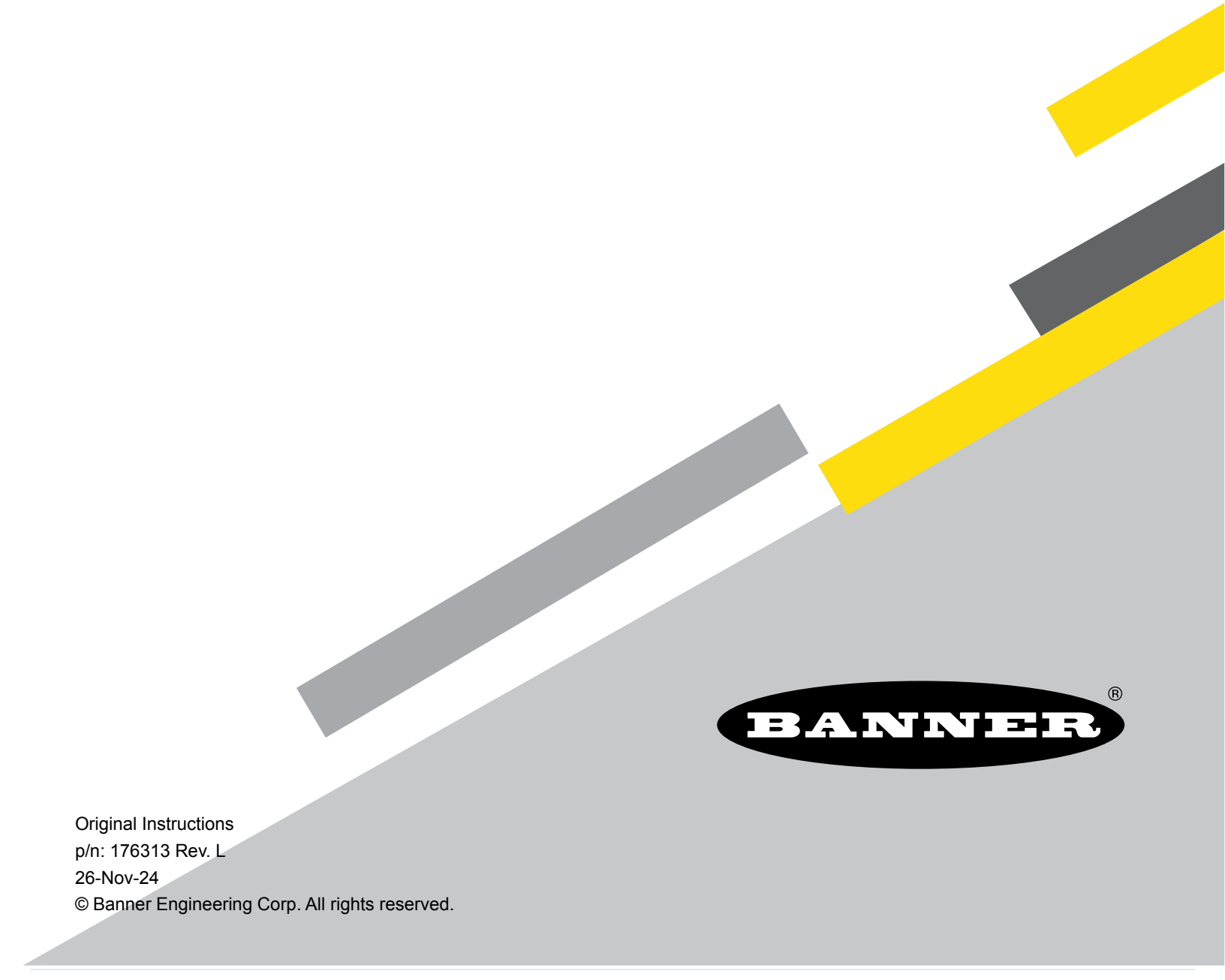
# WLB32 Industrial LED Light Bar (DC) Instruction Manual



Original Instructions
p/n: 176313 Rev. L
26-Nov-24
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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

# Contents


**Chapter 1 Features and Models ..... 3**

**Chapter 2 WLB32 (DC) Wiring ..... 5**

**Chapter 3 WLB32 (DC) Specifications**

FCC Part 15 Class B for Unintentional Radiators ..... 7
Industry Canada ICES-003(B) ..... 7
WLB32 Dimensions ..... 8
Spacing Criteria (SC) ..... 8
WLB Light Characteristics ..... 9

