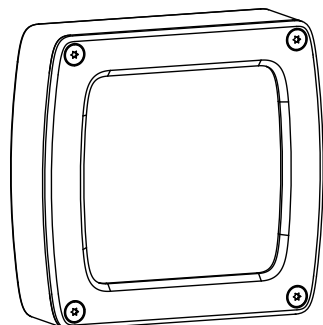


WLC90 Heavy Duty LED Light - PWM Dimmable



Datasheet



Banner's WLC90 Heavy Duty Lights are designed to operate in harsh environments and withstand washdown and spray from water as well as many chemicals including coolants and detergents. They are compact and bright, making them an excellent choice for machining centers and food processing equipment.

- Intensity can be controlled from 0 to 100% using Pulse Width Modulation (PWM) on an input control wire
- Oil, chemical, and water resistant with IP67, IP68g, and IP69K ratings
- Wide operating temperature range with an internal monitoring circuit that dims the LEDs to a safe level at extreme temperatures
- Three lens choices to suit many application needs
- Pan-and-tilt brackets for versatile mounting to direct the light in any direction
- Models have three discrete intensity level settings



For PWM dimming, use with the LC65 Dimmer Module. For more information, refer to the LC65 LED Dimmer Module datasheet, p/n [177086](#).

Models

Models ¹	Lens Angle	Connection	Window
WLC90WL8PWMQ	± 8 degrees	Integral 4-Pin Euro QD Side Exit	Polycarbonate
WLC90WL15PWMQ	± 15 degrees		
WLC90WL30PWMQ	± 30 degrees		
WLC90WL8RPWMQ	± 8 degrees	Integral 4-Pin Euro QD Rear Exit	
WLC90WL15RPWMQ	± 15 degrees		
WLC90WL30RPWMQ	± 30 degrees		
WLC90WGL8PWMQ	± 8 degrees	Integral 4-Pin Euro QD Side Exit	Borosilicate Glass
WLC90WGL15PWMQ	± 15 degrees		
WLC90WGL30PWMQ	± 30 degrees		
WLC90WGL8RPWMQ	± 8 degrees	Integral 4-Pin Euro QD Rear Exit	
WLC90WGL15RPWMQ	± 15 degrees		
WLC90WGL30RPWMQ	± 30 degrees		

The following caution applies only to the "± 8 degrees" models:



CAUTION:

Risk Group 2: Possibly hazardous optical radiation emitted from this product.

Do not stare at the operating lamp. May be harmful to the eyes. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.

- IEC 62471

¹ The listed models have 4-pin integral QDs. To order the 2 m (6.5 ft) cable models, omit the suffix "Q" from the model number. For example, WLC90WL8PWM. Models with a quick disconnect connector require a mating cable.



Wiring

	Pins	Color	Connection
	1	brown	12 to 30 V dc
	3	blue	dc common
	4	black	Pulse width modulation (PWM) input
	2	white	Not used

For maximum intensity, leave the white and black wires floating or connected to common.

Specifications

Supply Voltage

Operating Voltage: 12 to 30 V dc
Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

Pulse Width Modulation (PWM) Input

Frequency: Up to 1000 Hz
Voltage: 8 to 30 V dc
Current: 2 mA max.

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Max. Current

850 mA at 12 V dc
410 mA at 24 V dc
330 mA at 30 V dc
Max. input power: 10.2 Watts

Typical Current

720 mA at 12 V dc
336 mA at 24 V dc
269 mA at 30 V dc

Construction

Nickel plated aluminum housing, polycarbonate or borosilicate glass window

Connections

Integral 4-pin M12 male quick

Certifications



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 33% lower at 70 °C (158 °F)

Light Characteristics

Color Temperature (CCT): 6000-7100 K
Color: Cool White
Lumen Output at 25 °C (77 °F) typical: 700
Luminous efficacy at 25 °C (77 °F) typical: 87 lumens per watt at 24V dc

Spacing Criterion

8 degree: 0.28
15 degree: 0.52
30 degree: 0.90

Environmental Rating

IEC IP67/IP68g / IP69K per DIN 40050

Storage Temperature

-40 °C to +70 °C (-40 °F to +158 °F)

Vibration and Mechanical Shock

All models meet Mil. Std. 202F requirements method 201A (vibration: 10 to 60 Hz max., double amplitude 0.06", maximum acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration, half sine wave.

