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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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United States

Catalog Number
HP2-LED-x63-SP-9 CO2-LED-x63-SP-9

Order Number
11353040
Test Number
11353040.11

Test Date

2016-09-02

Prepared By

Khang Nguyen, Technician

Approved By

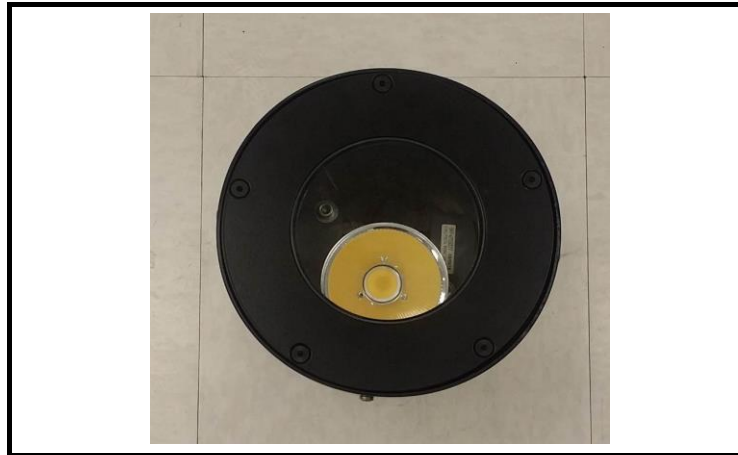
Eric Gaudreau, Senior Engineering Associate

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Luminaire Description: Circular formed black aluminum cylinder housing with an internal linear specular plastic reflector and a clear glass lens
Lamp: One (1) White LED
Mounting: Surface
Ballast/Driver: One (1) POWERSELECT PS60U700C21T

Luminaire



Luminaire Characteristics

Luminous Diameter: 3.75 in.

Summary of Results

Total Luminaire Output:	1639 Lumens
Luminaire Efficacy:	76.8 lm/w
Maximum Candela:	7524 Candela

Test Conditions

Test Temperature:	25.3 °C
Voltage:	120.0 VAC
Current:	0.1806 A
Power:	21.35 W
Power Factor:	0.985
Frequency:	60 Hz
Current THD:	12.3 %

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
25.3 °C	120.0 VAC	0.1806 A	21.35 W	0.985	60 Hz	12.3 %

Summary of Results

Spacing Criteria

0-180: 0.35

90-270: 0.30

Total Lumen Output:

1639 Lumens

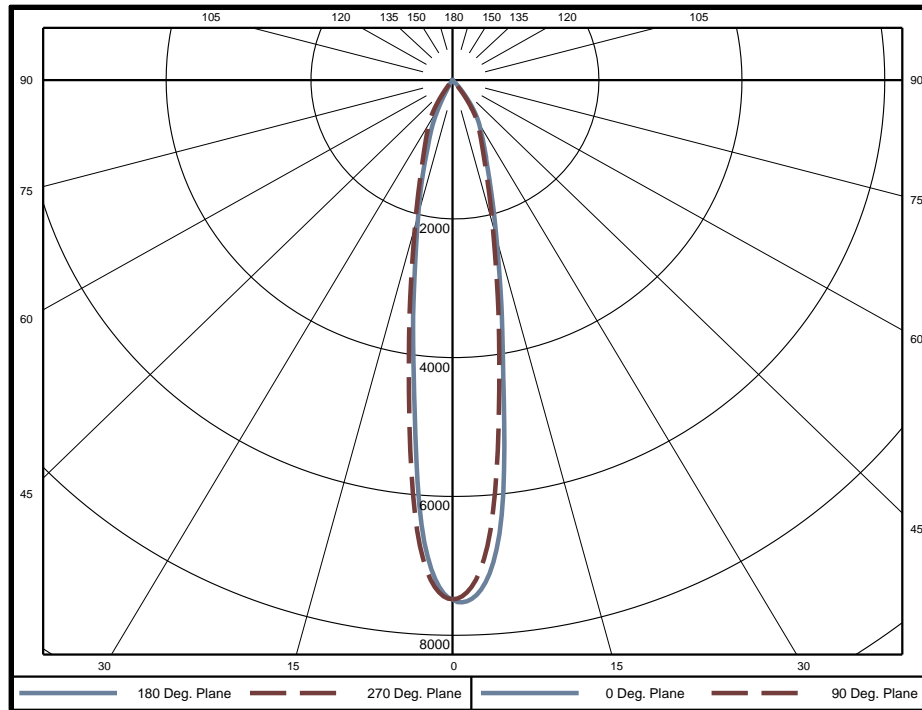
Luminaire Efficacy:

