

## Annie Griffiths

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**From:** Matt Morris <matt@morriseng.ca>  
**Sent:** Friday, September 4, 2020 2:37 PM  
**To:** gaines@bellnet.ca  
**Cc:** Keith Oster; Annie Griffiths; Dena Zwarich  
**Subject:** FW: Carleton Place Arena - Electrical Shop Drawings #1  
**Attachments:** GBE Letter of Transmittal 01.pdf

<b>SUBMITTAL / SHOP DRAWING REVIEW</b>	
This submittal/shop drawing review is for general conformance with drawings and specifications only. Contractor is completely responsible for all dimensions, details, quantities, supply, installation and construction. This review does not in any way relieve the Contractor of responsibility for compliance with the Contract Documents.	
Client:	Larry Gaines Architect
Project:	Carleton Place Arena
Submittal:	Lighting
Notes:	<b>LIGHT FIXTURES TYPE F2:</b> <i>- Shall have wire guards</i>  <b>EXIT AND EMERGENCY LIGHT FIXTURES:</b> <i>- Shall have wire guards</i>
<b>MORRIS ENGINEERING LTD.</b> 68 William Street, Suite 200, Brockville, Ontario (613)499-2077	

Thanks,

Matt

**Matt Morris P.Eng.**  
**MORRIS Engineering Ltd.**  
68 William Street, Suite 206  
Brockville, ON  
Bus. (613)499-2077  
Cel. (613)349-0555





# Letter of Transmittal # 01

Gannon/Blackburn Electric Inc.

Date: August 17<sup>th</sup> 2020

Project: Carleton Place Arena

**To:**  
TAL-CO BUILDING INNOVATIONS LTD  
4728 Bank Street, Suite A  
Ottawa, ON K1T 3W7  
Attention:  
**Keith & Dena**

**From:**  
Martin Bergeron  
Gannon/Blackburn Electric  
2000 Thurston Drive, Suite 25  
Cell# 613-859-3550  
Office: 613-738-9165

quantity	description	attachments
1	Shop drawing - Lighting	yes

Sender:  
Martin Bergeron

Receiver:

Reviewed

Reviewed as Modified

Submitted for Review

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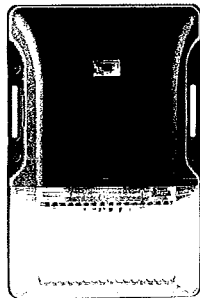
Reviewed by: M. Bergeron

Date:

Gannon/Blackburn Elec.



# MD2-SERIES MINI WALL PACK



Catalog #	
Project	
Date	
Prepared by	
Model #	MD2-204

## OVERVIEW

The MD2 Series Mini Wall Pack is an energy efficient lighting solution that eliminates the need for frequent lamp or ballast replacements. It is the ideal fixture for security, entryways, stairways, as well as storage and perimeter areas.

## PRODUCT HIGHLIGHTS

- 110° beam angle
- CRI 82
- Sealed die-cast aluminum housing with polycarbonate lens
- Built-in photocell
- Dark Bronze finish

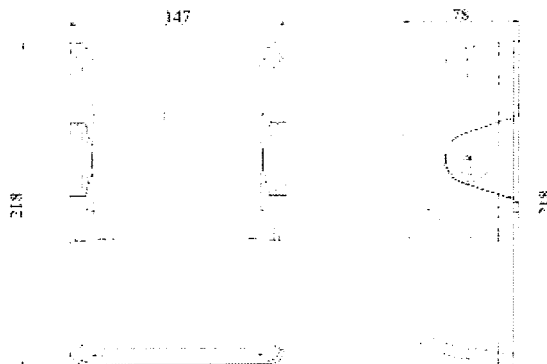
### OPTICAL SPECIFICATIONS

Lumen Output (lm)	2669 lm	Beam Angle (°)	110°
CCT (K)	4000K	Projected Lifetime (L <sub>70</sub> )	50,000
CRI (Ra)	82.9	Chromaticity Shift (K)	±250K
Efficacy (lm/W)	131.74 lm/W		

### ELECTRICAL SPECIFICATIONS

Power (W)	20W	Current Draw at 120V <sub>AC</sub> (A)	0.096A
Apparent Power (VA)	20.6VA	Current Draw at 208V <sub>AC</sub> (A)	0.096A
System Wattage (W)	20.26W	Current Draw at 240V <sub>AC</sub> (A)	0.083A
Replacement for	70W HID	Current Draw at 277V <sub>AC</sub> (A)	0.0726A
Input Voltage	100-277V		

### PRODUCT DIMENSIONS



## LED & DRIVER SPECIFICATIONS

LED Design Origin	China	Power Factor	0.904
LED Brand	EPISTAR 2835	THD	16.18%
LED Type	2835	Driver Class	1
Dimmable	No	Surge Protection	1kV
Output Voltage (VDC)	60V	Inrush Current	20A

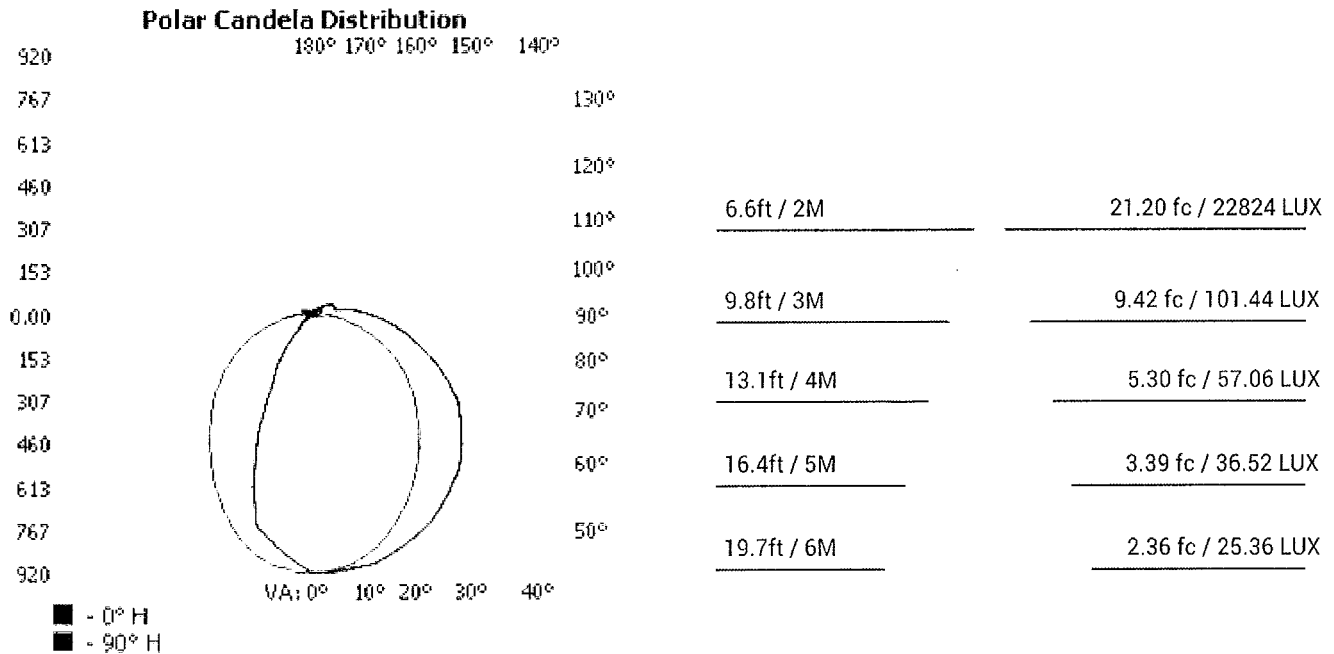
### CONSTRUCTION

### APPROVALS & LISTINGS

Housing Material	Cast Aluminum	DLC Premium	PLYQONK13BDH
Housing Color	Dark Bronze	UL/ETL Listed	cETLus
Lens Material	Polycarbonate	IP Rating	IP65
Dimensions (inch/mm)	8.58" (L) x 5.78" (W) x 3.07" (H) 218mm (L) x 147mm (W) x 78mm (H)	Wet Location	Yes
Weight (kg/lbs)	0.82kg / 1.8lbs		
Installation Method	Wall Mount		
Operation Range (°C/°F)	-40°C to 45°C -40°F to 113°F		
Warranty	10 yrs		

