

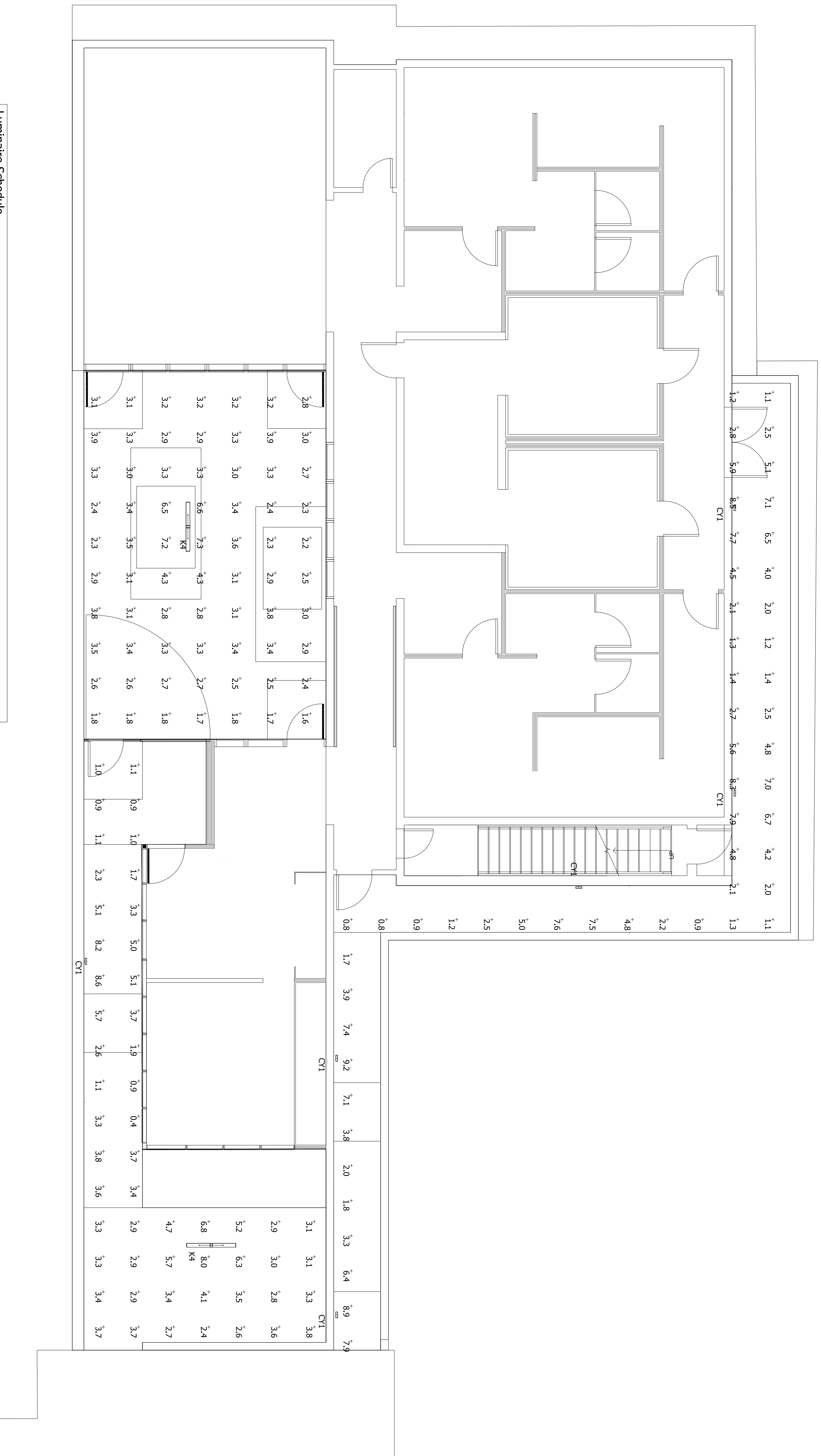


A C O R N

ENGINEERING, INC.

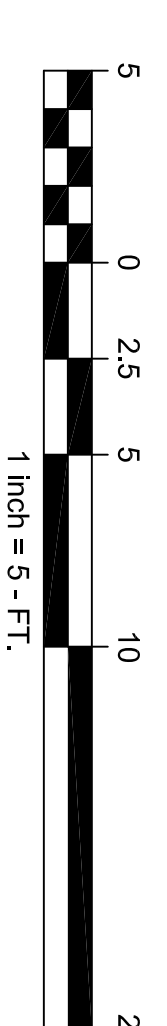
O. Lighting

Please find attached the photometric plan and cut sheets.



Luminaire Schedule							
Symbol	Label	Qty	Mounting Height	LF	Watts	Lumens	Description
	CY1	6	7' - 0" AFG	0.850	17	1493	CY1-15-3K7-1-2D-R
	K4	2	12' - 0" AFG	0.850	23.5	2562	KM4-14-2030

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Courtyard 1	Illuminance	Fc	3.16	7.3	1.6	1.98	4.56
Courtyard 2	Illuminance	Fc	3.45	8.6	0.4	8.63	21.50
Sidewalk	Illuminance	Fc	4.09	9.2	0.8	5.11	11.50



- THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO HUBBELL LIGHTING. SITE DETAILS PROVIDED HERON ARE REPRODUCED ONLY AS A REFERENCE AND FIELD DIMENSIONS MAY SIGNIFICANTLY AFFECT FINISHED PERFORMANCE. PRIOR TO INSTALLATION, OBTAIN THE SITE INFORMATION FROM THE ARCHITECT, ENGINEER, OR OTHER PROFESSIONAL CONSULTANT. FIELD DIMENSIONS MAY SIGNIFICANTLY AFFECT FINISHED PERFORMANCE. PRIOR TO INSTALLATION.
- LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP BALASTS AND LUMINAIRES MAY AFFECT FIELD RESULTS.
- CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE		DESIGNED FROM DRAWING NUMBERS		DATE	
WASHINGTON BATHS PORTLAND, ME COURTYARD LIGHTING PLAN		R1: 10/05/18		DN: DHK	10/03/18
				REV: DHK	10/05/18
				DATE: N/A	
				SCALE: AS NOTED	
				DRAWING NUMBER: 1822835R1	



FEATURES

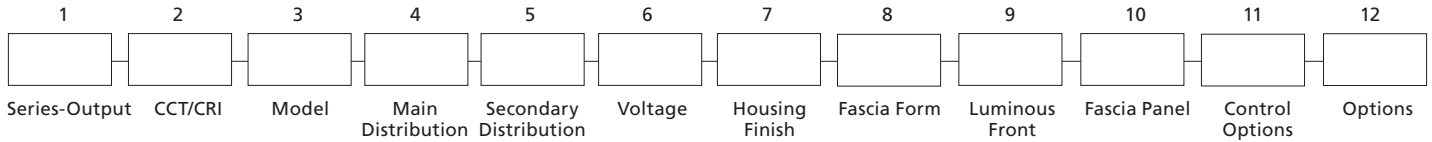
- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- IES Type I, II, III & IV Distributions
- Wall Graze, Spot and Pencil Distributions
- Multiple Fascia Options and Finishes
- 0-10V dimming
- IP-66 Housing & Optical System
- 120-277, 347 and 480V
- 3000K, 4000K & 5000K CCT
- 10kA Surge Protection
- Fascia Forms F and E are ADA compliant for use in low mounting height applications (80 inches or less)
- IDA approved, downlight only, 3000K and warmer CCTs
- Occupancy Sensor & Wireless Control Options



Downlight only, 3000K and warmer CCTs



ORDERING CODE



SERIES-OUTPUT (Base)

CY2-25	25w, 2500 nominal lumens
CY2-35	40w, 3500 nominal lumens
CY2-45	50w, 4500 nominal lumens

CCT-CRI

27K8	2700K, 80CRI
3K7	3000K, 70CRI
3K8	3000K, 80CRI
4K7	4000K, 70CRI
4K8	4000K, 80CRI
5K7	5000K, 70CRI

MODEL (Light Engine)

1	DownLight Only
2	50/50 Down/Up, Down/Up distributions must match
3	90/10 Down/Up
4	25/25/25/25 Split, Down/Up/Side distributions must match
5	70/10/10/10 Split, Top/Side distributions must match

Contact factory for custom distributions, See Distribution Matrix on page 2 for restrictions.