76.8 lm/w

Maximum Candela:

7524 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	165.4	10.1%	60-65	1.0	0.1%	120-125	0	0.0%
5-10	336.3	20.5%	65-70	0.7	0.0%	125-130	0	0.0%
10-15	317.9	19.4%	70-75	0.5	0.0%	130-135	0	0.0%
15-20	262.7	16.0%	75-80	0.4	0.0%	135-140	0	0.0%
20-25	213.3	13.0%	80-85	0.2	0.0%	140-145	0	0.0%
25-30	167.6	10.2%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	106.7	6.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	47.1	2.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	11.7	0.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	4.0	0.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	2.0	0.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	1.4	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1617	98.7%
0-60	1636	99.8%
0-90	1639	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	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479	7479
	5	6781	6697	6582	6407	6236	6099	5933	5856	5809	5856	5933	6099	6236	6407	6582
	10	3861	3867	3839	3732	3580	3481	3366	3309	3250	3309	3366	3481	3580	3732	3839
	15	2232	2194	2164	2105	2041	2011	1931	1885	1872	1885	1931	2011	2041	2105	2164
	20	1393	1358	1313	1280	1269	1271	1203	1110	1071	1110	1203	1271	1269	1280	1313
	25	968	931	890	874	883	857	761	647	622	647	761	857	883	874	890
	30	699	679	657	644	629	505	331	214	176	214	331	505	629	644	657
	35	414	403	395	382	290	133	37	22	20	22	37	133	290	382	395
	40	146	145	138	109	40	15	11	10	10	10	11	15	40	109	138
	45	26	24	22	17	10	8	7	7	6	7	7	8	10	17	22
	50	13	11	9	6	5	4	4	3	3	3	4	4	5	6	9
	55	6	5	4	4	3	3	3	2	2	2	3	3	3	4	4
	60	4	4	3	3	2	2	2	2	2	2	2	2	2	3	3
	65	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2
	70	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2
	75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	80	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1
	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	1050000	1050000
	45	5099	4347
	55	1442	1074
	65	798	661
	75	675	608
	85	702	579



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	1951	1951	1951	1951	1906	1906	1906	1906	1821	1821	1821	1744	1744	1744	1672	1672	1672	1639
1	1879	1842	1809	1779	1840	1807	1777	1750	1742	1718	1697	1682	1663	1647	1626	1612	1599	1571
2	1810	1746	1693	1649	1776	1719	1671	1630	1667	1629	1595	1620	1589	1562	1576	1552	1530	1505
3	1745	1662	1597	1546	1715	1640	1581	1534	1599	1550	1510	1561	1521	1487	1526	1493	1465	1443
4	1683	1586	1516	1462	1656	1569	1504	1453	1536	1480	1437	1505	1458	1421	1476	1437	1405	1384
5	1624	1518	1444	1390	1601	1504	1435	1384	1477	1418	1372	1452	1401	1361	1429	1385	1349	1330
6	1569	1457	1381	1327	1548	1445	1374	1323	1423	1361	1315	1402	1348	1306	1382	1335	1298	1279
7	1517	1401	1325	1272	1499	1391	1320	1269	1372	1309	1263	1355	1298	1257	1338	1288	1251	1232
8	1469	1349	1274	1223	1452	1341	1270	1220	1325	1261	1216	1310	1253	1211	1296	1245	1206	1189
9	1423	1302	1228	1178	1408	1295	1224	1176	1281	1217	1173	1269	1211	1169	1257	1204	1166	1149
10	1380	1258	1186	1137	1366	1252	1183	1136	1240	1177	1133	1230	1171	1130	1219	1166	1128	1111

