

HBOL-LKFS

Lumen & Kelvin Selectable Round or Square Bollards

STANDARD



FEATURES

- Field selectable 3000k (warm white), 4000k (neutral white), and 5000k (cool white) color temperatures.*
- Long-life LEDs provide at least 70% of initial lumen output (L_{70}) for > 163,000 hours of operation, and at least 90% of initial lumen output (L_{90}) for $\geq 50,000$ hours of operation.**
- LED chromaticity based on < 5-step ANSI quadrangles.
- LED color maintenance ≤ 0.003 chromaticity shift ($\Delta u'v'$) over the initial 6,000 hours of operation.
- Provides a range of 1,702 to 3,296 nominal lumens and 125 to 148 nominal lumens per watt (lm/W).
- 0-10vdc dimming drivers, 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.
- Cast aluminum housing with dark bronze, powder coat finish.
- High-impact, polycarbonate lens.
- Easy installation in new construction or retrofit applications

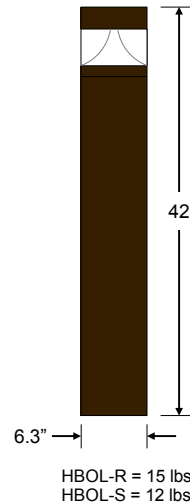
* Contact factory for other color temperatures and lumen packages.
 ** L_{70} & L_{90} hours are IES TM-21-11 calculated hours.

WARRANTY & LISTINGS

- cULus listed for wet locations in ambient temperatures from -40°C to 55°C (-40°F to 131°F).
- IP65 rated for ingress protection.
- DLC premium approved.
- Complies with FCC Part 15, class A.
- Surge protection = 4kV.
- 5-year warranty of all electronics and housing.



DIMENSIONS



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

ORDERING INFORMATION

Example: HBOL-R-3L-LKFS

Series	Style		Nominal Lumen Output		Select	Required Mounting Means Order Separately	
	R	S	3L	3,000 lm		HBOL-R-MTGKIT	HBOL-S-MTGKIT
		Round			LKFS	Anchor bolt for round bollard	
		Square					Anchor bolt for square bollard



Job Name: _____

Type: _____

Part #: _____

Notes: _____

ELECTRICAL DATA

Series	Measurements	Low Lumens			Mid Lumens			High Lumens		
		3000K	4000K	5000K	3000K	4000K	5000K	3000K	4000K	5000K
HBOL-R-3L-LKFS	Lumens	1827	1974	1942	2507	2686	2665	3090	3244	3296
	Watts	13	14	13	18	19	18	23	22	23
	Efficacy	139	144	148	138	145	146	134	145	144
	Input Current (A)	120V = 0.11A	120V = 0.12A	120V = 0.11A	120V = 0.15A	120V = 0.16A	120V = 0.15A	120V = 0.19A	120V = 0.18A	120V = 0.19A
240V = 0.05A		240V = 0.06A	240V = 0.05A	240V = 0.08A	240V = 0.08A	240V = 0.08A	240V = 0.10A	240V = 0.09A	240V = 0.10A	
277V = 0.05A		277V = 0.05A	277V = 0.05A	277V = 0.06A	277V = 0.07A	277V = 0.06A	277V = 0.08A	277V = 0.08A	277V = 0.08A	

Series	Measurements	Low Lumens			Mid Lumens			High Lumens		
		3000K	4000K	5000K	3000K	4000K	5000K	3000K	4000K	5000K
HBOL-S-3L-LKFS	Lumens	1702	1790	1805	2303	2450	2459	2887	3047	3041
	Watts	13	14	13	18	18	19	23	23	23
	Efficacy	128	132	135	125	134	133	125	135	131
	Input Current (A)	120V = 0.11A	120V = 0.12A	120V = 0.11A	120V = 0.15A	120V = 0.15A	120V = 0.16A	120V = 0.19A	120V = 0.19A	120V = 0.19A
240V = 0.05A		240V = 0.06A	240V = 0.05A	240V = 0.08A	240V = 0.08A	240V = 0.08A	240V = 0.10A	240V = 0.10A	240V = 0.10A	
277V = 0.05A		277V = 0.05A	277V = 0.05A	277V = 0.06A	277V = 0.06A	277V = 0.07A	277V = 0.08A	277V = 0.08A	277V = 0.08A	

PHOTOMETRIC DATA
HBOL-R-3L-LKFS
Luminaire Data

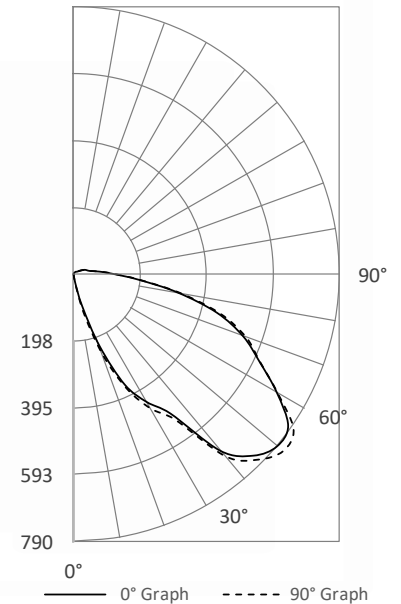
Description	BOLLARD (ROUND) 3L 5K - LKFS
Total Lumens	3,296
Input Wattage	23
Efficacy (lm/W)	144
Max. Cd.	815.81 (67.5H, 53V)
IES Classification	Type VS
Longitudinal Classification	Short

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30°	201	6.1%
0-60°	1,823	55.3%
0-80°	2,890	87.7%
80-90°	225	6.8%
0-90°	3,115	94.5%
90-110°	134	4.1%
110-180°	0	0.0%
0-180°	3,296	100.0%

Luminaire Classification Systems (LCS)

LCS Zone	Lumens	%Lum	
FL	0-30	99	3.0%
FM	30-60	813	24.7%
FH	60-80	540	16.4%
FVH	80-90	116	3.5%
BL	0-30	101	3.1%
BM	30-60	809	24.5%
BH	60-80	527	16.0%
BVH	80-90	109	3.3%
UL	90-100	89	2.7%
UH	100-180	93	2.8%
Total		3,296	100.0%
BUG Rating		B2-U3-G2	

180° Polar Graph

HBOL-S-3L-LKFS
Luminaire Data

Description	BOLLARD (SQUARE) 3L 5K - LKFS
Total Lumens	3,041
Input Wattage	23
Efficacy (lm/W)	132
Max. Cd.	843.54 (270H, 53V)
IES Classification	Type VS
Longitudinal Classification	Short

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-30°	114	3.8%
0-60°	1,611	53.0%
0-80°	2,646	87.0%
80-90°	230	7.6%
0-90°	2,876	94.6%
90-110°	126	4.1%
110-180°	0	0.0%
0-180°	3,041	100.0%

Luminaire Classification Systems (LCS)

LCS Zone	Lumens	%Lum	
FL	0-30	47	1.6%
FM	30-60	738	24.3%
FH	60-80	552	18.2%
FVH	80-90	132	4.3%
BL	0-30	67	2.2%
BM	30-60	760	25.0%
BH	60-80	482	15.9%
BVH	80-90	98	3.2%
UL	90-100	89	2.9%
UH	100-180	76	2.5%
Total		3,041	99.9%
BUG Rating		B1-U3-G2	

180° Polar Graph
