (46.9 in)	1132 mm (44.57 in)	1162 mm (45.7 in)

Models with motion detection				
Model	**L_1**	**L_2**	**L_3**	**L_4**
HLS28..145XM	251 mm (9.9 in)	235 mm (9.3 in)	145 mm (5.71 in)	205 mm (8.1 in)
HLS28..285XM	392 mm (15.4 in)	376 mm (14.8 in)	286 mm (11.26 in)	346 mm (13.6 in)
HLS28..430XM	533 mm (21.0 in)	517 mm (20.4 in)	427 mm (16.81 in)	487 mm (19.2 in)
HLS28..570XM	674 mm (26.5 in)	658 mm (25.9 in)	568 mm (22.36 in)	628 mm (24.7 in)
HLS28..710XM	815 mm (32.1 in)	799 mm (31.5 in)	709 mm (27.91 in)	769 mm (30.3 in)
HLS28..850XM	956 mm (37.6 in)	940 mm (37 in)	850 mm (33.46 in)	910 mm (35.8 in)
HLS28..990XM	1097 mm (43.2 in)	1081 mm (42.6 in)	991 mm (39.02 in)	1051 mm (41.4 in)
HLS28..1130XM	1238 mm (48.7 in)	1222 mm (48.1 in)	1132 mm (44.57 in)	1192 mm (46.9 in)

Performance

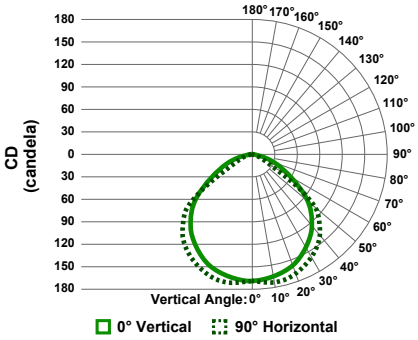
The optical data shown below is for standard single color, cool white only. To calculate lux and candela values for colors in the multicolor models, multiply the values shown on the charts by the following factors.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

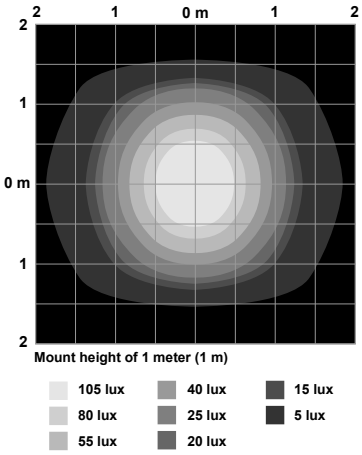
Color for Multicolor Models	Multiplier
Daylight white	0.813
Green	0.500
Red	0.231
Yellow	0.713
Blue	0.156

