



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-MFL-12-C
Order Number
11804129
Test Number
11804129.03

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:	144.8 Lumens
Luminaire Efficacy:	21.9 lm/w
Maximum Candela:	1001 Candela

Test Conditions

Test Temperature:	24.8 °C
Voltage:	120.1 VAC
Current:	0.09514 A
Power:	6.612 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

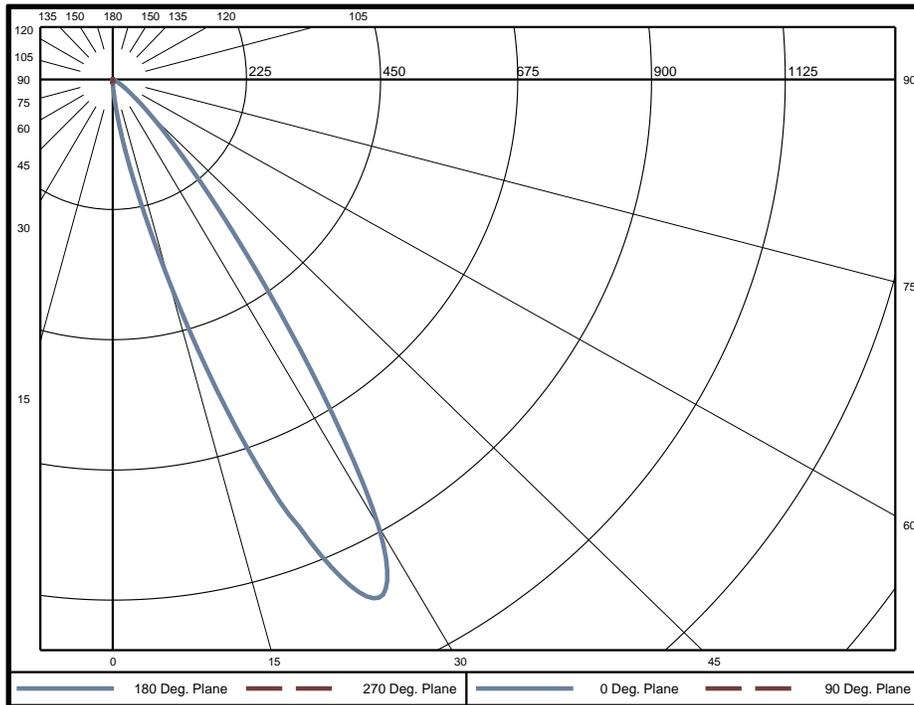
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.1 VAC	0.09514 A	6.612 W	0.579	60 Hz	140 %

Summary of Results

Spacing Criteria
 0-180: 2.94
 90-270: 0.02

Total Lumen Output: 144.8 Lumens
Luminaire Efficacy: 21.9 lm/w
Maximum Candela: 1001 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.25	0.2%	60-65	0.33	0.2%	120-125	0	0.0%
5-10	1.82	1.3%	65-70	0.12	0.1%	125-130	0	0.0%
10-15	6.55	4.5%	70-75	0.03	0.0%	130-135	0	0.0%
15-20	16.43	11.3%	75-80	0.00	0.0%	135-140	0	0.0%
20-25	28.72	19.8%	80-85	0	0.0%	140-145	0	0.0%
25-30	34.66	23.9%	85-90	0	0.0%	145-150	0	0.0%
30-35	27.28	18.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	15.15	10.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	7.48	5.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	3.57	2.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.67	1.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.77	0.5%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	131	90.4%
0-60	144	99.7%
0-90	145	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	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
5	33	43	27	14	6	3	3	2	2	2	3	3	6	14	27	43
10	131	131	65	22	5	2	1	1	1	1	1	2	5	22	65	131
15	350	285	103	26	3	1	1	1	0	1	1	1	3	26	103	285
20	711	468	125	23	2	1	0	0	0	0	0	1	2	23	125	468
25	978	532	118	18	1	0	0	0	0	0	0	0	1	18	118	532
30	892	423	87	13	1	0	0	0	0	0	0	0	1	13	87	423
35	485	223	53	8	0	0	0	0	0	0	0	0	0	8	53	223
40	221	97	27	5	0	0	0	0	0	0	0	0	0	5	27	97
45	102	39	12	3	0	0	0	0	0	0	0	0	0	3	12	39
50	46	15	5	2	0	0	0	0	0	0	0	0	0	2	5	15
55	22	6	2	1	0	0	0	0	0	0	0	0	0	1	2	6
60	9	3	0	1	0	0	0	0	0	0	0	0	0	1	0	3
65	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
70	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	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
90	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
100	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
110	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
120	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
130	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
140	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
150	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
160	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
170	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
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