MAIN DISTRIBUTION (Down)

1	IES Type I
2	IES Type II
3	IES Type III
4	IES Type IV
SP	15° Spot/Column
WG	60° Wall Graze
1D	Type 1 Diffused
2D	Type 2 Diffused
3D	Type 3 Diffused
4D	Type 4 Diffused

SECONDARY DISTRIBUTION (Up, Sides)

1	IES Type I
2	IES Type II
3	IES Type III
4	IES Type IV
SP	15° Spot/Column
WG	60° Wall Graze
PB*	Pencil Beam
1D	Type 1 Diffused

* PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended. See Distribution Matrix on page 2 for restrictions.

SECONDARY DISTRIBUTION (Up, Sides)

2D	Type 2 Diffused
3D	Type 3 Diffused
4D	Type 4 Diffused

* PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended. See Distribution Matrix on page 2 for restrictions.

VOLTAGE

UNV	120-277V
347	347V
480	480V

BASE HOUSING FINISH

Standard Colors

AGN	Antique Green
BL	Black
BLT	Matte Black
CRT	Corten
DB	Dark Bronze
DGN	Dark Green
GT	Graphite
LG	Light Grey
MAL	Matte Aluminum
MDB	Metallic Bronze
MG	Medium Grey
TT	Titanium
VBU	Verde Blue
WDB	Weathered Bronze
WH	Arctic White

Premium Colors

SFM	Seafoam
SHK	Shamrock
SPP	Salt and Pepper
WCP	Weathered Copper
RAL	Provide a RAL 4 digit color number
CUSTOM	Please provide color chip for matching
COLOR	

FASCIA FORM

F	Flat
R	Radius/Curved
T	Triangle/Wedge
E	Rounded Edge
C	Circle/Curved
CB	Cylinder Balanced
CT	Cylinder Tall
CBM	Custom Building Material Mount
	Ghost Fascia

LUMINOUS FRONT

BLANK	Standard None
RGBW	RGBW Luminous Front
LFSW	Static White Luminous Front

RGBW and LFSW luminous fronts are only available with open, four square and perforated fascia panels

FASCIA PANEL

FPP	Full Panel Painted
FPS	Full Panel Stainless Steel
FPC	Full Panel Copper
OPP	Open Panel Painted
OPS	Open Panel Stainless Steel
OPC	Open Panel Copper
4PP	4-Square Panel Painted
4PS	4-Square Panel Stainless Steel
4PC	4-Square Panel Copper
PPP	Perforated Panel Painted
PPS	Perforated Panel Stainless Steel
PPC	Perforated Panel Copper

Flat and Radius Fascia forms only. Painted panels by default match base housing finish/color. Consult factory for custom panel finishes.

CONTROL OPTIONS

PCU	Universal Button Photocell (120-277V)
SCP	Programmable Occupancy Sensor
SWP	SiteSync Wireless
SWPM	SiteSync Wireless w/Occupancy Sensor

WIR	wiSCAPE
WIRSC	wiSCAPE w/Occupancy Sensor

Occupancy sensors not available with CB, T, E or C fascia forms

OPTIONS

EM	Battery Backup Unit -20°C
SF	Single Fuse (120, 277, 347)
DF	Double Fuse (208, 240, 480)

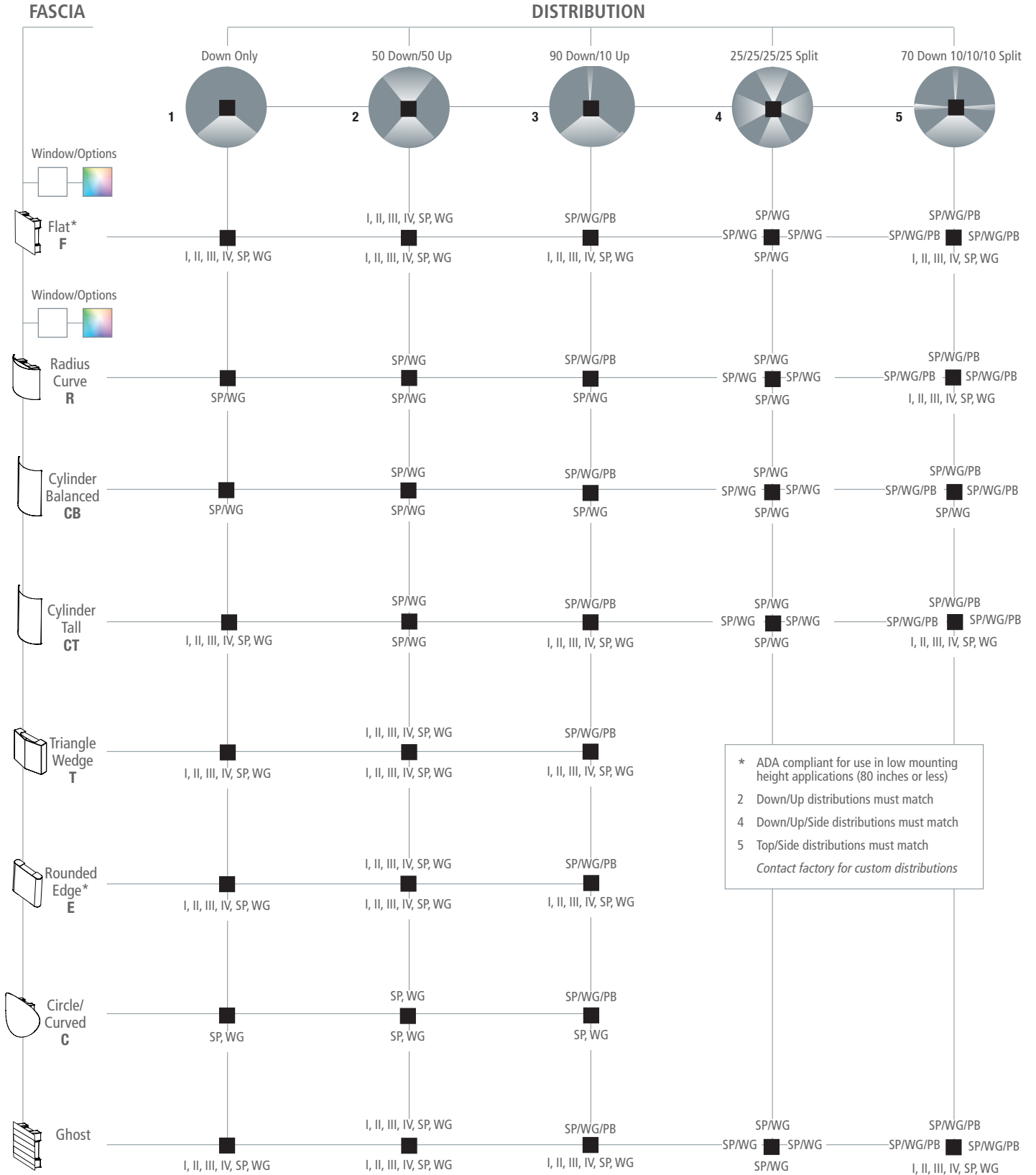
Battery Backup not available with Triangle and Rounded Edge Fascia Forms.



