



UL LLC  
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## 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-F**  
Order Number  
11804129  
Test Number  
11804129.07

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.  
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**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:	181.7 Lumens
Luminaire Efficacy:	27.7 lm/w
Maximum Candela:	1311 Candela

**Test Conditions**

Test Temperature:	24.8 °C
Voltage:	120.1 VAC
Current:	0.09461 A
Power:	6.567 W
Power Factor:	0.578
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

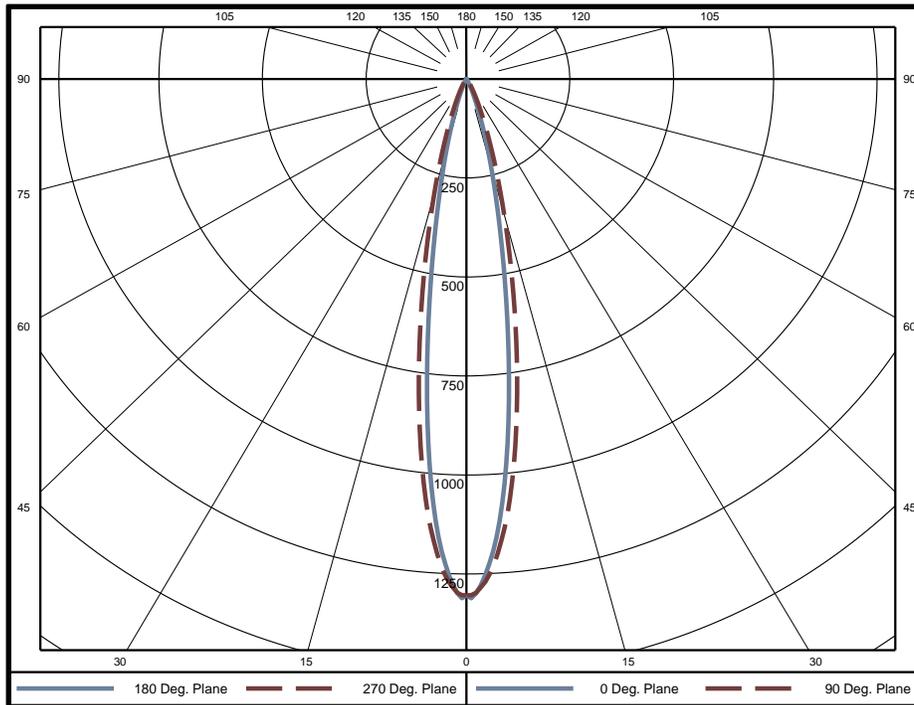
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.1 VAC	0.09461 A	6.567 W	0.578	60 Hz	140 %

### Summary of Results

**Spacing Criteria**  
 0-180: 0.29  
 90-270: 0.29

**Total Lumen Output:** 181.7 Lumens  
**Luminaire Efficacy:** 27.7 lm/w  
**Maximum Candela:** 1311 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	28.11	15.5%	60-65	0.01	0.0%	120-125	0	0.0%
5-10	57.22	31.5%	65-70	0.00	0.0%	125-130	0	0.0%
10-15	47.07	25.9%	70-75	0.00	0.0%	130-135	0	0.0%
15-20	27.12	14.9%	75-80	0	0.0%	135-140	0	0.0%
20-25	12.75	7.0%	80-85	0	0.0%	140-145	0	0.0%
25-30	5.37	3.0%	85-90	0	0.0%	145-150	0	0.0%
30-35	2.25	1.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	1.01	0.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	0.47	0.3%	100-105	0	0.0%	160-165	0	0.0%
45-50	0.21	0.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.07	0.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.02	0.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	181	99.6%
0-60	182	100.0%
0-90	182	100.0%
90-180	0	0.0%



