LED Series Sealed High-Intensity Area Lights

Features

High-Power Lighting for use with Banner Vision Systems

To view or download the latest technical information about this product, including specifications, dimensions, accessories, and wiring, go to www.bannerengineering.com.



- Rugged, waterproof housing, rated IP68
- Compact area light for Banner Vision systems
- Five extremely bright LEDs for illumination of targets from 0.15 m to beyond 2 m
- Smooth exterior for easy cleaning during washdown
- Optically isolated strobe signal
- Available with 316 stainless steel or nickel-plated aluminum housing and a choice of either acrylic or tempered optical glass windows
- Fixed or adjustable intensity, depending on model
- Selectable Active High or Active Low strobe option

IMPORTANT: Read the following instructions before operating the light. Please download the complete LED Sealed High-Intensity Area Light 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 LED Sealed High-Intensity Area Light, 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 LED Sealed High-Intensity Area Light sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Models

Models	Housing Material	Window Material	Intensity	LED Color
LEDRA70AP5-XQ	Nickel-plated aluminum	Acrylic	Fixed	Red, 620 nm to 630 nm
LEDRA70AD5-XQ		Diffuse acrylic		
LEDRA70AP5-PQ		Acrylic	Adjustable	
LEDWA70AP5-PQ		Acrylic	Adjustable	White, 5000 K to 8300 K
LEDBA70AP5-XQ		Acrylic	Fixed	Blue, 465 nm to 485 nm
LEDBA70AD5-XQ		Diffuse acrylic		
LEDIA70AP5-XQ		Acrylic	Fixed	Infrared, 850 nm
LEDUV365A70AG5-XQ		Glass	Fixed	UV, 365 nm
LEDUV395A70AP5-XQ		Acrylic	Fixed	UV, 395 nm
LEDIA70SSD5-XQ	Stainless steel	Diffuse acrylic	Fixed	Infrared, 850 nm

For a list of discontinued models, see Discontinued Models.

The following caution applies to UV, 365 nm models:

CAUTION:
Risk Group 1: UV Emitted from this product.

Minimize exposure to eyes or skin. Use appropriate shielding and eye protection. Risk Group 1 (RG 1) products are safe for most use applications, except for very prolonged exposures where direct ocular exposures may be expected.

- IEC 62471

The following caution applies to UV, 395 nm models:

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153957
p/n: 153957 Rev. I

CAUTION:
Risk Group 2: UV Emitted from this product.

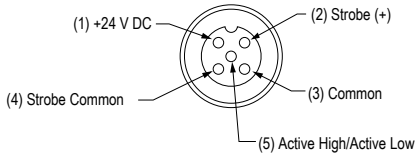
Eye or skin irritation may result from exposure. Use appropriate shielding and eye protection. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.

- IEC 62471

Wiring

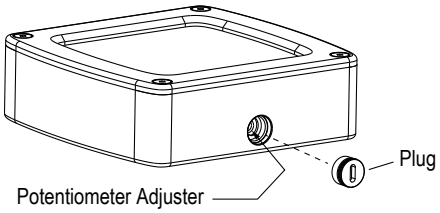
Wire Purpose	Cable Wire Color[1]	Continuous On Mode	Strobed Mode		*Presence*Plus Pro Controller Terminal Block
Power Wires	**Brown (1)**	+24 V DC	+24 V DC		Pin 01[2]
	Blue (3)	common	common		Pin 02
Strobe Polarity Control	**Gray (5)**	open	**Active Low:** open		Open — Active Low
			Active High: connect to common (Blue wire)		Pin 02 — Active High
Strobe Voltage Wires	**White (2)**	open	0 V DC = ON (Active Low)	+5 V DC to 24 V DC = OFF (Active Low)	Pin 04
			0 V DC = OFF (Active High)	+5 V DC to 24 V DC = ON (Active High)	
	Black (4)	open	Strobe common		Pin 02

Pinouts for Mating Cordsets



Light Adjustment (Adjustable Intensity Models Only)

Potentiometer Adjuster



1. Remove the plug as shown in the figure, using a small flat-blade screwdriver.
2. Adjust the light's intensity by turning the 270° Intensity potentiometer with the screwdriver. Apply power to the light and turn the potentiometer all the way clockwise for maximum intensity.
3. If the object to be sensed is too bright at maximum intensity, turn the potentiometer down a little at a time, testing with the object, until the correct brightness is achieved.
4. When the adjustment is complete, reinsert the plug.