**Chapter 4 Accessories**

Cordsets ..... 12
Enclosure Accessories ..... 14
Brackets ..... 14

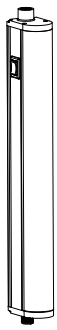
**Chapter 5 Product Support and Maintenance**

Banner Engineering Corp Limited Warranty ..... 15
Mexican Importer ..... 15
Document Information ..... 15

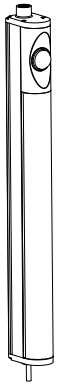

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Chapter Contents

# 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.

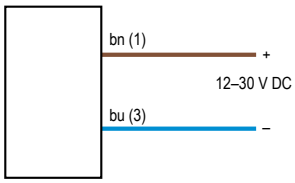
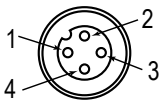
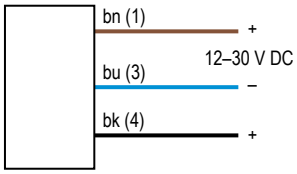
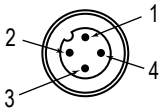

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**IMPORTANT:** Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des WLB32 Industrial Light Bar (DC) sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.


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Chapter Contents

# Chapter 2 WLB32 (DC) Wiring

| | Wiring | Pinouts (Female and Male) | Wiring Key |
|---|---|---|---|
| **Switch Models** |  | Female<br> | 1 = Brown<br>3 = Blue |
| **Non-Switch and Motion Detector Models** |  | Male<br> | 1 = Brown, connect for 100% intensity<br>3 = Blue<br>4 = Black*<br>* 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. |


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Chapter Contents

FCC Part 15 Class B for Unintentional Radiators ..... 7
Industry Canada ICES-003(B) ..... 7
WLB32 Dimensions ..... 8
Spacing Criteria (SC) ..... 8
WLB Light Characteristics ..... 9

# 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.


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### 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.

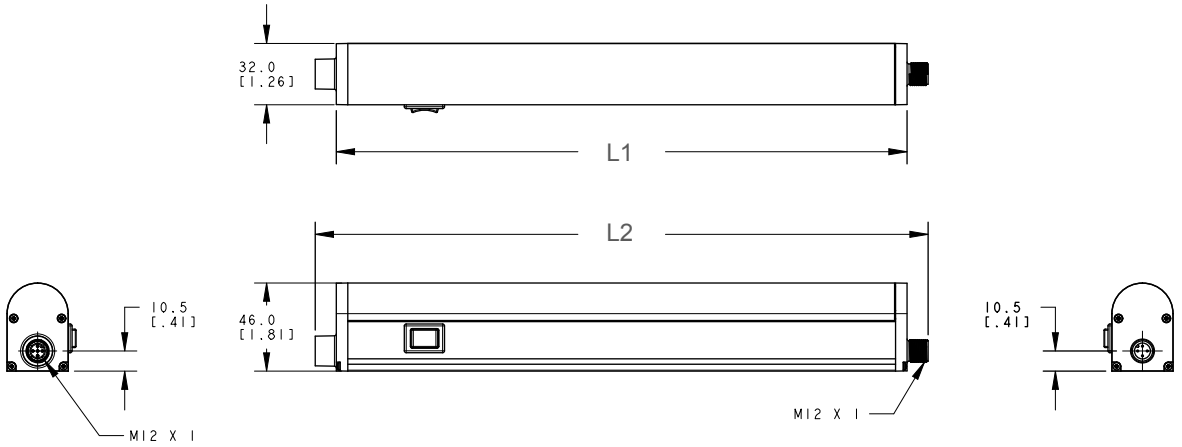
# Industry Canada ICES-003(B)

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.

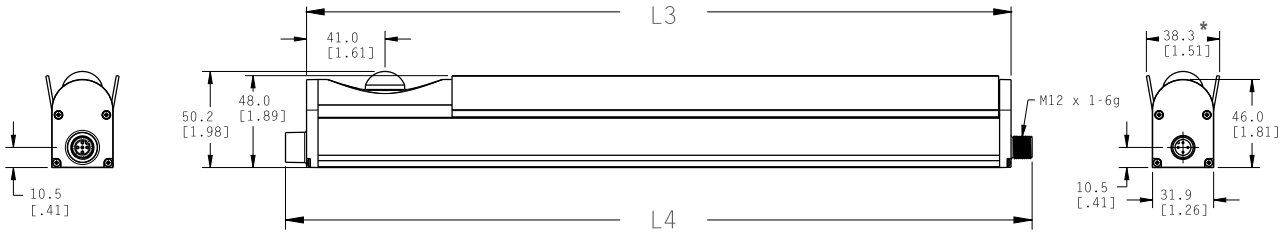
Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.