**Candela Tabulation**  
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	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304	1304
5	1026	1031	1054	1085	1103	1085	1054	1031	1026	1031	1054	1085	1103	1085	1054	1031
10	521	538	586	645	672	645	586	538	521	538	586	645	672	645	586	538
15	214	221	246	298	325	298	246	221	214	221	246	298	325	298	246	221
20	74	79	94	119	138	119	94	79	74	79	94	119	138	119	94	79
25	23	24	32	45	56	45	32	24	23	24	32	45	56	45	32	24
30	6	7	10	17	23	17	10	7	6	7	10	17	23	17	10	7
35	3	2	3	7	10	7	3	2	3	2	3	7	10	7	3	2
40	1	1	1	3	5	3	1	1	1	1	1	3	5	3	1	1
45	1	0	0	1	3	1	0	0	1	0	0	1	3	1	0	0
50	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	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/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

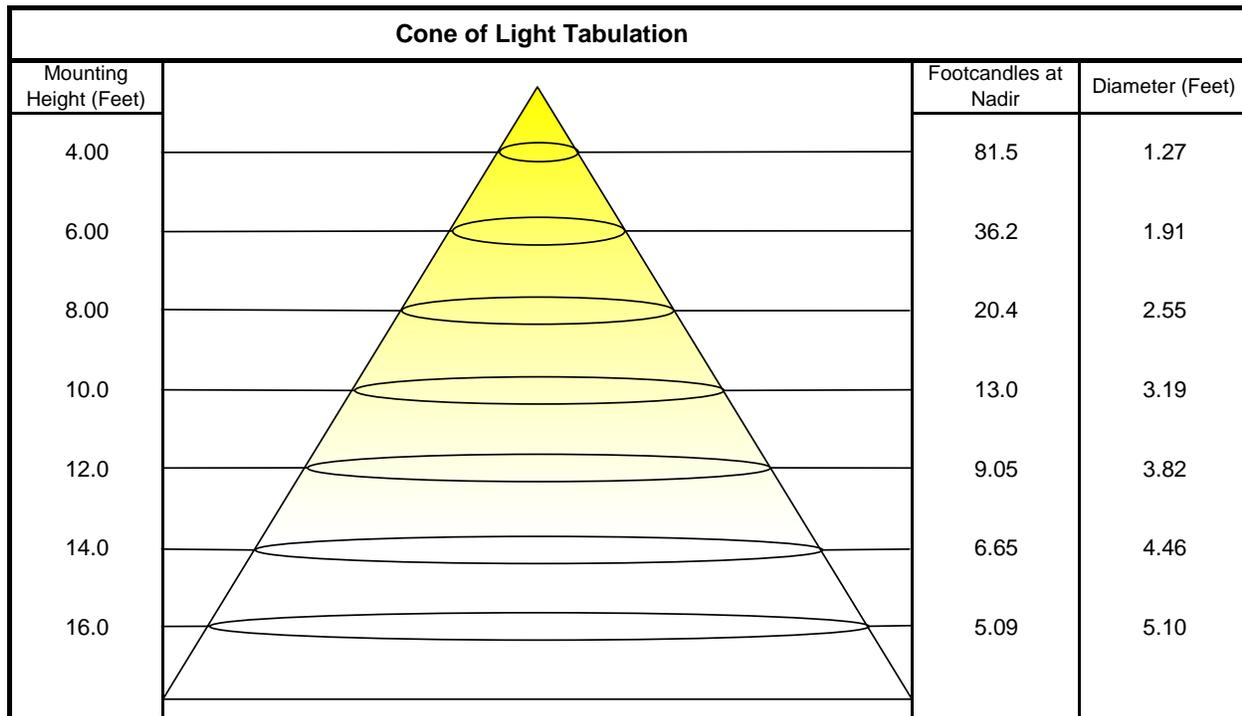
	0	45	90
0	102900	102900	102900
45	64	21	295
55	6	0	58
65	0	0	7
75	0	0	0
85	0	0	0



