



MEMORANDUM

To: MitchelCypes
From: Michael Buscher
Date: January 17, 2023
Re: Exterior Lighting – Lots #52 & #70 & Street Tree / Utility Conflicts

In response to the January 10, 2023, Staff Report for Hinesburg Center Phase II, this memo provides responses to: Item 1. *Lots #52 & #70 Lighting*, and 5. *Potential Street Tree and Utility Line Interference*.

1. Lots #52 & #70 Lighting

The following provides a description of the approach that will be used for exterior lighting for Lots #52 & #70. Details for these areas will be finalized through the design development phase for these lots. All proposed lighting will utilize LED lighting technologies, will include output levels of 1,200 lumens or less, and will have a color temperature of 3000k or less.

Canopy / Porch Ceiling: Surface mounted lights will be used both, under canopies at entrances to Building C on lot #52, and under porch roofs for buildings E, F, and G for lot #70. A downward oriented fixture, such as the Juno SlimForm or similar will be utilized for this application and will be specified with an output level of 1,200 lumens or less (See attachment A). – Note, at locations that require emergency lighting, the JSF 111N model may be used, but will incorporate dimming to keep output levels at or below 1,200 lumens.

Wall Mounted Fixtures: Additionally, wall mounted fixture may also be utilized near entrances for buildings C, E, F, and G, and also at the garages for buildings E, F, and G. These fixtures may include integrated LED lighting or have a medium base socket for to be used with a separate LED bulb. All fixtures will be downward oriented and will utilize light sources less than 1,200 lumens. For example, a 60-watt incandescent bulb is equivalent to a 9-watt LED bulb with a output level of approximately 800 lumens. See examples below:



Cormandeo Oakhouse – 6” Barn Light



Cormandeo Oakhouse – 8 ½” Bark Light

Bollard and Pathway Lighting: Additional outdoor lighting will be provided within the outdoor amenity area along the north side of Building C on Lot #52, and along paths on Lot #70, including the Community Green and between Buildings E and F. Lighting for these areas will include low-level lighting through the used of bollards or other pathway lighting. All fixtures will be downward oriented and have output levels of 1,200 lumens or less. The example below illustrates the intended character of lighting for pathways and pedestrian amenity areas. Attachments B and C provide example fixtures.



Example of low-level pathway lighting

5. Potential Street Tree and Utility Line Interference.

As a result of limited space within and immediately adjacent to street right-of-ways, and the desire of many utilities to no be located under pavement, it becomes necessary to located street tree near or above utility alignments. Overall, the root zone for all selected street trees is between 2 to 3 feet. Water, sanitary sewer, and storm water infrastructure is all typically buried 4 feet or more and measures are taken to avoid conflicts with valves, manholes, catch basins, and other components that may create vertical conflicts. Green Mountain Power and VGS also specify that new underground electric and natural gas distribution mains have a minimum burial depth of 3 ft. As civil plans have been updated and revised through the Final Plat and Site Plan review process, an updated set of planting plans will be provided upon final approval. All efforts will be made to avoid the placement of street trees directly above electric and natural gas lines.

JUNO SLIMFORM™ LED SURFACE MOUNT DOWNLIGHTS

FOR J-BOX INSTALLATION
5", 7", 11", 13" ROUND



JSF SERIES

Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

PRODUCT DESCRIPTION

Sleek, ultra-low profile energy efficient LED surface mount downlights in multiple sizes from 5" to 13" • Provides economical installation by mounting directly over standard and fire-rated junction boxes • Optional finish trims available for custom, designer look similar to standard recessed downlights • Provides general illumination in residential and commercial applications including multi-family and hospitality • Ideal for use in corridors, living spaces, closets, hallways, pantries, stairways, outdoor covered areas with Emergency Option and much more.

PRODUCT SPECIFICATIONS

Construction Shallow, less than 1", solid ring with white finish
• Non conductive fixture for shower light applications • Optional, field installable finish trims available for 5" and 7" versions to change the exterior finish of fixture

Optics Light guide technology combined with diffusing lens conceals the LEDs from direct view and provides uniform lens luminance.

LED Light Engine LEDs mounted directly to heatsink designed to provide superior thermal management and ensure long life • 2700K, 3000K, 3500K or 4000K LED color temperature • LEDs binned for 4-step MacAdam ellipse color consistency • 90 CRI minimum.

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 at 120V input • 120 volt driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers • External driver is only available on 5" and 7" models • For a list of compatible dimmers, see [JUNOSLIMFORM-DIM](#).