### POLAR CANDELA DISTRIBUTION

### ILLUMINANCE AT A DISTANCE

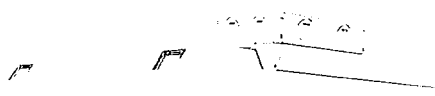


1. Due to the special conditions of manufacturing, the typical data of optical specifications can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.  
 2. Exceeding maximum ratings for input voltage and current will cause hazardous overload and will likely destroy the LED fixture.  
 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)



Project	
Date	
Prepared by	
Model #	FPH2-2230P40-3

# FPH2-SERIES 2X2 HYBRID FLAT PANEL



## OVERVIEW

The FPH2-Series Hybrid LED Flat Panel ceiling light is a high performance LED panel that uses a unique backlit design to provide a longer lasting lighting solution that replaces traditional fluorescent lighting or low-end edge-lits found in offices, hospitals, schools and more.

## PRODUCT HIGHLIGHTS

- Up to 136 lm/W
- Lightweight design for quicker installs
- Large 5.9" x 4" junction box makes daisy chaining connections quick and easy
- Low profile: will fit into any plenum space and directly into existing suspended T-bar ceilings
- Available in 100-347VAC



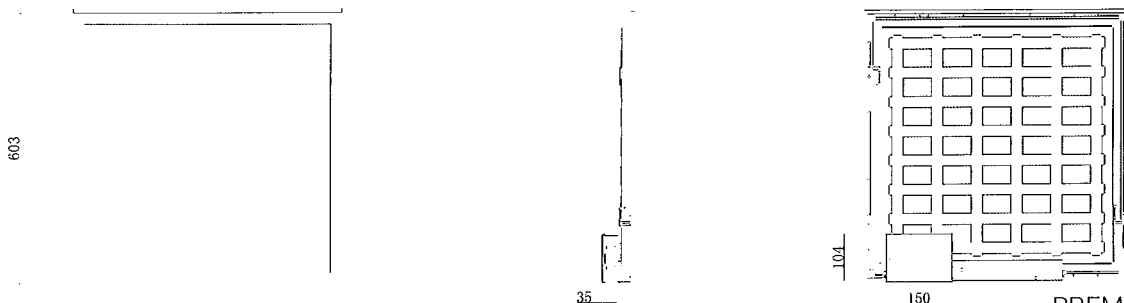
### OPTICAL SPECIFICATIONS

Lumen Output (lm) <sub>1</sub>	3705 lm	Beam Angle (°) <sub>1</sub>	120°
CCT (K) <sub>1</sub>	4000K	Projected Lifetime (L <sub>70</sub> )	>60,000
CRI (Ra) <sub>1</sub>	80	Chromaticity Shift (K)	±275
Efficacy (lm/W) <sub>1</sub>	128.88 lm/W		

### ELECTRICAL SPECIFICATIONS

Power	30W	Current Draw at 120V <sub>AC</sub> (A) <sub>2</sub>	0.245A
Apparent Power (VA)	29.53VA	Current Draw at 208V <sub>AC</sub> (A) <sub>2</sub>	0.145A
System Wattage	28.75W	Current Draw at 240V <sub>AC</sub> (A) <sub>2</sub>	0.127A
Input Voltage	100-347VAC	Current Draw at 277V <sub>AC</sub> (A) <sub>2</sub>	0.112A
Replacement For	2x20W T8	Current Draw at 347V <sub>AC</sub> (A) <sub>2</sub>	0.0954A

### PRODUCT DIMENSIONS



## CONSTRUCTION

<b>Housing Material</b>	6063 Aluminum	<b>Weight</b>	2.22kg / 4.89lbs
<b>Housing Color</b>	White	<b>Installation Method</b>	Recessed, Suspension, Surface
<b>Lens Material</b>	PMMA	<b>Operation Range (°F/°C)</b>	-20°C to 45°C, -4°F to 113°F
<b>Dimensions (inch/mm)</b>	23.74"*23.74"*2.8"/603mm*603mm*72.2mm	<b>Warranty</b>	5 years

## APPROVALS AND LISTINGS

<b>DLC Premium</b>	PLV7381H6Z8E	<b>IP Rating</b>	IP20
<b>Damp Location Rated</b>	Yes	<b>UL/ETL Listed</b>	cETLus

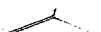
## LED AND DRIVER SPECIFICATIONS

<b>LED Type</b>	2835	<b>THD (%)</b>	20.48%
<b>Dimmable</b>	Yes, 0-10V	<b>Inrush Current (A)</b>	30A
<b>Output Voltage (VDC)</b>	36-45VDC	<b>Driver Class</b>	Class 2
<b>Power Factor</b>	0.908	<b>Surge Protection (kV)</b>	L - N 1KV ;L/N-PE 2KV

## OPTIONAL ACCESSORIES

**FPH-ACK11**

Aircraft Cable for 1x4 and 2x2 Flat Panels



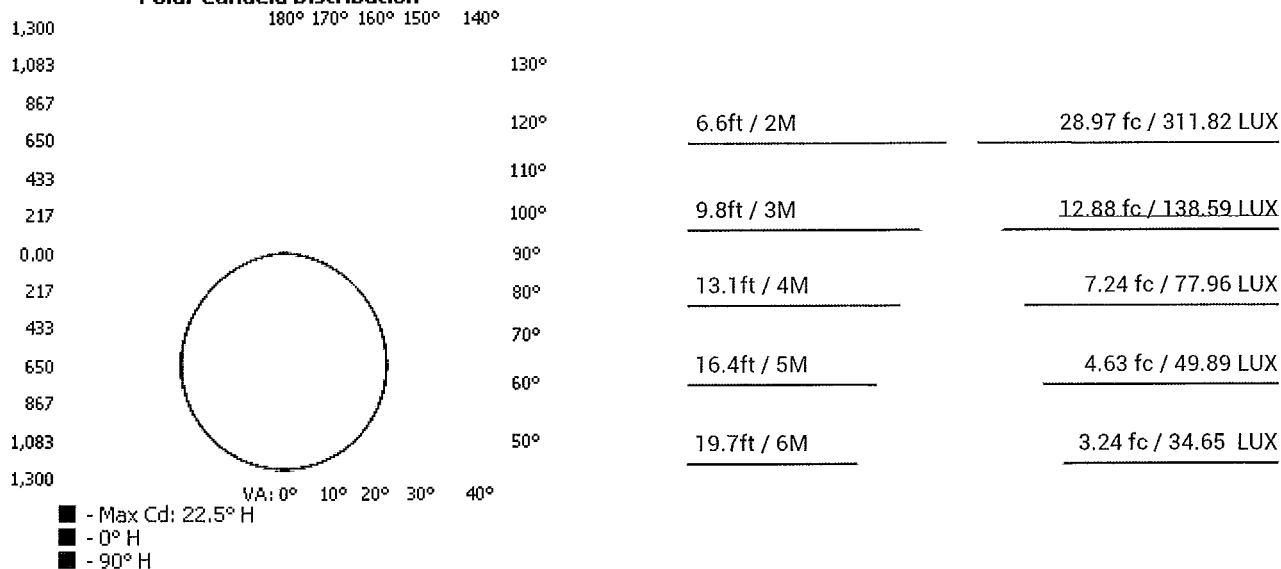
**FPH-22SMK1**

Surface Mount Kit for 2x2 Flat Panels

### CANDELA

### ILLUMINANCE AT A DISTANCE

#### Polar Candela Distribution



1. Due to the special conditions of manufacturing, the typical data of optical specifications can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.  
 2. Exceeding maximum ratings for input voltage and current will cause hazardous overload and will likely destroy the LED fixture.  
 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)

Specifications and dimensions subject to change without notice.