Spacing Criteria (SC)

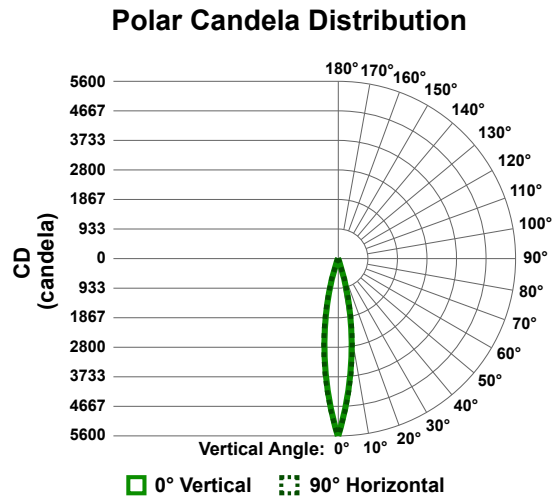
The spacing criteria is the fixture-spacing-to-mounting-height ratio and aids in laying out a pattern of fixtures. Multiply the spacing criteria by the mounting height to get the maximum fixture spacing that still provides even illumination (no shadowing between fixtures).

Luminaire Spacing = SC × Height to Illuminated Plane

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

Light Characteristics

Max Lux at 1 M (L8 Lens)

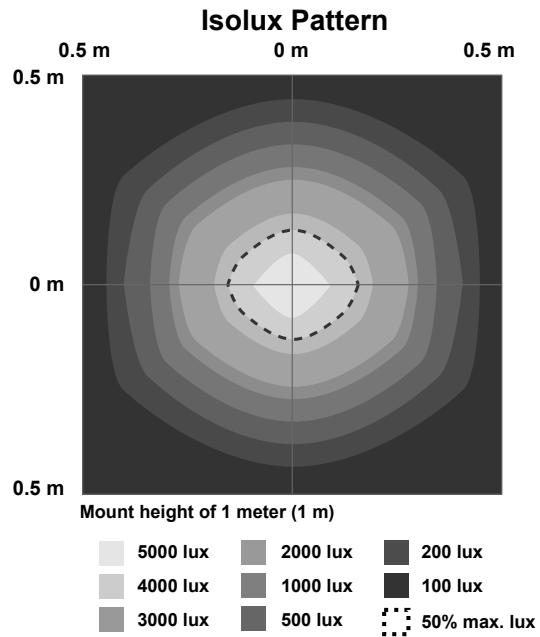


Illuminance at a Distance

	Center Beam (lux)	Beam Width (m)	
0.2 m	201,132 lux	0.0 m	0.0 m
0.3 m	50,283 lux	0.1 m	0.1 m
0.5 m	22,348 lux	0.1 m	0.1 m
0.7 m	12,571 lux	0.2 m	0.2 m
0.8 m	8,045 lux	0.2 m	0.2 m
1.0 m	5,587 lux	0.3 m	0.3 m

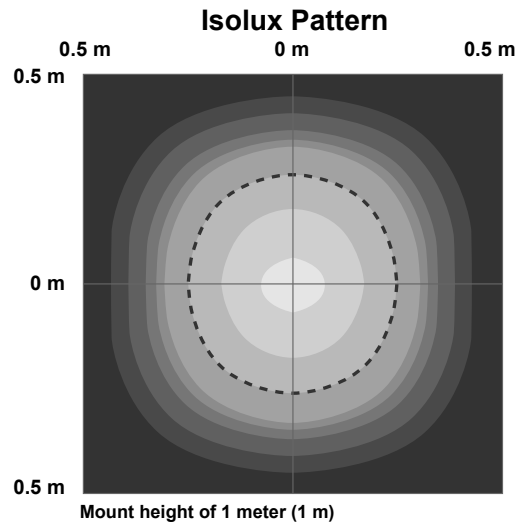
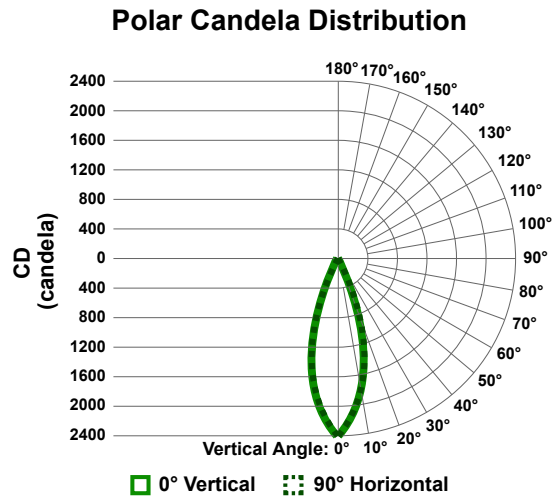
Vert. Horiz.

▲ Vertical Spread: 14.9°
▲ Horizontal Spread: 16.4°



Horizontal = Connection on the bottom.

