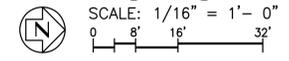


Exterior Site Lighting Calculation Plan



Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc. Zone #1	+	0.4 fc	3.7 fc	0.0 fc	N/A	N/A

GENERAL NOTES:

- REFER TO SHEET ELC.2 FOR FIXTURE SPECIFICATION SHEETS.
- ALL LIGHTING WILL BE CONTROLLED BY PHOTOCELL FOR (DUSK/DAWN) OPERATION FOR SECURITY PURPOSES.
- LIGHTING CALCULATIONS WERE COMPLETED UTILIZING VISUAL LIGHTING PROGRAM WITH ASSOCIATED, FIXTURE MANUFACTURER'S, PUBLISHED IES FILES.
- ALL CALCULATIONS WERE DONE BY THE ENGINEER OF RECORD.

MOUNTING HEIGHTS

- Elev. 113'-0" = MOUNTING HEIGHT OF 13' ABOVE GRADE.
- Elev. 115'-0" = MOUNTING HEIGHT OF 15' ABOVE GRADE.

**JOHN DAVIS
DESIGN GROUP**

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**DO NOT SCALE
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Exterior Site Lighting Calculation Plan

**NEW METAL BUILDINGS FOR:
KENSHIN MARTIAL ARTS
COMPLEX**
CHICAGO AVENUE AND OLD MERIDIAN ROAD
FALCON, COLORADO 80813

INDEX TO EXTERIOR LIGHTING CALCULATION DRAWINGS

- ELC.1 EXTERIOR SITE LIGHTING POINT BY POINT CALCULATION AND STATISTICS
- ELC.2 LIGHTING FIXTURE SPECIFICATION SHEETS

PROJECT NO.	202130
DATE	22 October 2021
DRAWN BY	mks
CHECKED	lmak
APPROVED	mks

REVISED

Resubmitted (02-23-23)



SHEET

ELC.1

PCD FILE # PPR-21-067

DATE: 10-22-21 LOCATION: Falcon Colorado
 TYPE: BB PROJECT: Kenshin Martial Arts Complex
 CATALOG #: RWL1 4BL 4K7 4W UNV

RATIO Wall

RWL1/RWL2 LED WALLPACK

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, Wiscapex and 7-pin with networked controls
- Battery backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada
- Stock versions available in 3500lm and 5500lm configurations at 4000K



CONTROL TECHNOLOGY



SPECIFICATIONS

- CONSTRUCTION**
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
 - Corrosion resistant, die-cast aluminum housing with powder coat paint finish
 - Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.
- OPTICS**
- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
 - 48 or 160 midpower LEDs
 - 3000K, 4000K or 5000K (70 CRI/80 CRI) CCT
 - Zero uplight distributions
 - LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations.

- INSTALLATION**
- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
 - Designed for direct J-box mount.
 - Integral back box contains 1/2" conduit hubs
 - Integral back box standard with Dual Driver, Dual Power Feed, NX, Wiscapex and battery versions (battery versions for RWL1 only)
- ELECTRICAL**
- 120V 277V universal voltage 50/60Hz 0-10V dimming drivers
 - 347V and 480V dimmable driver option for all wattages above 35W.

ELECTRICAL (CONTINUED)

- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90 power factor and less than 20% Total Harmonic Distortion
- Driver RoHS and IP65
- Field replaceable surge protection device provides 20KA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3. Automatically takes fixture off-line for protection when device is compromised
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- NX Distributed Intelligence™ available with future wireless control module, features dimming and occupancy sensor
- WISCAPEx™ available with in future wireless control module, features dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -25°C to 40°C

CONTROLS (CONTINUED)

- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance
 - Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- CERTIFICATIONS**
- Listed to UL E98 and CSA C22.2 #250.0.24 for wet locations
 - IP65 rated housing
 - This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions
- WARRANTY**
- 5 year limited warranty
 - See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1,000-19,500
Wattage Range	10-155
Efficacy Range (LPW)	118-148
Fixture Projected Life (Hours)	1,700-60K
Weights lbs. (kg)	6.5/16.5 (2.9/7.5)