3401 ENTERPRISE PARKWAY  
 BEACHWOOD, OH USA 44122

80-86 CARRIER DRIVE  
 TORONTO, ON CANADA M9W 5R1



Project	
Date	
Prepared by	
Model #	FPH2-2440P40-3

# FPH2-SERIES 2X4 HYBRID FLAT PANEL

## OVERVIEW

The FPH2-Series Hybrid LED Flat Panel ceiling light is a high performance LED panel that uses a unique backlit design to provide a longer lasting lighting solution that replaces traditional fluorescent lighting or low-end edge-lits found in offices, hospitals, schools and more.

## PRODUCT HIGHLIGHTS

- Up to 136 lm/W
- Lightweight design for quicker installs
- Large 5.9" x 4" junction box makes daisy chaining connections quick and easy
- Low profile: will fit into any plenum space and directly into existing suspended T-bar ceilings
- Available in 100-347VAC



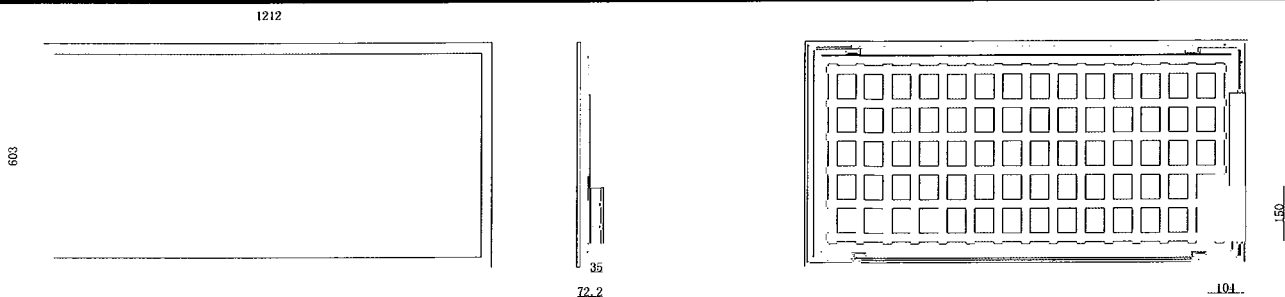
### OPTICAL SPECIFICATIONS

Lumen Output (lm) <sub>1</sub>	4912 lm	Beam Angle (°) <sub>1</sub>	120°
CCT (K) <sub>1</sub>	4000K	Projected Lifetime (L <sub>70</sub> )	>60,000
CRI (Ra) <sub>1</sub>	80	Chromaticity Shift (K)	±275
Efficacy (lm/W) <sub>1</sub>	129.37 lm/W		

### ELECTRICAL SPECIFICATIONS

Power	40W	Current Draw at 120V <sub>AC</sub> (A) <sub>2</sub>	0.338A
Apparent Power (VA)	40.91 VA	Current Draw at 208V <sub>AC</sub> (A) <sub>2</sub>	0.199A
System Wattage	37.97W	Current Draw at 240V <sub>AC</sub> (A) <sub>2</sub>	0.175A
Input Voltage	100-347VAC	Current Draw at 277V <sub>AC</sub> (A) <sub>2</sub>	0.153A
Replacement For	4x32W T8	Current Draw at 347V <sub>AC</sub> (A) <sub>2</sub>	0.129A

### PRODUCT DIMENSIONS





## CONSTRUCTION

<b>Housing Material</b>	6063 Aluminum	<b>Weight</b>	4.11kg / 9.06lbs
<b>Housing Color</b>	White	<b>Installation Method</b>	Recessed, Suspension, Surface
<b>Lens Material</b>	PMMA	<b>Operation Range (°F/°C)</b>	-20°C to 45°C, -4°F to 113°F
<b>Dimensions (inch/mm)</b>	23.74"*47.72"*2.8"/603mm*1212mm*72.2mm	<b>Warranty</b>	5 years

## APPROVALS AND LISTINGS

<b>DLC Premium</b>	PL9UMMXUSSZH	<b>IP Rating</b>	IP20
<b>Damp Location Rated</b>	Yes	<b>UL/ETL Listed</b>	cETLus

## LED AND DRIVER SPECIFICATIONS

<b>LED Type</b>	2835	<b>THD (%)</b>	20.21%
<b>Dimmable</b>	Yes, 0-10V	<b>Inrush Current (A)</b>	30A
<b>Output Voltage (VDC)</b>	36-45VDC	<b>Driver Class</b>	Class 2
<b>Power Factor</b>	0.907	<b>Surge Protection (kV)</b>	L - N 1KV ;L/N-PE 2KV

## OPTIONAL ACCESSORIES

**FPH-ACK21**

Aircraft Cable for 2x4 Flat Panels



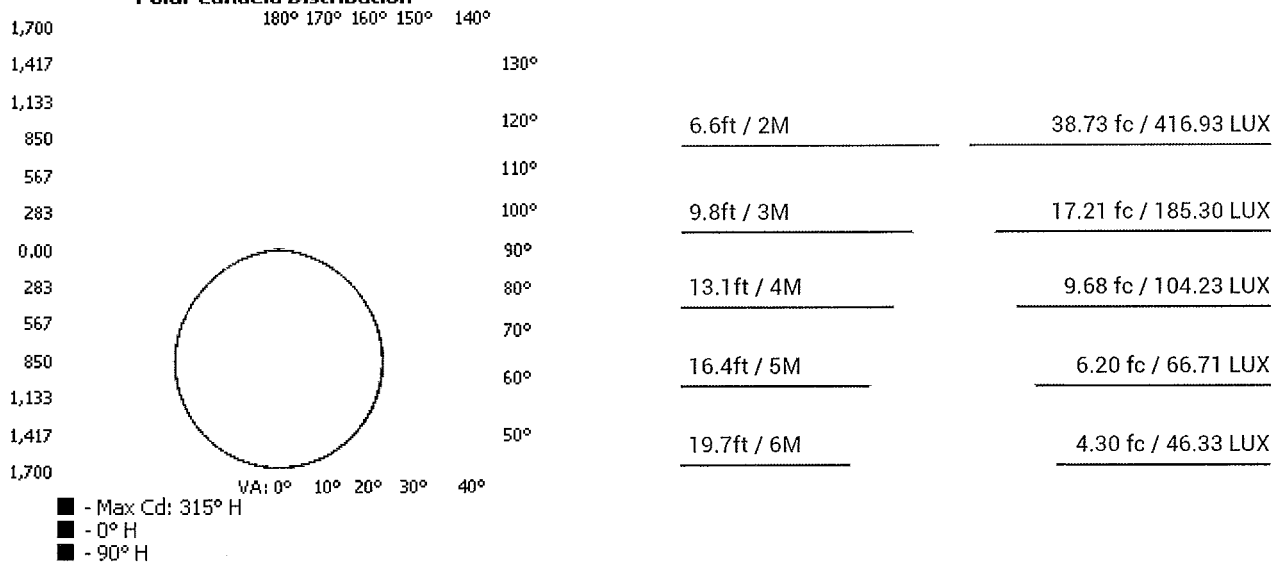
**FPH-24SMK1**

Surface Mount Kit for 2x4 Flat Panels

### CANDELA

### ILLUMINANCE AT A DISTANCE

#### Polar Candela Distribution



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 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)

Specifications and dimensions  
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3401 ENTERPRISE PARKWAY  
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80-86 CARRIER DRIVE  
TORONTO, ON CANADA M9W 5R1

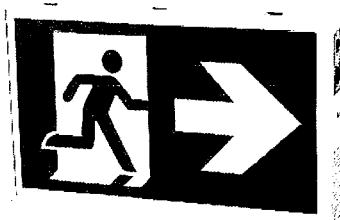


# ES2-SERIES LED RUNNING MAN (UDC / STEEL HOUSING)

Project	
Date	
Prepared by	
Model #	ES2-RM1SC2U-3

## OVERVIEW

The ES2-Series LED Running Man is encased in a sturdy, all steel housing. Powered with long life LED chips, they are the perfect choice for both new and retrofit projects.



