



UL LLC
1075 W Lambert Rd Suite B
Brea, CA 92821

Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
B-K Lighting Inc
Chris McCarthy
40429 Brickyard Dr
Madera, CA 93636-9515
United States

Catalog Number
VSL-LED-e102-WFL-12-C
Order Number
11804129
Test Number
11804129.04

Test Date

2017-07-27

Prepared By

Tony Rubio, Technician

Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



Luminaire Description: Gray metal circular housing with glass prismatic lens and louver opening
Lamp: Three (3) white LEDs with optic below
Mounting: Base up
Ballast/Driver: Power Select PS20U16K

Luminaire



Luminaire Characteristics

Luminous Diameter: 5.00 in.

Summary of Results

Total Luminaire Output:	90.09 Lumens
Luminaire Efficacy:	13.5 lm/w
Maximum Candela:	337 Candela

Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.1 VAC
Current:	0.09618 A
Power:	6.691 W
Power Factor:	0.579
Frequency:	60 Hz
Current THD:	140 %

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

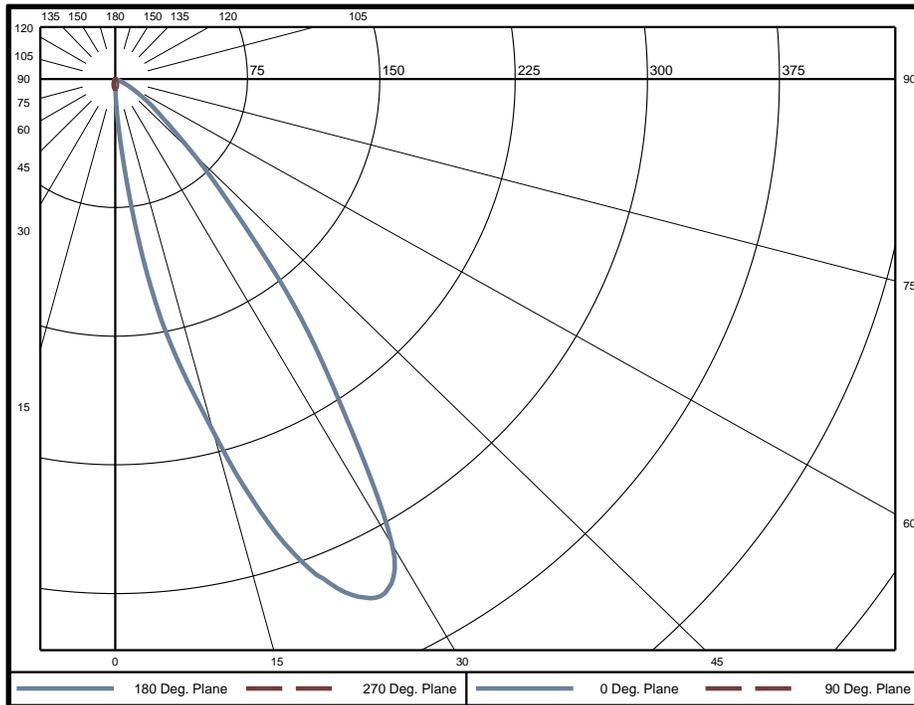
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.1 VAC	0.09618 A	6.691 W	0.579	60 Hz	140 %

