



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**

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Madera, CA 93636-9515  
United States

Catalog Number  
**CK-LED-X60-SP-9**

Order Number  
11353040  
Test Number  
11353040.41

Test Date

2016-09-16

Prepared By

Khang Nguyen, Technician

Approved By

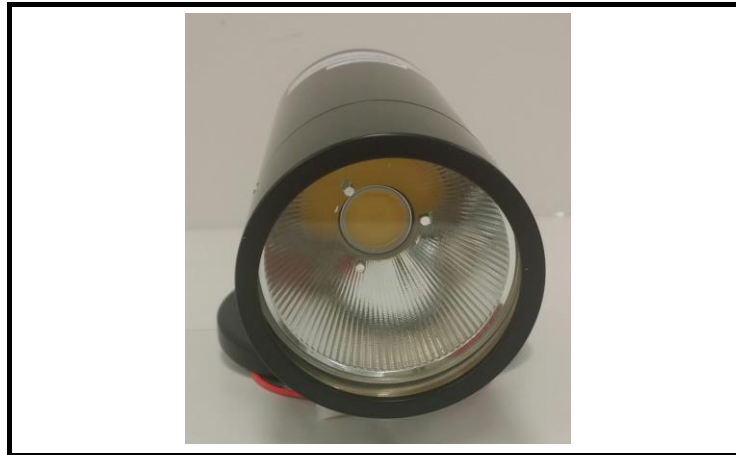
Eric Gaudreau, Senior Engineering Associate

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**Luminaire Description:** Circular black aluminum housing, specular linear reflector, and glass lens  
**Lamp:** One (1) White LED  
**Mounting:** Surface  
**Ballast/Driver:** PowerSelect PS60U70014T

**Luminaire**



**Luminaire Characteristics**  
Luminous Diameter: 2.75 in.

**Summary of Results**

Total Luminaire Output:	815.9 Lumens
Luminaire Efficacy:	66.2 lm/w
Maximum Candela:	4401 Candela

**Test Conditions**

Test Temperature:	25.6 °C
Voltage:	120.1 VAC
Current:	0.1055 A
Power:	12.32 W
Power Factor:	0.972
Frequency:	60 Hz
Current THD:	14.2 %

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
25.6 °C	120.1 VAC	0.1055 A	12.32 W	0.972	60 Hz	14.2 %

### Summary of Results

#### Spacing Criteria

0-180: 0.30

90-270: 0.30

#### Total Lumen Output:

815.9 Lumens

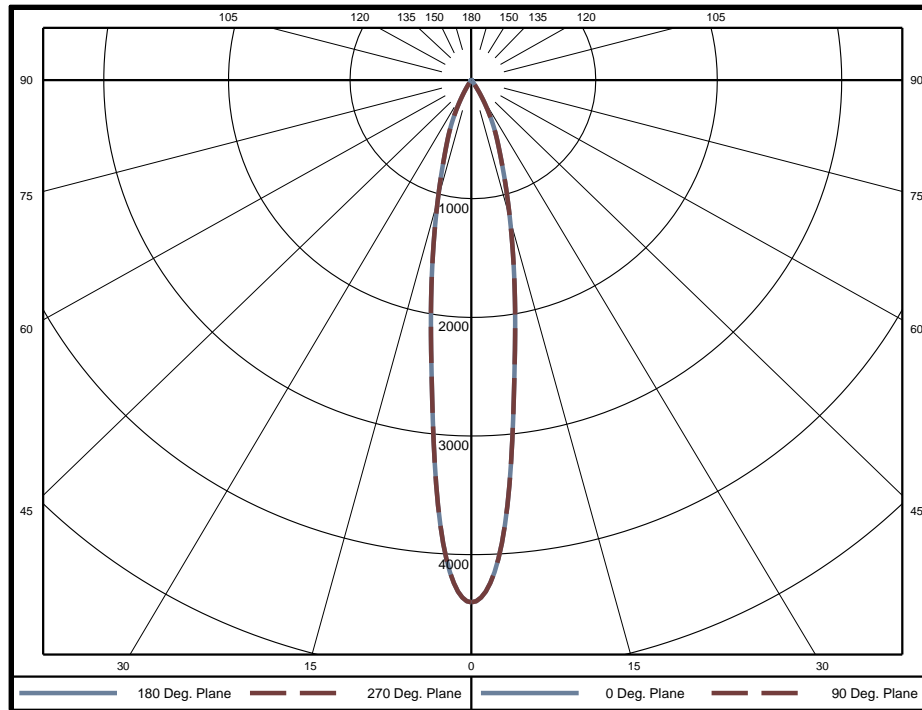
#### Luminaire Efficacy:

66.2 lm/w

#### Maximum Candela:

4401 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	93.5	11.5%	60-65	3.0	0.4%	120-125	0	0.0%
5-10	181.4	22.2%	65-70	2.6	0.3%	125-130	0	0.0%
10-15	177.0	21.7%	70-75	1.8	0.2%	130-135	0	0.0%
15-20	141.3	17.3%	75-80	1.4	0.2%	135-140	0	0.0%
20-25	105.4	12.9%	80-85	1.0	0.1%	140-145	0	0.0%
25-30	63.8	7.8%	85-90	0.4	0.0%	145-150	0	0.0%
30-35	22.3	2.7%	90-95	0	0.0%	150-155	0	0.0%
35-40	7.2	0.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	4.6	0.6%	100-105	0	0.0%	160-165	0	0.0%
45-50	3.4	0.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	2.8	0.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	3.0	0.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	792	97.1%
0-60	806	98.7%
0-90	816	100.0%
90-180	0	0.0%