RELATED PRODUCTS
 Ratio Family Ratio Area Ratio Flood

DATE: 10-22-21 LOCATION: Falcon Colorado
 TYPE: BB PROJECT: Kenshin Martial Arts Complex
 CATALOG #: RWL1 4BL 4K7 4W UNV

RATIO WALL

RWL1/RWL2 LED WALLPACK

ORDERING GUIDE

CATALOG #

Example: RWL1-18L-10-3K7-2-UNV-BL5-E

ORDERING INFORMATION

Series	F LEDs - Wattage	CCT/CRI	Distribution	Voltage	Color
RWL1 Ratio Wall 1	48L-10 1,000 Lumens* 48L-15 2,900 Lumens* 48L-20 2,500 Lumens* 48L-25 3,500 Lumens* 48L-35 4,500 Lumens 48L-45 7,500 Lumens* 160L-45 15,000 Lumens 160L-60 2,500 Lumens 160L-65 9,500 Lumens 160L-80 11,000 Lumens 160L-85 19,000 Lumens 160L-115 12,500 Lumens 160L-155 19,000 Lumens	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	2 IES TYPE II 3 IES TYPE III 4W 160 TYPE IV	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V	BLT Black Matte Textured BL5 Black Gloss Smooth DBT Dark Bronze Matte Textured DB5 Dark Bronze Gloss Smooth GTT Graphite Matte Textured LCS Light Gray Glass Smooth with Light Gray Matte Textured LGT Light Gray Glass Smooth PSS Platinum Silver Stainless WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color

Control Options Network	Options
NXWIE NX Wireless (radio) + radio**	# Housing (must specify voltage)
NXSPW_F NX Wireless, PIR Occ. Sensor, Daylight Harvesting**	E Emergency Battery Backup**
NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting**	EH Emergency Battery w/ Heater Control**
WSP Wireless Control, WISCAPEx**	2DR Dual Driver**
Starz Alone Sensors	2PF Dual Power Feed**
SCP-8P Remote control programmable line voltage sensor**	PC Button Photocontrol**
SCP-20P Remote control programmable line voltage sensor**	
Control Options	
7PRL 7-pin photocontrol**	

- Notes:
- 1 Only available with RWL2
 - 2 WISCAPEx (battery required for system programming)
 - 3 208V-240V installation # required
 - 4 Not available with 480V
 - 5 Product "L" with "H" for up to mounting height, "M" for up to 40" mounting height
 - 6 The beam is listed in the integral backbox which will be automatically added onto the back of fixture
 - 7 The beam is listed in the integral backbox for RWL2 configurations only
 - 8 Option only available at 120-277V
 - 9 Only available with RWL1

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Finish
RWL14BL-25-4K-3	3500lm	25	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL14BL-25-4K-4W	3500lm	25	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured
RWL14BL-45-4K-3	8500lm	45	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL14BL-45-4K-4W	8500lm	45	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured

CONTROLS

Control Options	Standards
SCREMOTE	Order at least one per project location to program and control

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

Catalog Number	Description
WP-BB-XXX	Accessory for conduit only*

* replace "xxx" with color option

DATE: 10-22-21 LOCATION: Falcon, Colorado
 TYPE: AA PROJECT: Kenshin Martial Arts Complex
 CATALOG #: PRL-C-LS-4K (18W) (2537 Lumen)

PRELUDE

PRL SERIES - WALLPACK

FEATURES

- Cut off and Reflector Form Wall Pack
- Low profile LED wall luminaire for lighting applications such as retail, commercial and industrial building mount
- Field Selectable Wattages from 18 to 60 Watts
- Lumen Range from 2500-8500 lumens
- Type III Distribution for Full Cut Off configuration, (PRL-C) for applications requiring no up-light
- Type IV Distribution for Reflector Form configuration, (PRL-R) provides a further throw and higher angle light
- Wall Mounted Stylish Fixture contemporary architectural form provides an updated appearance compared to traditional HID wall packs
- Standard back profile makes the prelude perfect for retrofitting old HID glass reflector wall packs.