145 mm Models

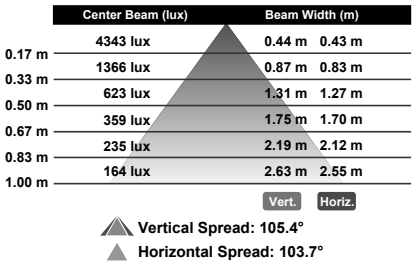
Polar Candela Distribution



Isolux Pattern

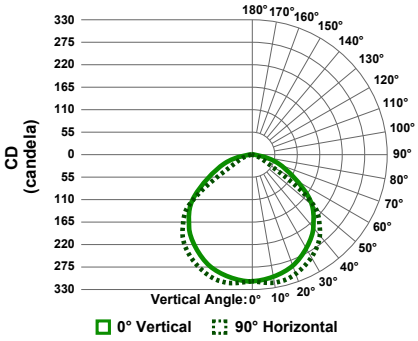


Illuminance at a Distance

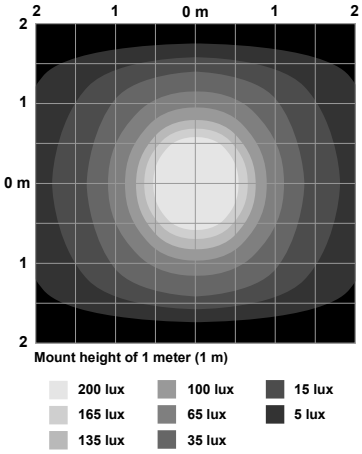


285 mm Models

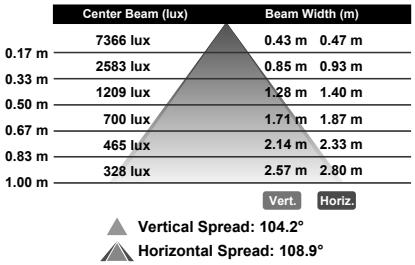
Polar Candela Distribution



Isolux Pattern



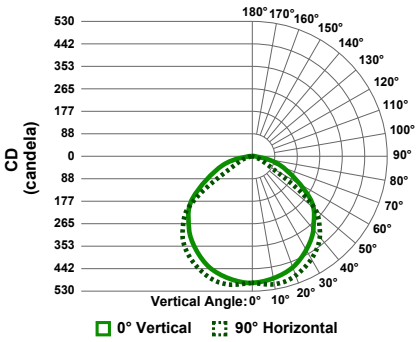
Illuminance at a Distance



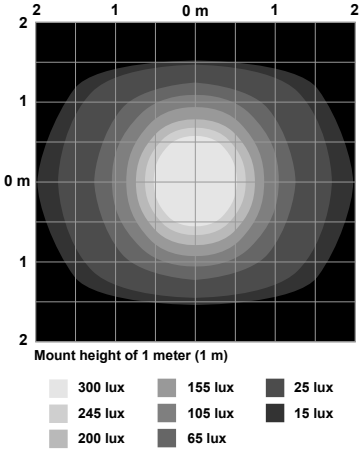
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