## PRODUCT HIGHLIGHTS

- Universal input voltage from 120-347VAC and 6-24VDC
- Constructed of durable 20 gauge steel
- Even light output with a high uniformity
- 9.84 cd/m<sup>2</sup> high light output
- Includes 3 pictogram inserts
- Suitable for single and double-sided applications
- CSA listed for Canada & the US
- For use with DC power back-up systems



### ELECTRICAL SPECIFICATIONS

<b>Input Voltage</b>	120-347VAC 50/60Hz & 6-24VDC	<b>System Power</b>	2W
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### LIGHTING INFORMATION

<b>Lamp Type</b>	LED	<b>Illuminating Surface Uniformity</b>	79%
<b>Lens Material</b>	PVC	<b>Luminance</b>	9.84 cd/m <sup>2</sup>

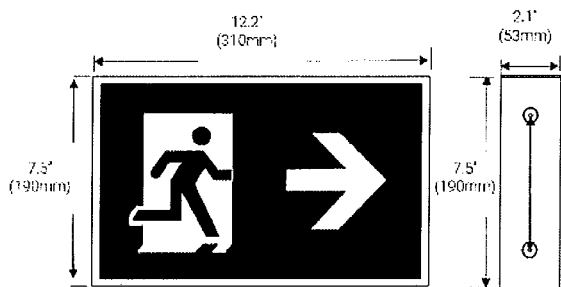
### EXTERNAL & MECHANICAL SPECIFICATIONS

<b>Housing Material</b>	Powder Coated Steel	<b>Material Grade</b>	UL-94v0
<b>Housing Color</b>	White	<b>Operation Temperature Range</b>	5°C to 30°C / 40°F to 86°F
<b>Dimension (inch/mm)</b>	12.2" (W) x 7.5" (H) x 2.1" (D) 310mm (W) x 190mm (H) x 53mm (D)	<b>Installation Method</b>	Ceiling Mount, Flag Mount Wall Mount
<b>Weight</b>	1.54 kg / 3.40 lbs	<b>Warranty</b>	5 years

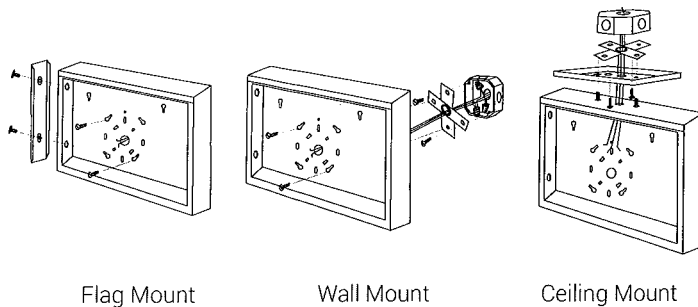
### APPROVALS & LISTINGS

<b>Safety Compliance</b>	cCSAus	<b>Safety Standards</b>	CAN/CSA-C860-11 CSA C22.2 No. 141-15 CAN/CSA-C22.2 No. 250.13-14
<b>File Number</b>	272501	<b>Approved Locations</b>	Damp Locations

**PRODUCT DIMENSIONS**



**MOUNTING DIAGRAM**



**PICTOGRAMS INCLUDED**



**No Indicator**



**Left Indicator**

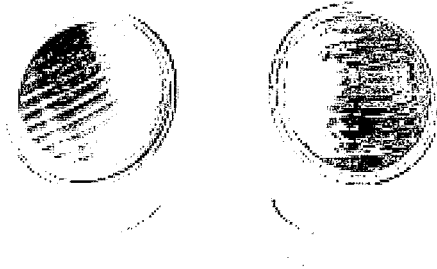


**Right Indicator**

1. Due to the special conditions of manufacturing, the typical data of optical specifications can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.  
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3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)

# PREMISE

## ES2-SERIES DOUBLE REMOTE HEAD LED EMERGENCY LIGHT



Project	
Date	
Prepared by	
Model #	ES2-RH1PC14-6

### OVERVIEW

The ES2-RH1PC14-6 is constructed of high impact thermoplastic. A clear PC lens and aluminum reflector provide bright illumination, while dual adjustable swivel lock the heads in position. Includes a standard canopy designed to mount directly to typical electrical junction boxes.

### PRODUCT HIGHLIGHTS

- White housing made of flame-retardant ABS
- Can be mounted directly to typical electrical junction boxes
- Designed to be run off the power and control circuitry of Emergency Lighting Units and Self-Powered Combination
- Running Man signs
- Designed for indoor applications
- Damp location rated
- 5 Year warranty

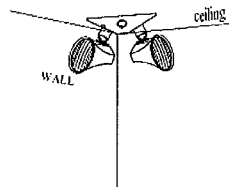
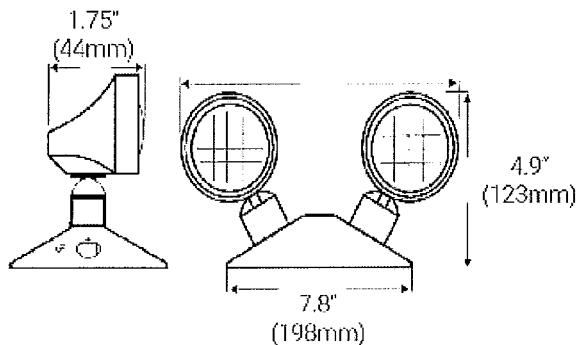
ELECTRICAL SPECIFICATIONS		LIGHTING INFORMATION	
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Lamp Input Voltage	6-12VDC	Lamp Type	LED
Replacement for	100W Halogen	Lamp Power	2x7W (14W)
Lumen Output (lm)	805 lm	Efficacy	57 lm/W

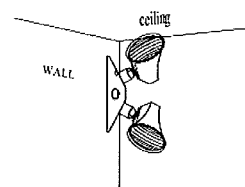
EXTERNAL & MECHANICAL SPECIFICATIONS			
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Housing Material	Flame-Retardant ABS	Operation Temperature Range	0°C to 30°C 32°F to 86°C
Housing Color	White	Warranty	5 years
Lens Material	Polycarbonate	Installation Method	Ceiling Mount, Wall Mount
Material Grade	UL 94V0	Weight	0.2kg / 0.44lbs
Dimension (inch/mm)	7.87" (L) x 4.5" (H) x 2.87" (D) 200mm (L) x 115mm (H) x 73mm (D)		

PRODUCT DIMENSIONS	MOUNTING DIAGRAM
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Ceiling Mount



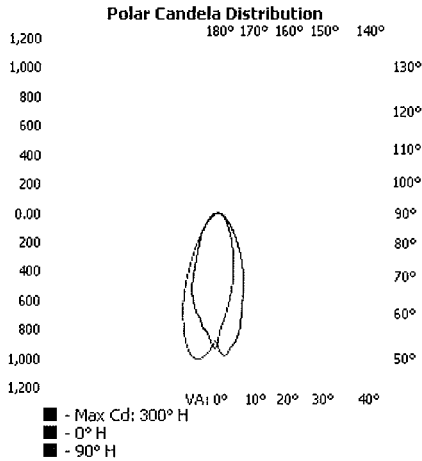
Wall Mount

**APPROVAL & LISTINGS**

<b>Safety Compliance</b>	cCSAus	<b>Safety Standards</b>	CSA C22.2 NO.141-15 CAN/CSA-C22.2 NO.250.13-17
<b>ccSAus File Number</b>	272501	<b>Approved Locations</b>	Damp Locations

