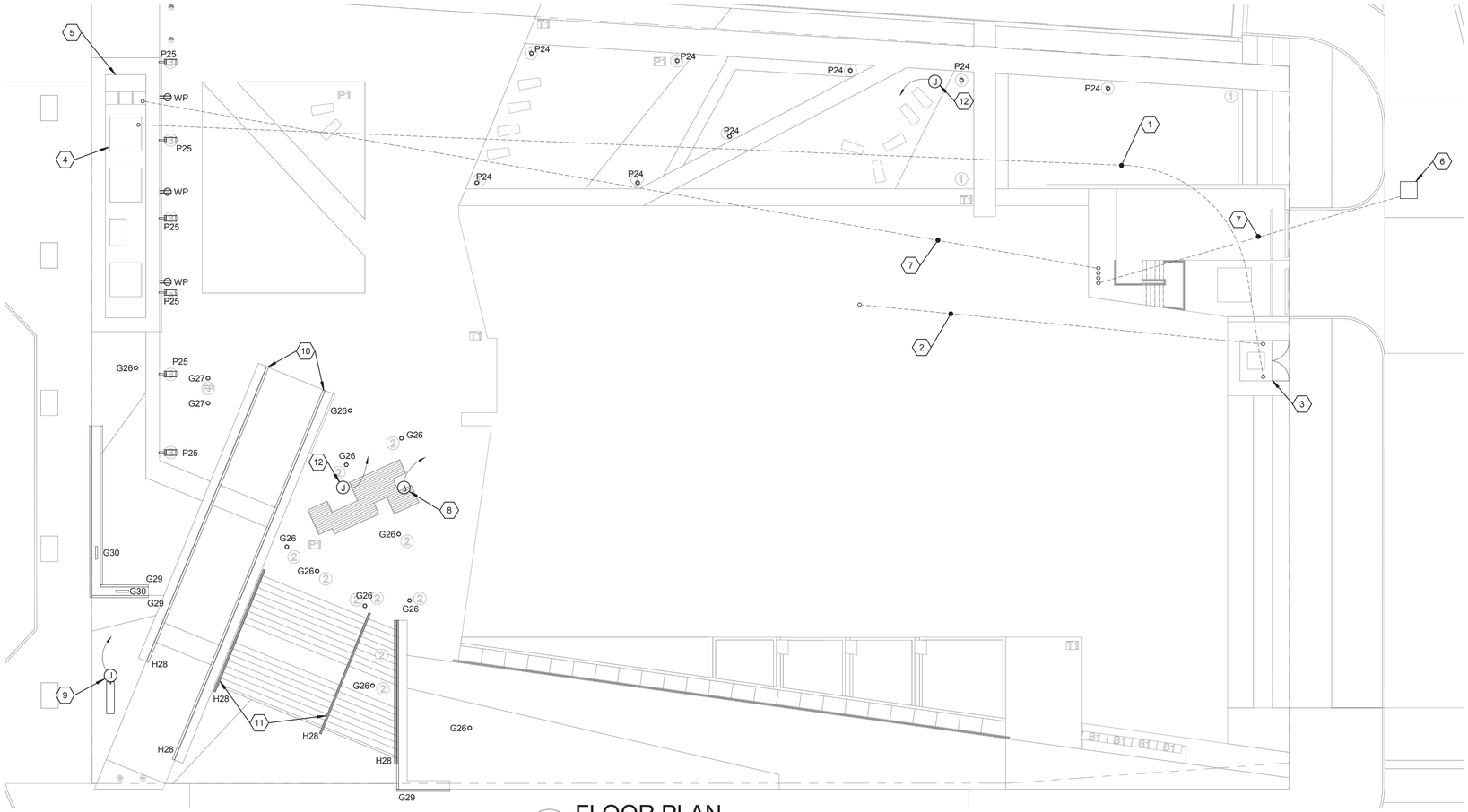


A FLOOR PLAN

ELECTRICAL SITE PLAN

SCALE: 1/16" = 1'-0"

0' 1' 2' 4' 8'

LUMINAIRE (LIGHTING) FIXTURE SCHEDULE

NOTES: FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS: C-CEILING MOUNTED; S-SUSPENDED; W-WALL MOUNTED; R-CEILING RECESSED; WR-WALL RECESSED; CV-COVE MOUNTED; U-UNDERCABINET; P-POST; G-GROUND MOUNTED; X-UNIVERSAL MOUNTED; T-TRACK. PARTIAL MODEL NUMBERS MAY BE SHOWN AND ARE INTENDED TO INDICATE ACCEPTABLE MANUFACTURER'S PRODUCT LINE. EXACT MODEL NUMBERS MEETING THE FIXTURE DESCRIPTION SHALL BE OBTAINED FROM MANUFACTURER'S AGENTS. ALL FIXTURES MAY NOT BE USED - REFER TO PLANS. DIMENSIONS MAY VARY. REFER TO SPECIFICATIONS SECTIONS 26 51 13 FOR ADDITIONAL REQUIREMENTS SUCH AS FUSING, DIMMING BALLAST AND MULTI-LEVEL SWITCHING REQUIREMENTS, ETC. REFER TO DRAWINGS FOR FIXTURES CIRCUITED TO DIMMERS (PROVIDE WITH DIMMING BALLASTS) AND SHOWN TO BE PROVIDED WITH MULTI-LEVEL CONTROL (PROVIDE WITH DUAL BALLASTS).

FIXTURE NUMBER	FIXTURE DESCRIPTION	FIXTURE VOLTAGE	LAMP TYPE	APPROVED MANUFACTURERS
W21	16" W x 7" H x 9" D, WALL PACK. TYPE 2 DISTRIBUTION W/ FULL CUT-OFF. DIE-CAST ALUMINUM HOUSING W/ SUPER DURABLE, THERMOSET POWDER COAT FINISH, ACRYLIC LENS, AND FULLY GASKETED, DIE-CAST DOOR FRAME. PROVIDE W/ INTEGRAL PHOTO SENSOR. UL WET LOCATION LISTED. FINISH BY ARCHITECT. PROVIDE W/ REMOTE BATTERY FOR 90+ MINUTE OPERATION LOCATED ABOVE NEARBY ACCESSIBLE CEILING.	120/277	LED 4000 LUMEN 4000K 70+ CRI 116 LPW	COOPER MCGRAW IST LED SERIES LITHONIA WST LED SERIES PHILIPS 101L LED SERIES SPAULDING TRP SERIES
P24	10' TALL LIGHT COLUMN FIXTURE. 8' TALL POLE W/ 26.5" TALL LENS/LIGHT COMPONENT. 6" DIAMETER COLUMN. BLACK POWDER COAT FINISH. TYPE 5 DISTRIBUTION.	UNV	LED 4000K 80+ CRI	LIGMAN LTG ARIZONA 1 SERIES
P25	15' TALL POLE W/ 3 AIMABLE HEADS 24 DEGREE DISTRIBUTION FOR EACH HEAD.	UNV	LED 4000K 1000 LM/HEAD 70+ CRI	SANTA & COLE LTG ARNE SERIES HEADS ON POLE BY VALMONT KEEN POLE SERIES HEADS ON POLE BY VALMONT LIGMAN LTG MIC 3 CLUSTER SERIES
G26	IN GROUND TREE UPLIGHT. 7-15/16" DIAMETER X 8 1/4" DEEP SLIP RESISTANT LENS IP67 AIMABLE	UNV	LED 4000K 1000 LUMENS 70+ CRI	KIM LTG LTV83SS SERIES
G27	IN GROUND FLAG UPLIGHT 13" DIAMETER X 10" DEEP SLIP RESISTANT LENS IP67 AIMABLE W/ SPOT DISTRIBUTION	UNV	LED 4000K 3041 LUMENS 70+ CRI	KIM LTG LTV81SS SERIES
H28	CUSTOM GROUND-MOUNTED ILLUMINATED HANDRAIL. COORDINATE DIMENSIONS WITH ARCHITECT.	UNV	LED 4000K 80+ CRI	COLE LIGHTING LIGHTRAIL SERIES
G29	IN-GROUND LINEAR WALL-WASH/ GRAZE FIXTURE. PROVIDE CONTINUOUS SHAPE AS SHOWN ON PLANS. DISTRIBUTION TO BE AIMED TOWARD WALL.	UNV	LED 4000K 80+ CRI	LUMENPULSE LUMENFACADE SERIES
G30	3' LONG IN-GROUND LINEAR TO BE RECESSED INTO BOTTOM OF ARCHWAY FOR INDIRECT AIMING WITH 10 DEGREE DISTRIBUTION.	UNV	LED 4000K 80+ CRI	LUMENPULSE LUMENFACADE SERIES
R31	2" WIDE RECESSED LINEAR. PROVIDE CONTINUOUS SHAPE AND EXACT LENGTH AS SHOWN ON DRAWINGS, INCLUDING ILLUMINATED CORNERS AND ALL ACCESSORIES NEEDED FOR MOUNTING. DAMP LOCATION LISTED. EXTRUDED ALUMINUM HOUSING FOR TIGHT LENS.	UNV	LED 4000K 400 LM/FT 80+ CRI	ALIGHT ACL5 SERIES BIRCHWOOD LTG JAKE SERIES

