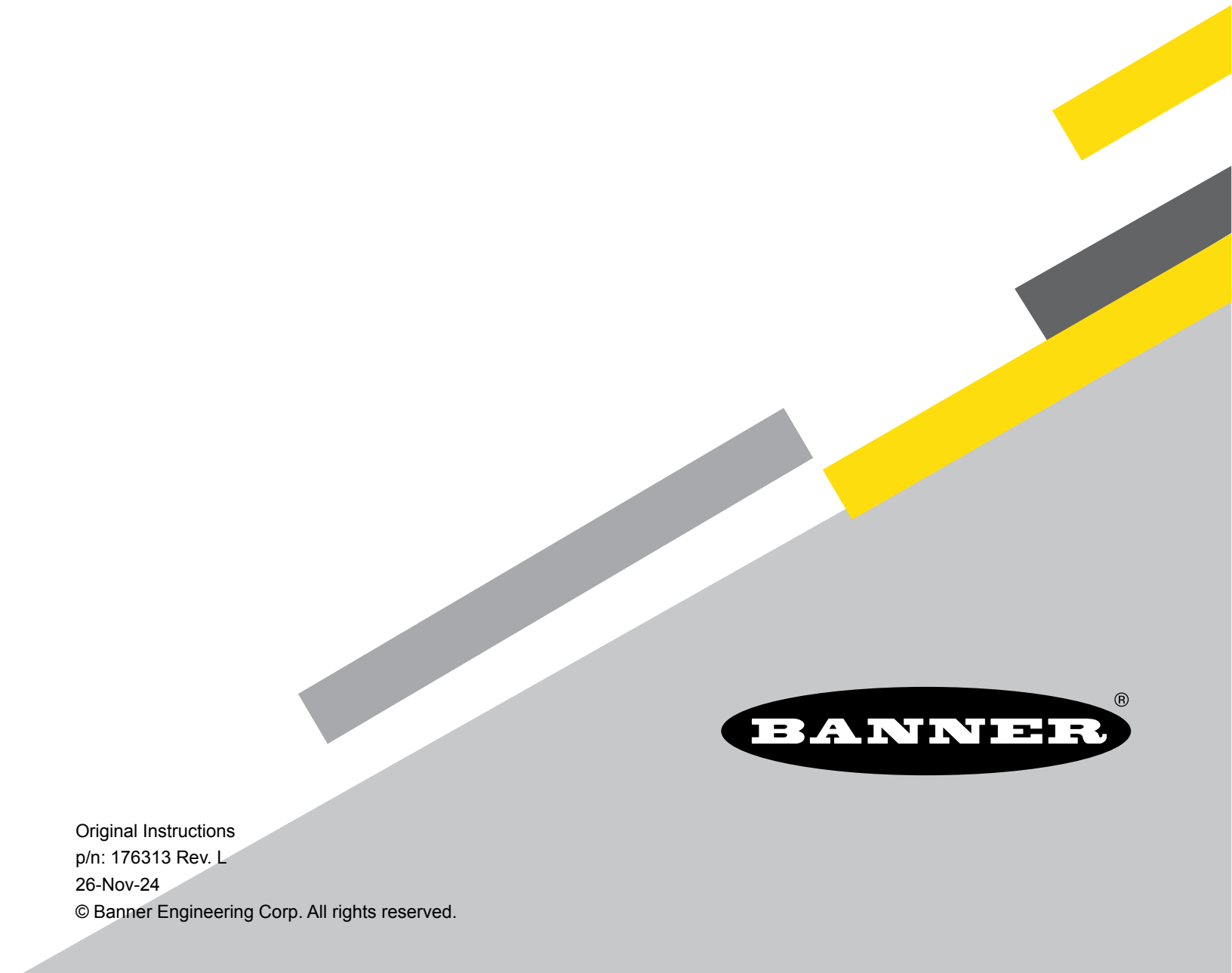
WLB32 Industrial LED Light Bar (DC) Instruction Manual