**POLAR CANDELA DISTRIBUTION (FOR 2 LED HEADS)**

**ILLUMINANCE AT A DISTANCE (FOR 2 LED HEADS)**

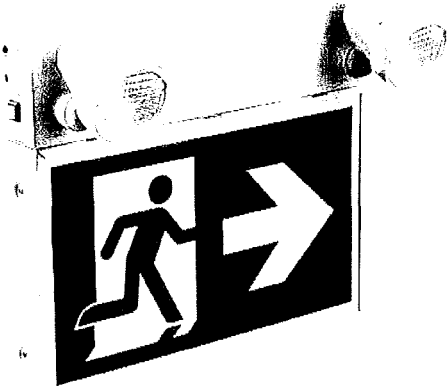


<u>6.6ft / 2M</u>	<u>21.09 fc / 227.06 LUX</u>
<u>9.8ft / 3M</u>	<u>9.38 fc / 100.92 LUX</u>
<u>13.1ft / 4M</u>	<u>5.27 fc / 56.77 LUX</u>
<u>16.4ft / 5M</u>	<u>3.38 fc / 36.33 LUX</u>
<u>19.7ft / 6M</u>	<u>2.34 fc / 25.23 LUX</u>

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 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)



# ES2-SERIES SELF-POWERED COMBINATION LED RUNNING MAN (STEEL HOUSING)



Project	
Date	
Prepared by	
Model #	ES2-RC1SC30B-3

## OVERVIEW

The ES2-RC1SC30B-3 Self-Powered Combination Running Man is constructed from a durable, steel housing. It comes standard with a mounting canopy, three pictograms, one backplate and all mounting hardware. An external LED status indicator and test switch is standard.

## PRODUCT HIGHLIGHTS

- Universal AC input voltage from 120-347VAC, with back-up battery
- 30W Battery Power, able to support 6W of remote LED heads for more than 120 min
- Constructed of durable 20 gauge steel
- 90° x 90° swivel LED emergency lighting heads
- Powered by bright LEDs, with each head delivering more than 3 foot candle at an 8 foot distance
- Running Man sign emits even light output with high uniformity
- 9.84 cd/m<sup>2</sup> high light output
- CSA listed for Canada & the US

### ELECTRICAL SPECIFICATIONS

Input Voltage	120-347 VAC 50/60Hz	Battery Type	Lead-Acid
System Power	6W	Battery Charge Time	24 hours
Indicator	Charge, Discharge, Test	Battery Discharge Time (CSA Req't: >2 hrs)	>2 hours
Battery Capacity	6V 5Ah (30W)		

### LIGHTING INFORMATION

Lamp Type	LED	LED Heads Lumen Output	2 x 130 lm (260 lm)
Lens Material	PVC	Running Man Sign Luminance	9.84 cd/m <sup>2</sup>
Lamp Power	2 x 2W (LED Heads) + 2W (Sign)	Illuminating Surface Uniformity	78%

### EXTERNAL & MECHANICAL SPECIFICATIONS

Housing Material	Powder Coated Steel	Material Grade	UL-94v0
Housing Color	White	Operation Temperature Range	5°C to 30°C / 40°F to 86°F
Dimension (inch/mm)	13.2" (W) x 12" (H) x 3.15" (D) 335mm (W) x 305mm (H) x 80mm (D)	Installation Method	Ceiling Mount, Wall Mount, Flag Mount
Weight	3.55 kg / 7.83 lbs	Warranty	5 years

## APPROVALS & LISTINGS

**Safety Compliance**

cCSAus

**Safety Standards**

CAN/CSA-C860-11  
 CSA C22.2 No. 141-15  
 CAN/CSA-C22.2 No. 250.13-14

**File Number**

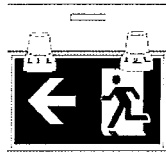
272501

**Approved Locations**

Damp Locations

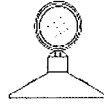
## RECOMMENDED CONFIGURATIONS

Configuration 1



ES2-BU2SC30B-3

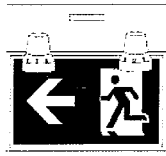
+



**X3**

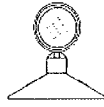
ES2-RH1PC2-6

Configuration 2



ES2-BU2SC30B-3

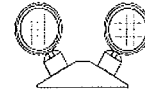
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**X1**

ES2-RH1PC2-6

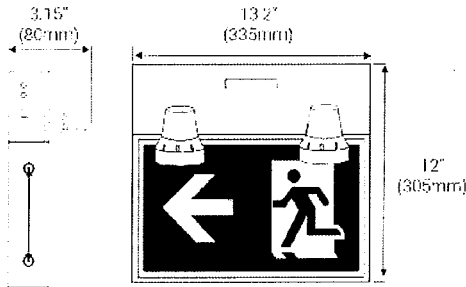
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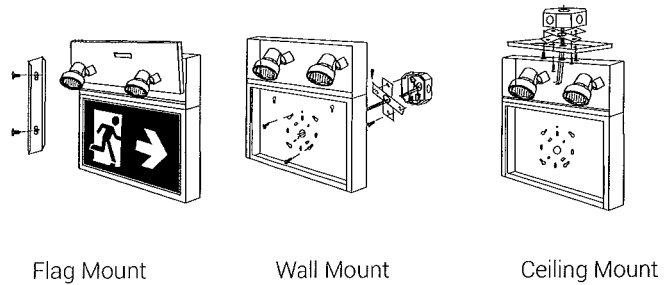
**X1**

ES2-RH1PC4-6

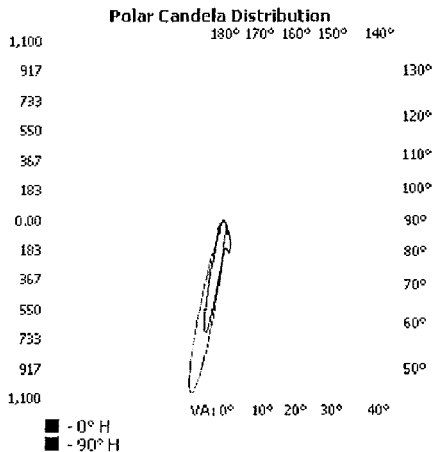
## PRODUCT DIMENSIONS



## MOUNTING DIAGRAM



## POLAR CANDELA DISTRIBUTION (FOR 1 LED HEAD)



## ILLUMINANCE AT A DISTANCE (FOR 1 LED HEAD)

6.6ft / 2M

5.0 fc / 54.0 LUX

9.8ft / 3M

2.2 fc / 24.0 LUX

13.1ft / 4M

1.3 fc / 13.5 LUX

16.4ft / 5M

0.8 fc / 8.6 LUX

19.7ft / 6M

0.6 fc / 6.0 LUX

1. Due to the special conditions of manufacturing, the typical data of optical specifications can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.  
 2. Exceeding maximum ratings for input voltage and current will cause hazardous overload and will likely destroy the LED fixture.  
 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)

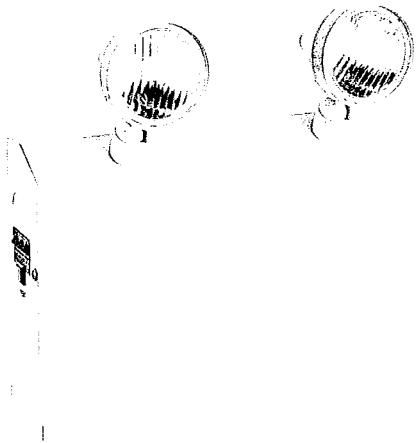
Specifications and dimensions  
 subject to change without notice.