Emergency Battery Option Available on fixture sizes 11" and larger
• Battery factory assembled to fixture with integral test switch • Drives LEDs for 90 minutes to meet Life Safety Code (NFPA-LSC), National Electrical Code (NEC), and UL requirements • Title 20 certified battery pack available when ordering E10WLCP option • EBX option provides back box without battery for consistent look when used in same space as fixtures with EL emergency option • Damp location only with emergency option.

Life Rated for 50,000 hours at >70% lumen maintenance.

Labels ENERGY STAR® certified • Certified to the high efficacy requirements of California T24 JA8-2016 • CSA listed for US and Canada
• Suitable for wet locations (covered ceilings) • Damp location only with emergency option.

Testing All reports are based on published industry procedures; actual performance may differ as a result of the end-user environment and applications. All values are design or typical values, measured under laboratory conditions at 25 °C.

Warranty 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

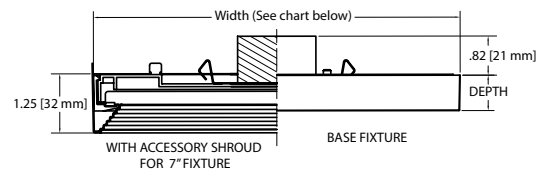
Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

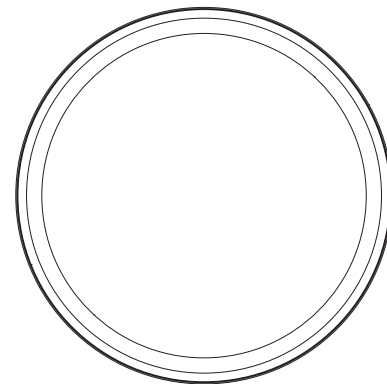
Specifications subject to change without notice.



DIMENSIONS



External driver available on 5" and 7" models only.



ROUND SPECIFICATIONS

	Width	Depth
JSF 5IN	5.25 (13.34)	0.75 (1.91)
JSF 7IN	7.77 (19.74)	0.75 (1.91)
JSF 11IN	11.08 (28.14)	0.9 (2.29)
JSF 13IN	13.05 (33.15)	0.9 (2.29)

All dimensions are in inches (centimeters) unless otherwise indicated.

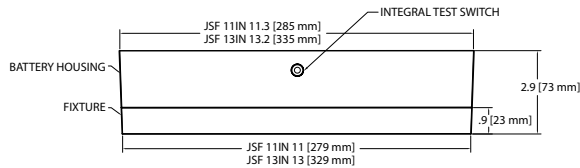
INSTALLATION

Junction Box Mounting Fixture provided with leads for direct wire connection in j-box • Installs directly to industry standard junction boxes • Compatible boxes include 4" metal or plastic octagonal standard and fire-rated junction boxes (3 1/2" junction box screw-hole spacing required for installation) • Minimum 2 1/8" deep junction box required for 5" and 7" fixtures (no depth requirement for 11" and larger fixtures) • Quick mount bracket provides fast installation of fully assembled fixture to junction box • Suitable for ceiling mount • Suitable for use within closet storage spaces when installed per NEC requirements.
Junction box sizes vary - Verify compatibility with fixture prior to installation

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JSF SERIES

EMERGENCY BATTERY FOR 11" AND 13"



PERFORMANCE DATA

	JSF 5IN		JSF 7IN		JSF 11IN		JSF 13IN	
	120V	MVOLT	120V	MVOLT	120V	MVOLT	120V	MVOLT
Lumens	700	700	1000	1000	1300	1300	1800	1800
CRI	90CRI		90CRI		90CRI		90CRI	
CCT	27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K		27K, 30K, 35K, 40K	
Voltage	120V	120V-277V	120V	120V-277V	120V	120V-277V	120V	120V-277V
Input Power	10W	10W	13W	13W	15W	15W	20W	20W
Input Current	110MA	50MA	150MA	60MA	180MA	80MA	240MA	110MA
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Power Factor	>0.9		>0.9		>0.9		>0.9	

ORDERING INFORMATION

Example: JSF 5IN 07LM 27K 90CRI 120 FRPC WH

Series	Size/Lumens	Color Temperature	CRI	Voltage/Driver	Finish	Emergency Battery ^{1,2}
JSF SlimForm Surface Mount Downlight - Round	5IN 07LM	5", 700 Lumens	27K 2700K	120 FRPC Dedicated 120V, Forward Reverse Phase Dimmig MVOLT ZT Universal Voltage 120V-277V, 0-10V Dimming	WH White	EL ^{3†} Battery Back-up Option EBX Empty Back Box for Aesthetics E10WLCP ^{4†} EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS.
	7IN 10LM	7", 1000 Lumens	30K 3000K			
	11IN 13LM	11", 1300 Lumens	35K 3500K			
	13IN 18LM	13", 1800 Lumens	40K 4000K			

