



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-NSP-12-C**  
Order Number  
11804129  
Test Number  
11804129.01

Test Date

2017-07-26

Prepared By

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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 optics below  
**Mounting:** Base up  
**Ballast/Driver:** Power Select PS20U16K

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 5.00 in.

**Summary of Results**

Total Luminaire Output:	160.7 Lumens
Luminaire Efficacy:	24.7 lm/w
Maximum Candela:	1923 Candela

**Test Conditions**

Test Temperature:	24.9 °C
Voltage:	120.1 VAC
Current:	0.09361 A
Power:	6.504 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

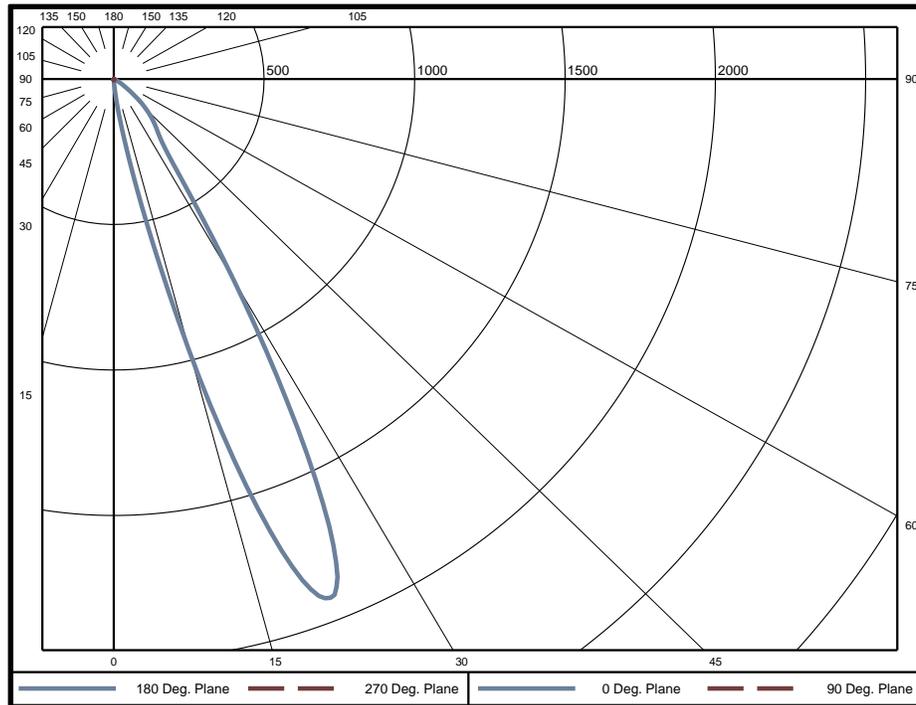
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.1 VAC	0.09361 A	6.504 W	0.579	60 Hz	140 %

### Summary of Results

**Spacing Criteria**  
 0-180: 3.46  
 90-270: 0.05

**Total Lumen Output:** 160.7 Lumens  
**Luminaire Efficacy:** 24.7 lm/w  
**Maximum Candela:** 1923 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.20	0.1%	60-65	0.46	0.3%	120-125	0	0.0%
5-10	2.17	1.4%	65-70	0.17	0.1%	125-130	0	0.0%
10-15	11.14	6.9%	70-75	0.05	0.0%	130-135	0	0.0%
15-20	31.87	19.8%	75-80	0.01	0.0%	135-140	0	0.0%
20-25	44.85	27.9%	80-85	0.00	0.0%	140-145	0	0.0%
25-30	33.09	20.6%	85-90	0	0.0%	145-150	0	0.0%
30-35	15.09	9.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	8.05	5.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	5.99	3.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	4.22	2.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	2.29	1.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.06	0.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	146	91.1%
0-60	160	99.6%
0-90	161	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	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	36	45	22	9	4	2	2	2	1	2	2	2	4	9	22	45
10	241	200	63	14	3	1	1	1	1	1	1	1	3	14	63	200
15	962	542	95	15	2	1	0	0	0	0	0	1	2	15	95	542
20	1832	778	96	11	1	0	0	0	0	0	0	1	11	96	778	
25	1696	546	63	8	1	0	0	0	0	0	0	1	8	63	546	
30	797	228	32	6	0	0	0	0	0	0	0	0	6	32	228	
35	313	74	17	4	0	0	0	0	0	0	0	0	4	17	74	
40	220	34	9	3	0	0	0	0	0	0	0	0	3	9	34	
45	163	18	5	2	0	0	0	0	0	0	0	0	2	5	18	
50	95	9	2	1	0	0	0	0	0	0	0	0	1	2	9	
55	42	4	1	1	0	0	0	0	0	0	0	0	1	1	4	
60	18	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
65	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
70	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
75	1	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	
85	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	
95	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	
105	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	
115	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	
125	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	
135	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	
145	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	
155	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	
165	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	
175	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	