NOT FOR CONSTRUCTION

- ○ CONCEPTUAL DESIGN
- ○ SCHEMATICS
- ● DESIGN DEVELOPMENT
- ○ WORKING DRAWINGS FOR REVIEW

KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215
DRAWN BY: Garrett W. Strauss
DESIGNED BY: Prairie S. Gallina
CHECKED BY: Checker
PROJECT NUMBER: 2014-0203

nbbj
250 S. SOUTH HIGH STREET,
SUITE 300 COLUMBUS, OH 43215
PHONE 614 224 7145
FAX 614 224 0218

Turner
CONSTRUCTION MANAGER:
262 HANOVER ST.
COLUMBUS, OH 43215

KORDA
MECHANICAL, ELECTRICAL & STRUCTURAL ENGINEER:
1650 WATERMARK DR.
COLUMBUS, OH 43215

EMH&T
CIVIL ENGINEER:
EMH&T
5500 NEW ALBANY RD W,
NEW ALBANY, OH 43054

Dynamix
PLUMBING & FIRE PROTECTION:
DYNAMIX ENGINEERING LTD.
855 GRANDVIEW AVE.
3RD FL COLUMBUS, OH
43215

SITE PLAN REVIEW

CML - Dublin
75 N HIGH STREET
DUBLIN, OH 43017

8/15/2017

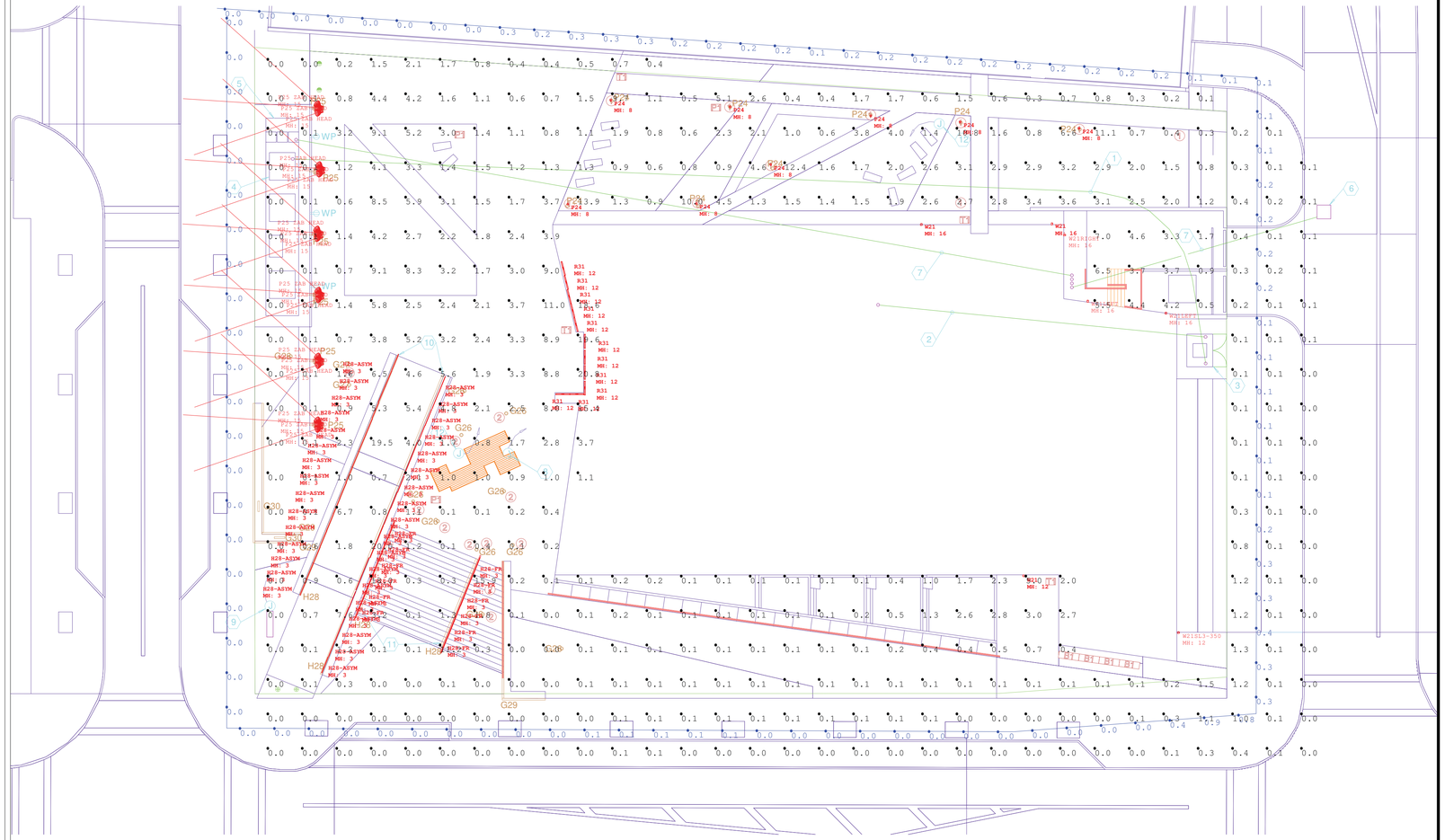
MARK	DATE	DESCRIPTION

DRAWN BY: Garrett W. Strauss
PROJ. ARCH.: Prairie S. Gallina
PROJ. NO.: 101253.0
DATE: 08/15/17

DWG.
ELECTRICAL SITE PLAN

DWG.
E002

8/15/2017 1:29:49 PM
C:\Users\gstrauss\Desktop\REVIT CENTRAL FILES\gws16-140203-CML Dublin ELEC.rvt



LIGMAN LIGHTING USA

EATON Powering Business Worldwide

BIRCHWOOD lighting

COLE Lighting

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	Lum. Lumens
	33	H28-ASYM	SINGLE	0.900	COLE #LR6-GPI-LED-CLR-ASYM-48	9.28	321
	12	H28-FR	SINGLE	0.900	COLE #LR6-GPI-LED-FROSTED-48	9.28	456
	3	W21	SINGLE	0.900	MCGRAW #IST-AF-600-LED-E1-SL2	33.7	3953
	8	P24	SINGLE	0.900	LIGMAN #AR-21012-W40	28.2	1827
	11	R31	SINGLE	0.900	BIRCHWOOD #JAK-LED-225-TR-HLO-4	36	2238
	18	P25 ZAB HEAD	SINGLE	0.900	LIGMAN #ZA-50011-M-W40	39.3	3681
	2	W21LEFT	SINGLE	0.900	MCGRAW #IST-AF-600-LED-E1-SLL	33.7	3529
	1	W21RIGHT	SINGLE	0.900	MCGRAW #IST-AF-600-LED-E1-SLR	33.7	3529
	1	W21SL3-350	SINGLE	0.900	MCGRAW #IST-AF-350-LED-E1-SL3	20.09	2365

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROP LINE +10FT	Illuminance	Fc	0.11	0.9	0.0	N.A.	N.A.
SITE	Illuminance	Fc	1.72	20.8	0.0	N.A.	N.A.