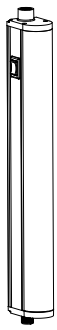


Original Instructions
p/n: 176313 Rev. L
26-Nov-24

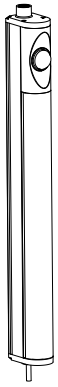
Contents

Chapter Contents

Chapter 1 Features and Models



Model without Motion Detector



Model with Motion Detector

Model with Eye Shield and Motion Detector

Banner's WLB32 is an ultra-bright LED fixture that features an even light output for a no-glare 'glow'. Suitable for a variety of environments and applications, including workstations, machine lighting, control cabinets, and manufacturing lines, the WLB32 uses advanced LED lighting technology to provide a high-quality and maintenance-free industrial lighting solution for years.

- Highly energy efficient for overall cost savings
- High/Low/Off switch
- Models with eye shield block side glare
- Connect power in sequence to multiple lights
- Motion detection models available
- Metal housing, shatterproof window
- Easy installation with snap clips, or a choice of magnetic or angle brackets

WLB32 Industrial LED Light Bars are available in models that can be connected in sequence together for a continuous length of lighting, with a minimum of wiring. Each light bar can be turned to high, low, or off independently of the other lights, upstream or downstream, in the chain of lights. A double-ended accessory cordset must be used between each pair of connecting lights.

12 V DC to 30 V DC Models			
Models	**Lighted Length (mm)**	**Connector**	**Lumens**
WLB32C285PBQ	285	Integral 4-pin M12 quick-disconnect connector	750
WLB32C570PBQ	570		1500
WLB32C850PBQ	850		2250
WLB32C1130PBQ	1130		3000
WLB32C285PB	285	2 m (6.5 ft) cable	750
WLB32C570PB	570		1500
WLB32C850PB	850		2250
WLB32C1130PB	1130		3000

- To order the light without the integral switch, omit the "PB" from the model number. For example, WLB32C285Q.
- To order the light with the integral motion detector, replace the 'PB' from the model number with 'M'. For example, WLB32C285MQ.
- To order the light with the eye shield, add an 'E' after the length. For example, WLB32C285EPBQ.

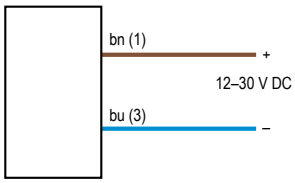
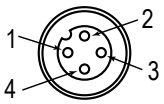
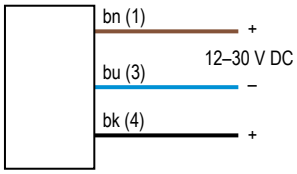
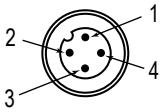
IMPORTANT: Read the following instructions before operating the light. Please download the complete WLB32 Industrial Light Bar (DC) technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions 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 WLB32 Industrial Light Bar (DC), 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 WLB32 Industrial Light Bar (DC) sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Chapter Contents

Chapter 2 WLB32 (DC) Wiring

	Wiring	Pinouts (Female and Male)	Wiring Key
Switch Models		Female 	1 = Brown 3 = Blue
Non-Switch and Motion Detector Models		Male 	1 = Brown, connect for 100% intensity 3 = Blue 4 = Black* * For models without motion detection, connect the black wire to 12 to 30 V DC for 50% maximum intensity. For models with motion detection, connect the black wire to 12 to 30 V DC to bypass the motion detector switch.