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# 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

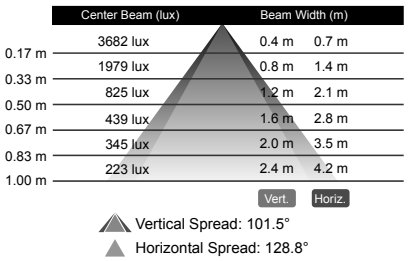
The mounting height is the distance from the fixture to the surface you are lighting.


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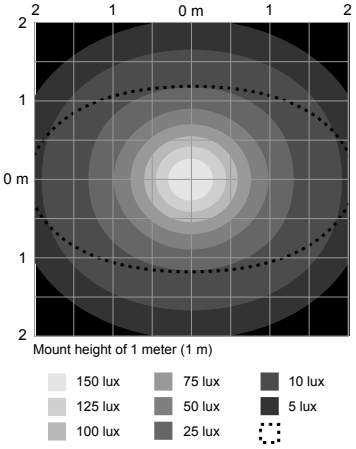
# WLB Light Characteristics

*285 mm Models*

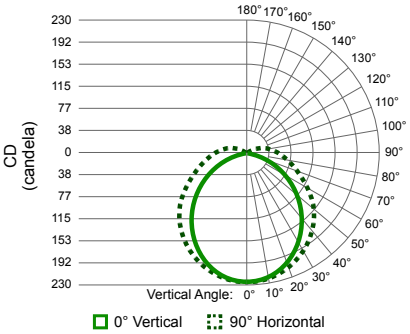
Illuminance at a Distance




Isolux Pattern

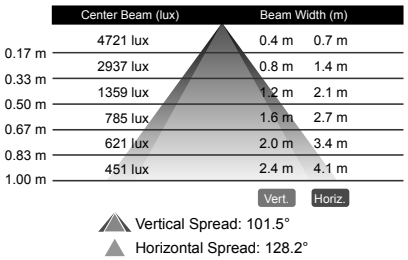



Polar Candela Distribution

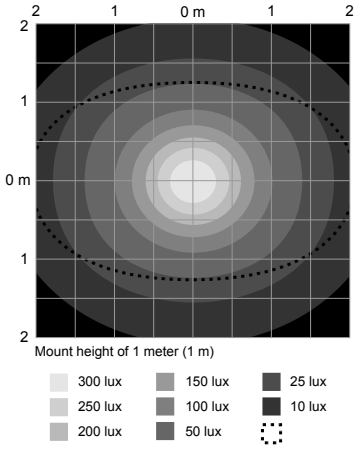



*570 mm Models*

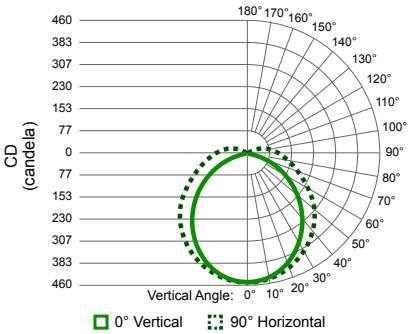
Illuminance at a Distance




Isolux Pattern

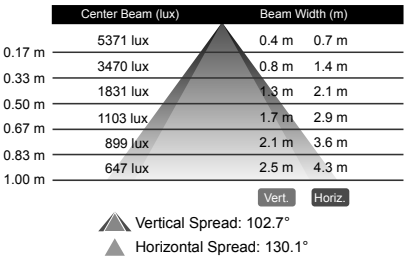



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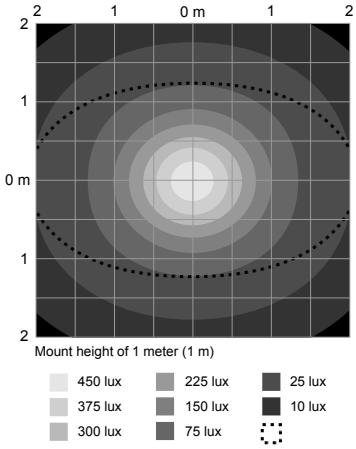