NOTES:
1. ALL CALC POINTS AT GRADE.
2. FIXTURE MTG HTS NOTED WITH LABEL.
3. PLAN VIEW SCALE AT 24X30: 1"=16'.

COLUMBUS METRO LIBRARY DUBLIN

LED SITE LIGHTING ANALYSIS REV1

Prepared by:

SPECTRUM LIGHTING
700 TAYLOR AVE.
COLUMBUS, OH 43219
www.spectrumohio.com

KORDA NEMETH ENGINEERING
1650 WATERMARK DRIVE
SUITE 200
COLUMBUS, OHIO 43215

DRAWN BY:
DESIGNED BY:
CHECKED BY:
PROJECT NUMBER: 2014-0203

nbbj
250 S. SOUTH HIGH STREET,
SUITE 300 COLUMBUS, OH 43215
PHONE 614 224 7145
FAX 614 224 0218

Turner
CONSTRUCTION MANAGER:
262 HANOVER ST.
COLUMBUS, OH 43215

KORDA
MECHANICAL, ELECTRICAL & STRUCTURAL ENGINEER:
1650 WATERMARK DR.
COLUMBUS, OH 43215

EMH&T
CIVIL ENGINEER:
EMH&T
5500 NEW ALBANY RD W,
NEW ALBANY, OH 43054

Dynamix
PLUMBING & FIRE PROTECTION:
DYNAMIX ENGINEERING LTD.
855 GRANDVIEW AVE.
3RD FL COLUMBUS, OH
43215

SITE PLAN REVIEW

CML - Dublin
75 N HIGH STREET
DUBLIN, OH 43017

8/15/2017

MARK	DATE	DESCRIPTION

DRAWN BY: Garrett W. Strauss
PROJ. ARCH.: Prairie S. Gallina
PROJ. NO.: 101253.0
DATE: 08/15/17

DWG.
ELECTRICAL SITE PLAN

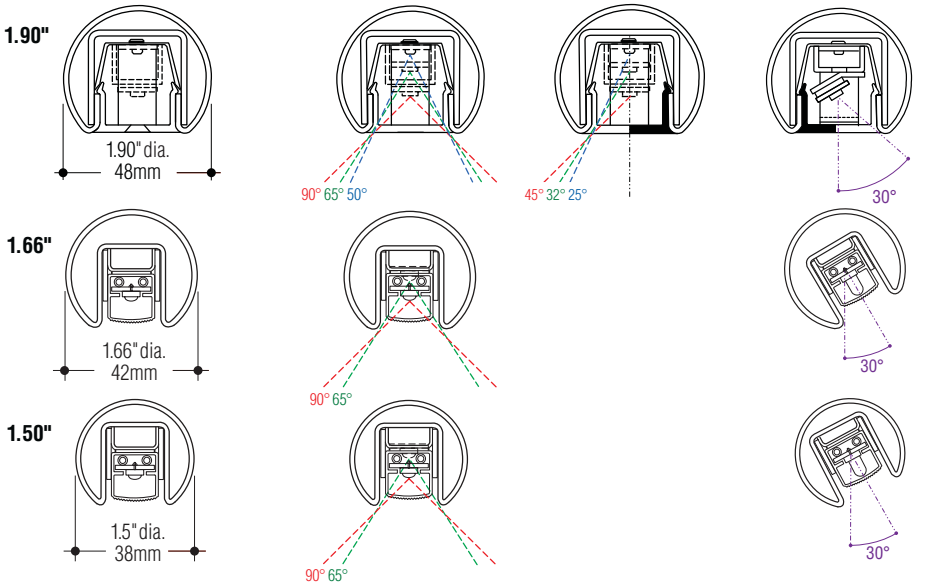
DWG.
E003

JOB NAME _____ **TYPE** _____

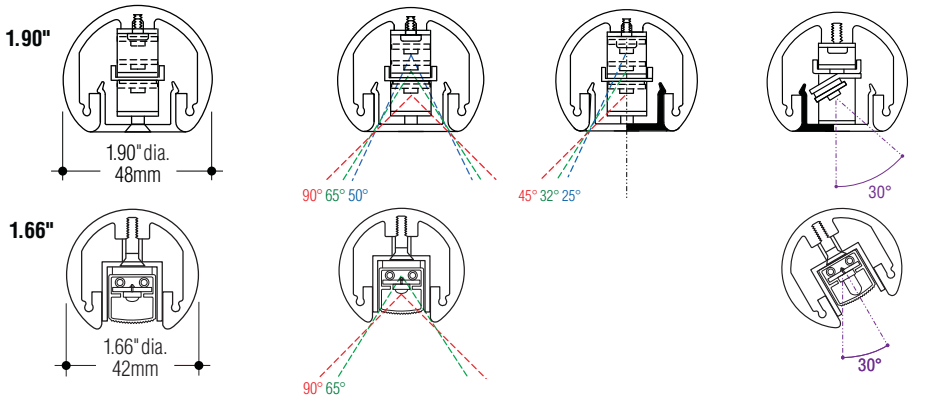
CATALOG NUMBER _____

Lightrail - LR5

Formed Stainless Steel



Extruded Aluminum



Construction

• Available in formed stainless steel with welded and blended joints for a seamless appearance or extruded aluminum • A high impact extruded acrylic lens snaps into place and is further retained by fasteners at each end • The flat lens design minimizes visible brightness at sides and is available in clear or frosted • Each rail is tailored to fit existing stairs, ramps, and walkways • Aluminum rails supplied with a powder coat or anodized finish • Stainless steel rails supplied with a #4 satin finish, passivated

Electrical

• LED modules are 24 VDC constant voltage at 2.5 watts and 205 lumens per foot. Available in 3000˚K or 4000˚K color temperatures. Beam spreads in 50˚, 65˚, and 90˚ patterns • LEDs are configured to allow uninterrupted illumination • Electrical feed locations are pre-determined at time of submittal • Universal voltage LED drivers may be integral in the posts or railing (120V only), or may be remote if required • Dimmable drivers are available upon request

How to Specify

Every Lightrail is custom designed and fabricated to your specific project conditions. Drawings will be submitted on each project requesting specific dimensions to assure proper fit. Plans and elevation drawings are required for pricing and submittal drawing production.

1. Submit catalog number, options, and voltage; (example: LR5P-LED-SS/1.9-INT-RE-277).
2. Add special features and requirements necessary to complete specification.

Catalog Number	Stainless Steel (-SS)	Aluminum (-AL)
Post mounted, integral driver	☐ **LR5P -LED-SS/*-INT**	☐ **LR5P -LED-AL/*-INT**
Post mounted, remote driver	☐ **LR5P -LED-SS/*-REM**	☐ **LR5P -LED-AL/*-REM**
Wall mounted, integral driver**	☐ **LR5W-LED-SS/1.9-INT**	☐ **LR5W-LED-AL/1.9-INT**
Wall mounted, remote driver	☐ **LR5W-LED-SS/*-REM**	☐ **LR5W-LED-AL/*-REM**

** Insert choice of rail diameter after slash, 1.9", 1.66" or 1.5"*

*** Limited driver capacity allows for only 1.9" rail choice.*

Options

Ends: Add suffix. Radius ☐ **-RE**. Loop ☐ **-LE**. Miter ☐ **-ME**. Stub ☐ **-SE**.