430 mm Models

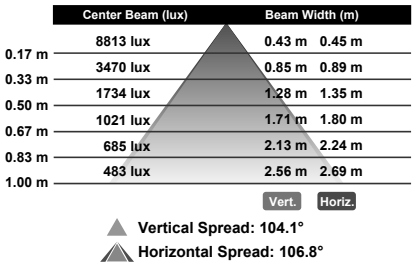
Polar Candela Distribution



Isolux Pattern

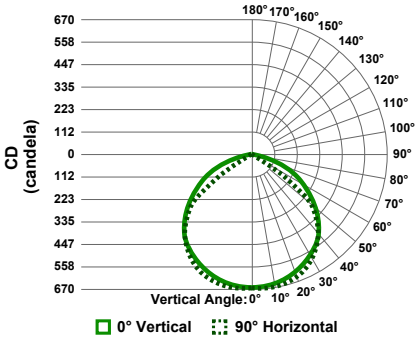


Illuminance at a Distance

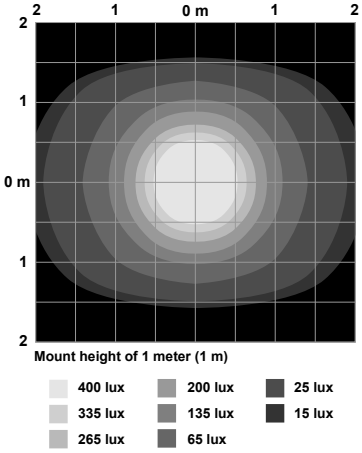


570 mm Models

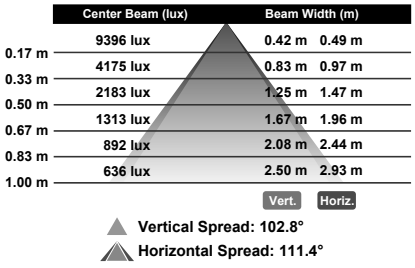
Polar Candela Distribution



Isolux Pattern

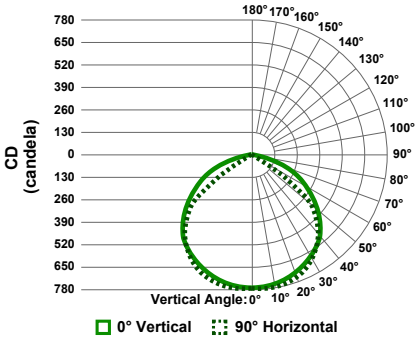


Illuminance at a Distance

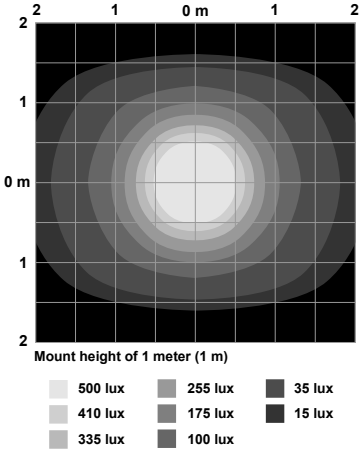


710 mm Models

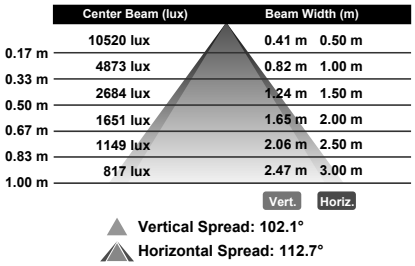
Polar Candela Distribution



Isolux Pattern



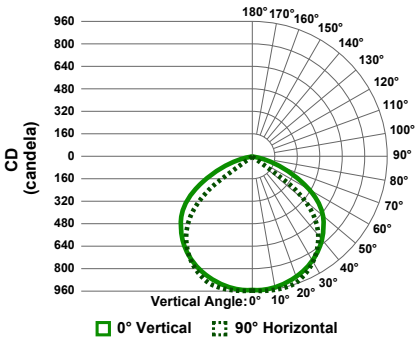
Illuminance at a Distance



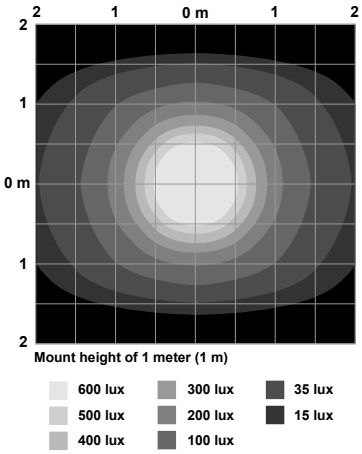
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

