chanhvinh.com

High-Power Unsealed Linear Array Lights

Features

Lighting for use with Vision Systems

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



- Four high-intensity, visible wavelengths, plus IR and UV
- The following array lengths are available:
  - 145 mm (5.7 in)
  - 290 mm (11.4 in)
  - 435 mm (17.7 in)
  - 580 mm (22.8 in)
  - 870 mm (34.2 in)
  - 1160 mm (45.6 in)
- High-power, solid-state LED array; continuous or strobed operation is selectable via sensor software (P4 models) or via hookup
- Optically isolated strobe signal
- Active High or Active Low strobe models available
- LEDs directly illuminate target
- Lens angle of ±6.5º on visible and IR models, lens angle of ±5º on UV 395 nm models, reflector cup angle of ±15º on UV 365 nm models
- Three window materials from which to choose: clear acrylic, clear glass, and clear diffusing acrylic
- Maintenance-free, rugged construction
- Built-in constant current regulation
- Very even light pattern as close as 76.2 mm (3 in)

IMPORTANT: Read the following instructions before operating the light. Please download the complete High-Power Unsealed Linear Array Lights 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 High-Power Unsealed Linear Array Lights, 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 High-Power Unsealed Linear Array Lights 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

Model Key

Light Source	LED Color	Linear Array	Array Length	Housing	Window Material[1]	Relative Intensity	Intensity Control	Connector
LED	R	LA	145	X	P	6 —	X	Q

Continued on page 2

[1] UV365 is only available in models with a glass window.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

Continued from page 1

Light Source	LED Color	Linear Array	Array Length	Housing	Window Material	Relative Intensity	Intensity Control	Connector
	R = Red W = White B = Blue G = Green I = Infrared (IR) UV365 = Ultraviolet, 365 nm UV395 = Ultraviolet, 395 nm		145 mm 290 mm 435 mm 580 mm 870 mm 1160 mm	X = IP50	P = Clear plastic G = Glass D = Diffuse plastic		X = Not adjustable	Q = Integral 5-pin M12 male quick-disconnect connector

The following caution applies to UV365 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 UV395 nm models:

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.

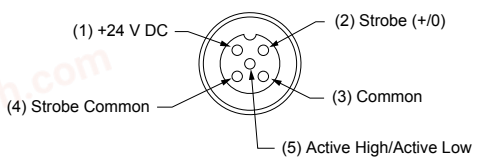
- IEC 62471

For a list of discontinued models, see Discontinued Models.

Wiring

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

Pinouts for Mating Cable



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

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

NOTE: Connection to earth ground recommended.

Specifications

Supply Voltage and Current

145 mm Models: 24 V DC ± 10% at 500 mA maximum
290 mm Models: 24 V DC ± 10% at 1 A maximum
435 mm Models: 24 V DC ± 10% at 1.5 A maximum
580 mm Models: 24 V DC ± 10% at 2 A maximum
870 mm Models: 24 V DC ± 10% at 3 A maximum
1160 mm Models: 24 V DC ± 10% at 4 A maximum
Strobe Voltage: 5 V DC to 24 V DC
Built-in constant current regulator for LEDs
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

LED Color	Wavelength
Infrared	850 nm
Red	620 nm to 630 nm
Blue	465 nm to 485 nm
Green	520 nm to 535 nm
White	5000 K to 8300 K
UV	365 nm
	395 nm

Certification

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

c UL us LISTED

Operating Conditions

0 °C to +50 °C (+32 °F to +122 °F)

Connections

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

Construction

Housing: black anodized aluminum
Window: acrylic or glass, depending on model

Mounting

4 M5 T-nuts included, brackets available

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

Environmental Rating

IP50

Required Overcurrent Protection

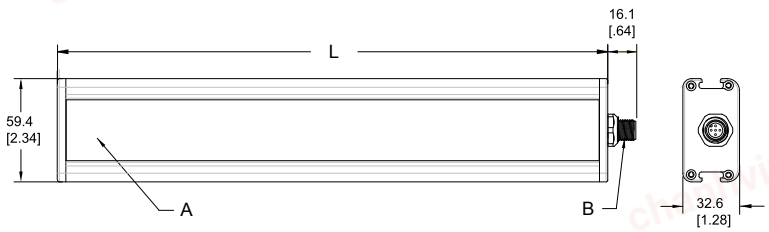
WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

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.