Chapter Contents

Chapter 3 WLB32 (DC) Specifications

Supply Voltage

12 V DC to 30 V DC

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

See electrical characteristics on product label

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

LED Lifetime

Lumen Maintenance - L_{70}

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

Supply Current

Light Length (mm)	Maximum Current Draw (A)	Typical Current Draw (A)		
		12 V DC	24 V DC	30 V DC
285	0.55	0.45	0.23	0.19
570	1.1	0.90	0.44	0.36
850	1.6	1.36	0.65	0.54
1130	2.2	1.8	0.84	0.68

Light Characteristics

Color: Daylight white

Color temperature (CCT): 5000K (±300K)

Lumen output: 750 (±5%) per foot, typical at 25 °C (77 °F)

Luminous efficacy: 140 lumens/Watt typical at 24 V DC at 25 °C (77 °F)

CRI: 82, typical

Eye shield reduces lumens by about 25%

Push Button

II = 100% light intensity

I = 50% light intensity

O = Off

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

Anodized aluminum housing; polycarbonate window and end caps; stainless steel mounting brackets

Spacing Criterion

Vertical: 1.22

Horizontal: 1.32

Mounting

Snap clips; optional magnetic mount or swivel bracket accessories available

Connections

Integral 4-pin M12 quick-disconnect connector (4-pin connecting cordset required for quick-disconnect models); or 2 m (6.5 ft) integral cable

Environmental Rating

IP50

Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

Operating Temperature

–40 °C to +70 °C (–40 °F to +158 °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)

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

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Test Data

LM-79, LM-80, TM-21

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

E476617

UL Recognized for easy installation in control cabinets.

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	1.0	30	0.5

Application Note

When connecting cascadable lights in series it is important not to exceed the maximum current limitation of 4 Amps

Maximum length of light at 12 V DC: 2 m (6.6 ft)

Maximum length of light at 24 V DC: 4.8 m (15.7 ft)

Maximum length of light at 30 V DC: 5.9 m (19.4 ft)

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.

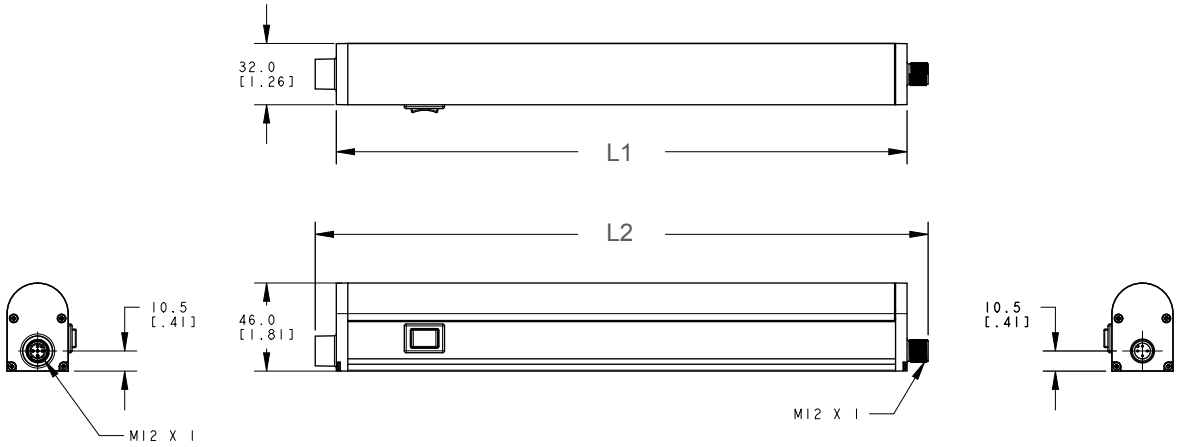
(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada ICES-003(B)