### Candela Tabulation

Horizontal Angle (Degrees)

Vertical 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	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401	4401
	5	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419	3419
	10	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968	1968
	15	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136	1136
	20	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650
	25	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
	30	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148
	35	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
	40	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	45	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	50	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	55	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	65	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	70	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	75	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	80	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	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)	0	45	90
	0	1148000	1148000
	45	3772	3772
	55	2862	2862
	65	3672	3672
	75	3009	3009
	85	4678	4678



### 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	971	971	971	971	949	949	949	949	907	907	907	868	868	868	833	833	833	816
1	936	917	901	886	916	900	885	872	867	856	845	837	828	820	810	803	796	783
2	902	871	845	823	885	857	834	814	832	813	796	808	793	780	787	774	764	752
3	871	831	800	775	857	820	792	769	800	776	757	781	762	745	764	748	734	723
4	843	796	762	736	830	787	756	731	771	744	723	756	733	715	742	723	707	697
5	816	765	729	703	804	758	725	700	744	716	694	732	707	688	720	699	683	673
6	790	737	700	675	780	731	697	672	720	690	668	710	684	664	700	677	660	651
7	766	711	675	650	757	706	672	648	697	667	645	688	662	642	680	657	639	630
8	744	688	652	628	736	684	650	626	676	646	624	669	642	622	662	638	619	611
9	723	666	631	607	716	663	629	607	656	626	605	650	623	603	644	619	601	593
10	703	646	612	589	697	643	610	588	638	608	587	632	605	586	627	602	584	576

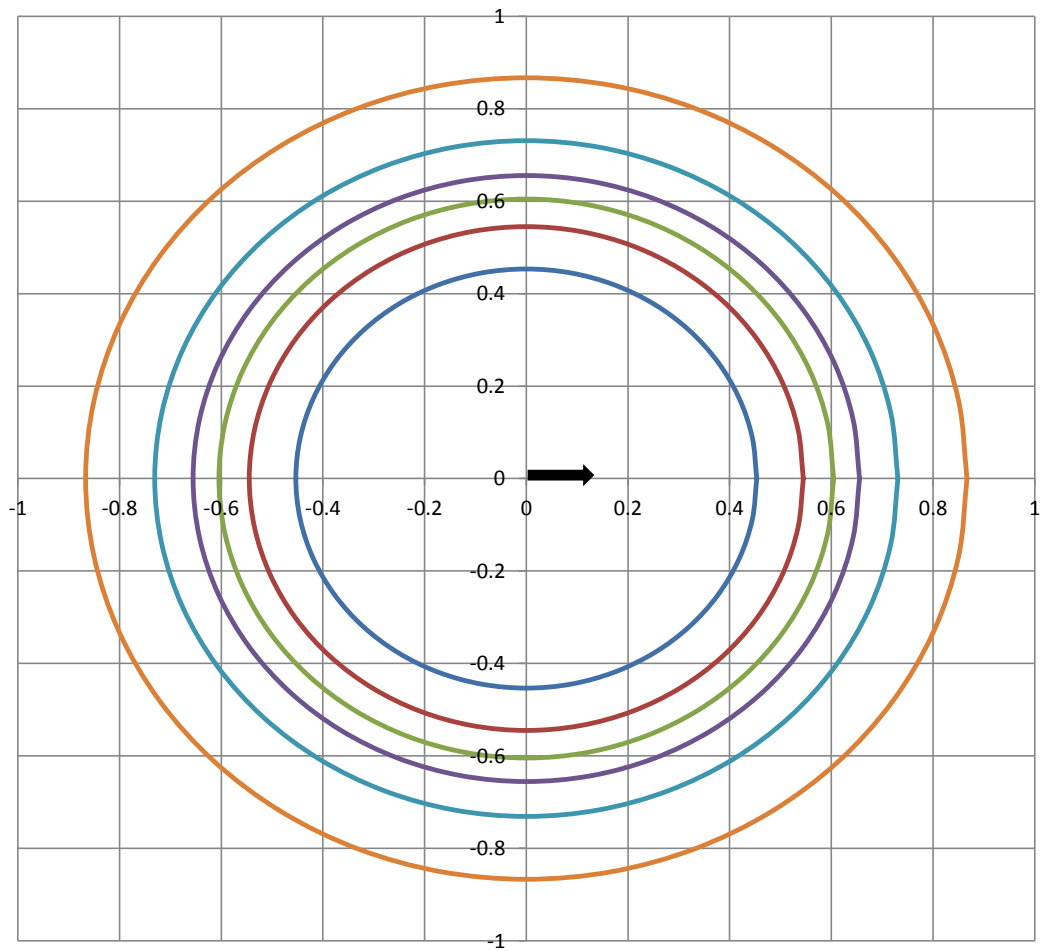
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4401 Candela
Central Cone Intensity:	4053 Candela
Beam Flux:	235.2 Lumens
Beam Angle (0-180):	17.9 Degrees
Beam Angle (90-270):	17.9 Degrees
Field Angle (0-180):	47.5 Degrees
Field Angle (90-270):	47.5 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		275	1.21
6.00		122	1.82
8.00		68.8	2.42
10.0		44.0	3.03
12.0		30.6	3.64
14.0		22.5	4.24
16.0		17.2	4.85



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc    2 fc    1 fc    0.5 fc    0.2 fc    0.1 fc