

Date:	Approved:
Type:	
Fixture:	
Project:	

## Round & Square Bollards

### LS-BOL

#### STANDARD



#### FEATURES

- Available in 4000k (neutral white) and 5000 (cool white) color temperatures.\*
- Long-life LEDs provide at least 70% of initial lumen output ( $L_{70}$ ) for  $\geq 180,000$  hours of operation, and at least 90% of initial lumen output ( $L_{90}$ ) for  $\geq 54,000$  hours of operation.\*\*
- LED chromaticity based on  $\leq 5$ -step ANSI quadrangles.
- LED color maintenance  $\leq 0.001$  chromaticity shift ( $\Delta u'v'$ ) over the initial 6,000 hours of operation.
- 2,700 nominal lumens.
- 21 nominal watts.
- 0-10vdc dimming drivers, which provide 10% continuous dimming are standard.
- Universal 120-277 AC voltage (50-60Hz) is standard.
- Power factor  $> 0.90$ .
- Total harmonic distortion  $< 20\%$ .
- Color rendering index ( $R_a$ )  $> 80$ . Red color rendering of at least 15.
- Cast aluminum housing with dark bronze, powder coat finish.
- High-impact, polycarbonate lens.
- Easy installation in new construction or retrofit applications.

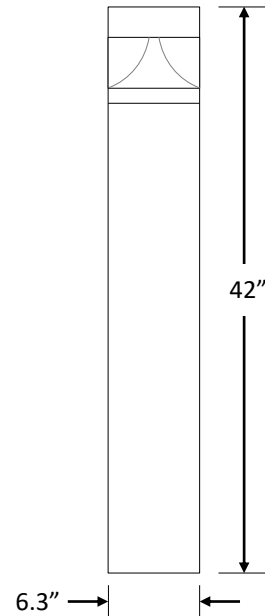
#### WARRANTY & LISTINGS

- cULus listed for wet locations in ambient temperatures from  $-40^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ ).
- IP65 rated for ingress protection.
- DLC 5.1 premium approved.
- Complies with FCC Part 15, class A.
- Complies with ICE61000-4-5, input transient surge protection (line-neutral = 4kV; line- & neutral-ground = 6kV).
- Complies with RoHS (Restriction on Hazardous Substances) requirements.
- 5-year warranty of all electronics and housing.

\* Contact factory for other color temperatures and lumen packages.  
 \*\*  $L_{70}$  &  $L_{90}$  hours are IES TM-21-11 calculated hours.



#### DIMENSIONS



LS-BOL-R = 8.4 lbs.  
 LS-BOL-S = 12.7 lbs

NOTE: Dimensions for LS-BOL-S and LS-BOL-R are the same. LS-BOL-S is shown.

#### ORDERING INFORMATION

Example: LS-BOL-R-27L-5K

Series	Style		Lumen Output		Color Temperature		Required Mounting Means Order Separately	
	R	S	27L	2,700 lm	4K	5000k	LS-BOL-R-MTGKIT	Anchor bolt for round bollard
		S			5K	5000k	LS-BOL-S-MTGKIT	Anchor bolt for square bollard

## ELECTRICAL DATA

Model	Color Temperature	CRI <sup>1</sup>	Luminaire Lumens	Luminaire Watts	Lumens Per Watt	Input Voltage	Input Current (A)			Power Factor	THD <sup>2</sup>	L <sub>70</sub> Hours <sup>3</sup>
							120V	240V	277V			
LS-BOL-R-27L-4K	4000k	> 80	2,772	22	129	120-277	0.18	0.09	0.08	> 90%	< 20%	180,000
LS-BOL-R-27L-5K	5000k	> 80	2,785	21	130	120-277	0.18	0.09	0.08	> 90%	< 20%	180,000
LS-BOL-S-27L-4K	4000k	> 80	2,739	22	126	120-277	0.18	0.09	0.08	> 90%	< 20%	180,000
LS-BOL-S-27L-4K	5000k	> 80	2,756	21	130	120-277	0.18	0.09	0.08	> 90%	< 20%	180,000

<sup>1</sup> Color rendering index

<sup>2</sup> Total harmonic distortion

<sup>3</sup> L<sub>70</sub> refers to the number of hours at which lumen output declines to 70% of the initial level. L<sub>70</sub> hours are IES TM-21-11 calculated hours.

## PHOTOMETRIC DATA

### LS-BOL-R-27L-5K

#### Luminaire Data

Description	BOLLARD (ROUND) 27L, 5K
Total Lumens	2,796
Input Wattage	21
Efficacy (lm/W)	131
Max. Cd.	827.74 (45H, 54V)
IES Classification	Type IV
Longitudinal Classification	Very Short

#### Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30°	157	5.6%
0-60°	1,584	56.7%
0-80°	2,485	88.9%
80-90°	202	7.2%
0-90°	2,687	96.1%
90-110°	77	2.7%
110-180°	0	0.0%
0-180°	2,796	100.0%

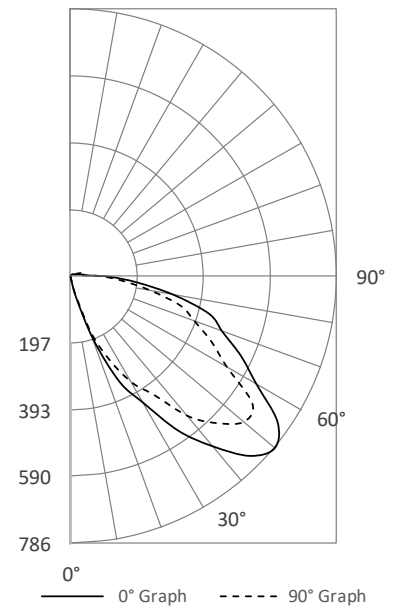
#### Luminaire Classification Systems (LCS)

LCS Zone		Lumens	%Lum
FL	0-30	85	3.1%
FM	30-60	749	26.8%
FH	60-80	463	16.6%
FVH	80-90	104	3.7%
BL	0-30	71	2.5%
BM	30-60	679	24.3%
BH	60-80	438	15.7%
BVH	80-90	98	3.5%
UL	90-100	49	1.7%
UH	100-180	61	2.2%
<b>Total</b>		2,796	100.0%

BUG Rating

B1-U3-G2

#### 180° Polar Graph



## PHOTOMETRIC DATA

### LS-BOL-S-27L-5K

#### Luminaire Data

Description	BOLLARD (SQUARE) 27L, 5K
Total Lumens	2,760
Input Wattage	21
Efficacy (lm/W)	130
Max. Cd.	757.38 (90H, 51V)
IES Classification	Type VS
Longitudinal Classification	Short

#### Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30°	153	5.5%
0-60°	1,525	55.2%
0-80°	2,465	89.3%
80-90°	167	6.1%
0-90°	2,632	95.4%
90-110°	90	3.3%
110-180°	0	0.0%
0-180°	2,760	100.0%

#### Luminaire Classification Systems (LCS)

LCS Zone		Lumens	%Lum
FL	0-30	84	3.0%
FM	30-60	695	25.2%
FH	60-80	463	16.8%
FVH	80-90	79	2.9%
BL	0-30	69	2.5%
BM	30-60	676	24.5%
BH	60-80	477	17.3%
BVH	80-90	88	3.2%
UL	90-100	63	2.3%
UH	100-180	65	2.4%
<b>Total</b>		<b>2,760</b>	<b>100.0%</b>
BUG Rating		B1-U3-G1	

#### 180° Polar Graph