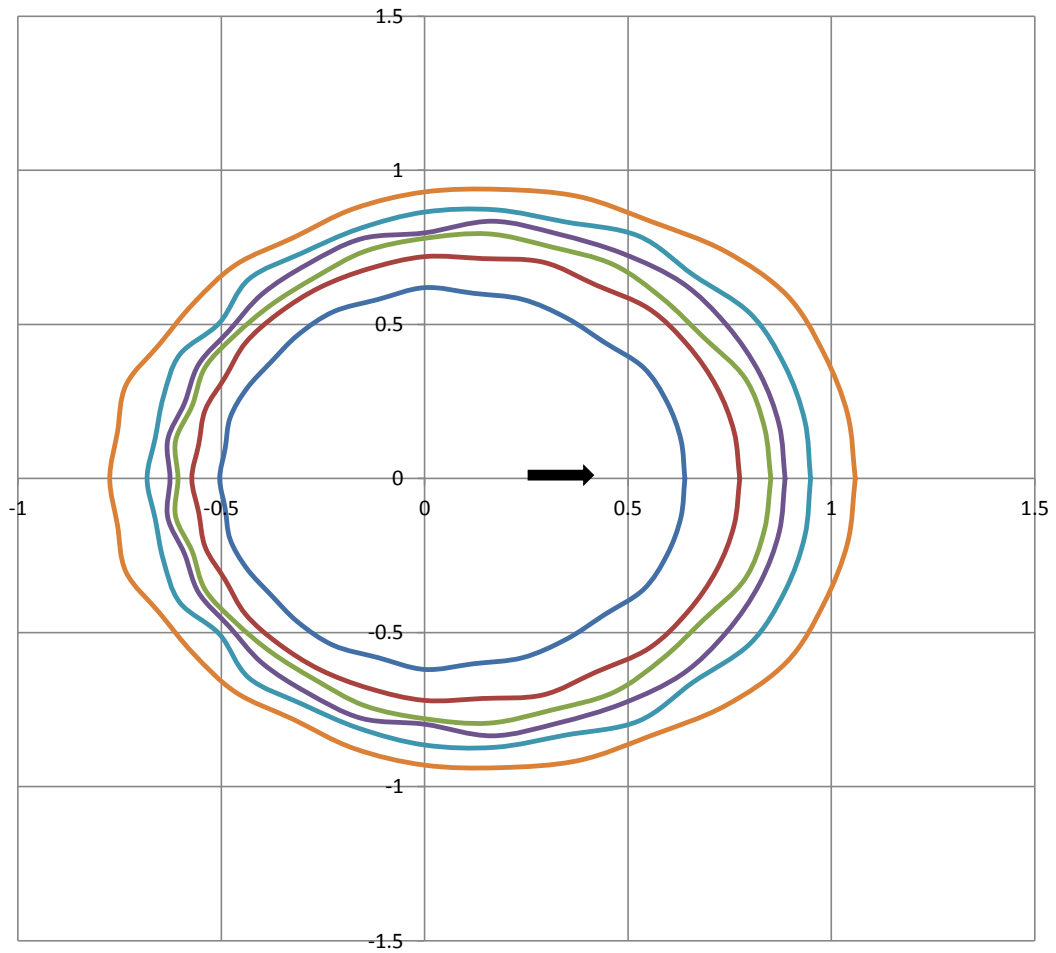
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	7479 Candela
Central Cone Intensity:	7078 Candela
Beam Flux:	477.0 Lumens
Beam Angle (0-180):	19.1 Degrees
Beam Angle (90-270):	19.2 Degrees
Field Angle (0-180):	52.6 Degrees
Field Angle (90-270):	55.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		467	1.31
6.00		208	1.96
8.00		117	2.62
10.0		74.8	3.27
12.0		51.9	3.93
14.0		38.2	4.58
16.0		29.2	5.24



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