Summary of Results

Spacing Criteria
 0-180: 2.92
 90-270: 0.02

Total Lumen Output: 90.09 Lumens
Luminaire Efficacy: 13.5 lm/w
Maximum Candela: 337 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.29	0.3%	60-65	0.52	0.6%	120-125	0	0.0%
5-10	2.09	2.3%	65-70	0.22	0.2%	125-130	0	0.0%
10-15	5.90	6.5%	70-75	0.06	0.1%	130-135	0	0.0%
15-20	10.89	12.1%	75-80	0.01	0.0%	135-140	0	0.0%
20-25	15.50	17.2%	80-85	0.00	0.0%	140-145	0	0.0%
25-30	17.46	19.4%	85-90	0	0.0%	145-150	0	0.0%
30-35	14.81	16.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	10.09	11.2%	95-100	0	0.0%	155-160	0	0.0%
40-45	5.94	6.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	3.34	3.7%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.92	2.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.05	1.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	77	85.5%
0-60	89	99.1%
0-90	90	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)															
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
5	42.1	51.6	34.2	18.1	5.3	2.6	2.2	2.0	1.7	2.0	2.2	2.6	5.3	18.1	34.2	51.6
10	133.5	128.8	80.4	30.0	4.4	1.8	1.4	1.2	0.9	1.2	1.4	1.8	4.4	30.0	80.4	128.8
15	211.1	194.1	118.6	39.6	3.3	1.2	0.8	0.6	0.5	0.6	0.8	1.2	3.3	39.6	118.6	194.1
20	293.8	253.3	131.4	40.6	2.2	0.7	0.4	0.3	0.2	0.3	0.4	0.7	2.2	40.6	131.4	253.3
25	333.6	267.2	121.6	31.1	1.4	0.4	0.2	0.1	0.1	0.1	0.2	0.4	1.4	31.1	121.6	267.2
30	313.2	229.3	89.7	19.9	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.9	19.9	89.7	229.3
35	208.8	140.3	56.7	12.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	12.5	56.7	140.3
40	120.9	77.5	31.2	7.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	7.8	31.2	77.5
45	64.9	38.1	15.1	5.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.1	15.1	38.1
50	34.6	19.4	7.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	7.1	19.4
55	20.4	10.2	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.0	10.2
60	10.6	4.9	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.2	4.9
65	4.9	2.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	2.1
70	1.9	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.7
75	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

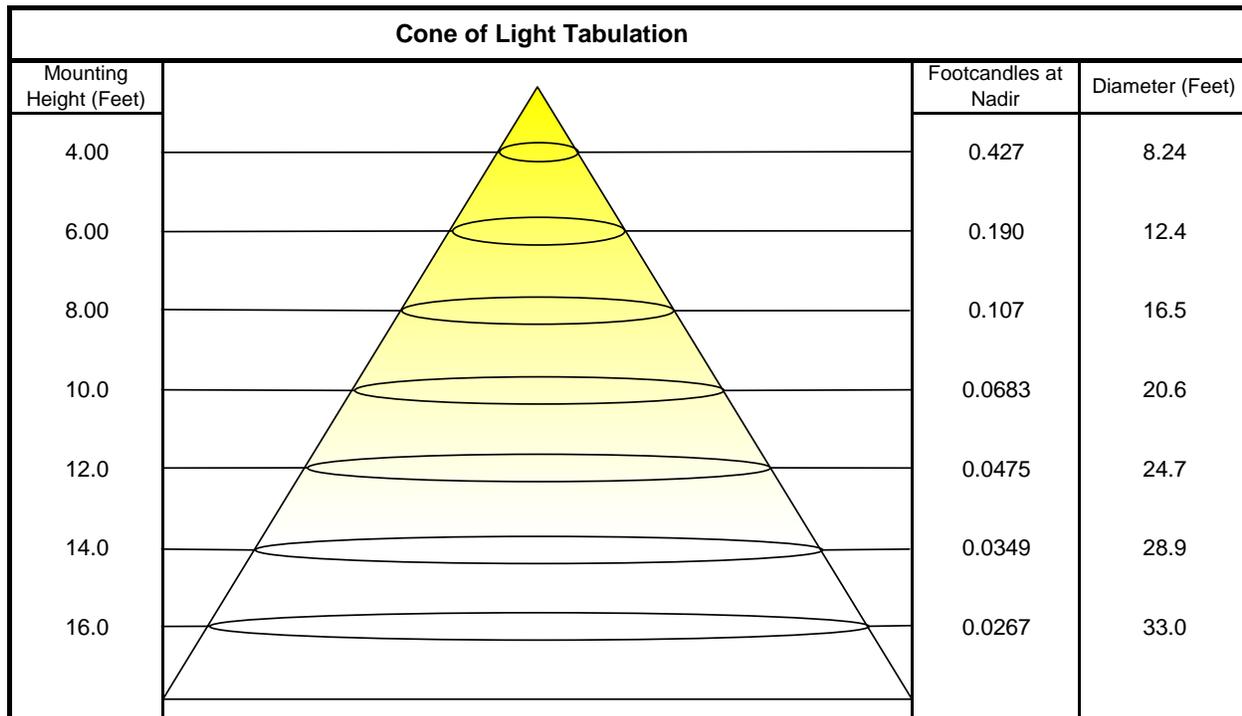
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	540	540	540
45	7250	1680	15
55	2808	408	1
65	917	93	0
75	160	0	0
85	0	0	0