### 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	216	216	216	216	211	211	211	211	202	202	202	193	193	193	185	185	185	182
1	210	206	203	200	205	202	200	197	195	193	191	189	187	185	182	181	180	177
2	204	198	193	189	200	195	190	187	189	186	183	184	181	179	179	177	175	173
3	198	191	185	180	195	188	183	179	184	179	176	180	176	173	176	173	171	168
4	193	184	178	173	190	182	177	172	179	174	170	176	172	168	173	169	166	164
5	188	179	172	167	186	177	171	166	174	169	165	172	167	164	169	166	162	161
6	184	174	167	162	182	173	166	162	170	165	161	168	163	160	166	162	159	157
7	180	169	163	158	178	168	162	158	166	161	157	165	160	156	163	159	155	154
8	176	165	159	154	174	164	158	154	163	157	153	161	156	153	160	155	152	151
9	172	161	155	151	170	161	154	150	159	154	150	158	153	149	157	152	149	148
10	168	158	151	147	167	157	151	147	156	151	147	155	150	146	154	149	146	145

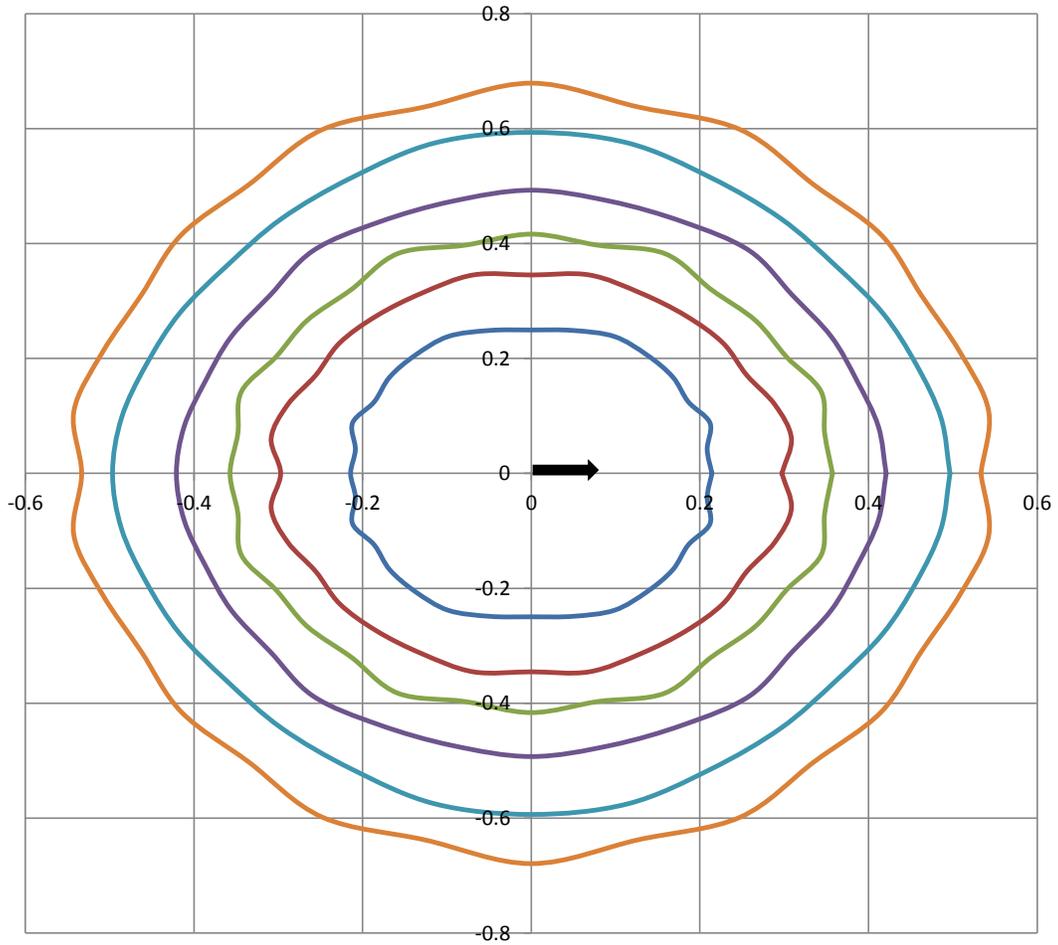
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1304 Candela
Central Cone Intensity:	1212 Candela
Beam Flux:	78.1 Lumens
Beam Angle (0-180):	17.2 Degrees
Beam Angle (90-270):	20.5 Degrees
Field Angle (0-180):	35.0 Degrees
Field Angle (90-270):	40.7 Degrees





### ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