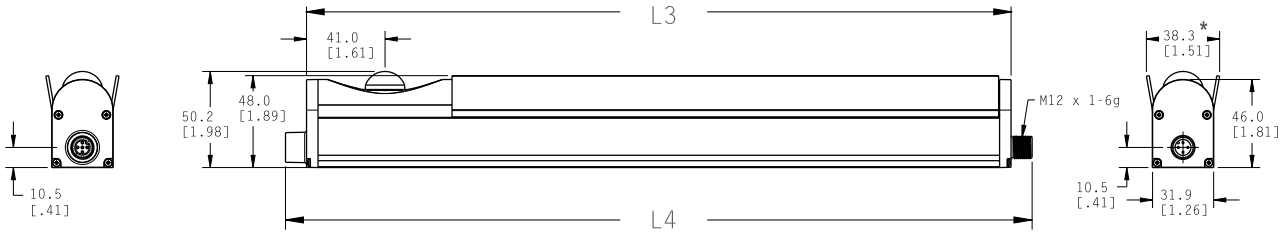
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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.

WLB32 Dimensions



Motion Detector and/or Eye Shield Models



* Specific to models with shield

Models	Models without Motion Detector		Models with Motion Detector and/or Eye Shields	
	L1	L2	L3	L4
WLB32C285..Q	298 mm (11.7 in)	320 mm (12.6 in)	368 mm (14.5 in)	390 mm (15.4 in)
WLB32C570..Q	580 mm (22.8 in)	602 mm (23.7 in)	650 mm (25.6 in)	672 mm (26.5 in)
WLB32C850..Q	862 mm (33.9 in)	884 mm (34.8 in)	932 mm (36.7 in)	954 mm (37.6 in)
WLB32C1130..Q	1144 mm (45.0 in)	1166 mm (45.9 in)	1214 mm (47.8 in)	1236 mm (48.7 in)
WLB32C285..	298 mm (11.7 in)	313 mm (12.3 in)	368 mm (14.5 in)	383 mm (15.1 in)
WLB32C570..	580 mm (22.8 in)	595 mm (23.4 in)	650 mm (25.6 in)	665 mm (26.2 in)
WLB32C850..	862 mm (33.9 in)	877 mm (34.5 in)	932 mm (36.7 in)	947 mm (37.3 in)
WLB32C1130..	1144 mm (45.0 in)	1159 mm (45.6 in)	1214 mm (47.8 in)	1229 mm (48.4 in)

Spacing Criteria (SC)

The spacing criteria is the fixture-spacing-to-mounting-height ratio and aids in laying out a pattern of fixtures. Multiply the spacing criteria by the mounting height to get the maximum fixture spacing that still provides even illumination (no shadowing between fixtures).

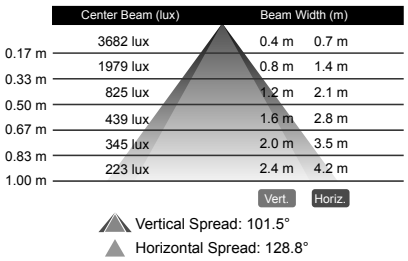
Luminaire Spacing = SC × Height to Illuminated Plane

The mounting height is the distance from the fixture to the surface you are lighting.

