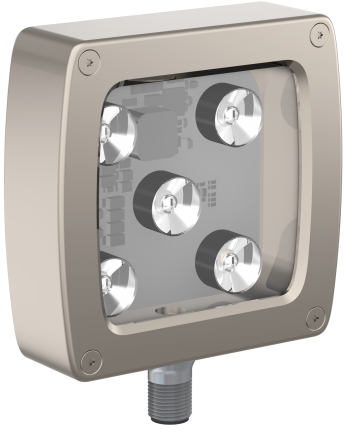
WLC90 Heavy Duty LED Light - PWM Dimmable

Features



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 M12 male quick-disconnect connector Side Exit	Polycarbonate
WLC90WL15PWMQ	± 15 degrees		
WLC90WL30PWMQ	± 30 degrees		
WLC90WL8RPWMQ	± 8 degrees	Integral 4-pin M12 male quick-disconnect connector Rear Exit	
WLC90WGL8PWMQ	± 8 degrees	Integral 4-pin M12 male quick-disconnect connector Side Exit	Borosilicate Glass
WLC90WGL15PWMQ	± 15 degrees		
WLC90WGL30PWMQ	± 30 degrees		
WLC90WGL30RPWMQ	± 30 degrees	Integral 4-pin M12 male quick-disconnect connector Rear Exit	

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

The following models are no longer available for order but are still covered by the information in this document. The 2 m (6.5 ft) cable versions of these models are still available for order.

Models	Lens Angle	Connection	Window
WLC90WL15RPWMQ	± 15 degrees	Integral 4-pin M12 male quick-disconnect connector Rear Exit	Polycarbonate
WLC90WL30RPWMQ	± 30 degrees		
WLC90WGL8RPWMQ	± 8 degrees		Borosilicate Glass
WLC90WGL15RPWMQ	± 15 degrees		

[1] Models listed have a quick-disconnect connector. 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.

Original Instructions
12-Mar-26

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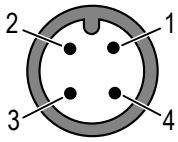
179495
p/n: 179495 Rev. C

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Wiring

4-pin M12 Male Pinout	Pins	Color	Description
	1	Brown	12 V DC to 30 V DC
	2	White	Not used
	3	Blue	DC common
	4	Black	Pulse width modulation (PWM) input

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

Specifications

Supply Voltage

Operating Voltage: 12 V DC 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 V DC 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-disconnect connector

Certifications

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

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 K to 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 24 V DC

Spacing Criterion

8 degree: 0.28

15 degree: 0.52

30 degree: 0.9

Environmental Rating

IP67, JIS C IP68G, IP69K per ISO 20653

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.

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.

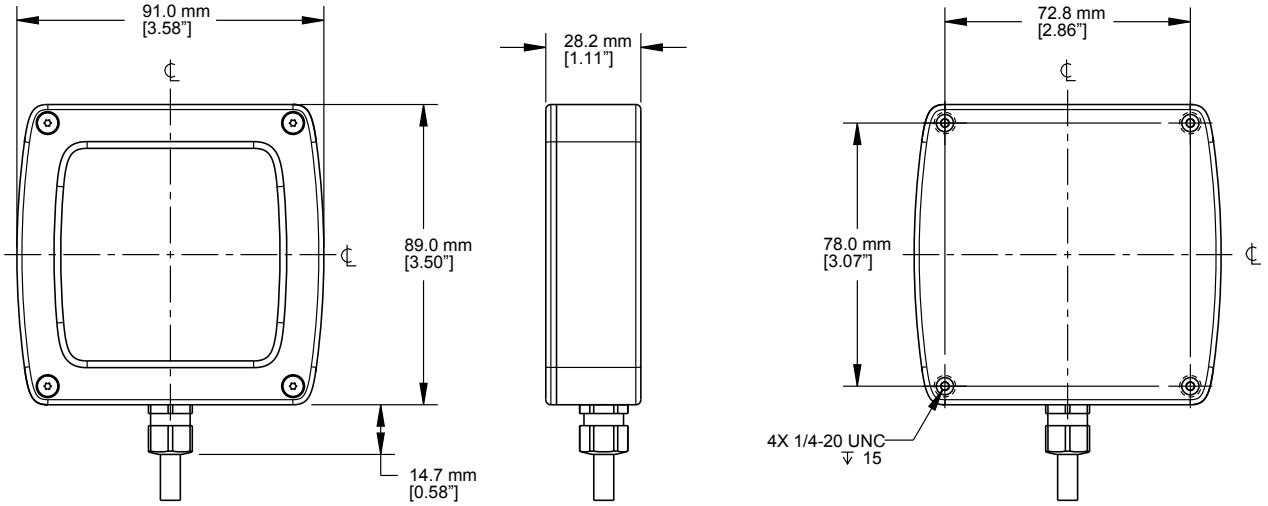
For additional product support, go to www.bannerengineering.com.