3401 ENTERPRISE PARKWAY  
 BEACHWOOD, OH USA 44122

80-86 CARRIER DRIVE  
 TORONTO, ON CANADA M9W 5R1



# ES2-SERIES LED EMERGENCY LIGHTING UNIT



<b>Project</b>	
<b>Date</b>	
<b>Prepared by</b>	
<b>Model #</b>	<b>ES2-BU1SC72B-3</b>

## OVERVIEW

The ES2-Series LED Emergency Lighting Unit is designed to provide efficient and reliable emergency lighting. Utilizing a sturdy, all steel housing, the ES2-BU1SC72B-3 presents a modern and unobtrusive design.

## PRODUCT HIGHLIGHTS

- AC input voltage
- 72W Battery Power
- 90° x 90° swivel LED emergency lighting heads
- 2 x 2W LED heads with 260 lumens output

### ELECTRICAL SPECIFICATION

<b>Input Voltage</b>	100-347VAC 50/60Hz	<b>Battery Type</b>	Lead-Acid
<b>Output Voltage</b>	12VDC	<b>Battery Charge Time</b>	24 hours
<b>Indicator</b>	Charge, Discharge, Test	<b>Battery Discharge Time</b>	@72W >30 mins @24W >90 mins
<b>Battery Capacity</b>	72W (12V x 7Ah)		

### LIGHTING INFORMATION

<b>Lamp Type</b>	LED	<b>Lamp Power</b>	2 x 2W (4W)
<b>Lamp Input Voltage</b>	6-12VDC	<b>LED Heads Lumen Output</b>	260 lm

### CONSTRUCTION

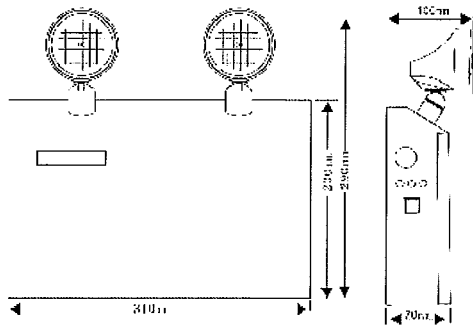
<b>Housing Material</b>	Powder Coated Steel Body Flame Retardant ABS Remote Head	<b>Material Grade</b>	UL 94V0
<b>Housing Color</b>	White	<b>Operation Range</b>	32°F to 104°F/0°C to 40°C
<b>Dimension (inch/mm)</b>	12.2" (W) x 7.87" (H) x 2.75" (D) 310mm (W) x 200mm (H) x 70mm (D)	<b>Installation Method</b>	Wall Mount
<b>Weight</b>	2.9kg/6.4lbs	<b>Warranty</b>	5 years

### APPROVALS & LISTINGS

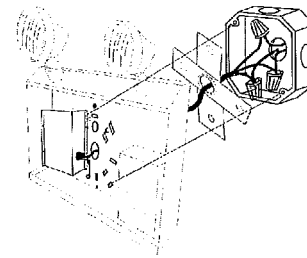
<b>Safety Compliance</b>	cCSAus	<b>Safety Standards</b>	CSA C22.2 NO.141-15 CAN/CSA-C22.2 NO.250.13-17
<b>File Number</b>	272501	<b>Approved Locations</b>	Damp Locations



**PRODUCT DIMENSIONS**



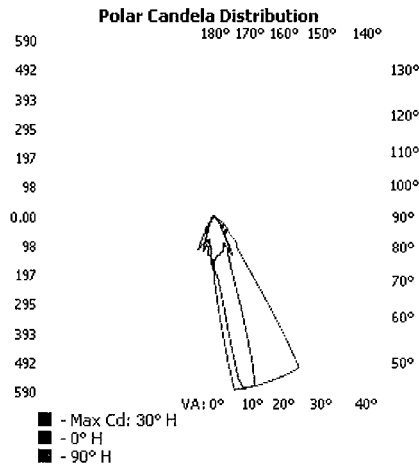
**MOUNTING DIAGRAM**



Wall Mount

**POLAR CANDELA DISTRIBUTION (FOR 1 LED HEAD)**

**ILLUMINANCE AT A DISTANCE (FOR 1 LED HEAD)**



6.6ft / 2M	3.86 fc / 41.60 LUX
9.8ft / 3M	1.72 fc / 18.49 LUX
13.1ft / 4M	0.97 fc / 10.40 LUX
16.4ft / 5M	.62 fc / 6.66 LUX
19.7ft / 6M	.43 fc / 4.62 LUX

**RECOMMENDED CONFIGURATIONS**

Up to 68W additional load with any combination of:

- ES2-RH1PC2-6 (2W)
- ES2-RH1PC4-6 (4W)
- ES2-RH1PC7-6 (7W)
- ES2-RH1PC14-6 (14W)

1. Due to the special conditions of manufacturing, the typical data of optical specifications can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.  
 2. Exceeding maximum ratings for input voltage and current will cause hazardous overload and will likely destroy the LED fixture.  
 3. Refer to Warranty Terms & Conditions available at [premiseled.com/warranty](http://premiseled.com/warranty)

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Project:
Type:
Date:
Product Code:
Approval:



**BLVN**

Superior-grade, narrow body suspended-mount vapour proof LED fixture. Fixture is ideal for indoor or outdoor use where there is a high probability of exposure to dust, water or vapour. Its unique, IP67 certified body makes it ideal in environments where vapourproof efficiency and performance are a factor.

**FEATURES**

- Fibreglass body with neoprene gasket ensures a dust and water resistant seal
- 3000K, 3500K, 4000K and 5000K available
- L70 of 160,000 hours
- Diffuser provides a uniform lighting surface with both polycarbonate and acrylic options
- 0-10V Dimming Standard

**OPTIONS**

- Lumen packages are available from 2500L to 7500L
- NEDAP wireless controls
- 10 watt Philips Bodine Battery Backup
- Pendant Mount
- 90 CRI
- IP66 rated motion sensor

**APPLICATIONS**

- Food processing plants
- Manufacturing
- Storage areas
- Underground parking facilities
- Warehouse facilities

**OPTICS**

High-efficiency diffuser maximizes light distribution while providing full diffusion of LED point sources.

**ELECTRICAL**

All components have met all regulatory approvals. Fixture is available in 120 - 277V and 347V.

**MOUNTING**

Can be suspended, surface or pendant mounted.

**CONSTRUCTION**

Fibreglass enclosure with neoprene gasket ensures a dust and water proof seal. Frosted acrylic lens for even light distribution. End plugs allow for continuous row mounting.