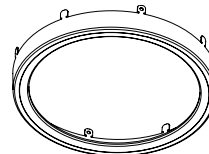
†: EL Battery Back-up option is not Energy Star certified

ACCESSORIES

TRIM – Optional, field installable finish trim rings available to change the exterior finish of fixture.

Example: JSFTRIM 5IN BZ

Series	Size	Finish
JSFTRIM SlimForm Accessory- Trim	5IN 5 inches	BL Black
	7IN 7 inches	BZ Bronze
		SN Satin Nickel



TRIM

Notes:

- Emergency battery available with 11IN and 13IN only.
- Emergency battery is only available with MVOLT ZT.
- EL battery option not available in California due to Title 20 restrictions.
- E10WLCP ordering option is Title 20 certified for shipments to California.

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PHOTOMETRICS

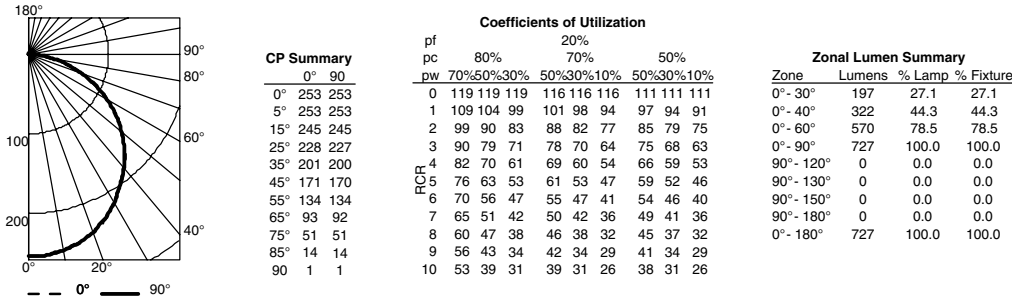
Distribution Curve

Distribution Data

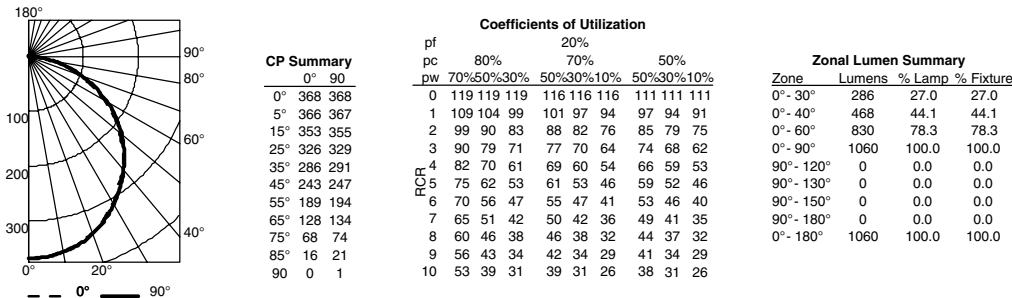
Coefficient of Utilization

Illuminance Data at 30" Above Floor for a Single Luminaire

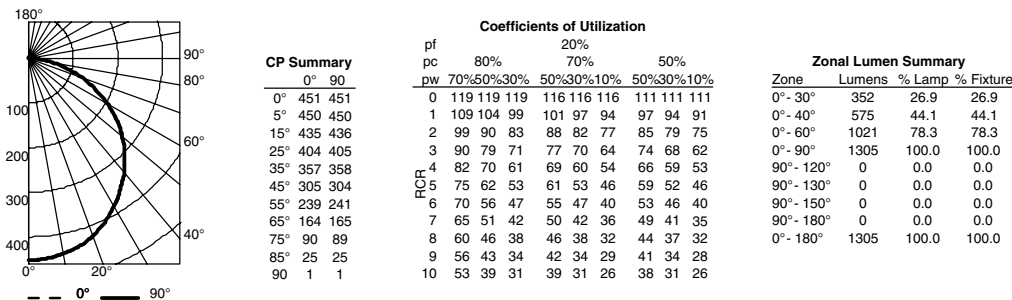
JSF 5IN 27K, 2700K LEDs, input watts: 9.72, delivered lumens: 727, LM/W = 74.8, test no. ISF 33599, tested in accordance to IESNA LM-79.