Baseplate: 5" x 5" x 3/8" (Aluminum) 5" x 5" x 3/16" (Stainless Steel) baseplate with four 5/8" holes. Add suffix ☐ **-BP**.

Escutcheon: Add suffix ☐ **-ES**.

Frosted lens: (clear diffuser std.). Add suffix ☐ **-FL**.

Curved rail: Consult with factory. Add suffix ☐ **-CRV**.

Emergency battery: Provides up to 90 min. operation for both LED and fluorescent models (remote only). Add suffix ☐ **-EM**.

Asymmetric distribution: One side blocked (not available on Prolume models). Add suffix ☐ **-ASYM**. 30° tilt. Add suffix ☐ **-ASYM/30°**

4000°K Color temperature: (3000°K std.). Add suffix ☐ **-4K**.

Beam spread: (90° std.). 65°, Add suffix ☐ **-65**. 50°, Add suffix ☐ **-50**. (1.9" rails only)

Dimming: Universal voltage 0-10V driver. Add suffix ☐ **-DIM**.

Color: FWC Turtle compliant, 590 nm, Amber. Add suffix ☐ **-AMB**.

End Treatments

COLE Lighting
www.colelighting.com
C.W. Cole & Company, Inc.
2560 N. Rosemead Blvd.
South El Monte, CA
91733-1593
T: (626) 443-2473
F: (626) 443-9253

Light Column

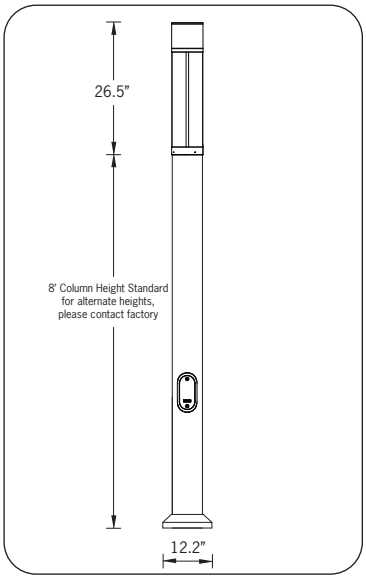
UAR-21012

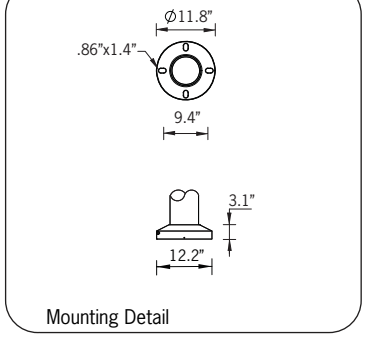
Arizona 1

LIGMAN
LIGHTING USA

IP55 • Suitable For Wet Locations

IK08 • Impact Resistant





Mounting Detail

Complementing the Arizona family of outdoor floodlight columns and wall mounted sconces, is the Arizona 1. The Arizona 1 is a 6" diameter column and incorporates precision optics that provides a type V distribution housed within a ultra high impact clear acrylic lens. This modern aesthetic design can be specified with different wattages if necessary to provide the perfect lighting solution and can be used to light areas, such as campuses, parks, recreational areas and public spaces.

This luminaire is provided with an integral driver housed within a waterproof electrical compartment secured inside the pole. The luminaire is pre-wired with power cord to the handhole to simplify installation. The Arizona is available with two different LED packages, namely COB (See UAR-20973) which is available with a very wide type V distribution and the HP LED version (see UAR-20974) for Type II, III & IV light distributions. Color temperature 2700K, 3000K and 4000K, LED CRI >80 and life time 50,000 Hours.

Reduced wattages can be provided to provide Title 24 compliance .

For non standard fixture variations, as well as specific perforated reflector requirements and decorative house side shields, please contact the factory.

This product is provided complete with anchor bolts and laser cut steel bolt template.

For alternate root mount installation, please specify.

Aluminum Casting

Less than 0.1% copper content – Marine Grade LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket.

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management.

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppresor provided with all fixtures.

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint.

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C.
This process ensures that Ligman products can withstand harsh environments.
Rated for use in natatoriums.

Hardware.

Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes

Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

High Impact Acrylic Lens.

Manufactured with Ultra High Impact, Naturally UV Stabilized Injection Molded Acrylic.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Standard Options

Lamp
28w LED 1826lm

LED Color
W27 • 2700K
W30 • 3000K
W40 • 4000K

Finish Color
01 - Black - RAL 9011
02 - Dark Grey - RAL 7043
03 - White - RAL 9003
04 - Metallic Silver - RAL 9006
05 - Matte Silver - RAL 9006
06 - Bronze - RAL 6014
07 - Custom RAL

Options (Consult Factory for Pricing)

HGT • Custom Height (Specify)

A20691 - Root Mount Kit

Ordering Example : UAR - 21012 - 28w - W30 - 02 - 120/277v - Options

		Lamp	LED Color	Color	Voltage	Options	
UAR	21012	28w LED					

LED Color	
W27	2700K
W30	3000K
W40	4000K

Color	
01	Black
02	Dark Grey
03	White
04	Metallic Silver
05	Matte Silver
06	Bronze
07	Custom RAL

Voltage
120/277v
Other (Specify)

Options	
A20691	Root Mount Kit
HGT	Custom Height

PROJECT: DATE: QUANTITY:

TYPE: NOTE:

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information.
Due to the continual improvements in LED technology data and components may change without notice.

Head Office:
7144 NW Progress Ct
Hillsboro, Oregon 97124
Tel: 503-645-0500
Fax: 503-645-8100
www.ligmanlightingusa.com

Intertek

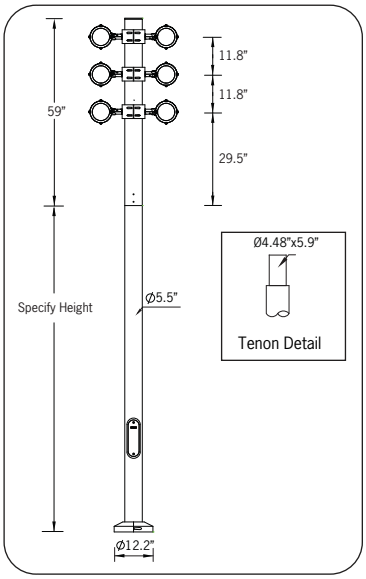
Floodlight

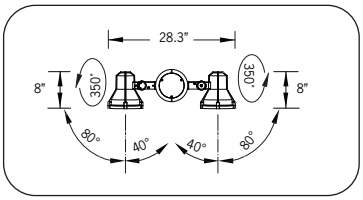
UMI-21051

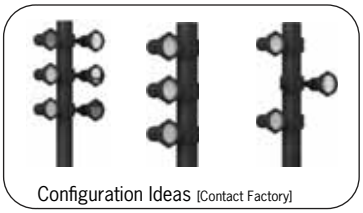
Mic 3 Cluster

IP65 • Suitable For Wet Locations

IK08 • Impact Resistant







Configuration Ideas [Contact Factory]

A Decorative Event Column using a variety of LED floodlight wattages and beam spreads with a selection of accessories.
Ideal for precise lighting of facades, sculptures, signage and architectural details. The floodlights can be aimed in different directions to highlight specific features or elements in the environment, as well as provide security when illuminating dark areas on campuses and parks. This luminaire is configurable and allows the customer to specify Mic luminaires that vary in wattages from 20w, 30w, 40w & 50w luminaires to be mounted on the pole, as well as a variety of beam spreads to suit specific requirements. These fixtures can be individually wired and controlled.
These luminaires are avaialable with a selection of optional attachments that include; anti-glare visors, anti-glare hoods, hexcell louvres, concentric ring louvre and linear spread lenses. To add color to the lighting design, we are also able to provide dichroic lenses.
As a standard product this is offered in a 6 fixture configuration, however the fixture quantities, positions, watts & beam spread can be manufactured to suit designer's specifications. Please contact the factory for your specific floodlight requirements.
The Mic Cluster adds to Ligman's comprehensive range of event pole cluster luminaires with different floodlight shapes, styles and wattages. [see Ligman website for other floodlight options including RGBW]
Extruded aluminum or painted galvanized steel column manufactured to customer height requirements provided with anchor bolts and aluminum bolt cover. The Mic Floodlights are fully rotational and adjustable with a secure locking mechanism. **For 40 & 50w option, see UMI-21052**

Aluminum Casting
Less than 0.1% copper content – Marine Grade LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket.
Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management.
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

Finishing
All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint.
UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C.
This process ensures that Ligman products can withstand harsh environments.
Rated for use in natatoriums.