**APPROVALS**

- ETL Listed
- IP65, IP66 and IP67 Rated
- NEMA 4x Rated
- NSF Rated

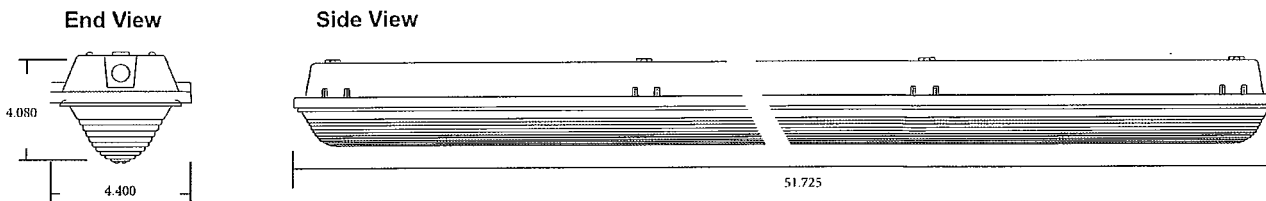
**OPERATING TEMPERATURE**

- -29°C to 35°C

**WARRANTY**

- Standard 5 year system, and 10 year LED warranty

**PRODUCT DIMENSIONS**





**PRODUCT KEY**

Fixture Type	Fixture Efficiency	Fixture Size	Lumen Output	CRI & Colour Temp	Driver Voltage	Options
BLVN		4'				
	S-Standard		1.5	830	UNV	<b>Lenses</b> L16 - Ribbed Frosted Acrylic Lens L17 - Ribbed Clear Acrylic Lens L26 - Ribbed Clear Polycarbonate Lens L64 - Ribbed Frosted Polycarbonate Lens
	H-High		2.5	835	347	<b>Wireless Controls</b> WC1 - Nedap wireless controls
			3.5	840		<b>Motion Sensor</b> W12 - Standard Motion Sensor W26 - Motion Sensor with Photocell W30 - IP Rated Motion Sensor
			4.5	850		<b>Mounting</b> Blank - Standard Mounting Brackets (2pk) M3 - Aircraft Cable "Y-Toggle", 5 FT M23 - Aircraft Cable "Y-Toggle", 10 FT M33 - Dual Pendant Mounting M34 - 45° Mounting Brackets
			5.5	930		<b>Fastener Options</b> Blank - Standard White Nylon Clips H4 - Stainless Steel Latch
			6.5	935		<b>Cords</b> W1xx - 16/4 White Cord, Specify Length W2xx - 16/4 Black Cord, Specify Length W3xx - 16/3 White Cord, Specify Length W4xx - 16/3 Black Cord, Specify Length W5xx - Power Cord 16/3, Specify Length and NEMA Code
			7.5	940		<b>Battery Backup</b> B17 - BSL10LST Bodine Battery Backup *consult factory for details
				950		

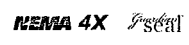
**WATTAGE CHARTS**

Standard Efficiency				
	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
4'	2.5	2,482	19.64	126.37
	3.5	3,237	26.08	124.12
	4.5	4,430	36.37	121.80
	5.5	5,328	43.17	123.42
	6.5	6,181	49.96	123.72
	7.5	7,192	56.76	126.71

High Efficiency				
	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
4'	2.5	2509	17.71	141.67
	3.5	3410	24.20	140.91
	4.5	4301	30.69	140.14
	5.5	5212	36.73	141.90
	6.5	6184	42.77	144.59
	7.5	7101	48.81	145.48

\*Based on UNV voltage

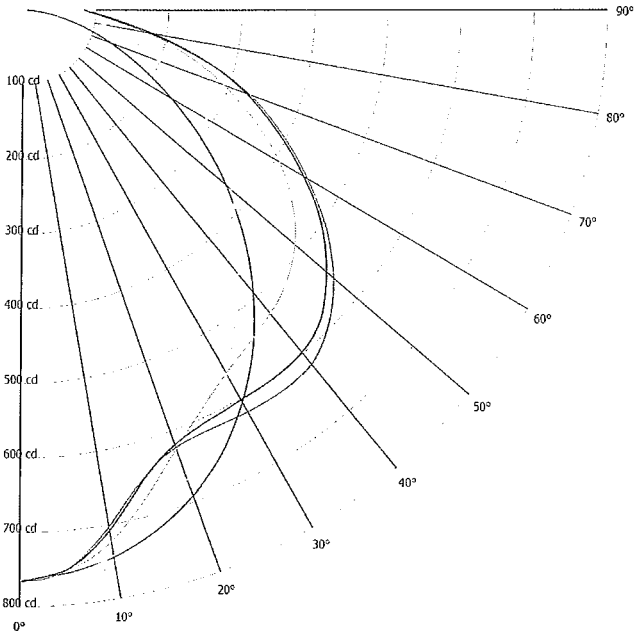
\*Based on 4000K



**PHOTOMETRIC DATA**

**BLVN-H-4'-2.5L-830-UNV-L16**

Candela Polar Plot

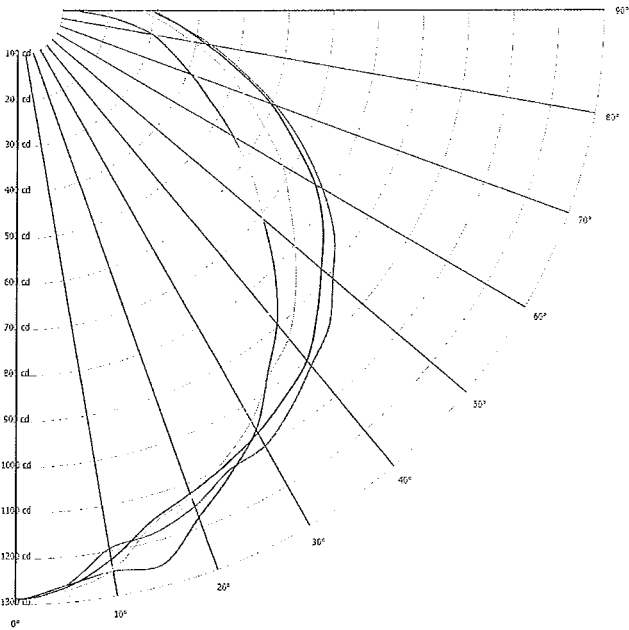


Cone of Light

Mtg Height	Light Level	Beam Diameter
6 ft	21 fc	20 ft
8 ft	12 fc	27 ft
10 ft	8 fc	33 ft
12 ft	5 fc	40 ft
15 ft	3 fc	50 ft

**BLVN-H-4'-4.5L-840-UNV-L16**

Candela Polar Plot



Cone of Light

Mtg Height	Light Level	Beam Diameter
6 ft	36 fc	23 ft
8 ft	20 fc	31 ft
10 ft	13 fc	39 ft
12 ft	9 fc	46 ft
15 ft	6 fc	58 ft



Project:
Type:
Date:
Product Code:
Approval:

**BLSP**

The BLSP is an LED linear strip fixture designed for surface and suspended mounting. It is well suited for indoor use where high efficiency, row-mountable task lighting is required. Its narrow strip design and modern profile make it an ideal fixture for task lighting applications.

**FEATURES**

- Full range of voltage options from 120-277V and 347V
- Narrow strip design allows for a sleek and modern look
- Specially designed extruded lens
- L70 of 160,000 hours
- Up to 160 lm/w

**OPTIONS**

- 2', 4' and 8' lengths available
- 0 - 10V dimming standard
- Lumen packages available from 1,750L to 19,000L
- Row-mounting available  
Available in 3000K, 3500K, 4000K, and 5000K
- 90 CRI available

**APPLICATIONS**

- Display Cabinets
- Manufacturing
- Task Lighting
- Retail Stores

**OPTICS**

High-efficiency diffuser maximizes light distribution while providing diffusion of LED point sources and reducing glare

**ELECTRICAL**

All components are UL recognized

**MOUNTING**

Holes provided for surface and suspended mounting, as well as knock outs for row-mounting

**CONSTRUCTION**

- Pre-painted white steel fixture components are precision bent for added strength and rigidity
- Spot welded steel end caps for added rigidity
- Access panel provided for easy wiring
- Shallow fixture design for ease of installation and a clean, professional look