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

Dimensions

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

WLC90 Side Exit Models



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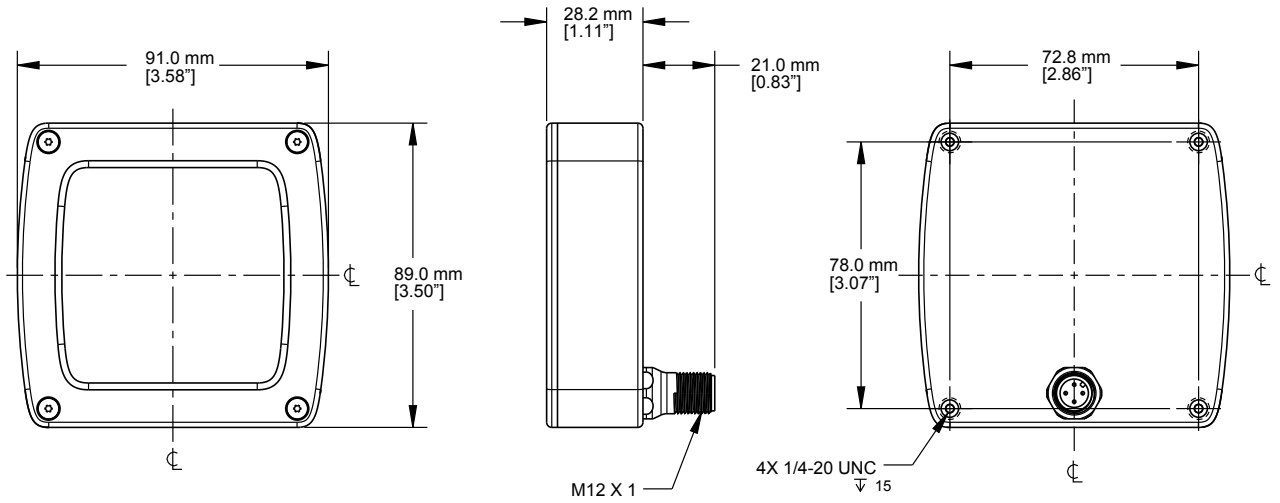
WLC90 Rear Exit Models (WLC90...RQ)



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).

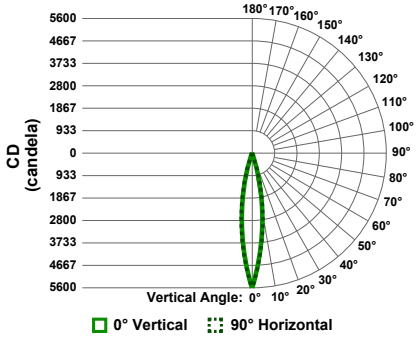
Luminaire Spacing = SC × Height to Illuminated Plane

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

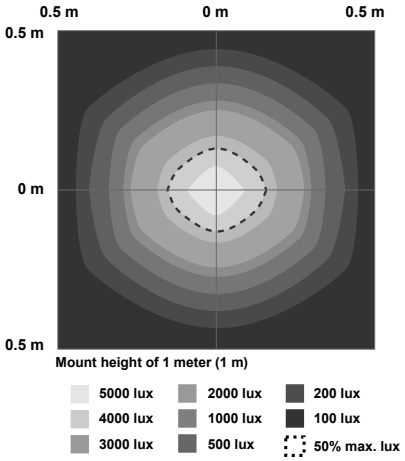
Optical Data

Max Lux at 1 M (L8 Lens)

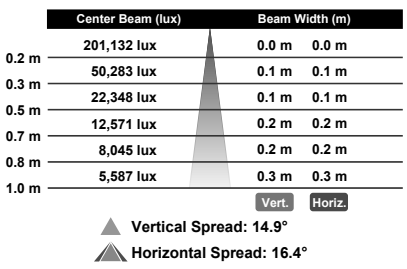
Polar Candela Distribution



Isolux Pattern



Illuminance at a Distance



Horizontal = Connection on the bottom.

