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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
OL-LED-x60-SP-9

Order Number
11353040
Test Number
11353040.03

Test Date

2016-09-01

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: Circular formed black aluminum cylinder housing with dual sided specular linear reflectors and dual sided clear plastic lenses
Lamp: Two (2) White LEDs
Mounting: Surface
Ballast/Driver: Two (2) POWERSELECT PS60U700C14T

Luminaire



Luminaire Characteristics

Luminous Diameter: 2.50 in.
Luminous Height: 10.250 in.

Summary of Results

Total Luminaire Output:	1728 Lumens
Luminaire Efficacy:	69.1 lm/w
Maximum Candela:	4635 Candela

Test Conditions

Test Temperature:	25.1 °C
Voltage:	120.1 VAC
Current:	0.2140 A
Power:	25.00 W
Power Factor:	0.972
Frequency:	60 Hz
Current THD:	14.1 %

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
25.1 °C	120.1 VAC	0.2140 A	25.00 W	0.972	60 Hz	14.1 %

Summary of Results

Spacing Criteria

0-180: 0.31

90-270: 0.31

Total Lumen Output:

1728 Lumens

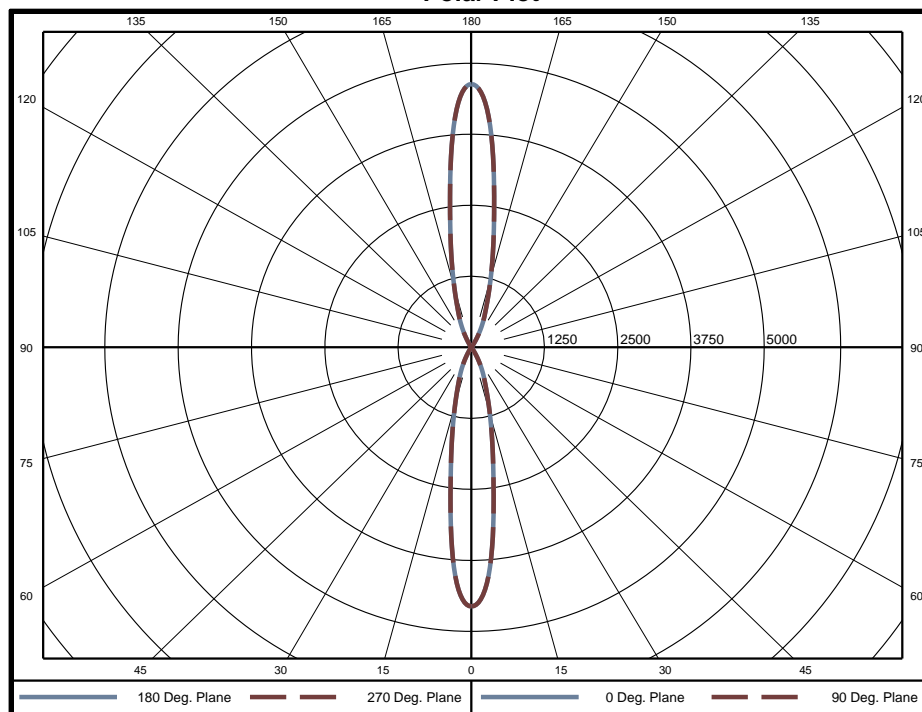
Luminaire Efficacy:

69.1 lm/w

Maximum Candela:

4635 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	99.4	5.8%	60-65	4.6	0.3%	120-125	4.5	0.3%
5-10	195.7	11.3%	65-70	3.9	0.2%	125-130	4.6	0.3%
10-15	180.7	10.5%	70-75	3.0	0.2%	130-135	5.3	0.3%
15-20	140.7	8.1%	75-80	2.3	0.1%	135-140	6.8	0.4%
20-25	104.1	6.0%	80-85	1.6	0.1%	140-145	9.3	0.5%
25-30	61.1	3.5%	85-90	1.0	0.1%	145-150	21.3	1.2%
30-35	21.5	1.2%	90-95	0.9	0.1%	150-155	63.0	3.6%
35-40	9.3	0.5%	95-100	1.6	0.1%	155-160	108.9	6.3%
40-45	7.2	0.4%	100-105	2.3	0.1%	160-165	147.6	8.5%
45-50	5.8	0.3%	105-110	2.9	0.2%	165-170	188.7	10.9%
50-55	5.1	0.3%	110-115	3.8	0.2%	170-175	199.7	11.6%
55-60	4.9	0.3%	115-120	4.3	0.2%	175-180	100.5	5.8%

Zone	Lumens	% of Luminaire
0-40	813	47.0%
0-60	836	48.4%
0-90	852	49.3%
90-180	876	50.7%



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	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559	4559
	5	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720	3720
	10	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049	2049
	15	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141	1141
	20	645	645	645	645	645	645	645	645	645	645	645	645	645	645	645
	25	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366
	30	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
	40	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
	45	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	50	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	55	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	65	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	70	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	75	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	95	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	100	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	105	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	110	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	115	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	120	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	125	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	130	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
	135	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	140	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	145	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
	150	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141
	155	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380
	160	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675
	165	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198
	170	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122	2122
	175	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
	180	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635	4635