*850 mm Models*

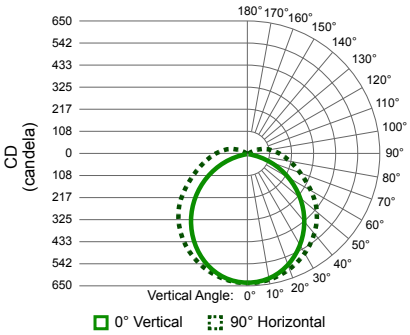
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Isolux Pattern




Polar Candela Distribution

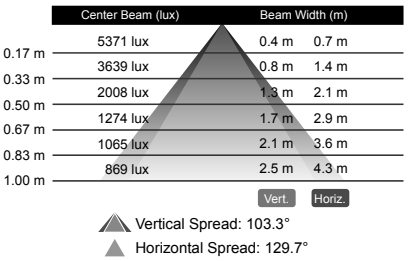



Illuminance at a Distance

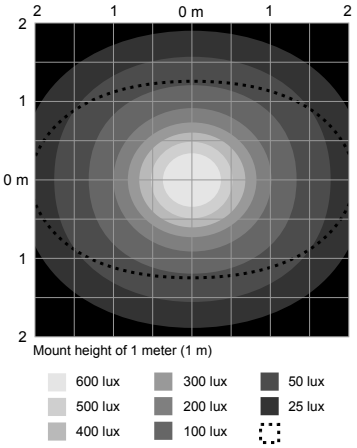

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*1130 mm Models*

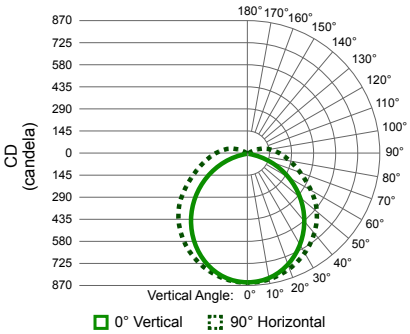
Illuminance at a Distance




Isolux Pattern

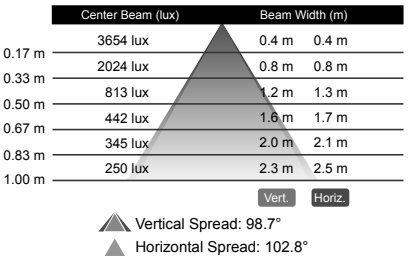



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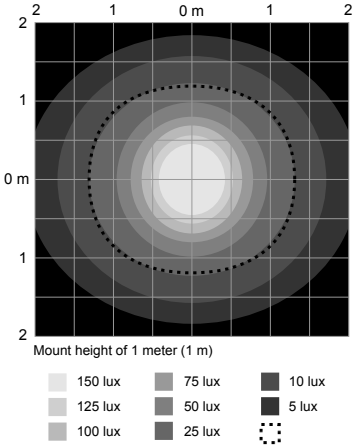



*285 mm Models with Eye Shields*

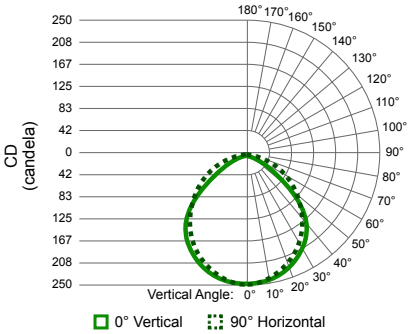
Illuminance at a Distance




Isolux Pattern

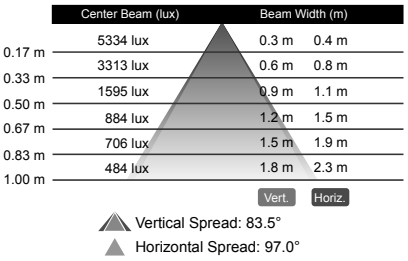



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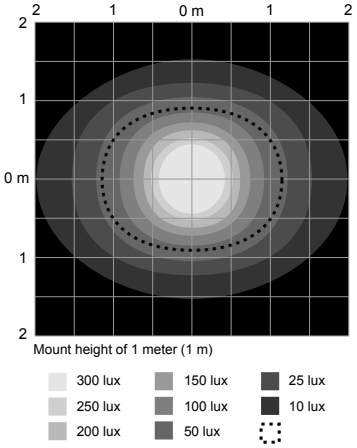