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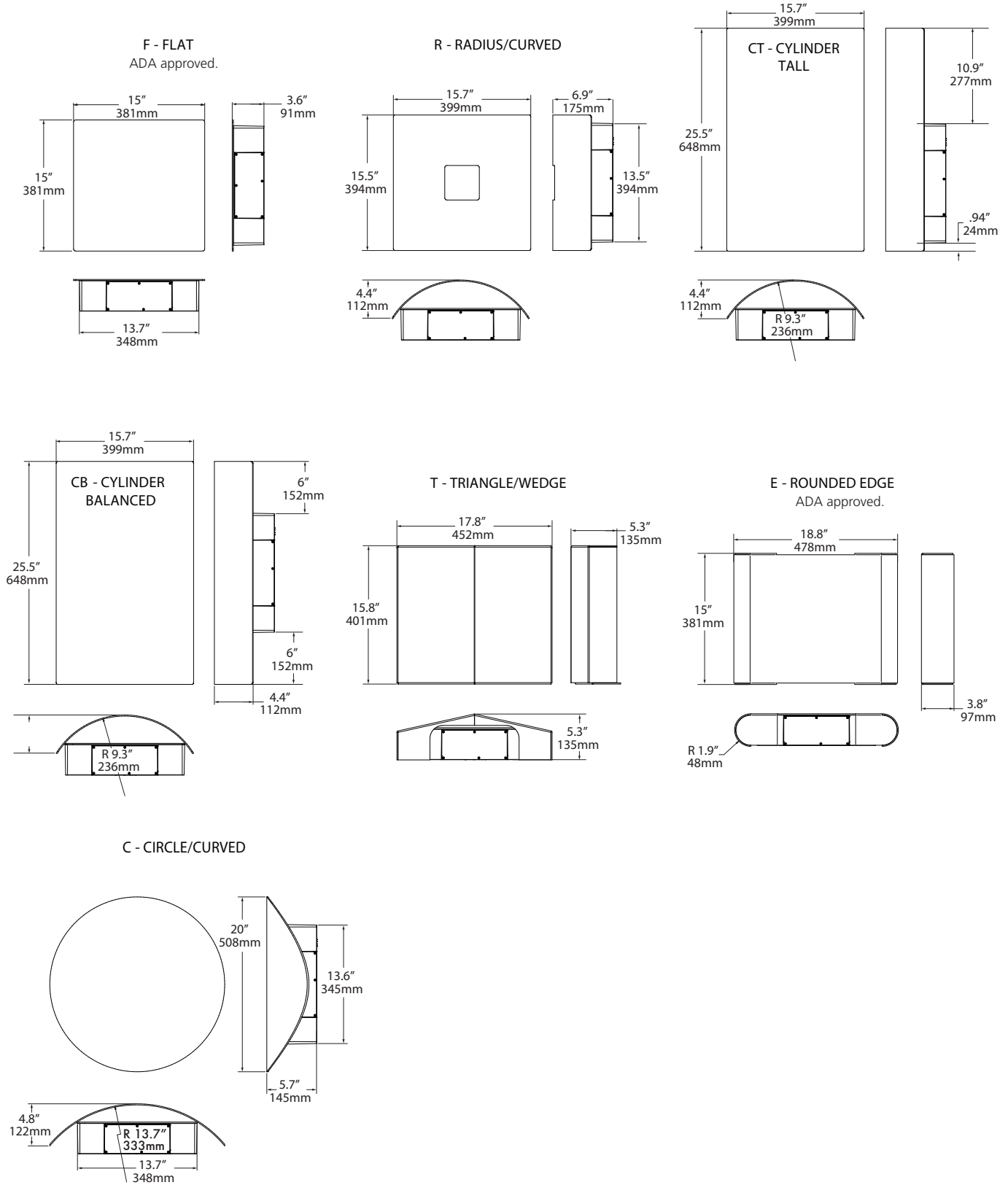
JOB	_____
TYPE	_____
NOTES	_____