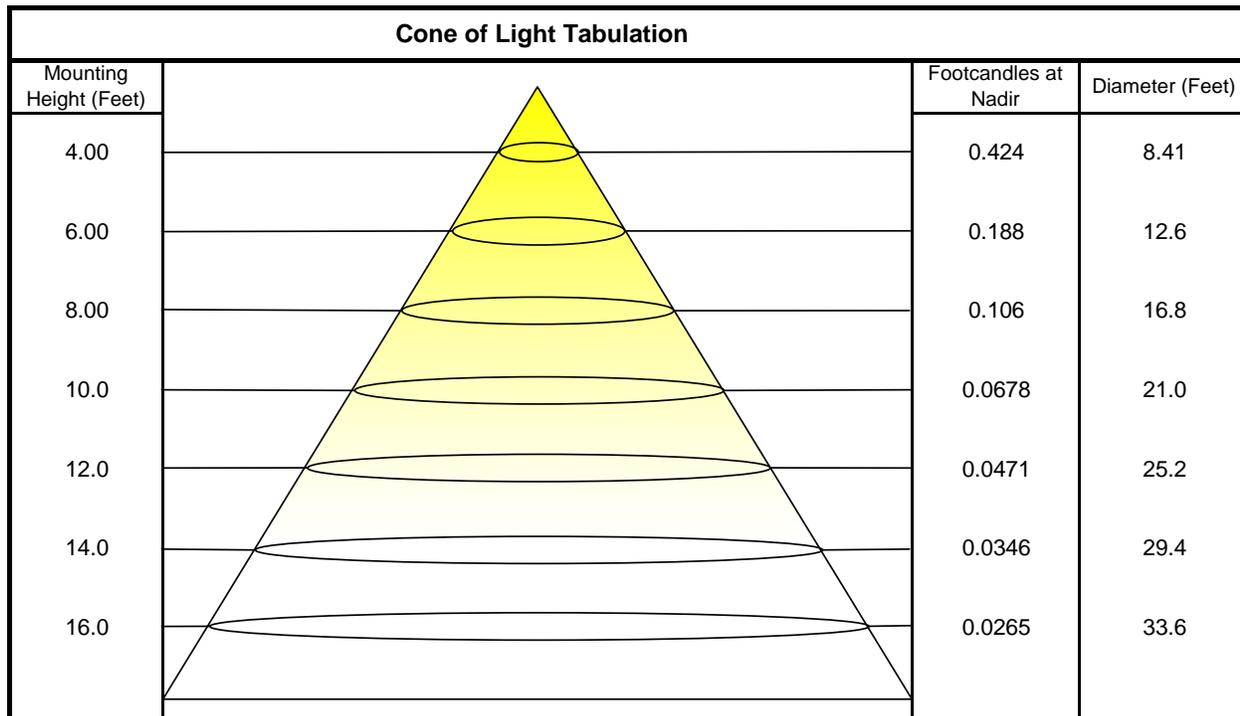
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	536	536	536
45	11400	1286	2
55	2985	221	0
65	731	17	0
75	115	0	0
85	0	0	0