*570 mm Models with Eye Shields*

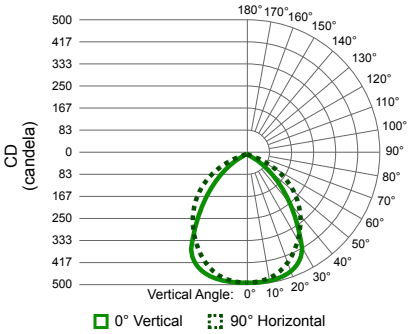
Illuminance at a Distance




Isolux Pattern




Polar Candela Distribution

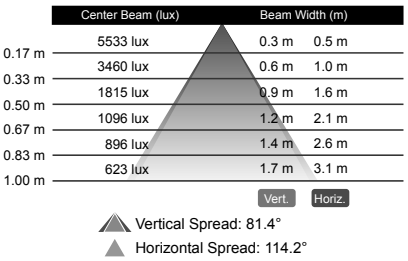




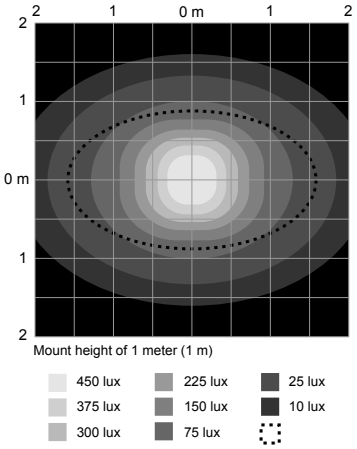
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*850 mm Models with Eye Shields*

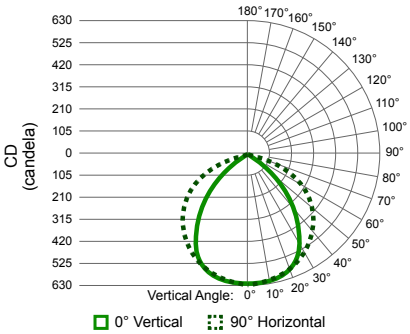
Illuminance at a Distance




Isolux Pattern

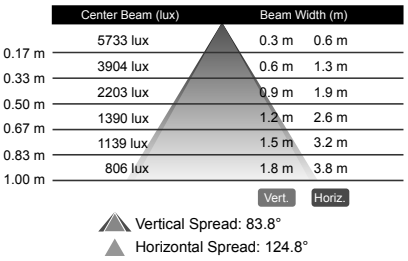



Polar Candela Distribution

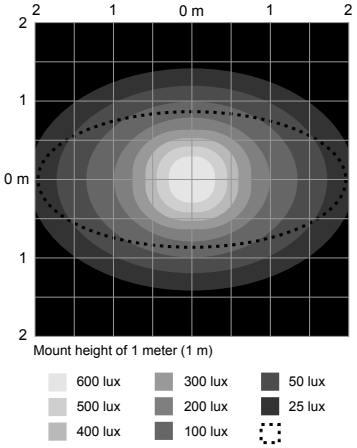



*1130 mm Models with Eye Shields*

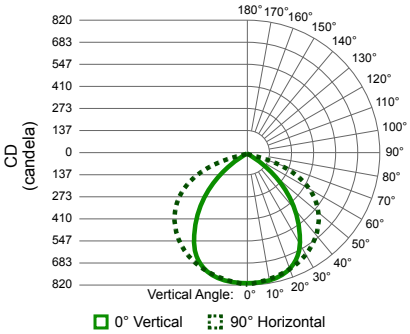
Illuminance at a Distance




Isolux Pattern




Polar Candela Distribution





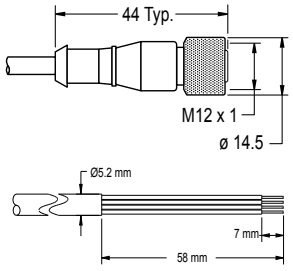
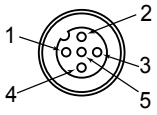
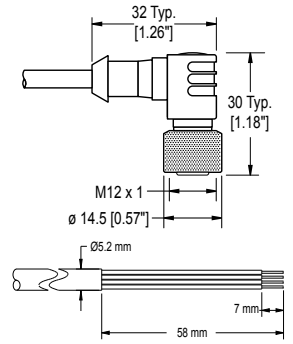
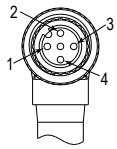
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Chapter Contents