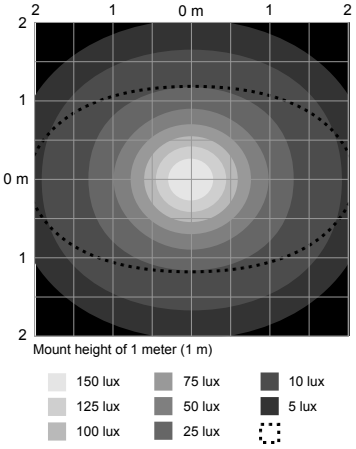
WLB Light Characteristics

285 mm Models

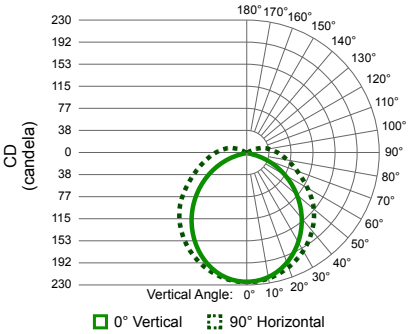
Illuminance at a Distance



Isolux Pattern

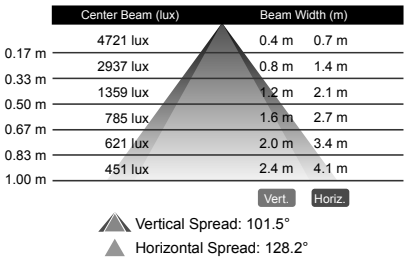


Polar Candela Distribution



570 mm Models

Illuminance at a Distance



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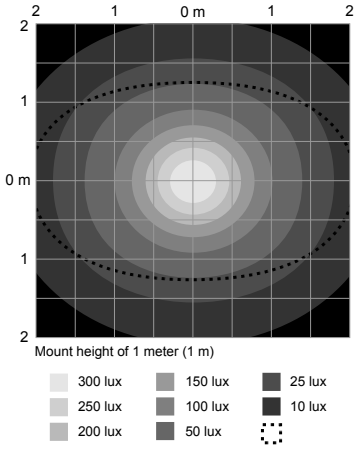
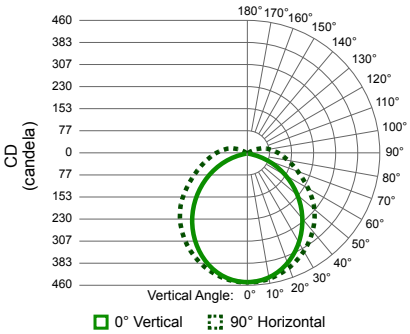
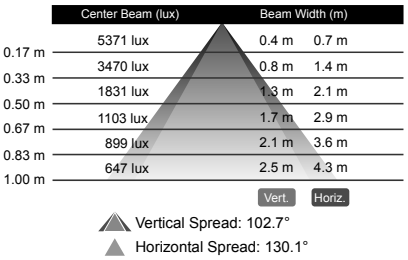


Polar Candela Distribution



850 mm Models

Illuminance at a Distance



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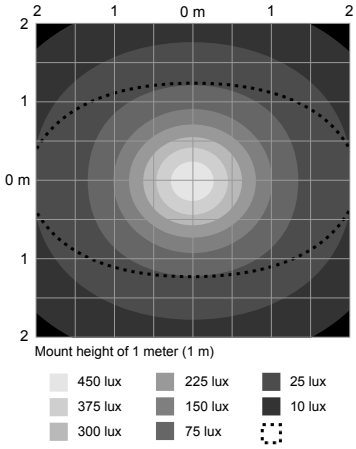

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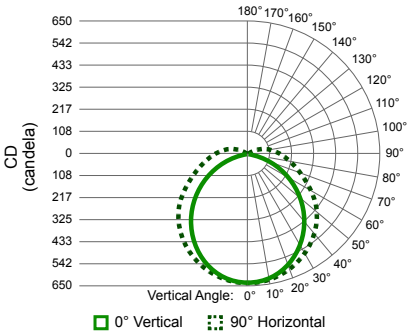
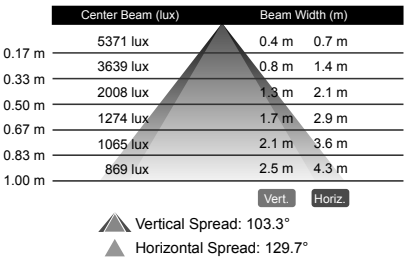