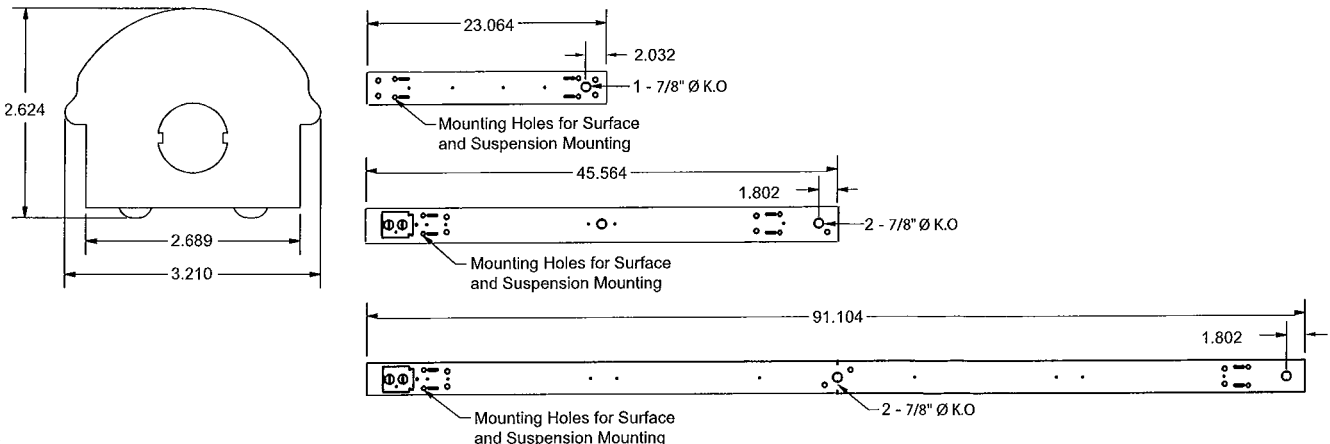
**APPROVALS**

- Dry and Damp Environment Rated
- ETL Listed

**OPERATING TEMPERATURE**

- -20°C to 35°C

**PRODUCT DIMENSIONS**



\*SPECIFICATIONS MAY CHANGE WITHOUT NOTICE





**PRODUCT KEY**

Fixture Type	Efficacy	Fixture Size	Lumen Output	CRI & Colour	Driver Voltage	Options
<b>BLSP</b>						
	S-Standard		1.75	830	UNV	<b>Lenses</b>
	H-High	2'	2.25	835	347	L18 - Frosted Lens
			2.75	840		<b>Wire Guard</b>
			2.5	850		G1 - Curved White Wire Guard
			3.5	930		<b>Wireless Controls</b>
			4.5	935		WC1 - Wireless NEDAP Node
		4'	5.5	940		<b>Mounting</b>
			6.5	950		M1 - V-Hangers
			7.5			M3 - Aircraft Cable "Y-Toggle", 5 FT
			8.5			M7 - Row Mounting, End of Row
			9.5			M8 - Row Mounting, Middle of Row
			5			M23 - Aircraft Cable "Y-Toggle", 10 FT
			7			M24 - Single 3/4" Pendant Mount
			9			<b>Cords</b>
			11			W3xx - 16/3 White Cord, Specify Length
			13			W4xx - 16/3 Black Cord, Specify Length
		8'	15			W8xx - Power Cord 16/3, Specify Length and 15 amp Plug
			17			<b>Motion Sensor</b>
			19			W53 - Snap in Motion Sensor
						*Consult BJ Take for more motion sensor options and fixture options
						<b>Temperature</b>
						T0 - -40°C LED Driver
						<b>Colour</b>
						C5 - Black

**WATTAGE CHARTS**

	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt		Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt		Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
2'	2.25	2,187	16.43	133.1	4'	2.5	2,583	17.9	144.7	8'	5.0	5,212	33.13	157.3
	2.75	2,672	19.24	138.9		3.5	3,555	24.5	145.3		7.0	7,313	46.45	157.4
						4.5	4,544	31.1	146.0		9.0	8,694	60.08	144.7
				5.5		5,554	37.8	146.9	11.0		10,626	73.34	144.9	
				6.5		6,563	44.5	147.5	13.0		12,558	86.61	145.0	
				7.5		7,245	50.7	142.8	15.0		14,490	101.44	142.8	
				8.5		8,211	57.0	144.2	17.0		16,421	113.92	144.1	
				9.5		9,176	63.2	145.2	19.0		18,353	126.40	145.2	

	Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt		Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt		Lumen Output	Actual Lumen Output	Fixture Wattage	Lumens per Watt
2'	1.75	1,786	15.03	118.8	4'	2.5	2,473	19.8	125.0	8'	5.0	5,062	37.25	135.9
	2.25	2,213	18.03	122.7		3.5	3,471	27.9	124.4		7.0	7,087	53.99	131.3
	2.75	2,721	21.03	129.4		4.5	4,431	36.3	122.2		9.0	9,111	68.32	133.4
				5.5		5,245	41.9	125.2	11.0		11,136	83.30	133.7	
				6.5		6,092	47.5	128.2	13.0		13,161	98.29	133.9	
				7.5		7,181	55.8	128.8	15.0		15,186	113.27	134.1	
				8.5		8,259	64.1	128.8	17.0		17,211	128.26	134.2	
				9.5		9,337	72.5	128.8	19.0		19,235	145.00	132.7	

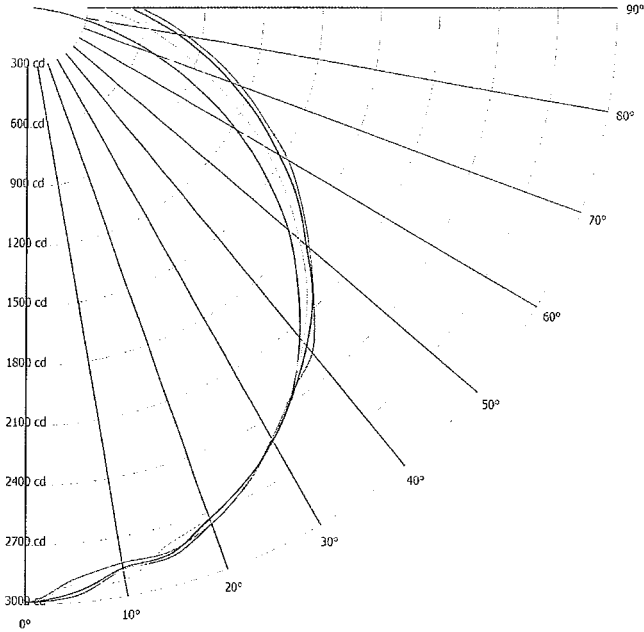
- Based on UNV voltage
- Based on 4000K
- Based on 80 CRI

\*please refer to the DLC QPL to confirm model listing

**PHOTOMETRIC DATA**

**BLSP-H-4'-9.5L-840-UNV**

Candela Polar Plot



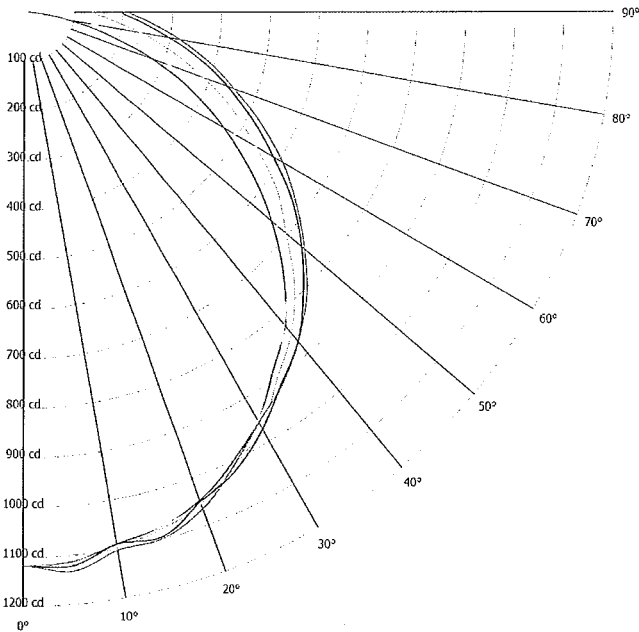
**BLSP-H-4'-9.5L-840-UNV**

Cone of Light

Mtg Height	Light Level	Beam Diameter
6 ft	83 fc	19 ft
8 ft	47 fc	26 ft
10 ft	30 fc	32 ft
12 ft	21 fc	39 ft
15 ft	13 fc	48 ft

**BLSP-H-4'-3.5L-840-UNV**

Candela Polar Plot



**BLSP-H-4'-3.5L-840-UNV**

Cone of Light

Mtg Height	Light Level	Beam Diameter
6 ft	31 fc	20 ft
8 ft	17 fc	27 ft
10 ft	11 fc	33 ft
12 ft	8 fc	40 ft
15 ft	5 fc	50 ft