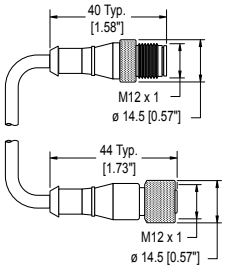
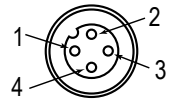
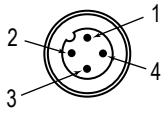
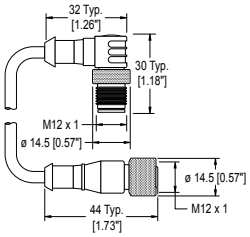
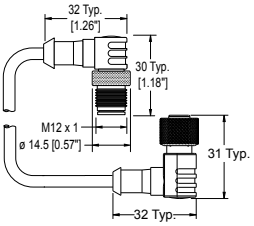
Cordsets ..... 12
Enclosure Accessories ..... 14
Brackets ..... 14

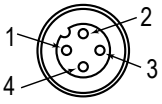
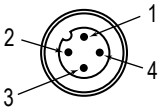
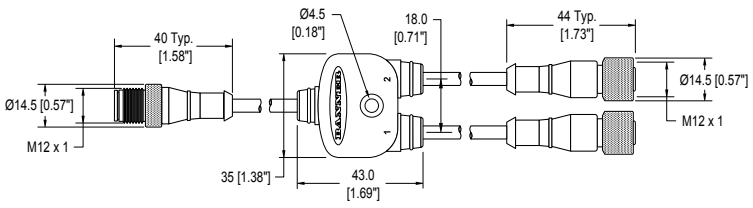
# Chapter 4 Accessories

## Cordsets

| 4-Pin Single-Ended M12 Female Cordsets | | | | | |
|---|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** | |
| **MQDC-406** | 2 m (6.56 ft) | Straight |  |  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Unused<br>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) | | | | |


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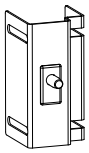
| 4-Pin Double-Ended M12 Female to M12 Male Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout** |
| MQDEC-401SS | 0.31 m (1 ft) | Male Straight / Female Straight |  | Female<br><br>Male<br><br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black |
| 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<br><br>Male<br><br>1 = Brown<br>2 = White<br>3 = Blue<br>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) | |
|  | | | |


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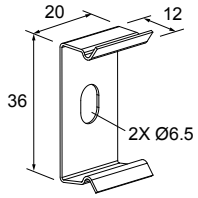
# Enclosure Accessories

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

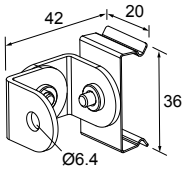


# Brackets

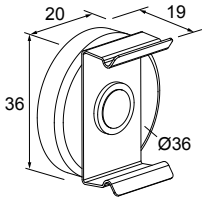
**LMBWLB32**
- Replaces the bracket that ships with the WLB32 light
- Stainless steel
- Includes 4 snap clips, 4 screws, and 2 insulator caps



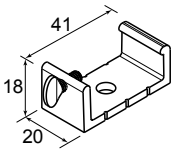

**LMBWLB32-180S**
- Swivel bracket kit allows 180° of movement



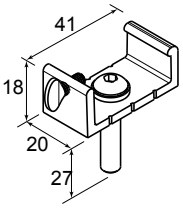

**LMBWLB32MAG**
- Magnetic mounting bracket for easy attachment to steel and iron surfaces




**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





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Chapter Contents

Banner Engineering Corp Limited Warranty ..... 15
Mexican Importer ..... 15
Document Information ..... 15

# Chapter 5 Product Support and Maintenance

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

## Mexican Importer

Banner Engineering de Mèxico, S. de R.L. de C.V. | David Alfaro Siqueiros 103 Piso 2 Valle oriente | San Pedro Garza Garcia Nuevo Leòn, C. P. 66269

81 8363.2714

## Document Information

Document title: WLB32 Industrial Light Bar (DC)
Part number: 176313
Revision: L
Original Instructions
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176313


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