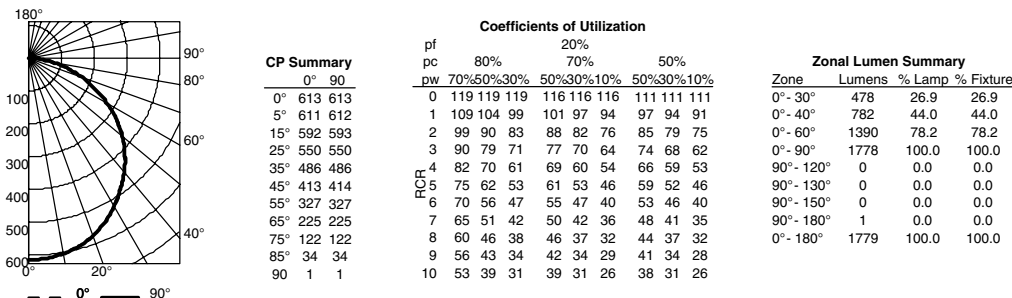
JSF 7IN 27K, 2700K LEDs, input watts: 12.8, delivered lumens: 1060, LM/W = 82.8, test no. ISF 33600, tested in accordance to IESNA LM-79.



JSF 11IN 27K, 2700K LEDs, input watts: 15.2, delivered lumens: 1305, LM/W = 85.9, test no. ISF 33661, tested in accordance to IESNA LM-79.



JSF 13IN 27K, 2700K LEDs, input watts: 20.2, delivered lumens: 1779, LM/W = 88, test no. ISF 33663, tested in accordance to IESNA LM-79.



For 30K fixtures, use 1.02 multiplier; For 35K fixtures, use 1.03 multiplier, For 40K fixtures, use 1.07 multiplier.

ATLANTIS BOLLARD

15601BZ-LED

ATLANTIS ROUND LARGE LED BOLLARD

Atlantis features a minimalist design for the ultimate in urban sophistication. Constructed of solid aluminum and Dark Sky compliant, Atlantis provides a chic solution to eco-conscious homeowners.

DETAILS	
FINISH:	Bronze
MATERIAL:	Aluminum
GLASS:	Etched Glass Lens

DIMENSIONS	
WIDTH:	3"
HEIGHT:	30"
DEPTH:	3
WEIGHT:	4.5lb

LIGHT SOURCE	
LIGHT SOURCE:	Integrated LED
LED NAME:	27G3SE-35
VOLTAGE:	12v
COLOR TEMP:	2700
LUMENS:	350
CRI:	80
INCANDESCENT EQUIVALENCY:	1 x 35w
DIMMABLE:	No
TRANSFORMER REQUIRED:	Yes

SHIPPING	
CARTON LENGTH:	9
CARTON WIDTH:	6
CARTON HEIGHT:	32.5
CARTON WEIGHT:	5.5



PRODUCT DETAILS:

- Suitable for use in wet (outdoor direct rain or sprinkler) locations as defined by NEC and CEC. Meets United States UL Underwriters Laboratories & CSA Canadian Standards Association Product Safety Standards
- Photometrics based off engine photometrics.
- Fixture mounts to 2" PVC pipe and the die cast mount is also able to be surface installed
- LumaCore Series products carry a lifetime limited warranty
- Bold lines and a clean, minimalist style complement contemporary architecture
- Warm rich light bronze tone



Attachment C

Gardco PureForm LED bollard PBL integrates a sleek, low profile design, extraordinary light output, and energy savings into an innovative pedestrian scale luminaire. PureForm bollard features a high performance optical system designed to achieve wide spacings and full cutoff performance. Three heights available for a customized look. IP66 optics ensure dust or moisture will never interfere with performance.

Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

Ordering guide

example: PBL-42-14L-450-NW-G2-5-UNV

Prefix	Shaft Height	Number of LEDs	Drive Current	LED Color - Generation	Distribution	Emergency	Voltage
PBL PureForm bollard	36 Standard Shaft 36"	14L 14 LEDs (full ring)	100 100mA	WW-G2 Warm White 3000K, 70CRI Generation 2 NW-G2 Neutral White 4000K, 70CRI Generation 2 CW-G2 Cool White 5000K, 70CRI Generation 2	Type 3 3 Type 3 Type 5 5 Type 5	Leave blank for no battery EBP Emergency battery ^{2,7,10}	120 120V
	42 Standard Shaft 42"		200 200mA				208 208V
	60 Standard Shaft 60"		350 350mA				240 240V
			450 450mA				277 277V
			600 600mA				347 347V
			800 800mA				480 480V
1050 1050mA	UNV 120-277V (50/60Hz)						
Options							
Dimming controls	Motion sensing	Photo-sensing	Electrical	Finish			
DD 0-10V External dimming (by others) ^{3,4} FAWS Field Adjustable ^{3,4} LLC Wireless controls without PIR sensor ^{3,4,5} BL Bi-level functionary with motion sensor ^{3,11} DynaDimmer: Automatic Profile Dimming ^{3,4} CS50 Security 50% Dimming, 7 hours CM50 Median 50% Dimming, 8 hours CS30 Security 30% Dimming, 7 hours CM30 Median 30% Dimming, 8 hours	IMRI Integral infrared ^{6,11}	PCB Photocontrol Button ^{8,10,12}	Fusing F1 Single (120, 277, 347VAC) ⁸ F2 Double (208, 240, 480VAC) ⁸ F3 Canadian Double Pull (208, 240, 480VAC) ⁸ Surge Protection (10kA standard) SP2 Increased 20kA GFCI Ground Fault Interrupt Outlet ⁹	Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray Customer specified RAL Specify optional color or RAL (ex: RAL7024) CC Custom color (Must supply color chip for required factory quote)			

- Extended lead times apply. Contact factory for details.
- Not available in 100, 200 or 350mA.
- Not available with other control options.
- Not available with motion sensor.
- Not available with photocontrol.
- Available only with BL dimming control.
- Not available with LLC and CS/CM.
- Must specify input voltage.
- Available in 120V only.
- Not available in 347 or 480V.
- Not available in 100, 200, and 1050mA.
- Not available with LLC.

PBL PureForm LED bollard

LED Wattage and Lumen Values

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Average System Watts	Type 3			Type 5		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
PBL-14L-100-NW-G2-xx	14	100	4000	6.1	492	B0-U0-G0	81	538	B1-U0-G0	88
PBL-14L-200-NW-G2-xx	14	200	4000	10.6	965	B0-U0-G0	91	1055	B1-U0-G0	100
PBL-14L-350-NW-G2-xx	14	350	4000	17.7	1608	B0-U0-G0	91	1758	B1-U0-G0	99
PBL-14L-450-NW-G2-xx	14	450	4000	23.1	2007	B0-U0-G1	87	2195	B2-U0-G1	95
PBL-14L-600-NW-G2-xx	14	600	4000	30.3	2551	B1-U0-G1	84	2789	B2-U0-G1	92
PBL-14L-800-NW-G2-xx	14	800	4000	40.5	3198	B1-U0-G1	79	3497	B2-U0-G1	86
PBL-14L-1050-NW-G2-xx	14	1050	4000	53.8	3853	B1-U0-G1	72	4213	B3-U0-G1	78

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

LED Wattage and Lumen Values (Emergency Mode)

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Avg. System Watts		Lumen Outputs			
				Normal Mode	Emergency Mode	Type 3		Type 5	
				Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode
PBL-14L-450-NW-G2-xx-EBP	14	450	4000	23.1	10.4	2007	1211	2195	1324
PBL-14L-600-NW-G2-xx-EBP	14	600	4000	30.3	10.4	2551	1211	2789	1324
PBL-14L-800-NW-G2-xx-EBP	14	800	4000	40.5	10.4	3198	1211	3497	1324
PBL-14L-1050-NW-G2-xx-EBP	14	1050	4000	53.8	10.4	3853	1211	4213	1324

For emergency EBP option, publish values are based on initial lumens.