850 mm Models

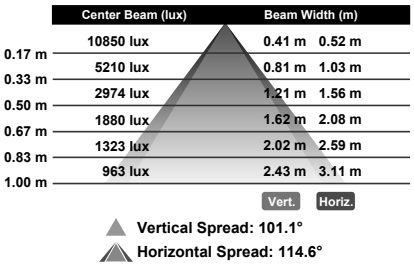
Polar Candela Distribution



Isolux Pattern

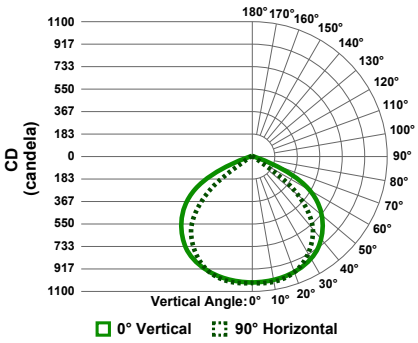


Illuminance at a Distance

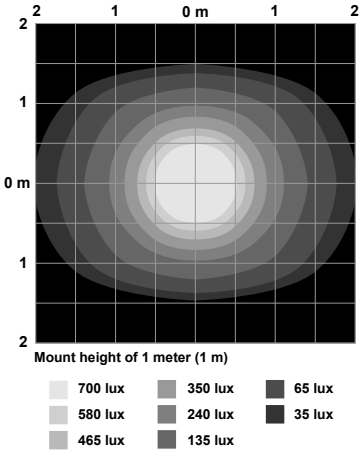


990 mm Models

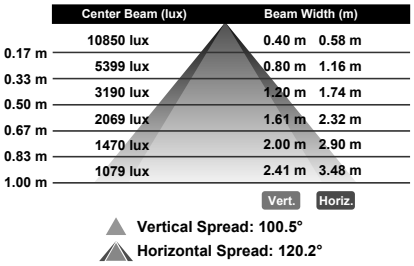
Polar Candela Distribution



Isolux Pattern

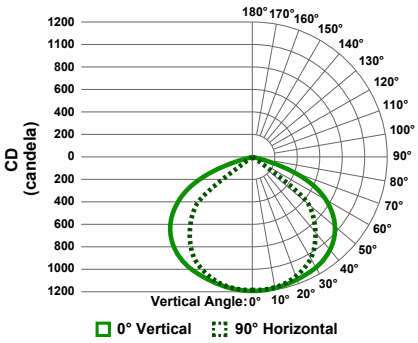


Illuminance at a Distance

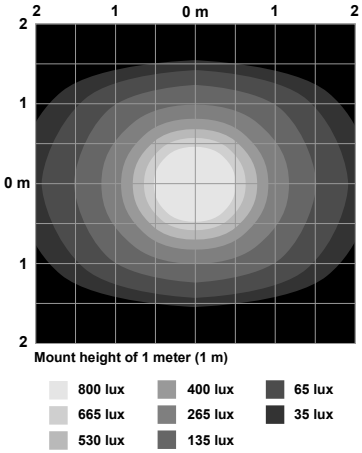


1130 mm Models

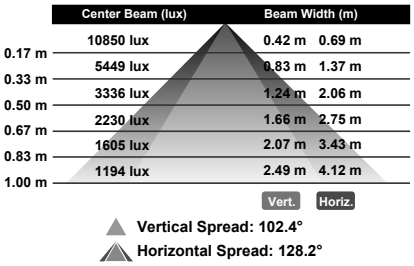
Polar Candela Distribution



Isolux Pattern



Illuminance at a Distance

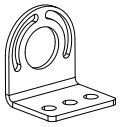


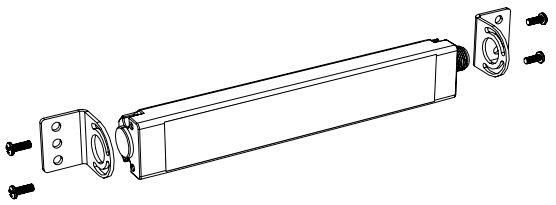
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Accessories

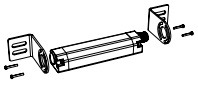
Brackets

SMBWLS28RA
- Replacement end bracket kit
- 1.8 mm (14 gage) cold rolled steel with zinc plate, clear chromate finish
- Kit contains two end brackets and four screws

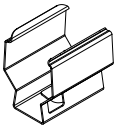


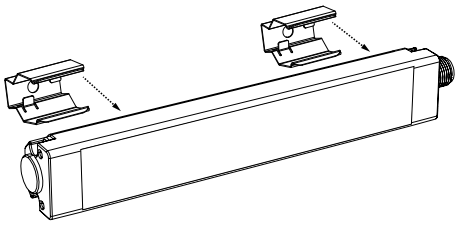


SMBWLS28SM
- End bracket kit
- Cold Rolled Steel with a clear zinc finish
- Allows the light or switch to be mounted at a right angle to the mounting surface
- Kit contains two end brackets and four screws



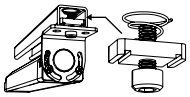
SMBWLS28SP
- Stainless steel snap bracket kit
- Includes two brackets



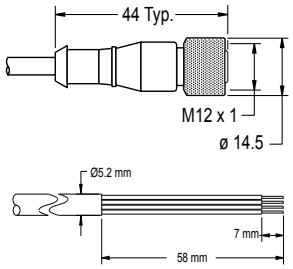
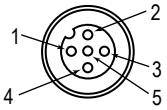


SMH1316
This kit allows the light or switch to be mounted to a 13/16-inch Unistrut channel. Light is shown. The kit includes:

- #10-32 spring nuts (qty 2)
- #10-32 socket head cap screws (qty 2)
- #10 lock washers (qty 2)



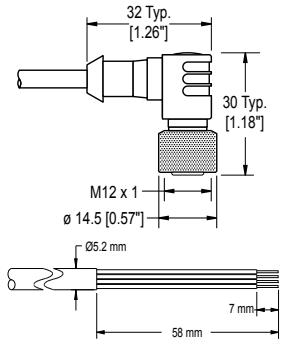
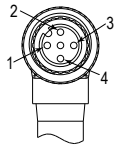
Cordsets

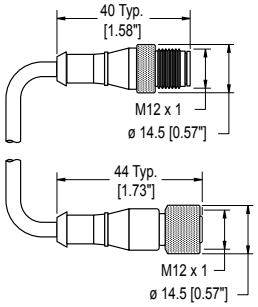
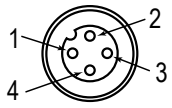
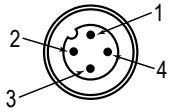
4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-406	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				

Continued on page 12

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 11

4-Pin Single-Ended M12 Female Cordsets					
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 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)			

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

Repairs and Translations

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at www.bannerengineering.com or contact Banner directly at (763) 544-3164.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local our appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

请联系当地的 Banner Engineering Corp 经销商或直接致电 Banner +1 (763) 544-3164，以获得产品维修帮助。请访问邦纳网站 www.bannerengineering.com 或直接拨打 +1 (763) 544-3164 联系邦纳，获取翻译成您母语的资料。

제품 수리에 대한 지원은 지역 Banner Engineering Corp 대리점에 문의하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다. 사용자의 모국어로 번역된 자료는 Banner 웹사이트 www.bannerengineering.com에서 액세스하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다.

© Banner Engineering Corp. All rights reserved.