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	172	172	172	172	168	168	168	168	161	161	161	154	154	154	148	148	148	145
1	164	159	155	152	160	156	152	149	150	147	145	145	142	140	140	138	136	134
2	154	147	140	135	151	144	138	133	139	134	130	135	131	127	131	128	125	122
3	145	135	127	120	142	133	125	119	129	123	118	125	120	116	122	118	114	111
4	137	124	115	108	134	123	114	108	119	112	106	116	110	105	114	108	104	102
5	128	115	105	98	126	113	104	98	111	103	97	108	101	96	106	100	95	93
6	120	106	96	89	118	105	95	89	102	94	88	100	93	87	98	92	87	85
7	113	98	88	81	111	97	88	81	95	87	80	93	86	80	91	85	80	77
8	106	91	81	74	104	90	80	74	88	80	74	87	79	73	85	78	73	71
9	100	84	74	68	98	83	74	68	82	73	68	81	73	67	79	72	67	65
10	94	78	69	62	93	78	68	62	76	68	62	75	67	62	74	67	62	59

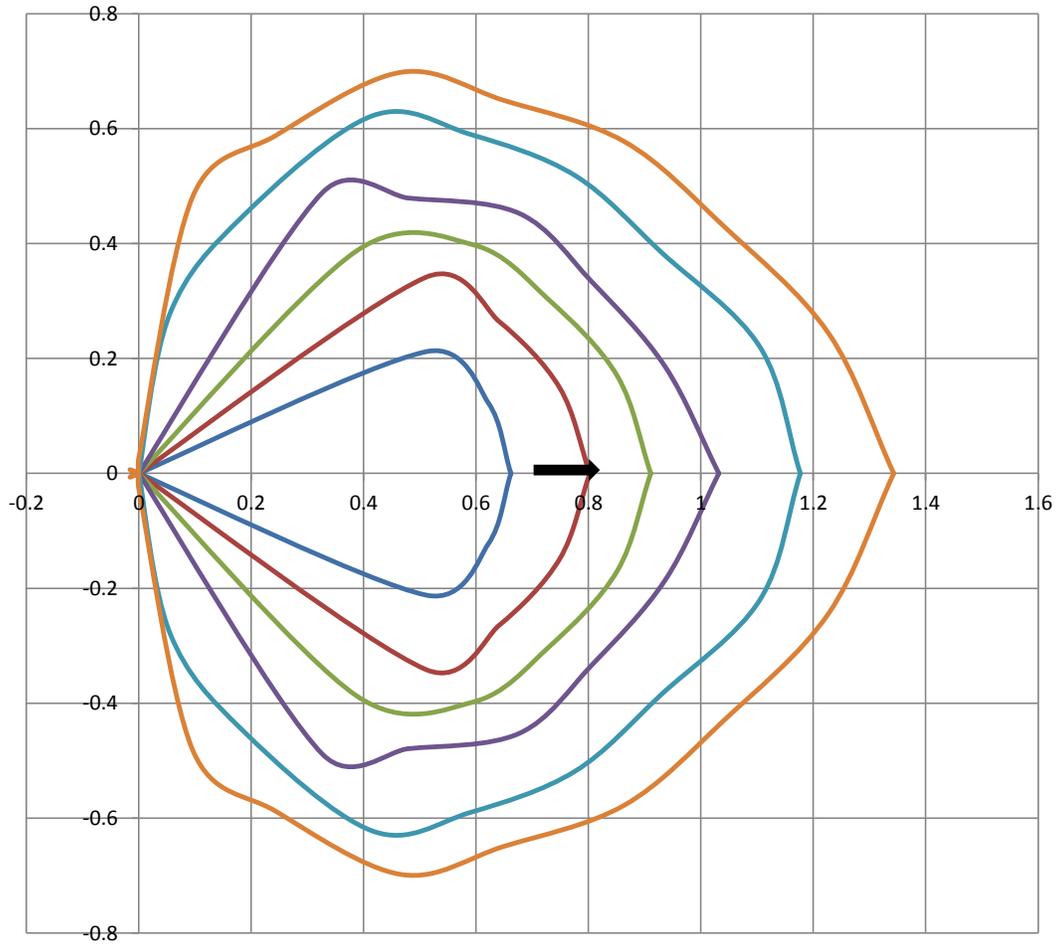
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	7 Candela
Central Cone Intensity:	10 Candela
Beam Flux:	143.7 Lumens
Beam Angle (0-180):	66.5 Degrees
Beam Angle (90-270):	28.4 Degrees
Field Angle (0-180):	84.4 Degrees
Field Angle (90-270):	61.9 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