Distribution Matrix



JOB _____
 TYPE _____
 NOTES _____

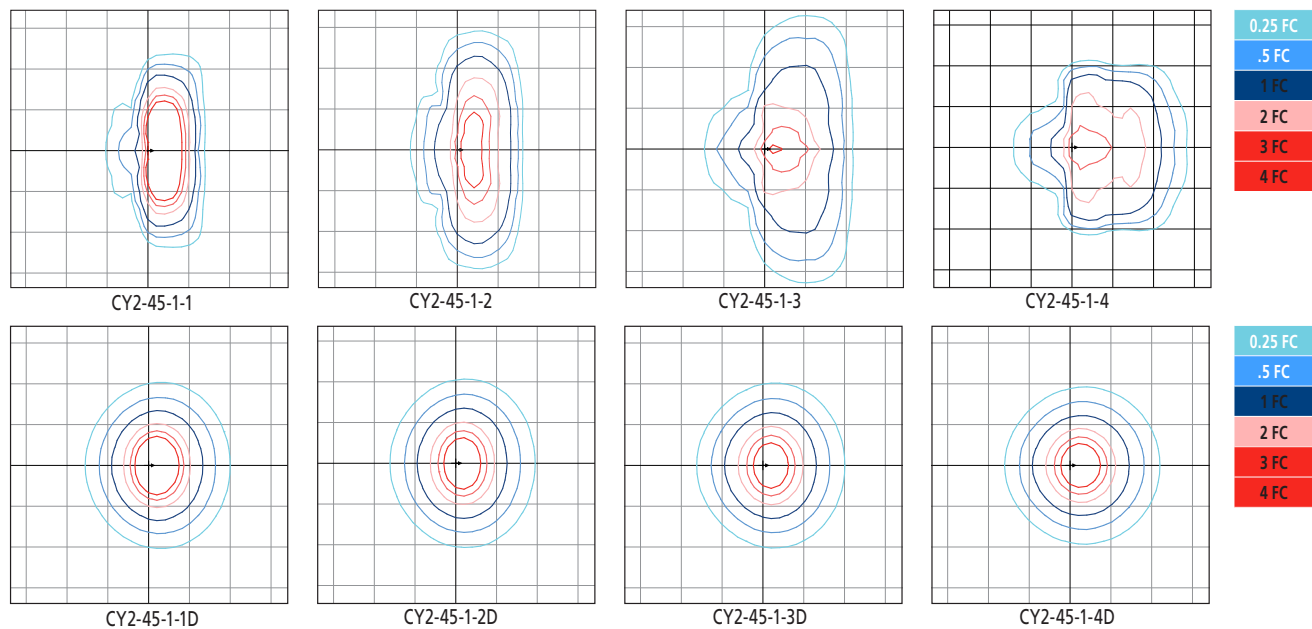
Drawings



LUMINAIRE PERFORMANCE

Downlight only			Configuration														
Nominal Output (Lm)	Average System Wattage	Distribution	Bright White (5000K)			Neutral White (4000K)			Warm White (3000K)								
			Delivered Lumens	Efficacy (Lm/W)	BUG Rating	Delivered Lumens	Efficacy (Lm/W)	BUG Rating	Delivered Lumens	Efficacy (Lm/W)	BUG Rating						
			5000K 70 CRI			4000K 70 CRI			3000K 70 CRI								
			B	U	G	B	U	G	B	U	G						
2,500	26	Type 1	2836	109	0	0	0	2596	100	0	0	0	2499	96	0	0	0
		Type 2	2570	99	1	0	1	2353	90	1	0	1	2265	87	1	0	1
		Type 3	2739	107	1	0	1	2507	96	1	0	1	2413	93	1	0	1
		Type 4	2512	97	0	0	1	2299	88	0	0	1	2213	85	0	0	0
		Wall Graze	2795	107	2	0	0	2558	98	2	0	0	2462	95	2	0	0
		Spot/Column	2371	91	2	0	0	2171	83	2	0	0	2089	80	2	0	0
		Type 1 Diffused	2488	96	1	0	1	2278	88	1	0	1	2193	84	1	0	1
		Type 2 Diffused	2274	87	1	0	1	2082	80	1	0	1	2004	77	1	0	1
		Type 3 Diffused	2163	83	1	0	1	1980	76	1	0	1	1906	73	1	0	1
Type 4 Diffused	2197	84	1	0	1	2011	77	1	0	1	1936	74	1	0	1		
3,500	40	Type 1	4011	100	1	0	0	3672	92	1	0	0	3534	88	1	0	0
		Type 2	3635	91	1	0	1	3328	83	1	0	1	3203	80	1	0	0
		Type 3	3874	97	1	0	1	3546	89	1	0	1	3413	85	1	0	1
		Type 4	3553	89	1	0	1	3252	81	1	0	1	3131	78	1	0	1
		Wall Graze	3953	99	2	0	0	3618	90	2	0	0	3483	87	2	0	0
		Spot/Column	3354	84	3	0	0	3070	77	3	0	0	2955	74	3	0	0
		Type 1 Diffused	3519	88	1	0	1	3222	81	1	0	1	3101	78	1	0	1
		Type 2 Diffused	3217	80	1	0	1	2945	74	1	0	1	2835	71	1	0	1
		Type 3 Diffused	3059	76	1	0	1	2800	70	1	0	1	2695	67	1	0	1
Type 4 Diffused	3107	78	1	0	1	2844	71	1	0	1	2738	68	1	0	1		
4,500	52	Type 1	4982	97	1	0	1	4561	88	1	0	0	4390	84	1	0	0
		Type 2	4675	90	1	0	1	4280	82	1	0	1	4119	79	1	0	1
		Type 3	4812	95	1	0	1	4405	86	1	0	1	4240	82	1	0	1
		Type 4	4569	88	1	0	1	4183	80	1	0	1	4026	77	1	0	1
		Wall Graze	5083	99	3	0	0	4653	89	3	0	0	4479	86	3	0	0
		Spot/Column	4313	84	3	0	0	3948	76	3	0	0	3800	73	3	0	0
		Type 1 Diffused	4526	88	2	0	1	4143	80	1	0	1	3988	77	1	0	1
		Type 2 Diffused	4137	80	1	0	1	3787	73	1	0	1	3645	70	1	0	1
		Type 3 Diffused	3934	76	1	0	1	3601	69	1	0	1	3466	67	1	0	1
Type 4 Diffused	3996	77	1	0	1	3658	70	1	0	1	3521	68	1	0	1		

ISOLINE TEMPLATES 15' Mounting Height, 15' Grid Spacing



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JOB _____
 TYPE _____
 NOTES _____

ELECTRICAL CHARACTERISTICS

Lumen Package	System Wattage (W)	Line Voltage		Input				Min. Power Factor	Max THD (%)	Dimming Range	Source/Sink Current (mA)		Absolute voltage range on 0-10v (+) Purple	
		VAC	Hz	120	277	347	480				Min.	Max.	Min.	Max.
2,500	26	120	50/60	0.2	0.1	0.1	0.1	>0.9	20	10% to 100%	0 mA	1 mA	0V	10V
3,500	40			0.3	0.1	0.1	0.1							
4,500	52			0.4	0.2	0.1	0.1							

TM-21 LIFETIME CALCULATION (500mA)

Lumen Package	Ambient Environment °C	Projected Lumen Maintenance (Khrs)					Reported L70
		15	25	50	60 (TM-21)	100	
4,500	25	95%	94%	90%	89%	83%	>60Khrs.
	40	93%	91%	84%	82%	73%	



JOB	_____
TYPE	_____
NOTES	_____

HOUSING

- Main housing shroud shall be of fabricated 5052-H32 aluminum alloy
- Housing mounting interface shall have a stamped silicone gasket.
- Luminaire housing shall be free of any visible heat fins, hardware or fasteners.
- Bracketry and hardware shall be stainless steel.

OPTICAL ARRAY

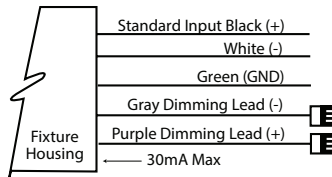
- LEDs shall be mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features.
- Optical lenses shall be clear injection molded PMMA acrylic.
- Optical array shall be recessed in order to shield each LED optic across the length of the aperture.
- Optical array shall be sealed for IP66 rating.
- Secondary lens is impact resistant 5/32" tempered glass.

ELECTRICAL

- Drivers shall be in direct contact with the die-cast aluminum housing across the entire surface area of the widest face for maximum thermal transfer.
- "Thermal Shield", primary side, thermister provides protection for the sustainable life of LED module and electronic components.
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments
- Luminaires shall have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series.
- Drivers shall be U.L recognized.
- Drivers shall not be compatible with current sourcing dimmers, consult factory for current list of known compatible dimming systems approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV.
- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for -20°C ambient environments.

SPECIFICATIONS

- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Luminaires not configured with a control system shall be provided with 0-10 purple and gray dimming leads.



CONTROLS

- Optional universal voltage (120-277V) button photocontrol for dusk to dawn energy savings. Photocontrol is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.
- Wireless enabled fixtures shall support bi-directional radio frequency (RF) communications utilizing IEEE 802.15.4 operating in the 2.4GHZ ISM band.
- Up to 1000' wireless range may be reduced by physical obstructions between lighting fixtures.
- Occupancy Sensor shall programmable and use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Careful consideration must be given to obstructions that may block the sensor's line of sight.
- Factory default settings for SCP option shall be:
 - High mode: 10V
 - Low mode: 1V
 - Ramp-up rate: disabled
 - Fade-down rate: disabled
 - Photocell: Off
 - Sensitivity: Full
 - Time Delay: Fade to low: 5 minutes
 - Time Delay: Fade to off: 1 hour
- The SCP enables any wall mounted luminaire, in excess of 30 watts, to meet California Title 24 requirements with integral 10KA surge protection for added reliability and serviceability. For more detail: http://www.aal.net/products/sensor_control_programmable
- Hubbell Control Solution's wiSCAPE™ In-Fixture Module is a bi-directional wireless RF device that allows an individual fixture to be managed, monitored and metered. The wiSCAPE In-Fixture Module communicates wirelessly over a robust 2.4GHz ISM (Industrial, Scientific and Medical) certified meshed radio signal. The wiSCAPE Fixture Module drastically simplifies control and automation of projects, especially in retrofit environments, and challenges the legacy world of wired-systems. wiSCAPE wireless control technology easily adapts to complex automation situations for quick, simple and economical commissioning. The On-Fixture Module is compatible with A-25-7H option.

- SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www.hubbellighting.com/products/sitesync for more details.

BLUETOOTH®

- RGBW option includes integral Bluetooth module, built into driver, that permits the adjustment of luminous front color when paired with Hubbell Remote App via cellular/ tablet device.
- Bluetooth Low Energy (BLE) or Bluetooth Smart compatible for both iOS (iOS8 and forward) and Android (Gingerbread and forward) handheld software applications. Compatible with phones and tablets.
- Free Bluetooth Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the internet at Apple App Store or Google Play.

MOUNTING AND INSTALLATION

- JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box
- Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates.
- Fixture attaches by two Allen-head hidden fasteners for tamper resistance.
- Optional mounting arrangements utilize a die-cast mounting adaptor to allow for surface conduit and through branch wiring.

SERVICING

- Housing shall be able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the housing shall be able to be removed for service by lifting the assembly up off the rear mounting plate and disconnecting the wiring plugs.
- Driver assembly shall be mounted to a prewired internal tray with quick disconnects for removal.

FUSING

SF for 120, 277, and 347 Line volts
DF for 208, 240, and 480 Line volts
 High temperature fuse holders factory installed inside the fixture housing.
 Fuse is included.



JOB	_____
TYPE	_____
NOTES	_____

FINISH

- Luminaire finish shall consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish.
- Luminaire finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

CERTIFICATION

- Luminaire shall be listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250.
- IP66 rated assembly
- IDA approved, 3000K and warmer CCTs only.
- DesignLights Consortium® (DLC) qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org.
- ANSI C136.31-2010 4G Vibration tested and compliant.
- Complies with "Americans with Disabilities Act" or "ADA" on select versions for low mounting height applications (fixtures extend maximum of 4 inches from wall for mounting heights of 80 inches or less).

WARRANTY / TERMS AND CONDITIONS OF SALE

Download:

Five year limited warranty (for more information visit: [http:// www.hubbelling.com/resources/warranty/](http://www.hubbelling.com/resources/warranty/))

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JOB	_____
TYPE	_____
NOTES	_____

FEATURES

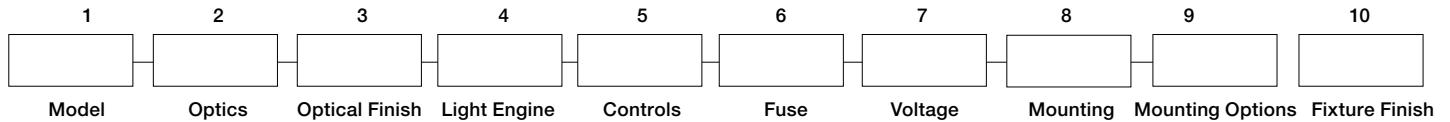
- Integral Motion Sensor
- IDA approved
- 20kV/10kA surge protection
- ANSI C136.41 receptacle
- IES Type II, III and IV distributions
- 3000K, 4000K, 5000K CCT
- Integral thermal protection
- 0-10V dimming ready
- IP66 optical system
- 120-277, 347 and 480VAC input
- Staggered twin mounting
- ANSI C136.31-2010 4G Rated



3000K and warmer CCTs only
MO-XX30 configurations only



ORDERING CODE



1. MODEL

4" wide luminaire

- KM41 Single fixture
- KM42 Two fixtures 180° apart
- KM43 Three fixtures 90° apart
- KM44 Four fixtures 90° apart

2. OPTICS

Distribution Type, see "Luminaire Performance" on page 3

- T2 IES Type II
- T3 IES Type III
- T4 IES Type IV

3. OPTICAL FINISH

Standard white or may choose one. See

'Luminaire Performance' on page 3 for detail.

- MO Optics in Matte Black finish
- FO Optics in fixture finish

4. LIGHT ENGINE

Lumen package, see 'Luminaire Performance' on page 3 for detail

- 3050 5000K CCT, CRI 70, 33 watts
- 3040 4000K CCT, CRI 70, 33 watts
- 3030 3000K CCT, CRI 70, 33 watts
- 2050 5000K CCT, CRI 70, 24 watts
- 2040 4000K CCT, CRI 70, 24 watts
- 2030 3000K CCT, CRI 70, 24 watts

560nm monochromatic amber and or custom lumen package available by request. ¹

5. CONTROL

Options

- MCPCR 7-Position Receptacle
- SCP Motion Sensor + Photocell ⁴

Accessories:

- SCPREMOTE Handheld commissioning tool ⁴
- SW7PR SiteSync 7-Pin Module
- NXOFM-1R1D-UNV NX 7-pin Module

6. FUSE

(may choose one)

- SF 120, 277, 347 Volt input
- DF 208, 240, 480 Volt input

7. VOLTAGE

120-277VAC input standard or may choose one

- 347 347VAC input ²
- 480 480VAC input ²

8. MOUNTING

Integral Pole

Square Straight Aluminum, 10.5"Ø Bolt Circle

- PS410-125 10' luminaire height.
- PS412-125 12' luminaire height.
- PS414-125 14' luminaire height.
- PS416-125 16' luminaire height.
- PS418-125 18' luminaire height.
- PS420-125 20' luminaire height.

Tenon Mount

- TA23 Slips over a 2 3/8" / 60mm
Ø x 4" / 102mm tall tenon

Side Mount

- SMK Mounts to the side of a square pole, KM41 only

Wall Mount

- WMK KM41 only

9. MOUNTING OPTIONS

Twin mount at staggered heights

Mounting holes for a fixture at 180°, KM41-...PS4... only, may choose one

- TS8 8' from bottom
- TS10 10' from bottom
- TS12 12' from bottom
- TS14 14' from bottom
- TS16 16' from bottom
- TS18 18' from bottom

Pole Accessories

May choose one

- GFI GFCI receptacle, 24" from top of pole
- RBC Duplex receptacle box with clear cover, wiring device(s) not included.

10. FIXTURE FINISH

Standard Color

- AGN Antique Green
- BL Black
- BLT Matte Black
- CRT Corten
- DB Dark Bronze
- DGN Dark Green
- GT Graphite
- LG Light Grey
- MAL Matte Aluminum
- MDB Bronze Metallic
- MG Medium Grey
- TT Titanium
- WH Arctic White
- WDB Weathered Bronze
- VBU Verde Blue

Premium Color

- SHK Shamrock
- SPP Salt and Pepper
- SFM Seafoam
- WCP Weathered Copper
- RAL RAL 4 digit Color
- CUSTOM Custom Color

¹ Contact factory

² Not compatible with SCP

⁴ Handheld commissioning tool is required to separately configure or adjust any number of SCP sensors



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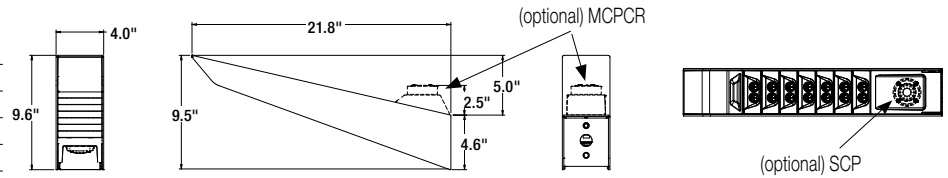
JOB _____
TYPE _____
NOTES _____