Specifications

Supply Voltage and Current

Operating Voltage: 24 V DC ± 10%
Strobe Voltage: 5 V DC to 24 V DC at 15 mA max.
Current Draw at Full Intensity: 500 mA max.
Built-in constant current regulator for LEDs
Adjustable intensity control varies intensity for "P" models
Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)
See the electrical characteristics on the product label.

Light Source

Five high-intensity LEDs; see models table for wavelengths

Illumination

610 mm (24 in) diameter usable light pattern at 1 m

Strobe

Optically isolated

Connections

Integral 5-pin M12 male quick-disconnect connector, accessory cordset required

Construction

Nickel-plated aluminum or stainless steel housing, depending on model; acrylic or glass window, depending on model

Useful Life

When operated within specifications, output will decrease less than 30% after 50,000 hours for visible and IR models; 20,000 hours for UV models

Operating Conditions

0 °C to +50 °C (+32 °F to +122 °F)
95% maximum relative humidity (non-condensing)

Environmental Rating

Nickel-plated models: IP68
Stainless steel models: NEMA 4X;IP68

Certifications

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

[1] For Banner-supplied wire.
[2] When connecting the light to a *Presence*PLUS Pro controller terminal block, the controller supply must be 24 V DC ± 10%.

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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.

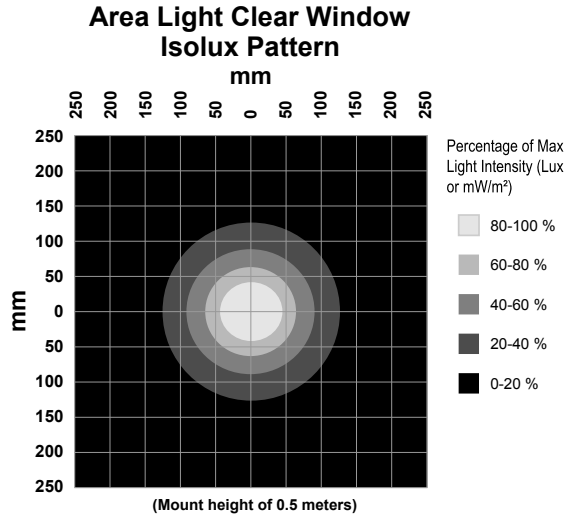
Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

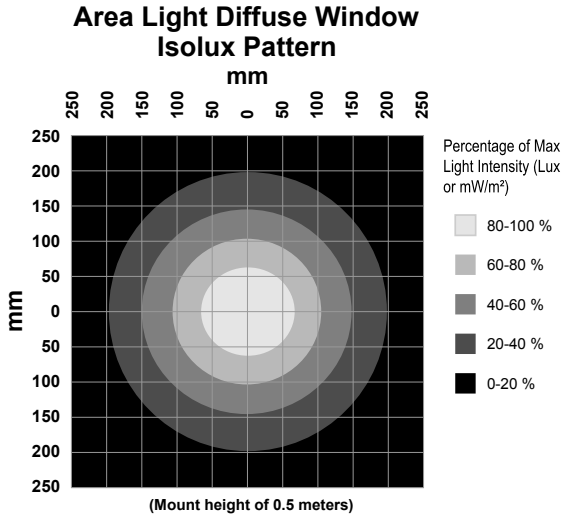
Light Characteristics: Clear and Diffuse Window

Values shown are typical at 25 °C.

	Lumens				mWatts		
	Cool White	Green	Red	Blue	IR	UV395	UV365[3]
LEDxA70	575	450	225	165	1170	630	440

Optical Data





Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity is lowered by 40% on diffuse window models.