Illuminance at a Distance

1130 mm Models

Illuminance at a Distance



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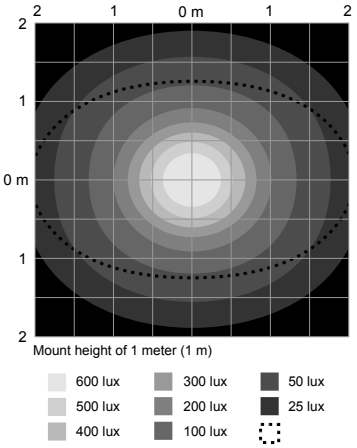
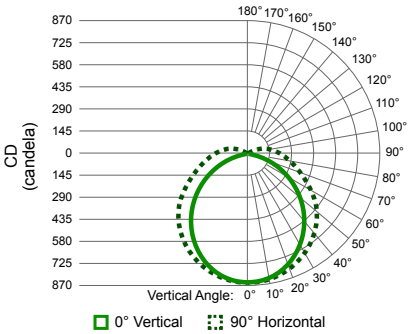
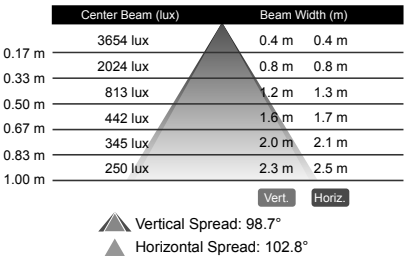


Polar Candela Distribution



285 mm Models with Eye Shields

Illuminance at a Distance



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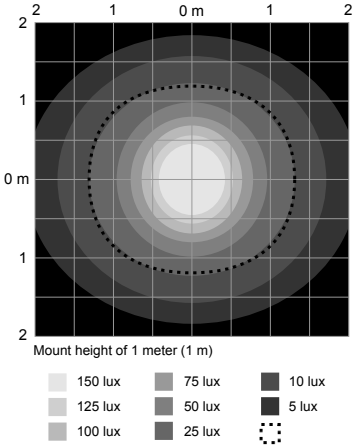

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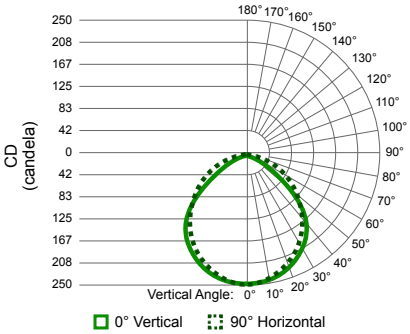
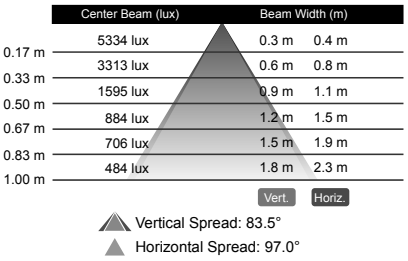


570 mm Models with Eye Shields

Illuminance at a Distance



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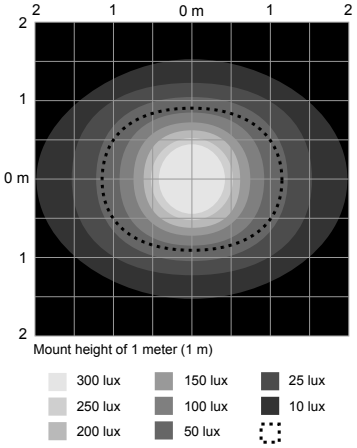
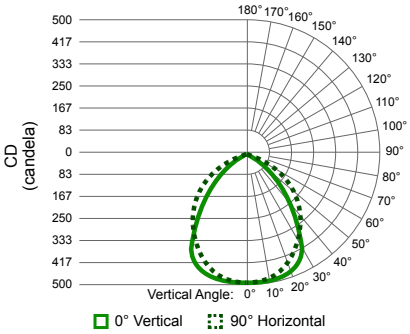
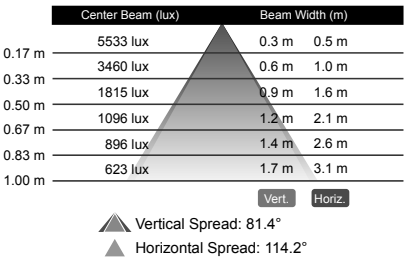