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

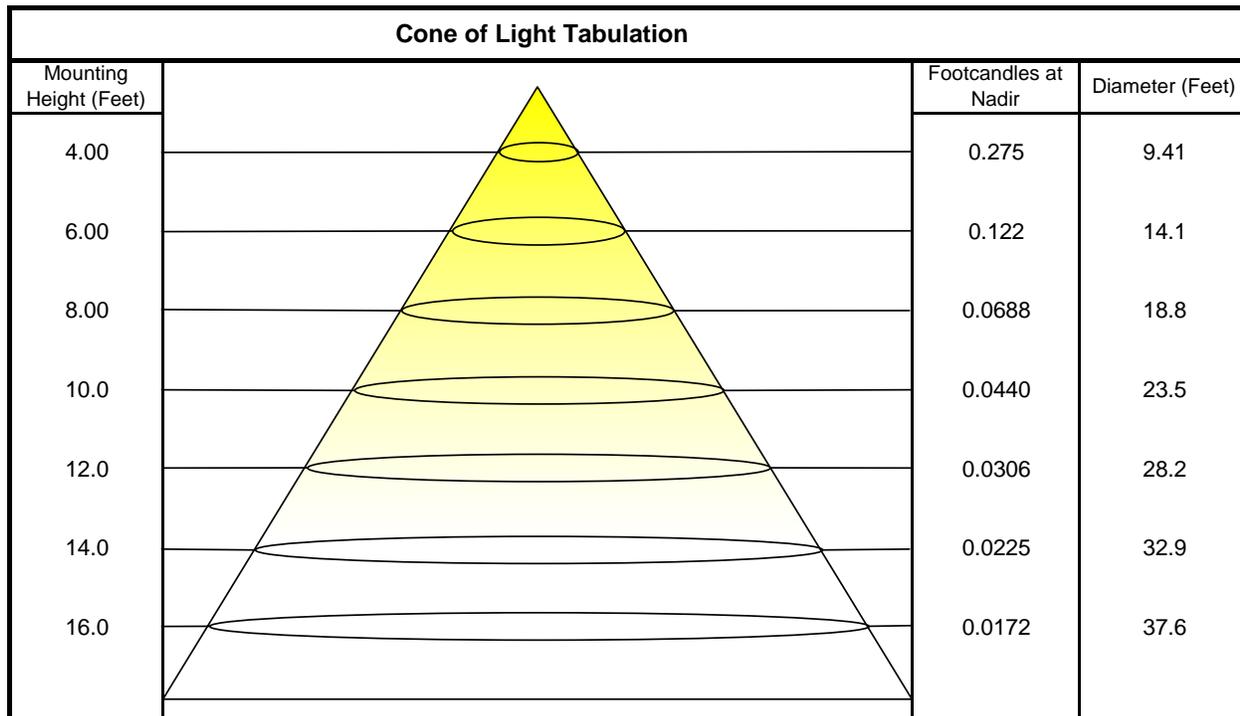
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	347	347	347
45	18190	515	0
55	5847	128	0
65	1245	1	0
75	205	0	0
85	0	0	0