Hardware.
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens.
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light.
LED CRI > 80

Lumen - Maintenance Life
L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Standard Options

Lamp
6x20w LED
6x1478w Lumens
6x30w LED
6x2289w Lumens

Beam
N • Narrow 13°
M • Medium 26°
W • Wide 41°

LED Color
W27 • 2700K
W30 • 3000K
W40 • 4000K

Finish Color
01 - Black - RAL 9011
02 - Dark Grey - RAL 7043
03 - White - RAL 9003
04 - Metallic Silver - RAL 9006
05 - Matte Silver - RAL 9006
06 - Bronze - RAL 6014
07 - Custom RAL

Lens
C • Clear
F • Frosted

Options (Consult Factory for Pricing)

AGV - Anti-Glare Visor

AGH - Anti-Glare Hood

GFCI • GFCI Box
HEX • Hexcell Louvre
CRL • Concentric Ring LVR
LSL • Linear Spread Lens
DIM • 0-10v Dimming

Color Dichroic Filters
RD • Red Lens
BL • Blue Lens
AM • Amber Lens
GR • Green Lens
Specify Other Color _____

Ordering Example : UMI - 21051 - 6x30w - N - W30 - 02 - 120/277v - Options

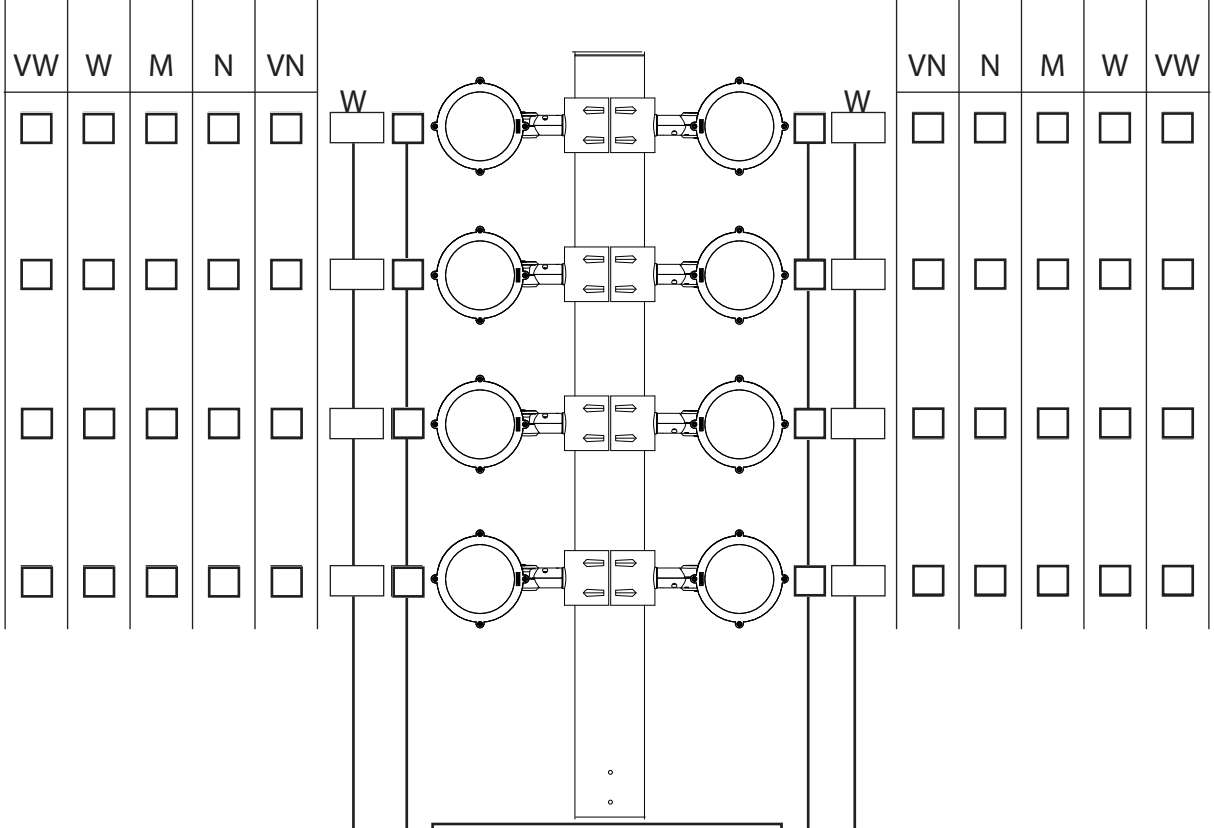
		Lamp	Beam	LED Color	Color	Voltage		Options		
UMI	21051									
		20 6x20w LED 30 6x30w LED	N Narrow M Medium W Wide	W27 2700K W30 3000K W40 4000K	01 Black 02 Dark Grey 03 White 04 Metallic Silver 05 Matte Silver 06 Bronze 07 Custom RAL	120/277v Other (Specify)		AGV Anti-Glare Visor AGH Anti-Glare Hood CRL Concentric Ring Louvre GFCI GFCI Box HEX Hexcell Louvre DIM 0-10v Dimming LSL Linear Spread Lens	RD Red Lens BL Blue Lens AM Amber Lens GR Green Lens Specify Color	

PROJECT: DATE: QUANTITY:

TYPE: NOTE:

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information.
Due to the continual improvements in LED technology data and components may change without notice.

Head Office:
7144 NW Progress Ct
Hillsboro, Oregon 97124
Tel: 503-645-0500
Fax: 503-645-8100
www.ligmanlightingusa.com



Check Mark Head
Configuration & Position
W= Watts (20,30,40,50)

Beam Spreads

VN • Very Narrow

N • Narrow

M • Medium

W • Wide

VW • Very Wide

Accessories

Specify Under Options

V • Visor

AGH • Anti-Glare Hood

HEX • Hexcell Louvre

CRL • Concentric Ring Louvre

LSL • Linear Spread Lens

Stacked Straight Staggered

Configuration Ideas [See Page 2 to Specify]

Mic Pole Options

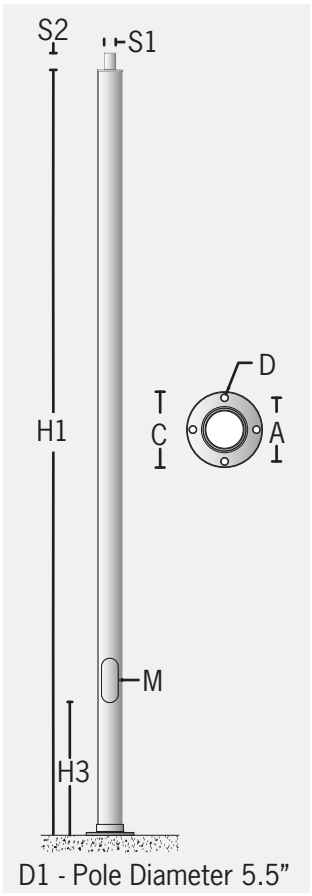
Model No.	Aluminum Pole								Base	Thickness	Weight
	H1	H3	S1	S2	D1	M	A	C	D		
APD-RSA-5510-14-.098	14'	23.6"	4.4"	5.9"	5.5"	3.3"x11.8"	10"	11.8"	.86"x1.5"	.098"	30.8 lb
APD-RSA-5510-16-.098	16'	23.6"	4.4"	5.9"	5.5"	3.3"x11.8"	10"	11.8"	.86"x1.5"	.098"	37.3 lb