Array Length	Length L"
145 mm	171 mm (6.73 in)
290 mm	316.5 mm (12.46 in)
435 mm	462 mm (18.19 in)
580 mm	607.5 mm (23.92 in)
870 mm	898.5 mm (35.37 in)
1160 mm	1189.5 mm (46.83 in)

A = Window (glass or acrylic, depending on model)
B = 5-pin M12 male connector

Optical Data

Light Characteristic: Clear and Diffuse Window

Values shown are typical at 25°C.

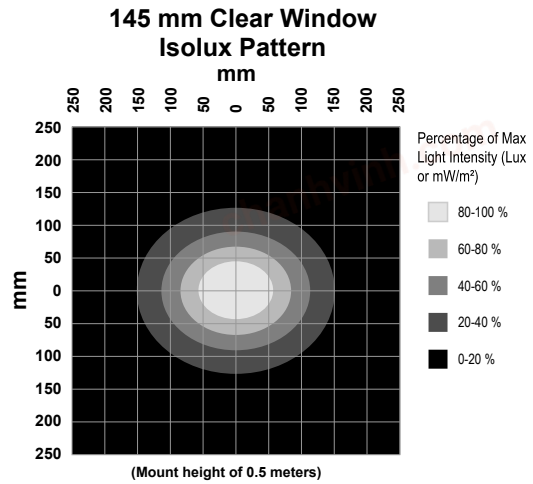
Lighted Length (mm)	Lumens				mWatts		
	Cool White	Green	Red	Blue	IR	UV395	UV365[4]
145	580	445	275	205	895	1165	610
290	1160	890	550	410	1790	2330	1220
435	1740	1335	825	615	2685	3495	1830
580	2320	1780	1100	820	3580	4660	2440
870	3480	2670	1650	1230	5370	6990	3660
1160	4640	3560	2200	1640	7160	9320	4880

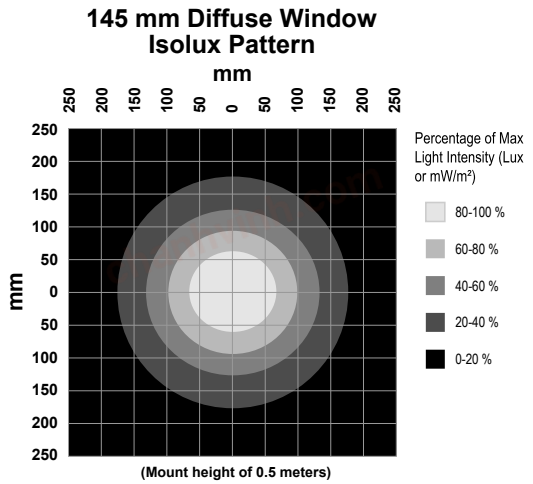
[4] Only available in models with a glass window.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

145 mm Models

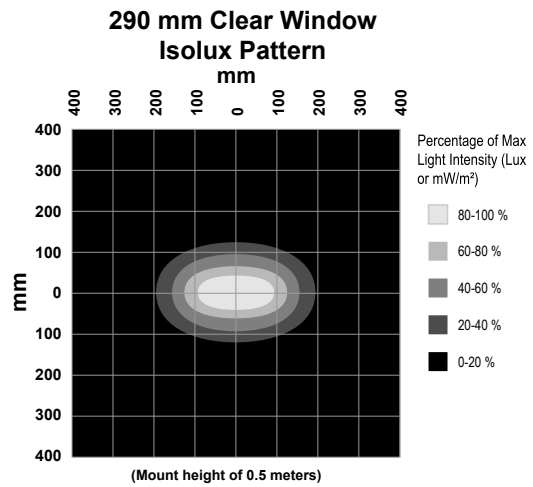


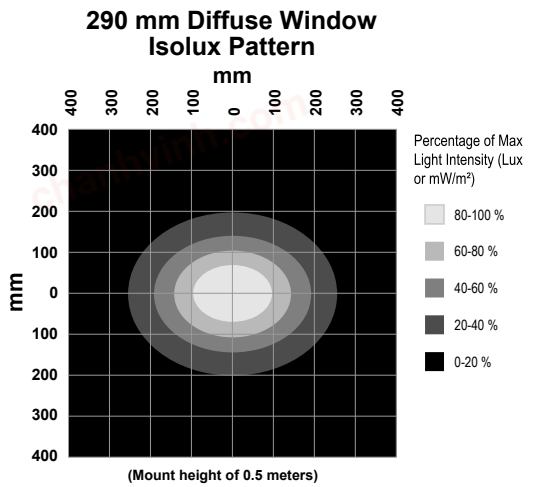


Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[5]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	41,560	31,887	19,705	14,689	64,131	83,478	43,710	0.06	0.09
0.5	17,020	13,058	8,070	6,016	26,264	34,187	17,900	0.12	0.19
1	5,220	4,005	2,475	1,845	8,055	10,485	5,490	0.24	0.38