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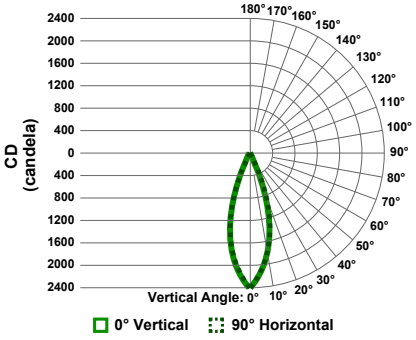
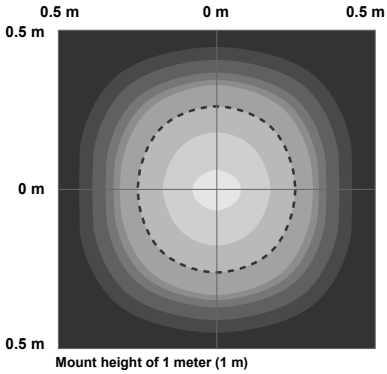
Max Lux at 1 M (L15 Lens)

Polar Candela Distribution



Isolux Pattern



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

Illuminance at a Distance

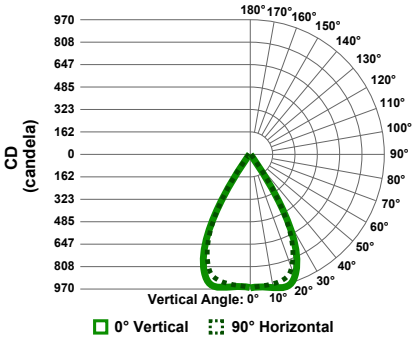
	Center Beam (lux)	Beam Width (m)	
0.2 m	83,952 lux	0.1 m	0.1 m
0.3 m	20,988 lux	0.2 m	0.2 m
0.5 m	9,328 lux	0.3 m	0.3 m
0.7 m	5,247 lux	0.4 m	0.4 m
0.8 m	3,358 lux	0.5 m	0.5 m
1.0 m	2,332 lux	0.5 m	0.5 m
		Vert.	Horiz.

Vertical Spread: 30.6°
Horizontal Spread: 30.6°

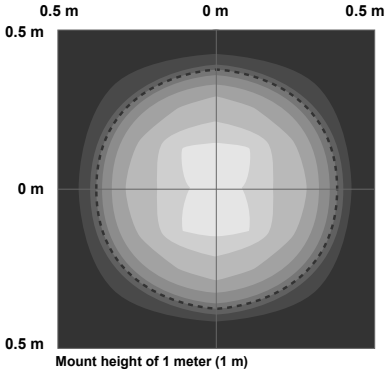
Horizontal = Connection on the bottom.

Max Lux at 1 M (L30 Lens)

Polar Candela Distribution



Isolux Pattern



900 lux | 500 lux | 200 lux
800 lux | 400 lux | 100 lux
650 lux | 300 lux | 50% max. lux

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.

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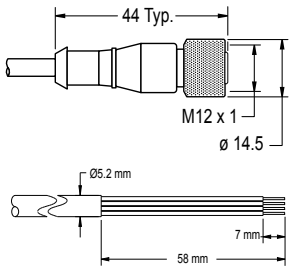
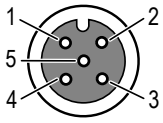
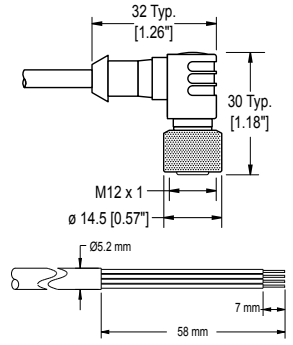
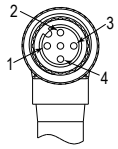
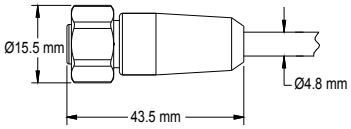
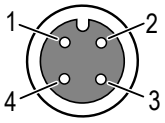
Accessories

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 = Not used 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 Single-Ended M12 Female Washdown, Stainless Steel Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-WDSS-0406	2 m (6.56 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-WDSS-0415	5 m (16.4 ft)			
MQDC-WDSS-0430	9 m (29.5 ft)			

Brackets

LMBWLC90PT

- Pan and tilt bracket
- 300 series stainless steel
- Hardware for connecting to light included
- CAD Files: DXF, PDF, IGS, STP



SMBAMS70AS

- 316 stainless steel right-angle bracket
- Articulated slots for 90+ degrees rotation
- Four ¼-20 stainless steel screws included
- CAD Files: DXF, PDF, IGS, STP



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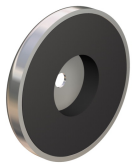
SMBFLXMAGR

- Protective magnet cover prevents scratches to painted surfaces
- CAD Files: DXF, PDF, IGS, STP



SMBMAG3

- 3.2 inch diameter magnet with 95 lbs pull force
- Use with LMBWLC90PT, SMBAMS70AS, SMBAMSQ90R bracket
- Hardware for mounting to bracket included
- CAD Files: DXF, PDF, IGS, STP



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