Model No.	Steel Pole										Base	Thickness	Weight
	H1	H2	H3	S1	S2	D1	D2	M	A	C	D		
SPD-RSS-5512-20-5.5-.125	20'	5.5"	23.6"	4.4"	5.9"	5.5"	—	3.34"x11.8"	11.8"	15.7"	1.18"	.125"	195.2 lb
SPD-RSS-5512-23-5.5-.125	23'	5.5"	23.6"	4.4"	5.9"	5.5"	—	3.34"x11.8"	11.8"	15.7"	1.18"	.125"	207.2 lb
SPD-RSS-5512-26-5.5-.125	26'	5.5"	23.6"	4.4"	5.9"	5.5"	—	3.34"x11.8"	11.8"	15.7"	1.18"	.125"	224.8 lb

Poles are provided with laser cut steel anchor bolt template, anchor bolts and anchor covers.

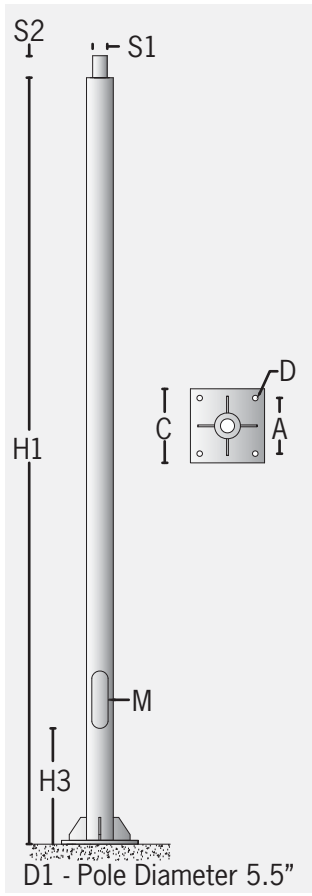
NOTE: The Mic Pole Cluster is a flexible system that can be comprised of various fixture head configurations, as well as beam distributions and attachments.

Pole heights are also variable and therefore Ligman welcomes custom heights and configurations to suit the customer specifications. Please contact the factory for more details.



D1 - Pole Diameter 5.5"

Aluminum Pole



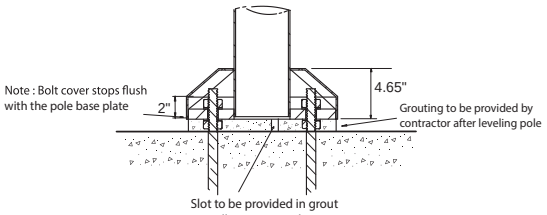
D1 - Pole Diameter 5.5"

Steel Pole

Pole base dimensions are for reference only and should not be used for construction. Contact the factory for accurate anchor bolt template and dimensions.

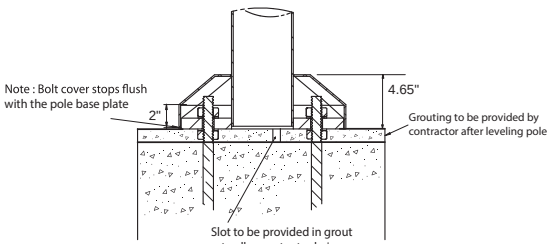
Pole Mount Install Notes

Option A



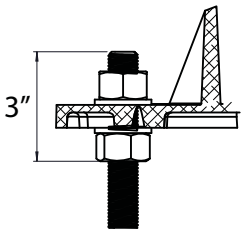
Foundation and Design by Others

Option B



Foundation and Design by Others

Bolt Projection



Ordering

Example - Aluminum - 12' - 01 - GFCI - SBA

Aluminum
Steel

Pole Height

Finish Color

01 - Black - RAL 9011
02 - Dark Grey - RAL 7043
03 - White - RAL 9003
04 - Metallic Silver - RAL 9006
05 - Matte Silver - RAL 9006
06 - Bronze - RAL 6014
07 - Custom RAL

Options

GFCI - GFCI Receptacle
SBA - Single Banner Arm
DBA - Double Banner Arm

Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

Head Office:
7144 NW Progress Ct
Hillsboro, Oregon 97124
Tel: 503-645-0500
Fax: 503-645-8100
www.ligmanlightingusa.com

LIGMAN LIGHTING USA

BIRCHWOOD lighting | a LEVITON company

www.birchwoodlighting.com

JAKE LED

1.65" 2.25" 3.25" 5.00"
Trim/Trimless

Recessed Linear LED Fixture

JAKE LED is a recessed linear luminaire comprised of various apertures, LED light source options and accessory options. JAKE LED 1.65", 2.25", 3.25" and 5.00" can be installed in gypsum ceilings or walls with either a ¾" Trim (TR) or Trimless (TL) mud-over flange. T-grid models for drop ceilings are also available.

Offering various installations from wall to ceiling, or along the wall, JAKE LED qualifies as one of our most versatile fixtures yet. Optional 90° mitered angles allow the creation of endless transverse runs: Inside Corner wall to ceiling (IC90), Outside Corner (OC90), or Face surface (F90). JAKE LED accessory options are designed to fit your most sophisticated lighting applications via lenses, louvers, and distinctive finishes.

JAKE LED Light Engines and dimmable driver components which combined together provide optimal LED lighting system capabilities.

Chicago Plenum

IC rated

UL and c-UL listed for dry and damp locations.

Made in the USA

FIXTURE SPECIFICATIONS

Construction
Fixture body is constructed of heavy gauge extruded aluminum. Fixtures are available in nominal lengths of 2, 3, 4, 6 and 8 feet, and continuous run lengths. Lenses are extruded acrylic.

Mounting
Recessed linear fixture for drywall or wood ceiling installations, or for mounting on the wall on a vertical plane. Available as continuous run mount. See installation information for specific details regarding installation guidelines. Various mounting clips provided for ease of installation.

LED Light Engine System
LED Light Engines are available as HLO (High Lumen Output) and SLO (Standard Lumen Output) providing efficient illumination. CLO (Custom Lumen Output) allows for end user specified lumen output or tailored wattage consumption for certain models. Consult factory for details.

Dimming
Dimming is available with a variety of control protocols and options. Consult factory for availability and specifications.

Finishes
Trim (TR) is standard Satin Clear (SC) anodized. Custom powder coat finishes available - consult factory.

Options
(FBLSS) Flat Blade Louver Semi-Specular. 90° corner angles for transverse-run applications: from wall to ceiling Inside Corner (IC90), Outside Corner (OC90), and Face surface (F90).

Custom and Mods
We proudly specialize in manufacturing custom and modified luminaires and have the ability to modify most of our standard fixtures. Please contact factory with any inquiries.