290 mm Models





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

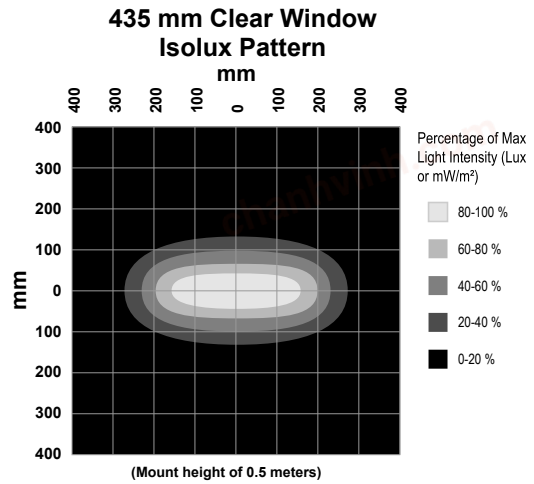
Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[6]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.5	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1	8,930	6,851	4,234	3,156	13,780	17,937	9,392	0.24	0.38

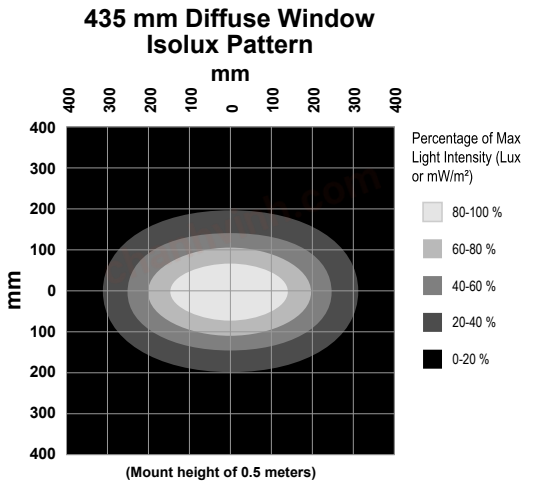
[5] Only available in models with a glass window.
[6] Only available in models with a glass window.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

435 mm Models

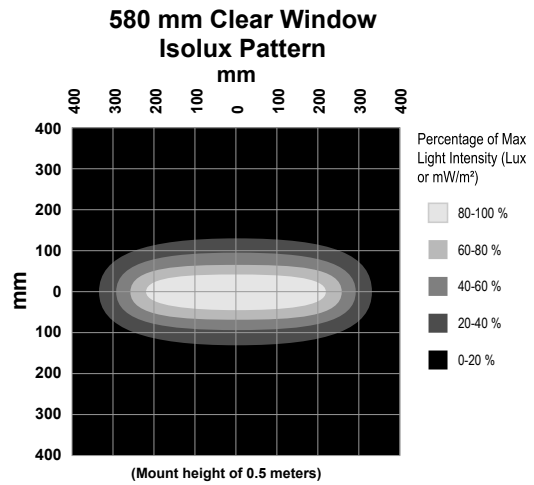


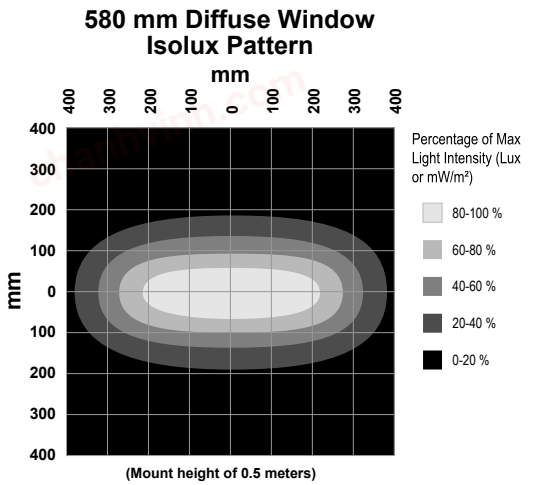


Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[7]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.5	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1	9,740	7,473	4,618	3,443	15,030	19,564	10,244	0.24	0.38

