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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
OL-LED-X60-WFL-9

Order Number
11353040
Test Number
11353040.47

Test Date

2016-10-03

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: Glass lens, white stepped reflector, circular black aluminum housing, white stepped reflector, and glass lens
Lamp: Two (2) White LED
Mounting: Surface
Ballast/Driver: PowerSelect PS60U700C14T

Luminaire



Luminaire Characteristics

Luminous Diameter: 2.75 in.
Luminous Height: 10.250 in.

Summary of Results

Total Luminaire Output:	1568 Lumens
Luminaire Efficacy:	62.6 lm/w
Maximum Candela:	799 Candela

Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.1 VAC
Current:	0.2144 A
Power:	25.04 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
24.9 °C	120.1 VAC	0.2144 A	25.04 W	0.972	60 Hz	14.2 %

Summary of Results

Spacing Criteria

0-180: 0.93

90-270: 0.93

Total Lumen Output:

1568 Lumens

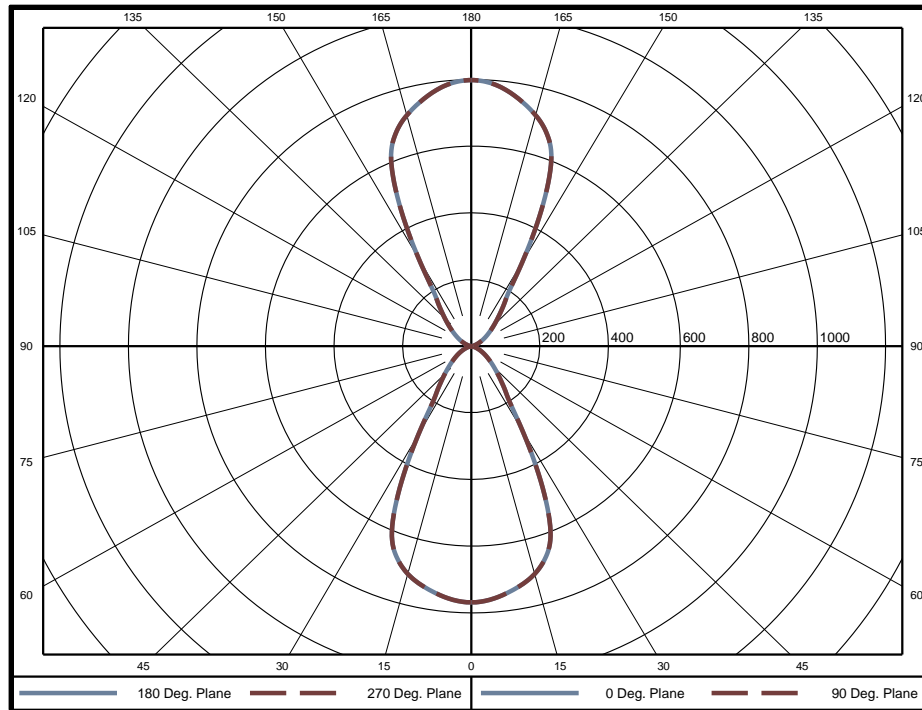
Luminaire Efficacy:

62.6 lm/w

Maximum Candela:

799 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	18.3	1.2%	60-65	15.6	1.0%	120-125	21.3	1.4%
5-10	53.6	3.4%	65-70	10.5	0.7%	125-130	27.3	1.7%
10-15	85.9	5.5%	70-75	6.3	0.4%	130-135	34.2	2.2%
15-20	112.5	7.2%	75-80	3.4	0.2%	135-140	42.0	2.7%
20-25	124.3	7.9%	80-85	1.7	0.1%	140-145	51.1	3.3%
25-30	102.9	6.6%	85-90	0.7	0.0%	145-150	67.4	4.3%
30-35	68.0	4.3%	90-95	0.8	0.1%	150-155	103.7	6.6%
35-40	51.9	3.3%	95-100	1.9	0.1%	155-160	125.5	8.0%
40-45	42.4	2.7%	100-105	3.5	0.2%	160-165	113.8	7.3%
45-50	34.4	2.2%	105-110	6.4	0.4%	165-170	87.6	5.6%
50-55	27.4	1.7%	110-115	10.7	0.7%	170-175	55.3	3.5%
55-60	21.2	1.4%	115-120	15.7	1.0%	175-180	19.0	1.2%

Zone	Lumens	% of Luminaire
0-40	617	39.4%
0-60	743	47.4%
0-90	781	49.8%
90-180	787	50.2%



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	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4
	5	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9	759.9
	10	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6	738.6
	15	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4	708.4
	20	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2
	25	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2	513.2
	30	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3	307.3
	35	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1	181.1
	40	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7	132.7
	45	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
	50	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3
	55	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
	60	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
	65	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
	70	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
	75	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	80	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
	85	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	90	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	95	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	100	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
	105	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
	110	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
	115	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
	120	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
	125	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
	130	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9
	135	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
	140	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4
	145	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7	177.7
	150	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8	307.8
	155	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9	518.9
	160	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5
	165	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3	718.3
	170	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5	758.5
	175	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1	788.1
	180	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5	798.5