Kick™ – KM4 Kick Mini Small Scale

TYPE

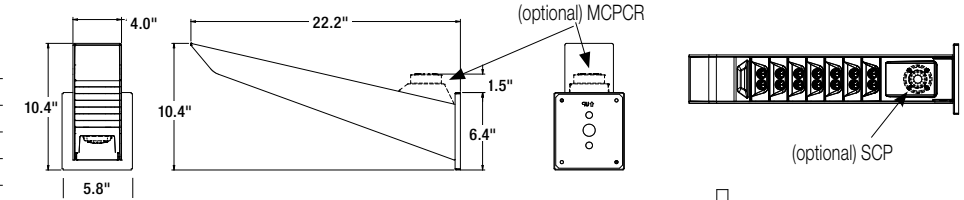
Side Mounted Luminaire(s)

MODEL	KM4X-...-SMK
OVERALL HEIGHT	9.6" / 244mm
OVERALL LENGTH	21.8" / 554mm
OVERALL WIDTH	4" / 102mm
WEIGHT	8.95 lbs.
EPA	0.56



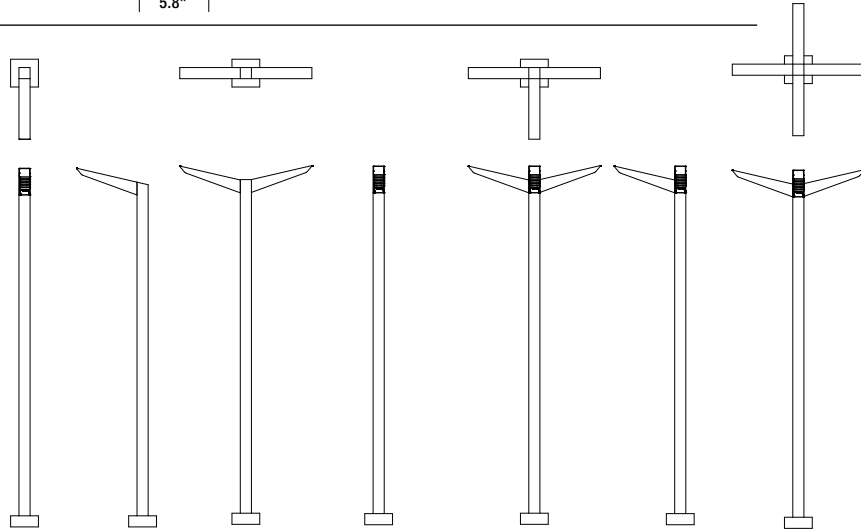
Wall Mounted Luminaire(s)

MODEL	KM41-...-WMK
OVERALL HEIGHT	10.4" / 264mm
OVERALL LENGTH	22.2" / 564mm
OVERALL WIDTH	5.8" / 147mm
WEIGHT	10 lbs.



Integral Pole Luminaire

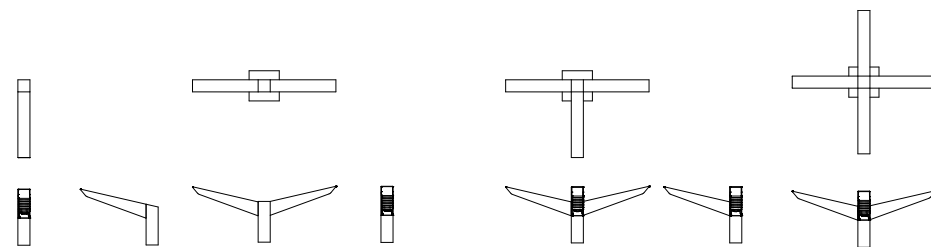
See page 6 for height and mounting detail
* Weight and EPA for fixtures only



MODEL	KM41-...-PS4XX-125	KM42-...-PS4XX-125	KM43-...-PS4XX-125	KM44-...-PS4XX-125
OVERALL LENGTH	25.8" / 655mm	10" / 254mm	25.8" / 655mm	47.5" / 1206mm
OVERALL WIDTH	10" / 254mm	47.5" / 1206mm	47.5" / 1206mm	47.5" / 1206mm
WEIGHT	8.95 lbs.	8.95 lbs.	8.95 lbs.	8.95 lbs.
EPA*	0.56	1.12	1.44	1.44

Tenon Mount Luminaire

Slips over a 2 3/8"/60mm diameter by 4"/102mm tall tenon



MODEL	KM41-...-TA23	KM42-...-TA23	KM43-...-TA23	KM44-...-TA23
OVERALL HEIGHT	13.5" / 343mm	13.5" / 343mm	13.5" / 343mm	13.5" / 343mm
OVERALL LENGTH	25.8" / 655mm	10" / 254mm	25.8" / 655mm	47.5" / 1206mm
OVERALL WIDTH	4" / 102mm	47.5" / 1206mm	47.5" / 1206mm	47.5" / 1206mm
WEIGHT	8.95 lbs.	8.95 lbs.	8.95 lbs.	8.95 lbs.
EPA*	0.87	1.44	1.62	1.62



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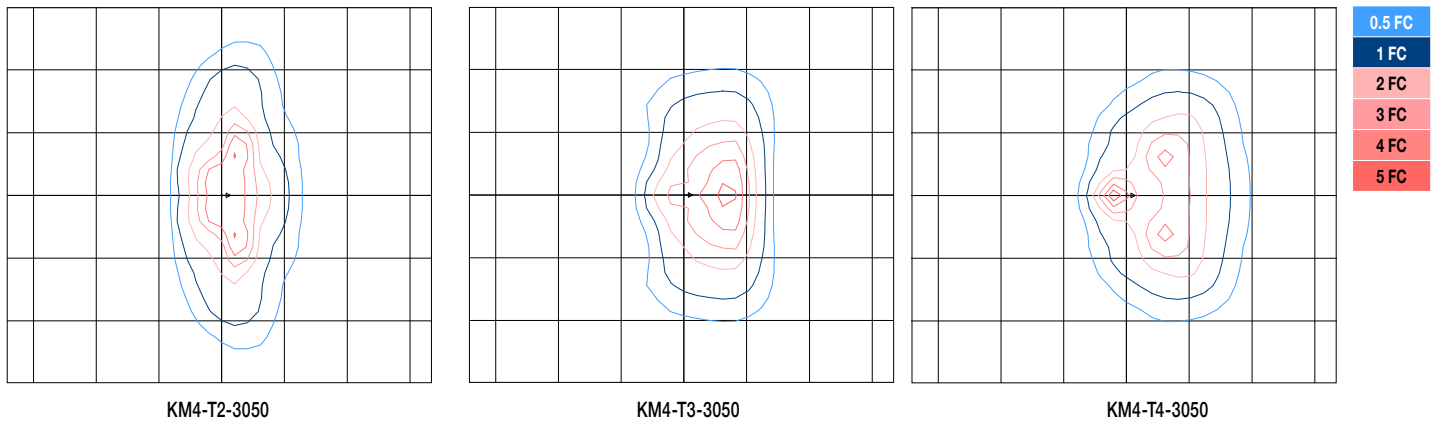
JOB	_____
TYPE	_____
NOTES	_____