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	1440000	1440000
	45	7395	7395
	55	6118	6118
	65	6532	6532
	75	6086	6086
	85	8657	8657



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	1848	1848	1848	1848	1704	1704	1704	1704	1433	1433	1433	1186	1186	1186	959	959	959	852
1	1734	1679	1630	1586	1602	1557	1516	1479	1327	1300	1275	1116	1099	1083	921	912	903	814
2	1630	1537	1460	1396	1509	1432	1368	1313	1235	1191	1153	1054	1026	1001	886	870	855	780
3	1535	1417	1325	1252	1426	1327	1249	1186	1157	1102	1058	999	964	934	854	832	814	750
4	1449	1314	1215	1139	1350	1236	1151	1085	1088	1028	980	951	910	877	823	798	778	722
5	1372	1225	1122	1047	1281	1157	1068	1002	1028	964	915	907	864	829	795	768	745	697
6	1302	1148	1045	971	1219	1088	999	934	975	909	860	868	823	788	769	740	717	674
7	1239	1082	980	909	1163	1029	940	877	928	862	814	833	786	752	744	714	691	653
8	1181	1023	923	855	1112	976	888	828	886	820	773	801	754	720	722	690	667	633
9	1130	971	874	809	1066	929	844	785	848	783	738	772	725	691	700	669	645	615
10	1082	925	831	769	1023	887	804	748	814	751	707	745	699	666	680	649	626	598

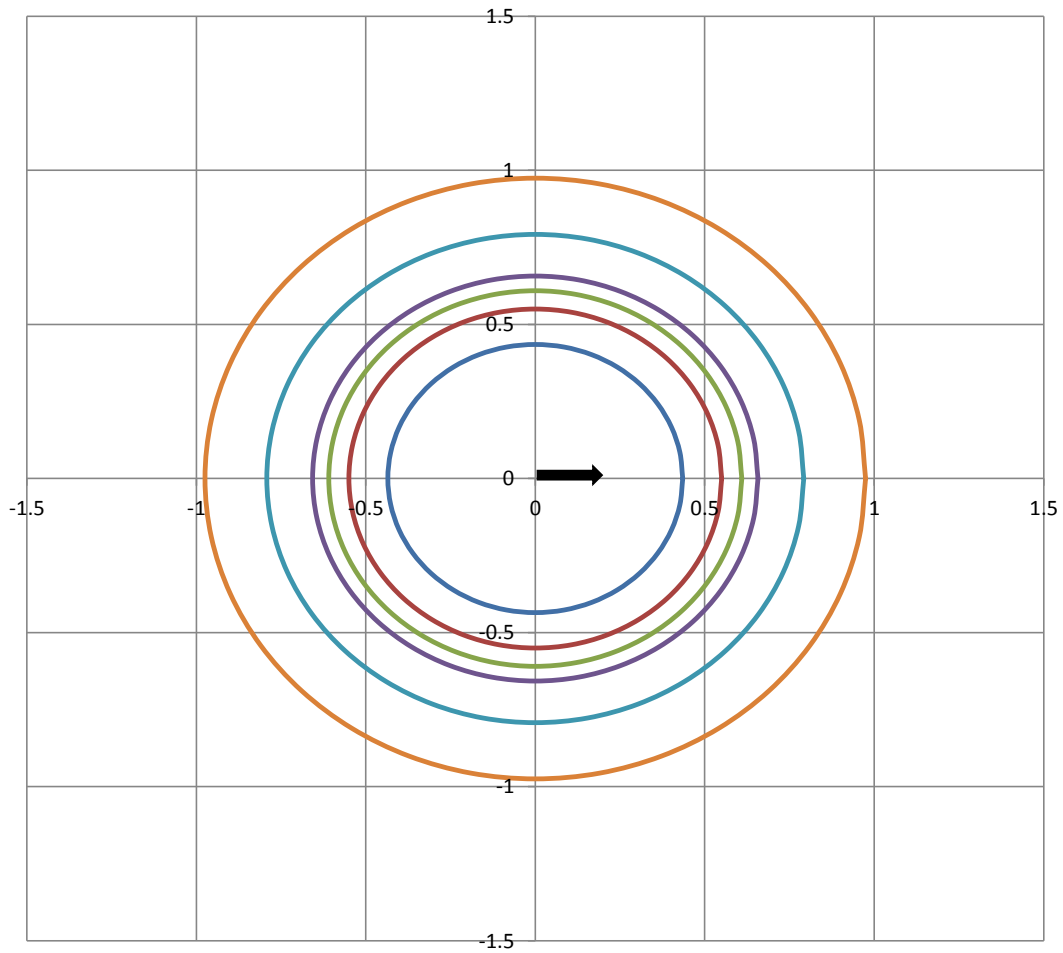
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	4559 Candela
Central Cone Intensity:	4274 Candela
Beam Flux:	534.8 Lumens
Beam Angle (0-180):	18.2 Degrees
Beam Angle (90-270):	18.2 Degrees
Field Angle (0-180):	46.6 Degrees
Field Angle (90-270):	46.6 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		285	1.24
6.00		127	1.86
8.00		71.2	2.48
10.0		45.6	3.10
12.0		31.7	3.73
14.0		23.3	4.35
16.0		17.8	4.97



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