580 mm Models





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

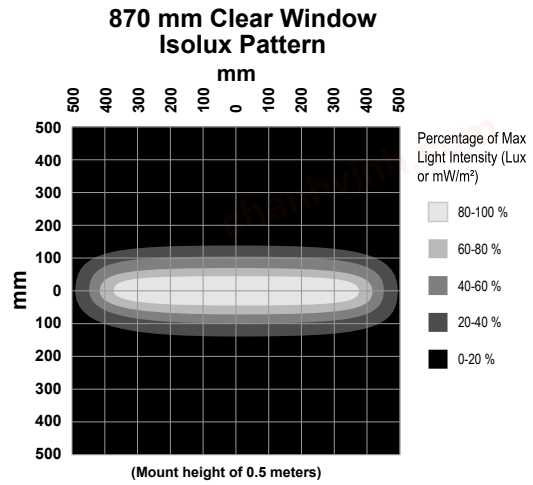
Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[8]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.5	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1	11,550	8,862	5,476	4,082	17,823	23,200	12,147	0.24	0.38

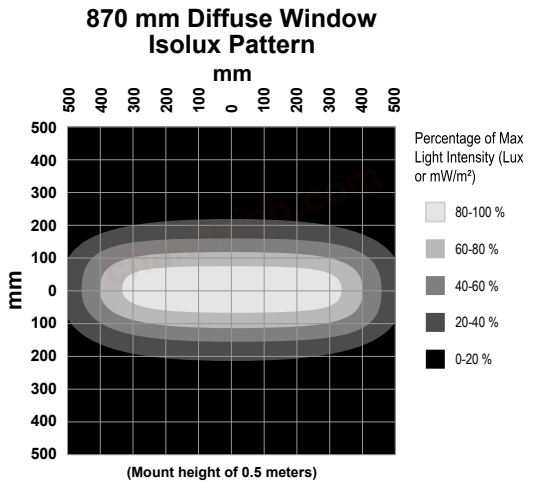
[7] Only available in models with a glass window.
[8] Only available in models with a glass window.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

870 mm Models

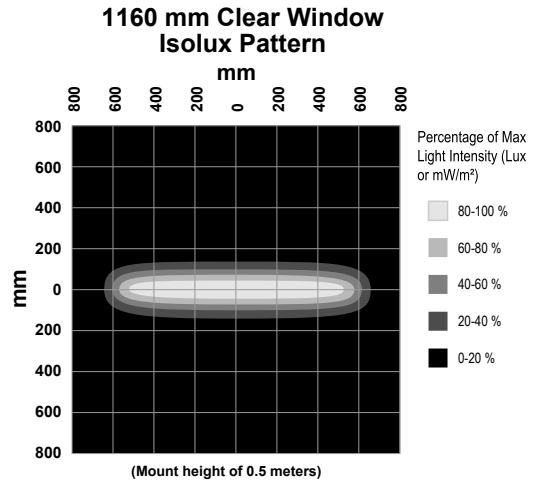


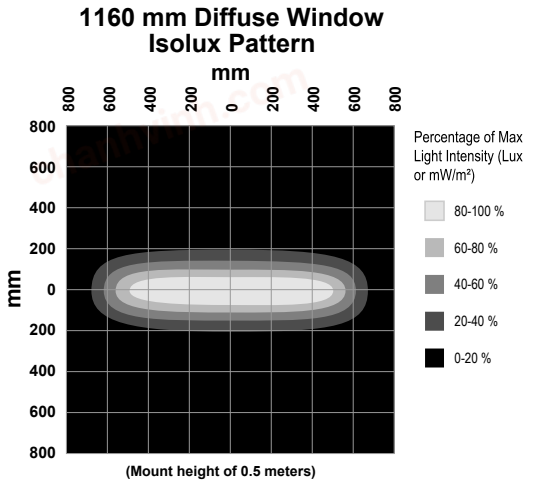


Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365[9]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.5	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1	11,800	9,053	5,595	4,171	18,209	23,702	12,410	0.24	0.38

1160 mm Models





Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity 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[10]	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.5	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1	12,330	9,460	5,846	4,358	19,026	24,766	12,968	0.24	0.38

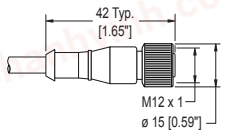
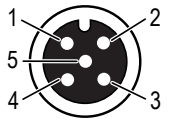
[9] Only available in models with a glass window.
[10] Only available in models with a glass window.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

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)			

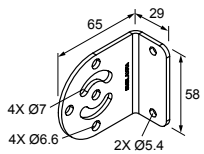
Brackets

SMBLAXRA

- Right-angle stainless steel bracket
- May be used individually or in combination with **SMBLAXU** to provide swivel adjustment
- CAD Files: DXF, PDF, IGS, STP