Polar Candela Distribution



850 mm Models with Eye Shields

Illuminance at a Distance



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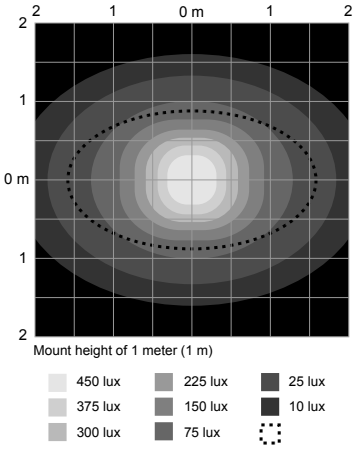
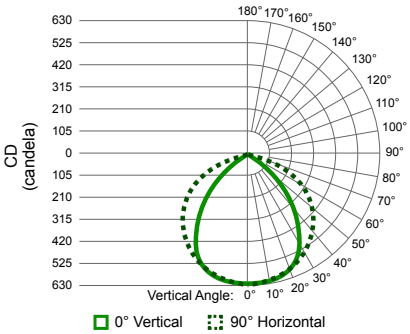
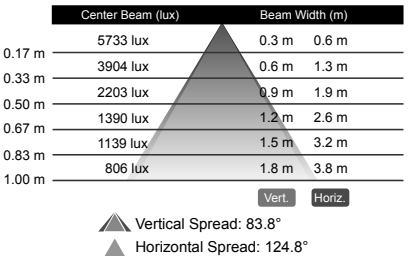


Polar Candela Distribution



1130 mm Models with Eye Shields

Illuminance at a Distance



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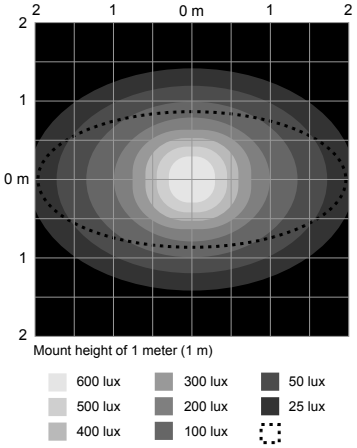
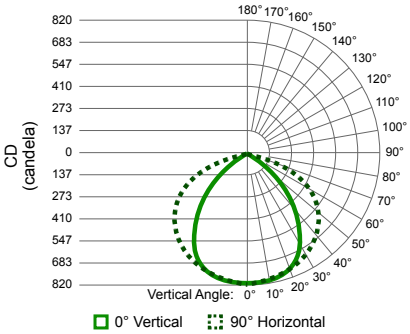


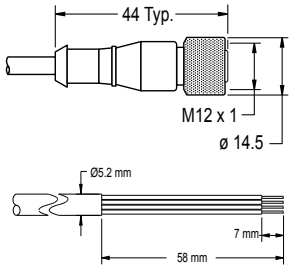
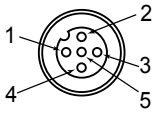
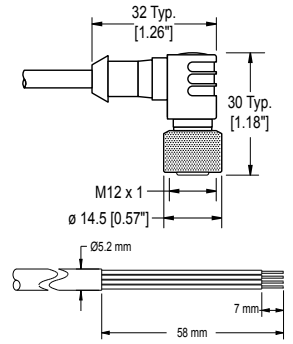
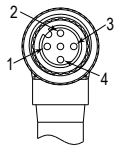
Polar Candela Distribution

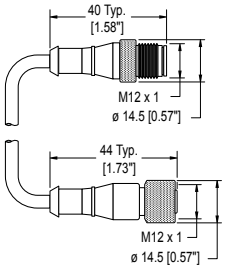
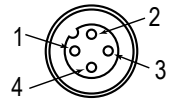
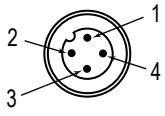
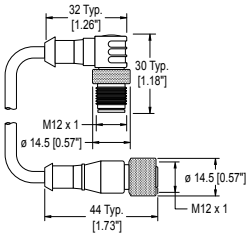
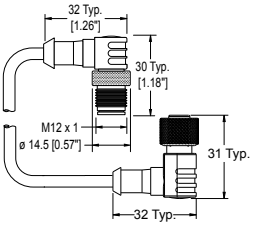