Max Lux at 1 M (L15 Lens)



Illuminance at a Distance

	Center Beam (lux)	Beam Width (m)	
0.2 m	83,952 lux	0.1 m	0.1 m
0.3 m	20,988 lux	0.2 m	0.2 m
0.5 m	9,328 lux	0.3 m	0.3 m
0.7 m	5,247 lux	0.4 m	0.4 m
0.8 m	3,358 lux	0.5 m	0.5 m
1.0 m	2,332 lux	0.5 m	0.5 m

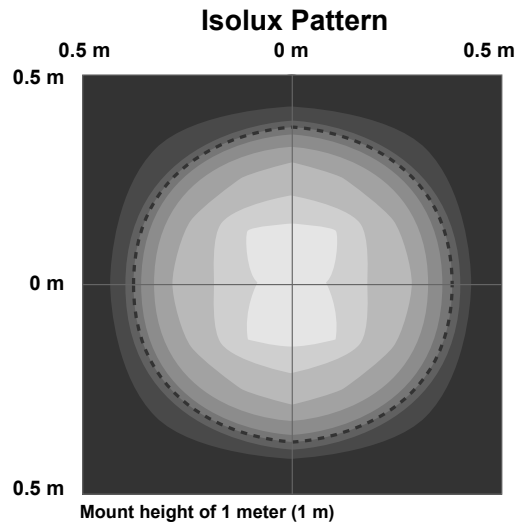
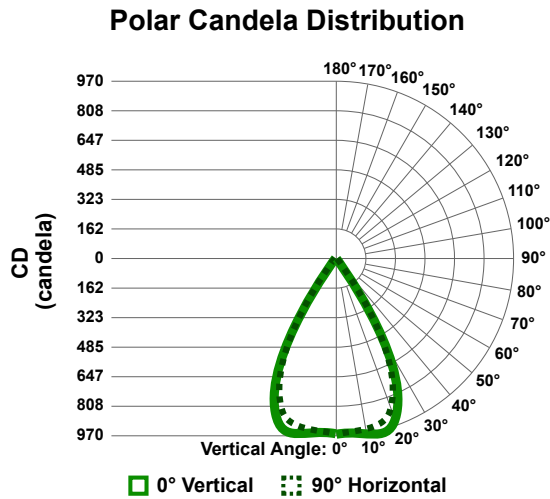
Vert. Horiz.

▲ Vertical Spread: 30.6°
▲ Horizontal Spread: 30.6°

2000 lux	500 lux	200 lux
1500 lux	400 lux	100 lux
1000 lux	300 lux	50% max. lux

Horizontal = Connection on the bottom.

Max Lux at 1 M (L30 Lens)



Illuminance at a Distance

	Center Beam (lux)	Beam Width (m)	
0.2 m	33,480 lux	0.2 m	0.2 m
0.3 m	8,370 lux	0.3 m	0.3 m
0.5 m	3,720 lux	0.5 m	0.5 m
0.7 m	2,093 lux	0.6 m	0.6 m
0.8 m	1,339 lux	0.8 m	0.8 m
1.0 m	930 lux	0.9 m	0.9 m

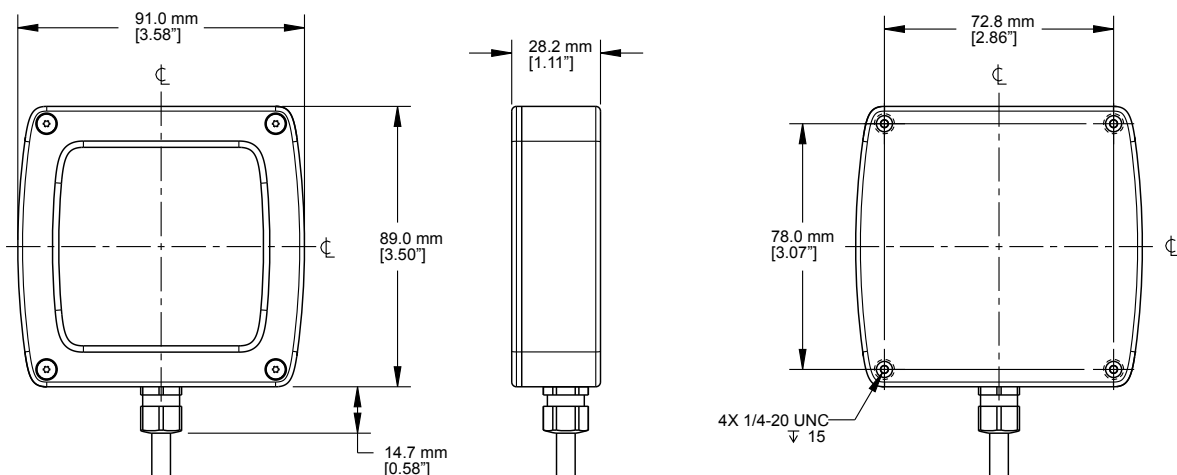
Vert. Horiz.