Includes:

- 2 Brackets
- 4 M5 screws (socket drive, button head)
- 4 M5 T-nuts

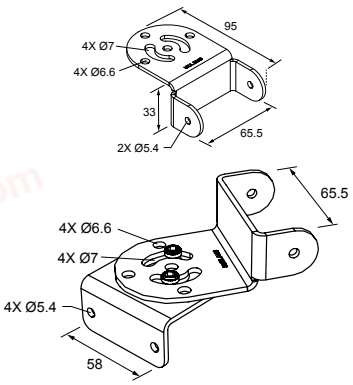


SMBLAXU

- U-shaped stainless steel bracket
- For use with **SMBLAXRA** to provide swivel adjustment
- CAD Files: DXF, PDF, IGS, STP

Includes:

- 2 Brackets
- 4 M5 screws (socket-drive, button head)
- 4 M5 T-nuts
- Four each stainless steel ¼-20 screws (socket drive, button head), lock nuts, washers



Combination View

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 Windows

Array Length	Clear Glass	Clear Acrylic	Diffuse Acrylic	White Diffuse Acrylic
145 mm	**LEDLA145XW-G**	**LEDLA145XW-P**	**LEDLA145XCDW-P**	**LEDLA145XWDW-P**
290 mm	**LEDLA290XW-G**	**LEDLA290XW-P**	**LEDLA290XCDW-P**	**LEDLA290XWDW-P**
435 mm	**LEDLA435XW-G**	**LEDLA435XW-P**	**LEDLA435XCDW-P**	**LEDLA435XWDW-P**
580 mm	**LEDLA580XW-G**	**LEDLA580XW-P**	**LEDLA580XCDW-P**	**LEDLA580XWDW-P**
870 mm	**LEDLA870XW-G**	**LEDLA870XW-P**	**LEDLA870XCDW-P**	**LEDLA870XWDW-P**
1160 mm	**LEDLA1160XW-G**	**LEDLA1160XW-P**	**LEDLA1160XCDW-P**	**LEDLA1160XWDW-P**

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.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

chanhvinh.com

- LEDRLA145XG6-XQ
- LEDRLA290XG6-XQ
- LEDRLA435XG6-XQ
- LEDRLA580XG6-XQ
- LEDRLA870XP6-XQ
- LEDRLA870XG6-XQ
- LEDRLA1160XP6-XQ
- LEDRLA1160XG6-XQ
- LEDWLA145XG6-XQ
- LEDWLA435XG6-XQ
- LEDWLA580XG6-XQ
- LEDWLA870XG6-XQ
- LEDWLA1160XP6-XQ
- LEDWLA1160XG6-XQ
- LEDBLA435XG6-XQ
- LEDBLA580XP6-XQ
- LEDBLA580XG6-XQ
- LEDBLA870XG6-XQ
- LEDBLA870XD6-XQ
- LEDBLA1160XP6-XQ
- LEDGLA145XP6-XQ
- LEDGLA145XG6-XQ
- LEDGLA290XP6-XQ
- LEDGLA290XG6-XQ
- LEDGLA290XD6-XQ
- LEDGLA435XP6-XQ
- LEDGLA435XG6-XQ
- LEDGLA435XD6-XQ
- LEDGLA580XP6-XQ
- LEDGLA580XD6-XQ
- LEDGLA870XP6-XQ
- LEDGLA870XG6-XQ
- LEDGLA870XD6-XQ
- LEDGLA1160XP6-XQ
- LEDGLA1160XG6-XQ
- LEDGLA1160XD6-XQ
- LEDILA145XG6-XQ
- LEDILA290XG6-XQ
- LEDILA435XG6-XQ
- LEDILA580XP6-XQ
- LEDILA580XG6-XQ
- LEDILA870XP6-XQ
- LEDILA870XG6-XQ
- LEDILA1160XG6-XQ
- LEDUV365LA435XG6-XQ
- LEDUV365LA870XG6-XQ
- LEDUV365LA1160XG6-XQ
- LEDUV395LA580XP6-XQ
- LEDUV395LA580XD6-XQ
- LEDUV395LA870XP6-XQ
- LEDUV395LA870XG6-XQ
- LEDUV395LA870XD6-XQ
- LEDUV395LA1160XP6-XQ
- LEDUV395LA1160XG6-XQ
- LEDUV395LA1160XD6-XQ

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.

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

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com