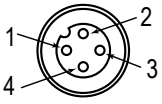
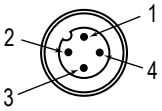
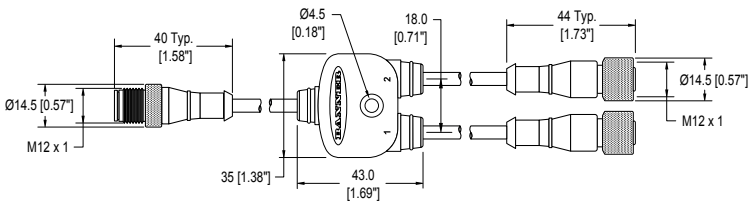
Chapter Contents

Chapter 4 Accessories

Cordsets

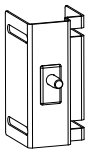
4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-406	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused c UL us
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				
MQDC-406RA	2 m (6.56 ft)	Right-Angle			
MQDC-415RA	5 m (16.4 ft)				
MQDC-430RA	9 m (29.5 ft)				
MQDC-450RA	15 m (49.2 ft)				

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)			
MQDEC-403RS	0.91 m (2.99 ft)	Male Right-Angle / Female Straight		
MQDEC-406RS	1.83 m (6 ft)			
MQDEC-412RS	3.66 m (12 ft)			
MQDEC-420RS	6.10 m (20 ft)			
MQDEC-430RS	9.14 m (30.2 ft)			
MQDEC-450RS	15.2 m (49.9 ft)			
MQDEC-403RR	0.9 m (2.9 ft)	Male Right-Angle / Female Right-Angle		
MQDEC-406RR	1.8 m (5.9 ft)			
MQDEC-412RR	3.6 m (11.8 ft)			
MQDEC-420RR	6.1 m (20 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)	
			

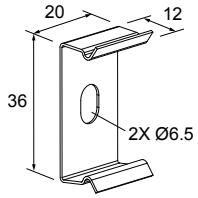
Enclosure Accessories

LMBEDS Switch
- Bracket with plunger switch to power lights when the enclosure is opened
- Refer to datasheet 160672 for more information

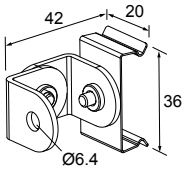


Brackets

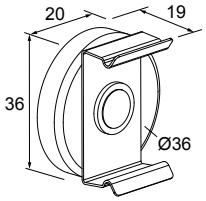
LMBWLB32
- Replaces the bracket that ships with the WLB32 light
- Stainless steel
- Includes 4 snap clips, 4 screws, and 2 insulator caps



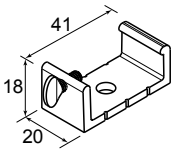
LMBWLB32-180S
- Swivel bracket kit allows 180° of movement



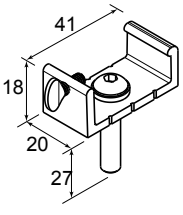
LMBWLB32MAG
- Magnetic mounting bracket for easy attachment to steel and iron surfaces



LMBWLB32U
- Die-cast bracket for rugged applications
- Secured to light with included thumb screw
- Clearance hole for 6 mm (1/4 in) button head screw



LMBWLB32UT
- Die-cast bracket for rugged applications
- Secured to light with included thumb screw
- Integral 1/4-20 stud for mounting



Chapter Contents

Chapter 5 Product Support and Maintenance

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Document Information

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Revision: L
Original Instructions

176313

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