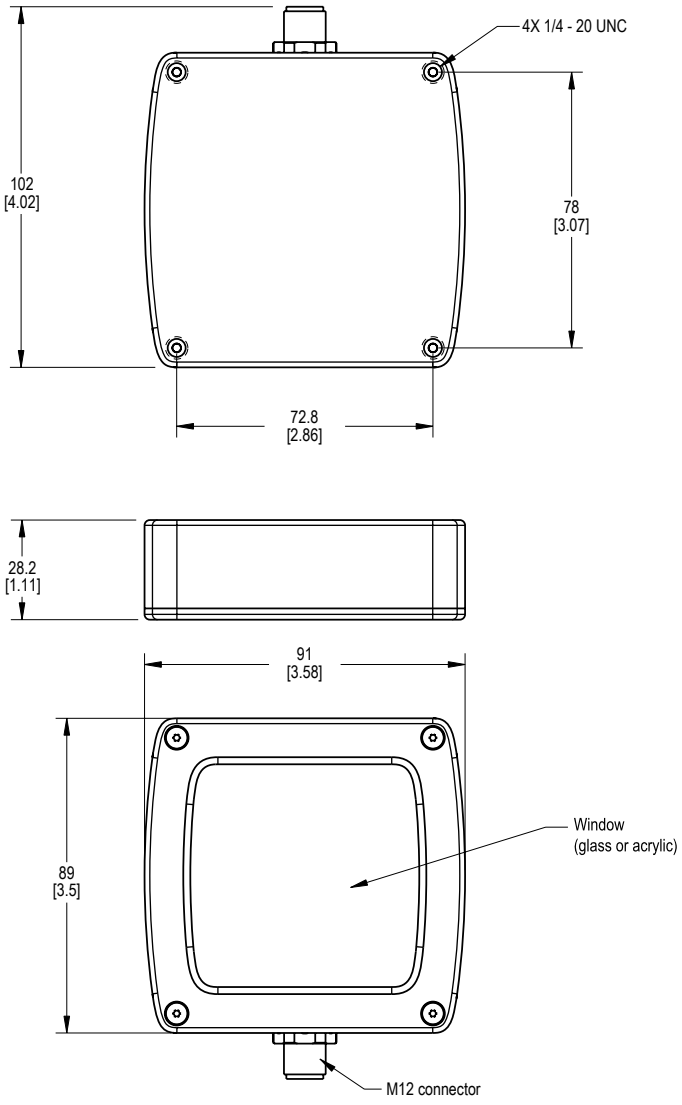
Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[4]	Vertical (Spread 29.1°)	Horizontal (Spread 30.7°)
0.25	51,440	40,257	20,129	14,761	104,669	39,363	56,360	0.13	0.14
0.5	18,550	14,517	7,259	5,323	37,745	14,195	20,324	0.26	0.27
1	5,110	3,999	2,000	1,466	10,398	3,910	5,599	0.52	0.55

[3] Only available in sealed models with a glass window.
[4] Only available in sealed model with glass window.

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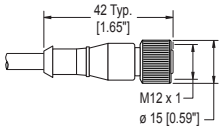
Dimensions

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

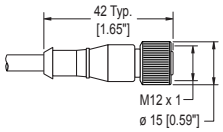
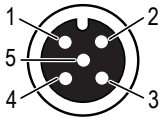


Accessories

Cordsets

5-Pin Single-Ended M12 Female Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC20-506	2 m (6.56 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC20-515	5 m (16.4 ft)			
MQDC20-530	9 m (29.5 ft)			

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5-Pin Single-Ended M12 Female Stainless Steel Nut Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC20SS-506	2 m (6.52 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC20SS-515	5 m (16.4 ft)			
MQDC20SS-530	9 m (29.5 ft)			

Brackets

SMBASCM
- 316 stainless steel column-mounting bracket with 430 stainless steel threaded insert
- Four ¼-20 stainless steel screws 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



Filters (Optional)

Light filters are available in red, white, blue, green, infrared, and other options. Visit http://www.bannerengineering.com to determine which filter is best for your application and Vision system.

Replacement Window Kits

Model	Description
LEDA70SW-P	Clear acrylic
LEDA70SW-G	Clear glass
LEDA70SCDW-P	Clear diffuse acrylic
LEDA70SWDW-P	White diffuse acrylic

Product Support and Maintenance

Discontinued Models

The following models are no longer available for order but are still covered by the information in this document.