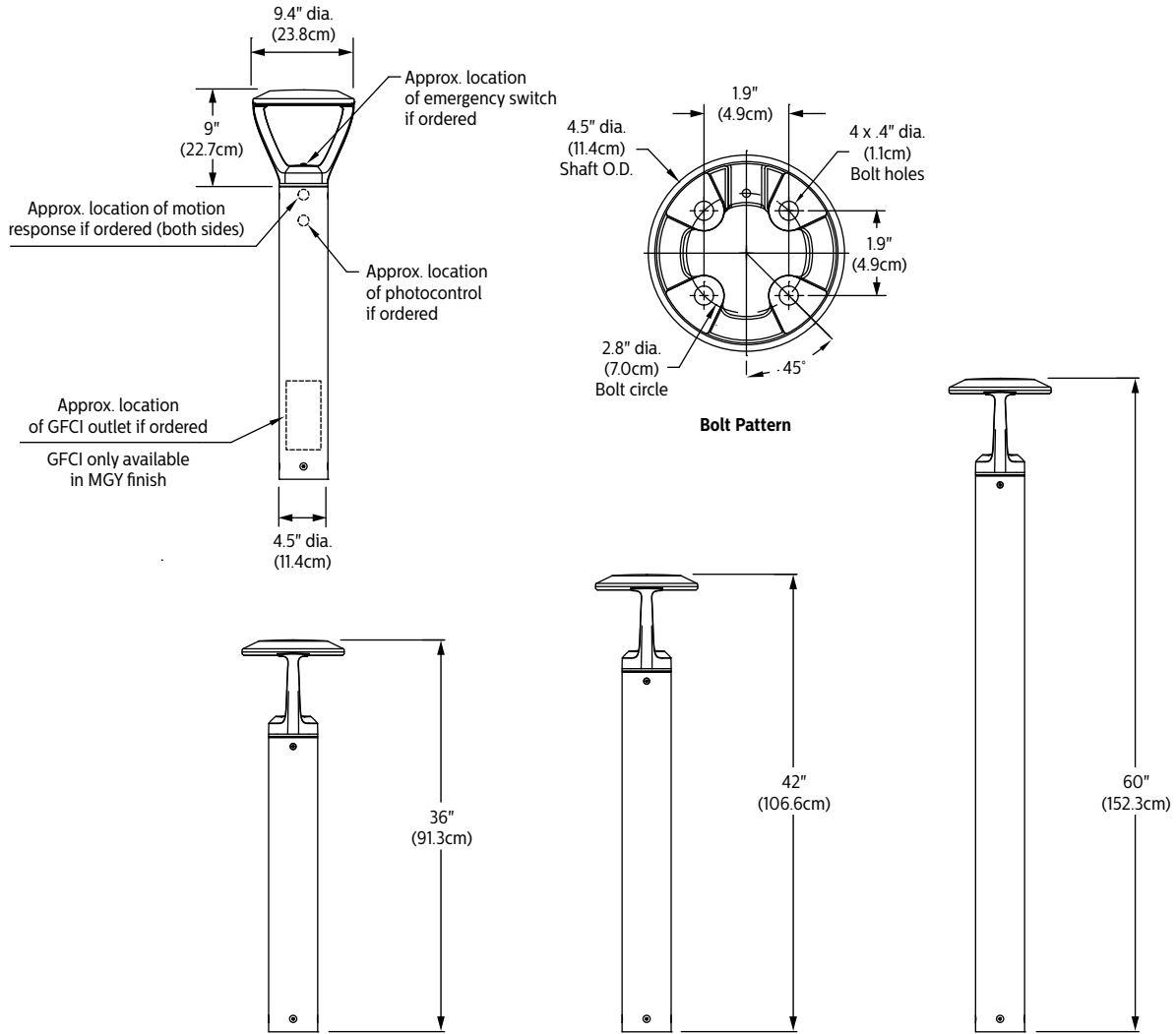
Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1050mA	>100,000 hours	>60,000 hours	>95%

PBL PureForm LED bollard

Dimensions



SPECIFICATIONS

Certifications/Qualifications

Class 2	Yes
Dark Sky Compliant	Yes
Title 24 Compliant	Yes
	www.kichler.com/warranty

Dimensions

Base Backplate	5.00 X 5.00
Extension	6.50"
Weight	2.60 LBS
Height from center of Wall opening (Spec Sheet)	3.25"
Height	7.00"
Width	5.00"

Electrical

Input Voltage	Dual (120/140)V
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Light Source

Delivered Lumens	350
Dimmable	Yes
Expected Life Span (Hours)	40000
Lamp Included	Integrated
Light Source	LED
Max or Nominal Watt	11.00
# of Bulbs/LED Modules	1

Mounting/Installation

Interior/Exterior	Exterior
Location Rating	Wet
Mounting Style	Wall Mount

Photometrics

Color Rendering Index	90
Color Temperature Range	3000
Kelvin Temperature	3000K

FIXTURE ATTRIBUTES


Housing

Primary Material	ALUMINUM
Shade Dimensions	4.50 DIA X 7.00

Product/Ordering Information

SKU	11250BKT30
Finish	Textured Black
Style	Contemporary
UPC	783927453066

Finish Options

-  Textured Architectural Bronze
-  Textured Black



**Attachment D:
Alternate Contemporary
Wall Mount Fixture**