LUMINAIRE PERFORMANCE

Configuration				Ordering Code														
Light Engine	Optical Finish	Distribution	Ordering Code	Bright White (5000K)				Neutral White (4000K)				Warm White (3000K)						
				Delivered Lumens	Efficacy (Lm/W)	BUG Rating			Delivered Lumens	Efficacy (Lm/W)	BUG Rating			Delivered Lumens	Efficacy (Lm/W)	BUG Rating		
				3050				3040				3030						
				B	U	G	B	U	G	B	U	G	B	U	G			
3000 SERIES	Standard	Type II	T2	3500	106	1	2	1	3455	105	1	2	1	3315	101	1	2	1
		Type III	T3	3423	104	1	2	1	3379	103	1	2	1	3242	99	1	2	1
		Type IV	T4	3576	109	1	1	1	3530	107	1	1	1	3387	103	1	1	1
	Fixture Finish	Type II	T2-FO	2676	81	1	2	1	2716	83	1	2	1	2535	77	1	2	1
		Type III	T3-FO	2706	82	1	2	1	2746	83	1	2	1	2563	78	1	2	1
		Type IV	T4-FO	3047	93	1	1	1	3093	94	1	1	1	2886	88	1	1	1
	Matte Optics	Type II	T2-MO	2676	81	1	0	1	2716	83	1	0	1	2535	77	1	0	1
		Type III	T3-MO	2706	82	1	0	0	2746	83	1	0	0	2563	78	1	0	0
		Type IV	T4-MO	3047	93	1	0	1	3093	94	1	0	1	2886	88	1	0	1
	2000 SERIES	Standard	Type II	T2	2647	112	1	2	1	2613	111	1	2	1	2507	106	1	2
Type III			T3	2589	110	1	1	1	2555	108	1	1	1	2447	104	1	1	1
Type IV			T4	2704	115	1	1	1	2670	113	1	1	1	2561	109	1	1	1
Fixture Finish		Type II	T2-FO	2015	85	1	2	1	2058	87	1	2	1	1909	81	1	2	1
		Type III	T3-FO	2038	86	1	1	1	2061	87	1	1	1	1930	82	1	1	1
		Type IV	T4-FO	2295	97	1	1	1	2343	99	1	1	1	2174	92	1	1	1
Matte Optics		Type II	T2-MO	2015	85	1	0	0	2058	87	1	0	0	1909	81	1	0	0
		Type III	T3-MO	2038	86	1	0	0	2081	88	1	0	0	1930	82	1	0	0
		Type IV	T4-MO	2295	97	1	0	0	2343	99	1	0	0	2174	92	1	0	0

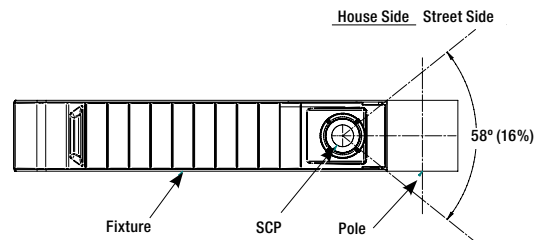
-MO.ies files should be used for -FO configurations in application layouts.

ISOLINE TEMPLATES 14' Mounting Height



SENSOR DETECTION RANGE

COVERAGE DIAMETER	SCP	SENSOR MOUNTING HEIGHT										RATIO	
		8'	10'	12'	14'	16'	18'	20'	25'	30'	35'		40'
		20'	25'	30'	35'	40'	45'	50'	62.5'	75'	87.5'	100'	1:2.5



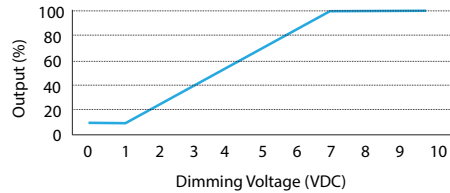
ELECTRICAL CHARACTERISTICS

Ordering Code	LED Current (mA)	System Wattage (W)	Line Input		Input		Min. Power Factor	Max THD (%)	Driver Operating Temp. Range	Inrush Current Peak				Dimming	
					Amps AC					(A)		T@50% (µs)		Dimming Range (V)	Source/Sink Current (mA)
			VAC	HZ	120	277				120	277	120	277		
30XX	700	33	120-277	50/60	0.3	0.1	0.9	20	-40°C-55°C	65		100		0-10	1
20XX	500	24	120-277		0.2	0.1									

TM-21 LIFETIME CALCULATION

Ambient Environment °C	Projected Lumen Maintenance (Khrs)					Reported L70
	25	50	60 (TM-21)	75	100	
25	98%	95%	94%	93%	90%	>60Khrs.
40	98%	96%	95%	93%	90%	

DIMMING CURVE



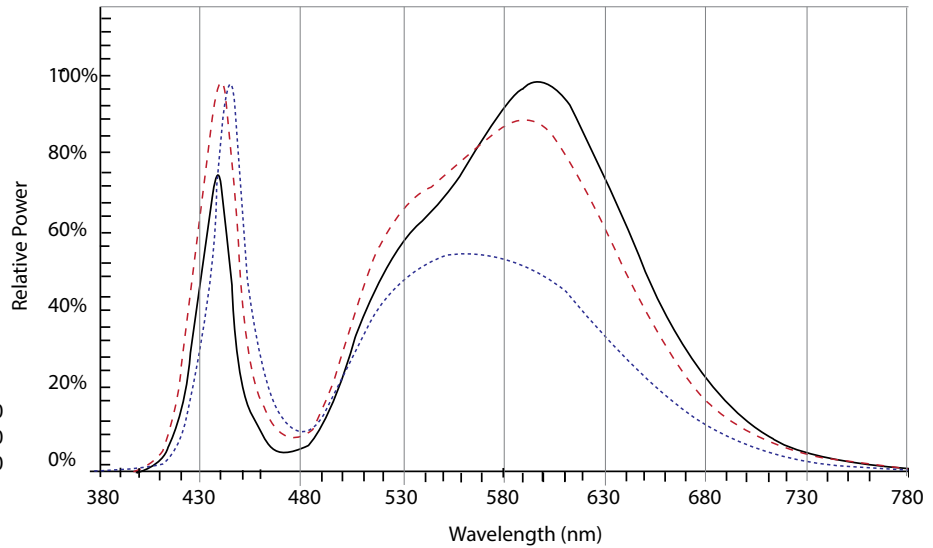
Note: Fixture does not dim to off, fixture dims to 10% minimum output.

COLOR CHARACTERISTICS

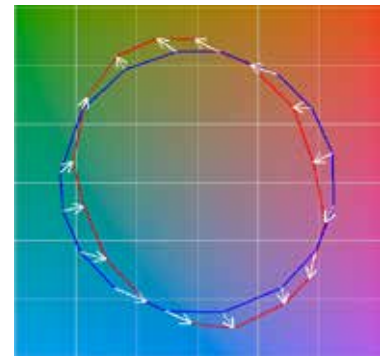
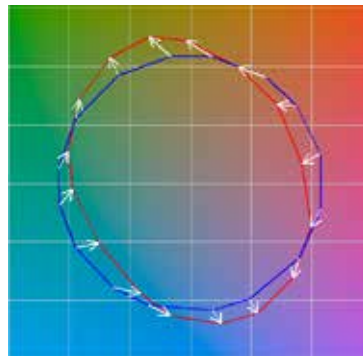
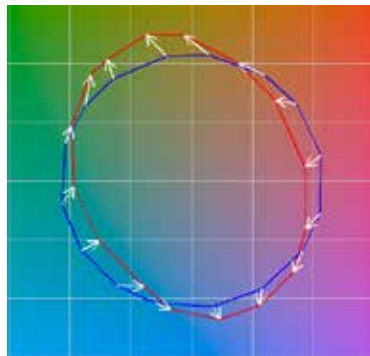
Value	Ordering Code		
	XX30	XX40	XX50
Rf	69	69	71
Rg	99	99	98
CCT(K)	3122	3852	5020
Duv	0.001	0.0004	0.0005
CIE Ra	74	73	74

Note: TM-30 reported at the discrete LED level, not fixture level.