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	107	107	107	107	105	105	105	105	100	100	100	96	96	96	92	92	92	90
1	102	99	96	94	99	97	95	93	93	91	90	90	88	87	87	86	85	83
2	96	91	87	83	94	89	85	82	86	83	80	84	81	79	81	79	77	76
3	90	83	78	74	88	82	77	74	80	76	72	77	74	71	75	73	70	69
4	85	77	71	67	83	76	70	66	74	69	66	72	68	65	70	67	64	62
5	79	71	65	60	78	70	64	60	68	63	59	67	62	59	65	61	58	57
6	75	65	59	55	73	65	59	55	63	58	54	62	57	54	61	57	53	52
7	70	60	54	50	69	60	54	50	59	53	50	57	53	49	56	52	49	48
8	66	56	50	46	65	56	50	46	54	49	45	53	49	45	53	48	45	44
9	62	52	46	42	61	52	46	42	51	45	42	50	45	42	49	45	41	40
10	58	48	43	39	57	48	42	39	47	42	38	47	42	38	46	41	38	37

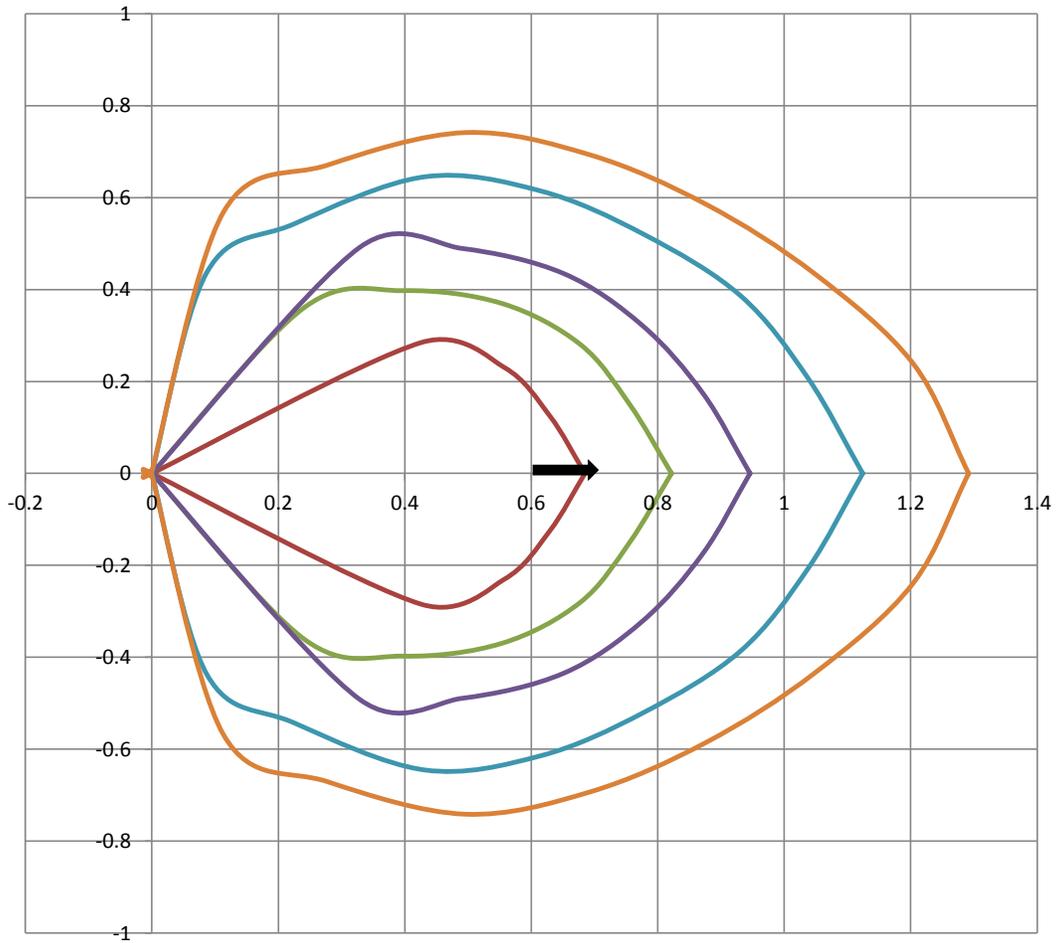
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	6.8 Candela
Central Cone Intensity:	11 Candela
Beam Flux:	88.9 Lumens
Beam Angle (0-180):	67.5 Degrees
Beam Angle (90-270):	28.7 Degrees
Field Angle (0-180):	86.2 Degrees
Field Angle (90-270):	66.0 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