Models with Nickel-Plated Aluminum Housing

Models			Intensity	LED Color
Acrylic Window	**Glass Window**	**Diffuse Window (acrylic)**		
–	**LEDRA70AG5-XQ**	**–**	Fixed	Red, 620 nm to 630 nm
–	**LEDRA70AG5-PQ**	**LEDRA70AD5-PQ**	Adjustable	
LEDWA70AP5-XQ	**LEDWA70AG5-XQ**	**LEDWA70AD5-XQ**	Fixed	White, 5000 K to 8300 K
–	**LEDWA70AG5-PQ**	**LEDWA70AD5-PQ**	Adjustable	
–	**LEDBA70AG5-XQ**	**–**	Fixed	Blue, 465 nm to 485 nm
LEDBA70AP5-PQ	**LEDBA70AG5-PQ**	**LEDBA70AD5-PQ**	Adjustable	
LEDGA70AP5-XQ	**LEDGA70AG5-XQ**	**LEDGA70AD5-XQ**	Fixed	Green, 520 nm to 535 nm
LEDGA70AP5-PQ	**LEDGA70AG5-PQ**	**LEDGA70AD5-PQ**	Adjustable	
–	**LEDIA70AG5-XQ**	**LEDIA70AD5-XQ**	Fixed	Infrared, 850 nm
LEDIA70AP5-PQ	**LEDIA70AG5-PQ**	**LEDIA70AD5-PQ**	Adjustable	
–	**LEDUV365A70AG5-PQ**	**–**	Adjustable	UV, 365 nm

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Models			Intensity	LED Color
Acrylic Window	Glass Window	Diffuse Window (acrylic)		
–	LEDUV395A70AG5-XQ	LEDUV395A70D5-XQ	Fixed	UV, 395 nm
LEDUV395A70AP5-PQ	LEDUV395A70AG5-PQ	LEDUV395A70D5-PQ	Adjustable	

Models with 316 Stainless Steel Housing

Models			Intensity	LED Color
Acrylic Window	Glass Window	Diffuse Window (acrylic)		
LEDRA70SSP5-XQ	LEDRA70SSG5-XQ	LEDRA70SSD5-XQ	Fixed	Red, 620 nm to 630 nm
LEDRA70SSP5-PQ	LEDRA70SSG5-PQ	LEDRA70SSD5-PQ	Adjustable	
LEDWA70SSP5-XQ	LEDWA70SSG5-XQ	LEDWA70SSD5-XQ	Fixed	White, 5000 K to 8300 K
LEDWA70SSP5-PQ	LEDWA70SSG5-PQ	LEDWA70SSD5-PQ	Adjustable	
LEDBA70SSP5-XQ	LEDBA70SSG5-XQ	LEDBA70SSD5-XQ	Fixed	Blue, 465 nm to 485 nm
LEDBA70SSP5-PQ	LEDBA70SSG5-PQ	LEDBA70SSD5-PQ	Adjustable	
LEDGA70SSP5-XQ	LEDGA70SSG5-XQ	LEDGA70SSD5-XQ	Fixed	Green, 520 nm to 535 nm
LEDGA70SSP5-PQ	LEDGA70SSG5-PQ	LEDGA70SSD5-PQ	Adjustable	
LEDIA70SSP5-XQ	LEDIA70SSG5-XQ	–	Fixed	Infrared, 850 nm
LEDIA70SSP5-PQ	LEDIA70SSG5-PQ	LEDIA70SSD5-PQ	Adjustable	
–	LEDUV365A70SSG5-XQ	–	Fixed	UV, 365 nm
–	LEDUV365A70SSG5-PQ	–	Adjustable	
LEDUV395A70SSP5-XQ	LEDUV395A70SSG5-XQ	LEDUV395A70SSD5-XQ	Fixed	UV, 395 nm
LEDUV395A70SSP5-PQ	LEDUV395A70SSG5-PQ	LEDUV395A70SSD5-PQ	Adjustable	

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

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