V-0417

BIRCHWOOD lighting | a LEVITON company

www.birchwoodlighting.com

JAKE LED

1.65" 2.25" 3.25" 5.00"

Trim/Trimless

Type: Job Name:

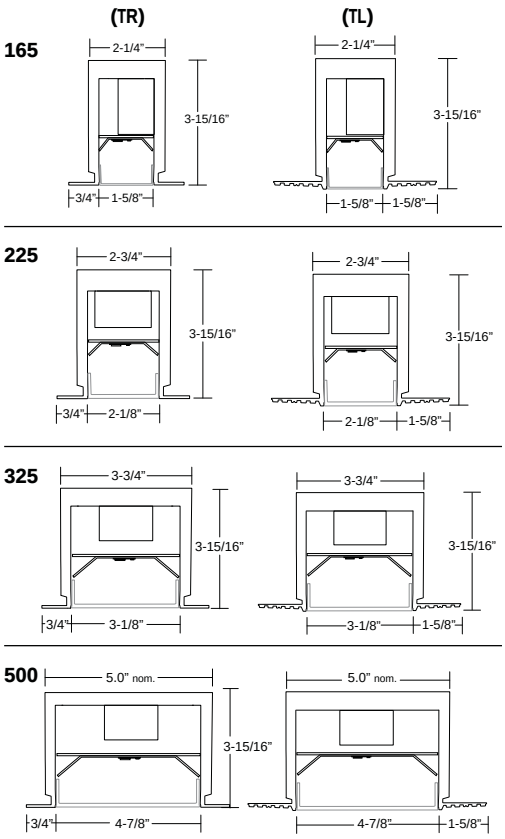
Recessed Linear LED Fixture

SPECIFICATION CODE

model	trim style	light engine	color temp	length	lens	voltage	driver	option	option

Model	Trim Style[2]	Light Engine	Color Temp	Nominal Length	Lens	Voltage	Driver	Options
JAK-LED-165 - 1.65" aperture **JAK-LED-225 -** 2.25" aperture **JAK-LED-325 -** 3.25" aperture **JAK-LED-500[9] -** 5.00" aperture	**TR** - 3/4" flanged trim **TL** - Trimless Mud-over flange	**SLO** - Standard Lumen Output **HLO** - High Lumen Output **CLO[8]__** - Custom Lumen Output CLO Calculator	**27** - 2700K **30** - 3000K **35** - 3500K **40** - 4000K	**2** - 2' **3** - 3' **4** - 4' **6** - 6' **8** - 8' **CR_**[1] Continuous Run **MTR-R**[4] Miter Run **MTR-REC**[4] Miter Rectangle	**FW** - Frosted White **FBLSS**[3] - Flat Blade Louver Semi-Specular	**120** **277** **347**[8]	**EB** - Electronic Dimming **D1** - 1% (nom) 0-10V **D10** - 10% 0-10V **HLA2**[6] - Lutron 2 wire **HLA3** - Lutron 3 wire **HLH** - Lutron H EcoSystem **HL5** - Lutron 5 series EcoSystem **DALI** - DALI	**EM**[7] - Emergency battery pack **CP**[10] - Chicago Plenum Finishes[2] **FB** - Flat Black **MW** - Matte White **CUP** - Custom powder coat Mounting Options[5] **OHMB** - Overhead Mounting Bracket **BF** - Backer Flange **HB** - Hanger Bracket

Dimensions



NOTES

1 specify lengths in nominal feet
2 TR standard is Satin Clear, T-Grid standard is Matte White, TL standard is Mill Finish. See option sheet for custom finishes
3 FBLS available for 225 and 325
4 see miter worksheet for specification (must provide detailed drawing for order)
5 see instruction sheet for mounting info
6 120V only
7 consult factory for EM options
8 available for EB, D1, D10 drivers only
9 JAK-LED-500 not available in 2700K color temp
10 compliant with CCEA Chicago Plenum code requirements

LED

165 (4000K FW lens)

SLO - 85.3 lm/watt delivered @ 2.9 w/ft fixture input watts, 248 lm/ft.
HLO - 83.8 lm/watt delivered @ 5.9 w/ft fixture input watts, 494 lm/ft.
CLO - refer to CLO Calculator
165 LED supplement info

225 (4000K FW lens)

SLO - 68.5 lm/watt delivered @ 4.4 w/ft fixture input watts, 302 lm/ft.
HLO - 64.4 lm/watt delivered @ 9 w/ft fixture input watts, 580 lm/ft.
CLO - refer to CLO Calculator
225 LED supplement info

325 (4000K FW lens)

SLO - 84.5 lm/watt delivered @ 4.4 w/ft fixture input watts, 372 lm/ft.
HLO - 79.4 lm/watt delivered @ 9 w/ft fixture input watts, 715 lm/ft.
CLO - refer to CLO Calculator
325 LED supplement info

500 (4000K FW lens)

SLO - 91.3 lm/watt delivered @ 5.8 w/ft fixture input watts, 530 lm/ft.
HLO - 85.1 lm/watt delivered @ 12.1 w/ft fixture input watts, 1030 lm/ft.
CLO - refer to CLO Calculator
500 LED supplement info

V-0417

Birchwood Lighting • 2911 Dow Avenue • Tustin, CA 92780
714.550.7118 fax 714.550.7151

Due to a program of continuous improvement specifications are subject to change without notice.
© 2017 Birchwood Lighting, Inc. All rights reserved.

McGraw-Edison

DESCRIPTION

The Impact Elite family of wall luminaires is the ideal complement to site design. Incorporating modular LightSquares technology, the Impact Elite luminaire provides outstanding uniformity and energy-conscious illumination. Combined with a rugged construction, the Impact Elite luminaire is the ideal facade and security luminaire for zones surrounding schools, office complexes, apartments and recreational facilities. UL/cUL listed for wet locations.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Heavy-wall, die-cast aluminum housing and removable hinged door frame for precise tolerance control and repeatability. Hinged door inset for clean mating with housing surface and secured via two captive fasteners. Optional tamper-resistant Torx™ head fasteners offer vandal resistant access to the electrical chamber.

Optics
Choice of 10 patented, high-efficiency AccuLED Optics™ distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optics technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K, 5000K and 5700K CCT.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less than 20% harmonic distortion, and are suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightSquares feature an IP66 enclosure rating and maintain greater than 90% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments and occupancy sensor available.

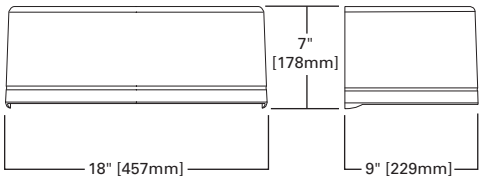
Mounting
Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" j-box or wall with the Impact Elite "Hook-N-Lock" mechanism for quick installation. Secured with two captive corrosion resistant black oxide coated allen head set screws concealed but accessible from bottom of fixture.

Finish
Cast components finished in a five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

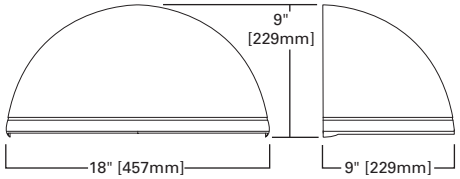
Warranty
Five-year warranty.

DIMENSIONS

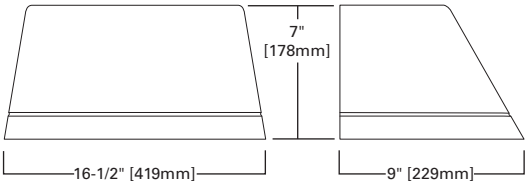
Cylinder



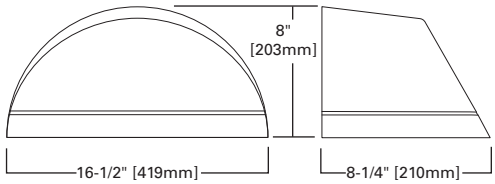
Quarter Sphere



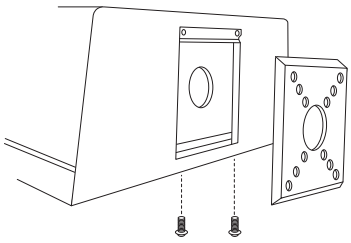
Trapezoid



Wedge



HOOK-N-LOCK MOUNTING



ISC/ISS/IST/ISW
IMPACT ELITE LED

1 LightSquare
Solid State LED

WALL MOUNT LUMINAIRE

CERTIFICATION DATA
UL/cUL Listed
LM79 / LM80 Compliant
IP66 LightSquare
ISO 9001

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA
Approximate Net Weight:
18 lbs. (8 kgs.)