Average Luminance (cd/m²)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
	0	200500	200500
	45	36340	36340
	55	24510	24510
	65	16080	16080
	75	8761	8761
	85	6382	6382



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	1679	1679	1679	1679	1549	1549	1549	1549	1305	1305	1305	1082	1082	1082	877	877	877	781
1	1560	1504	1453	1408	1440	1393	1350	1312	1185	1156	1129	994	975	957	818	807	795	714
2	1447	1350	1270	1203	1337	1255	1187	1129	1077	1028	986	912	879	850	760	739	720	650
3	1343	1219	1122	1045	1243	1137	1053	986	982	921	871	839	796	761	706	678	654	593
4	1249	1105	1000	919	1157	1034	942	871	899	831	777	774	725	686	658	625	597	544
5	1163	1007	898	817	1079	945	849	778	827	755	699	717	664	623	614	578	548	501
6	1086	922	812	734	1009	867	771	700	763	689	634	666	611	570	575	536	506	464
7	1017	849	740	664	946	800	704	635	708	633	579	621	565	524	540	500	469	431
8	954	784	678	605	889	741	646	580	659	584	532	581	525	484	508	467	437	403
9	898	728	624	554	838	689	596	533	615	542	491	545	489	449	479	438	408	377
10	846	678	577	510	791	643	553	492	576	504	455	513	457	418	453	412	382	354

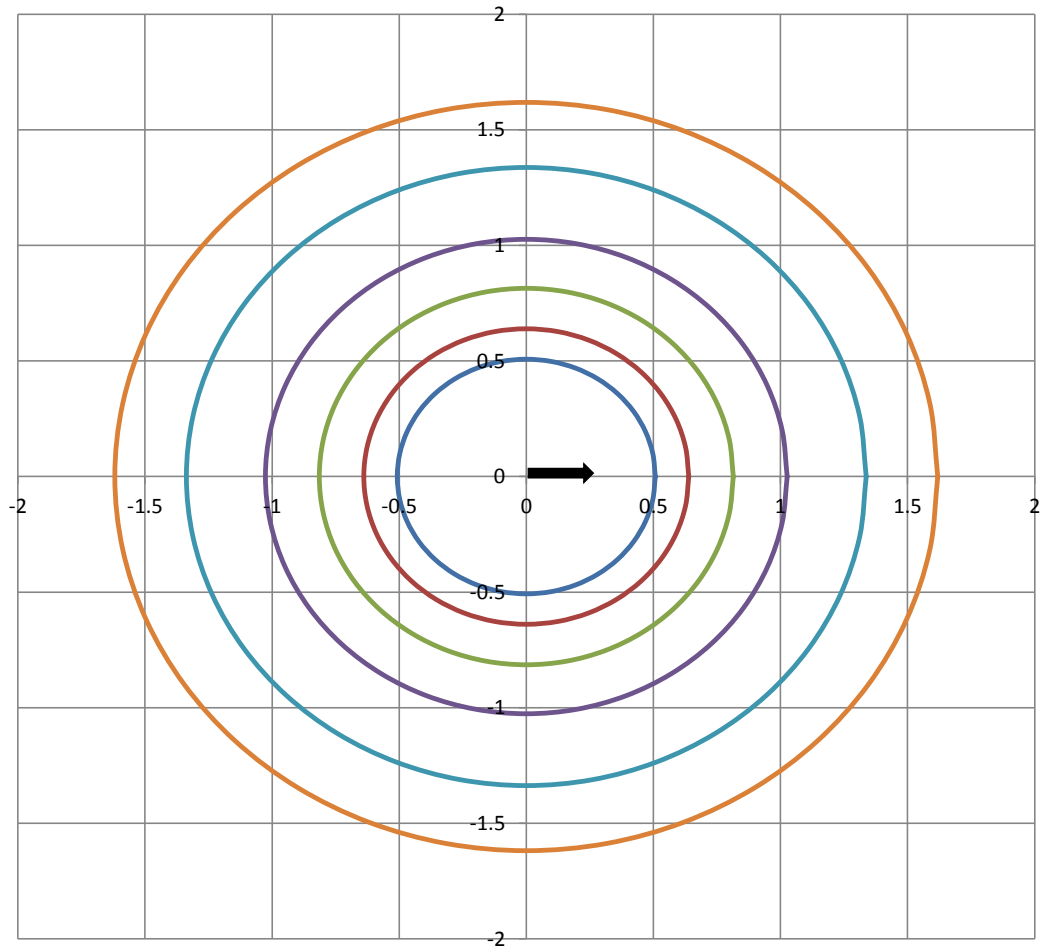
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	768.4 Candela
Central Cone Intensity:	766 Candela
Beam Flux:	932.1 Lumens
Beam Angle (0-180):	56.2 Degrees
Beam Angle (90-270):	56.2 Degrees
Field Angle (0-180):	98.4 Degrees
Field Angle (90-270):	98.4 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		48.0	3.72
6.00		21.3	5.58
8.00		12.0	7.44
10.0		7.68	9.30
12.0		5.34	11.2
14.0		3.92	13.0
16.0		3.00	14.9



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