SPECIFICATIONS

CONSTRUCTION

- Two Styles available - Cut Off and Reflector
- Die-cast aluminum housing
- Strong UV Stabilized Polycarbonate Lens Suitable for Outdoor Use
- Dark bronze texture powder coat paint finish provides durable and lasting appearance

OPTICS

- 4000K CCT/70 CRI
- 2500 to 8500 Lumens
- Efficacy up to 144 LPW

ELECTRICAL

- 0-10 Volt Dimming Driver
- Universal voltage driver is 120-277 Volt
- Ambient Operating Temperature -40°C to 40°C
- Wattage (lumens) switchable
- 4 KV Surge

INSTALLATION

- Mounts to standard round 3/4" junction box and can be mounted direct to wall
- Wattage (lumens) easily field adjustable by opening cover with two screws

CERTIFICATIONS

- Listed to UL E98 for use in wet locations
- IP65
- FCC Title 47 Part 15
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- DLC Premium

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	2500-8500
Wattage Range	18-60
Efficacy Range (LPW)	139-144
Fixture Projected Life (Hours)	>60K
Weights lbs. (kg)	5.29 (2.4)



RELATED PRODUCTS
 RWL1 Ratio Wall WGH Switchable PRS

ORDERING GUIDE

STOCK ORDERING INFORMATION

Catalog Number	Mounting	CRI	CCT	Lumens	Distribution	Wattage	Voltage	LPW	Weight	Finish
PRL-R-LS-4K	Wall	70	4000K	2537-8500	Type IV	18-60 Watts	120-277V	142-144	5.29 lbs	Bronze
PRL-C-LS-4K	Wall	70	4000K	2537-8460	Type III	18-60 Watts	120-277V	139-141	5.29 lbs	Bronze

LED wall luminaire - shielded with forward throw

BEGA

Application

This wall mounted LED luminaire features a forward throw light distribution and is designed for the general illumination of pathways and walkways from various mounting heights. Downlight applications only.

Materials

Luminaire housing constructed of die-cast marine grade, copper free (c.0.3% copper content) A360 0 aluminum alloy
 Clear safety glass with optical texture
 High temperature silicone gasket
 Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
 Protection class IP 64
 Weight: 2.7 lbs

Electrical

Operating voltage 120-277V AC
 Minimum start temperature -20°C
 LED module wattage 7.5W
 System wattage 11W
 Controllability 0-10V dimmable
 Color rendering index Ra > 80
 Luminaire lumens 775 lumens (3000K)
 Lifetime at Ta = 15°C >600,000 h (L70)
 Lifetime at Ta = 25°C 393,000 h (L70)

LED color temperature

- 4000K - Product number + K4
- 3500K - Product number + K35
- 3000K - Product number + K3
- 2700K - Product number + K27

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish

All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors □ Black (BLK) □ White (WHT) □ RAL:
 □ Bronze (BRZ) □ Silver (SLV) □ OUS:

Type: CC

BEGA Product: 33815

Project: Kenshin Martial Arts Complex - Falcon, Colorado

Modified: No Modifications



LED wall luminaire - shielded with forward throw

LED	A	B	C
33815	7.5W	4%	7% 4%

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805)684-0533 info@bega-us.com

Draw the diagram, name of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com © copyright BEGA 2018 Updated 09/19/18

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Exterior Fixture Specification Sheets
NEW METAL BUILDINGS FOR: KENSHIN MARTIAL ARTS COMPLEX
 CHICAGO AVENUE AND OLD MERIDIAN ROAD
 FALCON, COLORADO 80813

PROJECT NO.	202130
DATE	22 October 2021
DRAWN BY	msk
CHECKED	Imak
APPROVED	msk
REVISED	



SHEET

ELC.2