SPECTRAL POWER DISTRIBUTION COMPARISON



COLOR VECTOR GRAPHIC



— Reference Illuminant — Test Source — Series1 — Series2 — Series3 — Series4 — Series5 — Series6 — Series7 — Series8 — Series9 — Series10

XX30

— Reference Illuminant — Test Source — Series1 — Series2 — Series3 — Series4 — Series5 — Series6 — Series7 — Series8 — Series9 — Series10

XX40

— Reference Illuminant — Test Source — Series1 — Series2 — Series3 — Series4 — Series5 — Series6 — Series7 — Series8 — Series9 — Series10

XX50



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JOB _____
TYPE _____
NOTES _____

SPECIFICATIONS

HOUSING

- Housing shroud shall be of fabricated 5052-H32 aluminum alloy with a rear mounting interface that shall be of fabricated 304 stainless steel.
- Housing mounting interface shall have a stamped silicone gasket.
- Luminaire housing shall be free of any visible heat fins, hardware or fasteners.
- Bracketry and hardware shall be stainless steel.

OPTICAL ARRAY

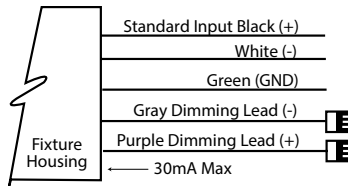
- LEDs shall be mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features.
- Optical lenses shall be clear injection molded PMMA acrylic.
- Each MCPCB and optic shall be sealed to an extruded 6063-T6 aluminum alloy heat spreader and sealed with a continuous one piece injection molded silicone rubber gasket. IP66.
- Patent Pending design of optical array shall independently shield each LED optic across the length of the aperture.
- Optical surfaces shall be painted white unless the optional fixture finish (FO) or matte black finish (MO) is selected.
- Optional matte black finish optics (MO) are required to meet UO classification with zero percent uplight.
- Optional fixture finish optical surfaces (FO) shall not exceed BUG ratings of the standard white finish and shall be greater than or equal to the delivered lumens of the optional matte black optical surface finish (MO).

ELECTRICAL

- Drivers shall be in direct contact with the aluminum housing across the entire surface area of the widest face for maximum thermal transfer.
- Luminaires shall have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series.
- Drivers shall be U.L. recognized.
- Drivers shall not be compatible with current sourcing dimmers, consult factory for current list of known compatible dimming systems approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV.
- Luminaire shall be capable of operating at

100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.

- Luminaires not configured with a control system or ANSI C136 receptacle option shall be provided with 0-10 purple and gray dimming leads.



CONTROLS

- Motion Sensor shall use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Careful consideration must be given to obstructions that may block the sensor's line of sight.
- Factory default settings for SCP option shall be:
 - High mode: 10V
 - Low mode: 1V
 - Ramp-up rate: disabled
 - Fade-down rate: disabled
 - Photocell: Off
 - Sensitivity: Full
 - Time Delay: Fade to low: 5 minutes
 - Time Delay: Fade to off: 1 hour

MOUNTING AND INSTALLATION

- Integral pole mount luminaires shall require assembly of fixture(s) to the pole, mounting hardware, anchor bolts and anchor bolt template shall be included. *See page 6 for additional considerations specific to the integral pole.*
- Tenon mount luminaires shall require assembly of fixture(s) to the tenon adapter, mounting hardware shall be included. Tenon adapter shall be secured to the tenon with eight 5/16-18 stainless steel set screws.
- Side mount luminaires shall be supplied with hardware compatible with AAL mountings.
- Twin mounted staggered height fixtures

shall be configured separately.

- Wall mount luminaires shall require assembly of fixture to mounting plate.

SERVICING

- Service access to the optical array and driver assembly shall be via a tool-less internal latch and have an audible click.
- Optical array shall be able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the optical array shall be able to be removed for service by lifting the assembly up off the rear hinge and disconnecting the wiring plugs.
- Driver assembly shall be mounted to a prewired internal tray with quick disconnects for removal.

FINISH

- Luminaire finish shall consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish.
- Luminaire finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

CERTIFICATION

- Luminaire shall be listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250.
- ANSI C136.31-2010 4G Vibration tested and compliant.
- IEC 66262 Mechanical Impact Code IK10
- IDA approved, 3000K and warmer CCTs only.

WARRANTY / TERMS AND CONDITIONS OF SALE

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JOB	_____
TYPE	_____
NOTES	_____

SPECIFICATIONS

Integral Pole

MODEL	HEIGHT		SHAFT SECTION	WT	MAXIMUM ALLOWABLE EPA (MPH)							
	OVERALL	POLE			85	90	100	110	120	130	140	150
KM4X-PS410-125	10' 7.5" / 3.24m	10'	4" SQ X .125"	28 lbs	15.4	13.5	10.4	8.1	6.4	5.0	4.0	3.1
KM4X-PS412-125	12' 7.5" / 3.85m	12'	4" SQ X .125"	32 lbs	11.8	10.2	7.6	5.7	4.3	3.2	2.3	1.6
KM4X-PS414-125	14' 7.5" / 4.46m	14'	4" SQ X .125"	37 lbs	9.1	7.7	5.5	3.9	2.6	1.7	0.95	0.33
KM4X-PS416-125	16' 7.5" / 5.07m	16'	4" SQ X .125"	42 lbs	6.9	5.7	3.8	2.3	1.3	0.46	-	-
KM4X-PS418-125	18' 7.5" / 5.68m	18'	4" SQ X .125"	48 lbs	4.9	3.9	2.2	0.95	0.01	-	-	-
KM4X-PS420-125	20' 7.5" / 6.29m	20'	4" SQ X .125"	53 lbs	3.2	2.2	0.75	-	-	-	-	-

* - Consult factory for thicker shaft profiles and or custom heights not shown above.

CONSTRUCTION

- Base shall be cast aluminum #356 alloy and be heat treated to a T-6 condition.
- Shaft shall be extruded aluminum 6061 alloy and heat treated to a T-6 condition.
- Anchor bolts shall be hot dip galvanized steel. Eight galvanized hex nuts and flat washers, and a bolt circle template shall be provided. Anchor bolt for poles are 3/4" x 24" x 3".

WARNINGS

- Caution must be exercised in the selection of a design wind speed when the pole is to be installed in a special wind region (as indicated by the wind map) or in an area where wind speed is unpredictable.
- AAL recommends consulting a local engineer when the pole is to be installed in an area that may be subject to vibration, oscillations, and other fatigue effects which are not covered by the AAL warranty.
- The use of banners or other appendages can severely affect the loading of a pole. No banner or other appendage may be attached to an AAL pole unless approved by AAL.
- If the products are to be used on an existing foundation or on other structures, the customer assumes all responsibility for the structural integrity of the existing foundation, anchorage or structures and all the consequences arising there from.

CAUTION

- Poles should never be erected without the luminaire installed. Warranty is voided if the pole is erected without the luminaire.

WARRANTY / TERMS AND CONDITIONS OF SALE

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