### 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	191	191	191	191	187	187	187	187	179	179	179	171	171	171	164	164	164	161
1	182	177	173	170	178	174	170	167	167	164	162	161	159	157	156	154	152	149
2	173	164	158	152	169	162	155	150	156	151	147	152	147	144	147	144	141	138
3	163	152	144	137	160	150	143	136	146	139	134	142	137	132	138	134	130	127
4	154	142	132	125	151	140	131	124	136	129	123	133	127	122	130	125	120	118
5	146	132	122	115	143	130	121	114	127	119	113	125	118	112	122	116	111	109
6	138	123	113	106	136	122	112	105	119	111	104	117	109	104	115	108	103	101
7	130	115	105	97	128	114	104	97	112	103	97	110	102	96	108	101	96	93
8	123	107	97	90	121	106	97	90	105	96	90	103	95	89	101	94	89	86
9	117	100	90	84	115	100	90	83	98	89	83	97	89	83	95	88	83	80
10	111	94	84	78	109	93	84	78	92	83	77	91	83	77	90	82	77	75

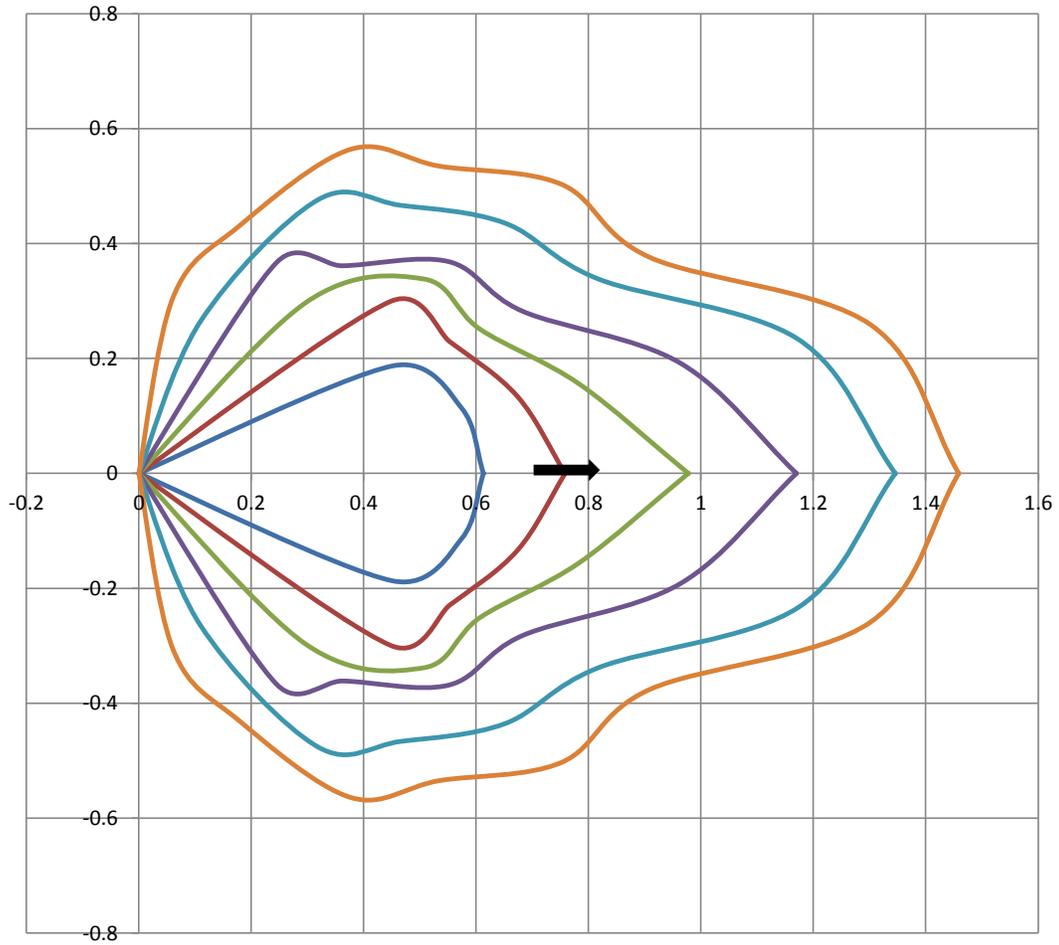
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4 Candela
Central Cone Intensity:	7 Candela
Beam Flux:	159.9 Lumens
Beam Angle (0-180):	71.8 Degrees
Beam Angle (90-270):	21.7 Degrees
Field Angle (0-180):	86.7 Degrees
Field Angle (90-270):	62.0 Degrees





### ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