Powering Business Worldwide

POWER AND LUMENS

1 LightSquare (AF)		**Cylinder (ISC) and Quarter Sphere (ISS)**						**Trapezoid (IST) and Wedge (ISW)**					
Drive Current (mA)		350	450	600	800	1000	1200	350	450	600	800	1000	1200
Power (Watts)	120-277V	20.3	25.5	33.4	43.9	55.1	66.2	20.3	25.5	33.4	43.9	55.1	66.2
Current (A)	120V	0.17	0.22	0.29	0.38	0.48	0.56	0.17	0.22	0.29	0.38	0.48	0.56
	277V	0.09	0.10	0.13	0.17	0.21	0.25	0.09	0.10	0.13	0.17	0.21	0.25
Power (Watts)	347V or 480V	23.3	28.7	36.6	49.5	60.7	70.1	23.3	28.7	36.6	49.5	60.7	70.1
Current (A)	347V	0.07	0.08	0.11	0.15	0.18	0.21	0.07	0.08	0.11	0.15	0.18	0.21
	480V	0.05	0.06	0.08	0.11	0.13	0.16	0.05	0.06	0.08	0.11	0.13	0.16
Optics													
T2	Lumens	2,336	2,934	3,827	4,791	5,663	6,444	2,498	3,136	4,091	5,122	6,054	6,889
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T3	Lumens	2,385	2,994	3,906	4,889	5,779	6,577	2,504	3,144	4,101	5,133	6,068	6,905
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T4FT	Lumens	2,360	2,963	3,866	4,839	5,720	6,509	2,530	3,177	4,145	5,188	6,133	6,979
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T4W	Lumens	2,386	2,996	3,908	4,892	5,783	6,581	2,500	3,139	4,095	5,126	6,059	6,895
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL2	Lumens	2,257	2,834	3,697	4,628	5,470	6,225	2,413	3,030	3,953	4,948	5,849	6,656
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL3	Lumens	2,220	2,787	3,636	4,552	5,380	6,122	2,365	2,970	3,874	4,849	5,732	6,523
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL4	Lumens	2,110	2,649	3,456	4,326	5,113	5,818	2,234	2,805	3,660	4,581	5,415	6,162
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SLL/SLR	Lumens	1,990	2,498	3,259	4,080	4,823	5,488	2,154	2,705	3,529	4,418	5,222	5,942
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
RW	Lumens	2,380	2,988	3,898	4,880	5,768	6,564	2,465	3,095	4,037	5,054	5,974	6,798
	BUG Rating	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1

LUMEN MAINTENANCE

Current	**Ambient Temperature**	**25000 Hours***	**50000 Hours***	**60000 Hours***	**100000 Hours***	**Theoretical L70 (Hours)***
Up to 1.2A	Up to 40°C	>95%	>91%	>90%	>83%	20,4000

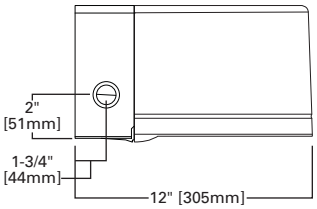
*Data calculated based on TM-21 calculator.

LUMEN MULTIPLIER

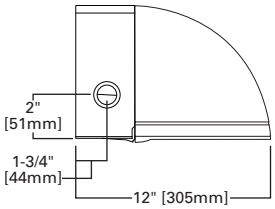
Ambient Temperature	**Lumen Multiplier**
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99

THRUWAY BACK BOX

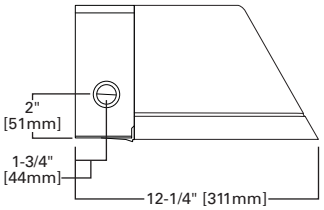
Cylinder



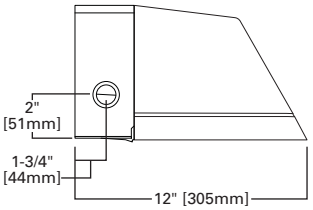
Quarter Sphere



Trapezoid



Wedge



ORDERING INFORMATION

Sample Number: ISC-AF-1200-LED-E1-T3-BZ

Product Family [1]	Light Engine	Drive Current	Lamp Type	Voltage	Distribution	Color
ISC=Impact Elite LED Small Cylinder **ISS**=Impact Elite LED Small Quarter Sphere **IST**=Impact Elite LED Small Trapezoid **ISW**=Impact Elite LED Small Wedge	**AF**=(1) LightSquare	**350**=Drive Current Factory Set to 350mA **450**=Drive Current Factory Set to 450mA **600**=Drive Current Factory Set to 600mA **800**=Drive Current Factory Set to 800mA **1000**=Drive Current Factory Set to 1000mA **1200**=Drive Current Factory Set to 1200mA [2]	**LED**=Solid State Light Emitting Diodes	**E1**=Electronic (120-277V) **347**=347V [2] **480**=480V [2, 3]	**T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [17]
7030=70 CRI / 3000K CCT [4] **7050**=70 CRI / 5000K CCT [4] **7060**=70 CRI / 5700K CCT [4] **8030**=80 CRI / 3000K CCT [4] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [2, 5, 6] **P**=Button Type Photocontrol (Available in 120, 208, 240 or 277V. Must Specify Voltage) **HA**=50°C High Ambient [7] **AHD145**=After Hours Dim, 5 Hours, 50% [8] **AHD245**=After Hours Dim, 6 Hours, 50% [8] **AHD255**=After Hours Dim, 7 Hours, 50% [8] **AHD355**=After Hours Dim, 8 Hours, 50% [8] **MS/DIM-LXX**=Motion Sensor for Dimming Operation [9, 10, 11] **LWR-LW**=LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [11, 12] **LWR-LN**=LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [11, 12] **BBB**=Battery Pack with Back Box (Specify 120V or 277V) [13] **CWB**=Cold Weather Battery Pack with Back Box (Specify 120V or 277V) [14] **LCF**=LightSquare Trim Plate Matches Housing Finish **HSS**=Factory Installed House Side Shield [15] **ULG**=Uplight Glow [5, 6] **TR**=Tamper Resistant Hardware **X**=Driver Surge Protection (6kV) Only [16]	**MA1253**=10kV Circuit Module Replacement **MA1254-XX**=Thruway Back Box - Impact Elite Trapezoid **MA1255-XX**=Thruway Back Box - Impact Elite Cylinder **MA1256-XX**=Thruway Back Box - Impact Elite Quarter Sphere **MA1257-XX**=Thruway Back Box - Impact Elite Wedge **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor

NOTES:
1. Standard 4000K CCT and greater than 70 CRI.
2. Not available with ULG option.
3. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
4. Exentended lead times apply.
5. Not available with ISS or ISW.
6. Not available with LWR-XX or MS/DIM-LXX.
7. Suitable for 50°C provided no options other than motion sensor are included and driver output set to 1.A or less.
8. Requires the use of P photocontrol or the PER7 photocontrol receptacle with photocontrol accessory. Not available with 350mA drive current. See After Hours Dim supplemental guide for additional information.
9. Specify lens in place of XX. Round to next highest option based on mounting height. Available options are 08, 20 and 40W.
10. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
11. Includes integral photocell.
12. LumaWatt Pro wireless sensors are factory installed and requiring network components in appropriate quantities. See www.eaton.com/lighting for LumaWatt Pro application information.
13. LED standard integral battery pack is rated for minimum operating temperature 32°F (0°C). Operates downlight for 90-minutes.
14. LED cold weather integral battery pack is rated for minimum operating temperature -4°F (-20°C). Operates downlight for 90-minutes.
15. Only for use with SL2, SL3 and SL4 distributions. The LightSquare trim plate is painted black when the HSS option is selected.
16. Removes additional surge module.
17. Specify color in place of XX.