▲ Vertical Spread: 49.7°
▲ Horizontal Spread: 49.8°

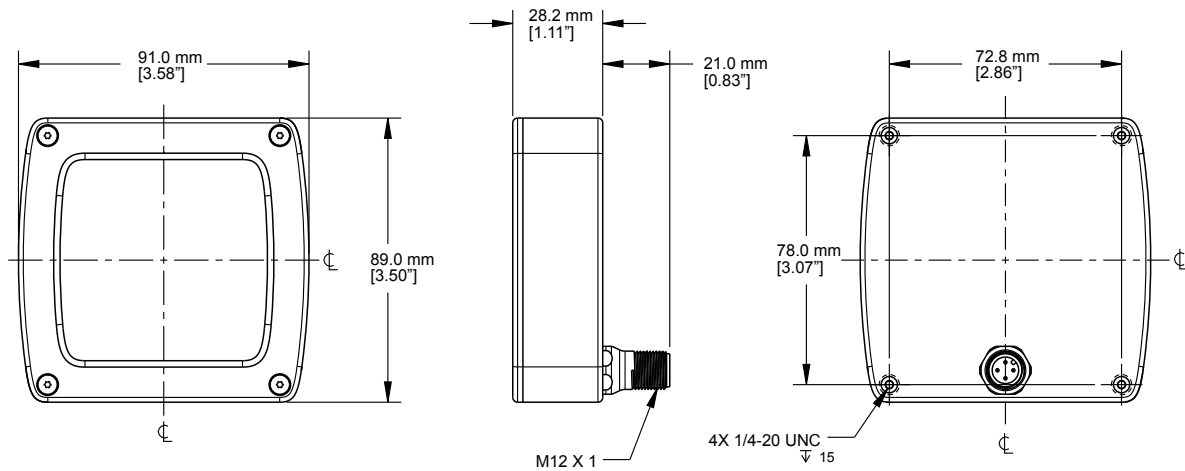
Horizontal = Connection on the bottom.

Dimensions

WLC90 Side Exit Models



WLC90 Rear Exit Models (WLC90...RQ)

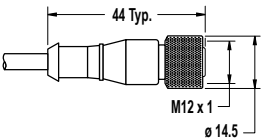
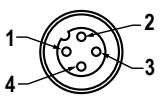


Accessories

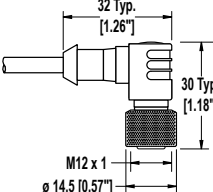
Brackets

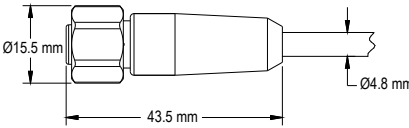
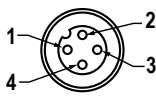
<p>LMBWLC90PT</p> <ul style="list-style-type: none"> Pan and tilt bracket 300 series stainless steel Hardware for connecting to light inclu 	<p>SMBAMS70AS</p> <ul style="list-style-type: none"> 316 stainless steel right-angle bracket Articulated slots for 90+ degrees rotation Four 1/4-20 stainless steel screws included 
<p>SMBFLXMAGR</p> <ul style="list-style-type: none"> Protective magnet cover prevents scratches to painted surfaces 	<p>SMBMAG3</p> <ul style="list-style-type: none"> 3.2 inch diameter magnet with 95 lbs pull force Use with LMBWLC90PT or SMBAMS70AS bracket Hardware for mounting to bracket included 

Cordsets

4-Pin Threaded M12/Euro-Style Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	1.83 m (6 ft)	Straight		
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			

1 = Brown
2 = White
3 = Blue
4 = Black

4-Pin Threaded M12/Euro-Style Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406RA	1.83 m (6 ft)	Right-Angle		
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

4-Pin Threaded M12/Euro-Style Cordsets—Washdown, Stainless Steel, Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-WDSS-0406	1.83 m (6 ft)	Straight		 <p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
MQDC-WDSS-0415	4.57 m (15 ft)			
MQDC-WDSS-0430	9.14 m (30 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Banner Engineering:

[WLC90WGL15PWMQ](#) [WLC90WGL15RPWMQ](#) [WLC90WGL30PWM](#) [WLC90WGL30PWMQ](#) [WLC90WGL8RPWMQ](#)
[WLC90WL15PWMQ](#) [WLC90WL15RPWMQ](#) [WLC90WL30PWM](#) [WLC90WL30PWMQ](#) [WLC90WL30RPWMQ](#)