



UL LLC
1075 W Lambert Rd Suite B
Brea, CA 92821

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
HP2-LED-x63-WFL-9 CO2-LED-x63-WFL-9

Order Number
11353040
Test Number
11353040.54

Test Date

2016-09-19

Prepared By

Jeremy Lewis, Technician

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 black plastic housing, white stepped reflector, and glass lens
Lamp: One (1) White LED
Mounting: Surface
Ballast/Driver: PowerSelect PS60U700C21T

Luminaire



Luminaire Characteristics
Luminous Diameter: 2.75 in.

Summary of Results

Total Luminaire Output:	1509 Lumens
Luminaire Efficacy:	67.6 lm/w
Maximum Candela:	1225 Candela

Test Conditions

Test Temperature:	24.4 °C
Voltage:	120.1 VAC
Current:	0.1887 A
Power:	22.32 W
Power Factor:	0.984
Frequency:	60 Hz
Current THD:	12.6 %

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
24.4 °C	120.1 VAC	0.1887 A	22.32 W	0.984	60 Hz	12.6 %

Summary of Results

Spacing Criteria

0-180: 1.18
90-270: 0.96

Total Lumen Output:

1509 Lumens

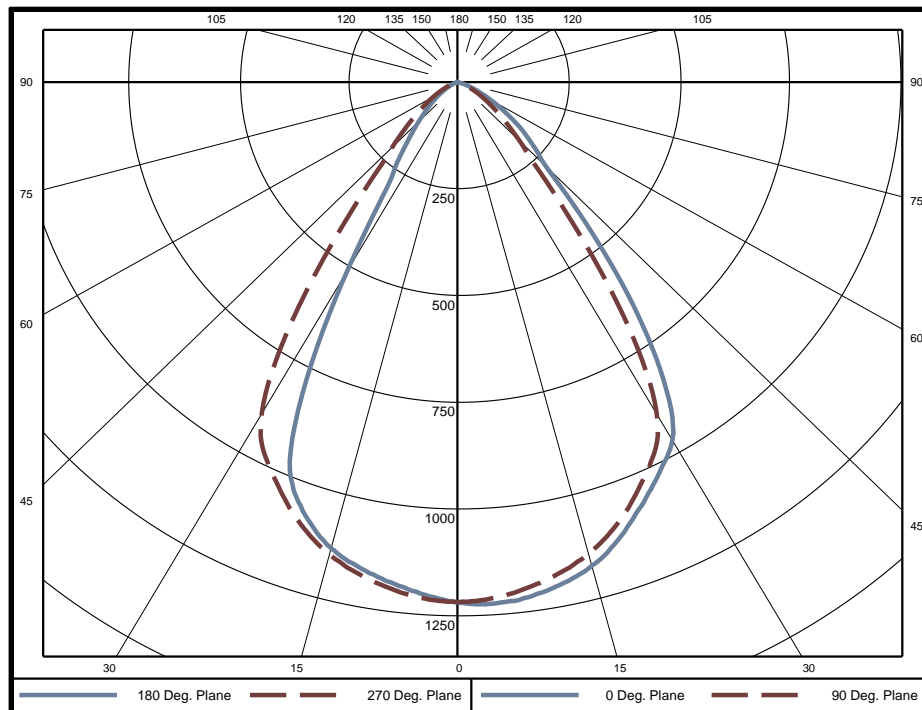
Luminaire Efficacy:

67.6 lm/w

Maximum Candela:

1225 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	29.0	1.9%	60-65	20.5	1.4%	120-125	0	0.0%
5-10	85.5	5.7%	65-70	10.5	0.7%	125-130	0	0.0%
10-15	138.3	9.2%	70-75	3.7	0.2%	130-135	0	0.0%
15-20	184.3	12.2%	75-80	1.0	0.1%	135-140	0	0.0%
20-25	218.5	14.5%	80-85	0.4	0.0%	140-145	0	0.0%
25-30	230.0	15.2%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	199.2	13.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	142.4	9.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	94.1	6.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	68.2	4.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	50.0	3.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	33.7	2.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1227	81.3%
0-60	1473	97.6%
0-90	1509	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	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219
	5	1222	1220	1216	1212	1207	1204	1201	1201	1196	1201	1201	1204	1207	1212	1216
	10	1205	1199	1192	1186	1181	1177	1175	1174	1168	1174	1175	1177	1181	1186	1192
	15	1171	1163	1156	1150	1143	1140	1140	1138	1129	1138	1140	1140	1143	1150	1156
	20	1110	1100	1096	1090	1083	1083	1079	1073	1056	1073	1079	1083	1083	1090	1096
	25	1039	1023	1017	1010	1006	1005	972	936	884	936	972	1005	1006	1010	1017
	30	964	948	933	915	893	818	683	579	497	579	683	818	893	915	933
	35	761	742	721	687	610	468	339	281	256	281	339	468	610	687	721
	40	489	461	440	403	330	244	211	189	174	189	211	244	330	403	440
	45	283	270	263	239	202	166	141	128	119	128	141	166	202	239	263
	50	210	203	189	162	133	110	94	86	79	86	94	110	133	162	189
	55	147	137	123	105	86	71	61	55	51	55	61	71	86	105	123
	60	93	84	75	64	52	43	36	32	29	32	36	43	52	64	75
	65	51	47	42	35	28	22	18	16	14	16	18	22	28	35	42
	70	25	22	19	15	11	8	6	5	4	5	6	8	11	15	19
	75	8	6	5	4	3	2	1	1	1	1	1	2	3	4	5
	80	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2
	85	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1
	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	318000	318000
	45	104300	97070
	55	67060	55940
	65	31670	25900
	75	7857	5266
	85	2000	1501



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	1797	1797	1797	1797	1755	1755	1755	1755	1677	1677	1677	1606	1606	1606	1540	1540	1540	1509
1	1702	1655	1613	1576	1664	1622	1585	1550	1561	1530	1502	1504	1480	1457	1452	1433	1415	1388
2	1603	1520	1451	1393	1569	1494	1431	1377	1444	1392	1347	1398	1355	1318	1356	1321	1290	1264
3	1508	1398	1313	1245	1476	1377	1298	1235	1336	1269	1215	1298	1242	1195	1263	1217	1177	1151
4	1418	1289	1195	1123	1390	1272	1184	1116	1238	1162	1102	1207	1142	1089	1177	1122	1076	1051
5	1335	1193	1093	1020	1309	1178	1085	1015	1150	1068	1006	1123	1052	996	1099	1037	987	963
6	1258	1107	1005	932	1234	1094	999	929	1070	985	922	1048	973	916	1027	961	909	885
7	1186	1030	928	857	1165	1019	923	855	999	912	850	980	902	845	962	893	840	817
8	1121	961	861	792	1101	952	856	790	934	848	786	918	840	782	903	832	779	756
9	1061	900	801	734	1043	892	797	733	876	790	730	862	784	727	849	777	724	702
10	1006	844	748	683	989	837	745	682	824	739	680	812	733	678	800	728	676	654

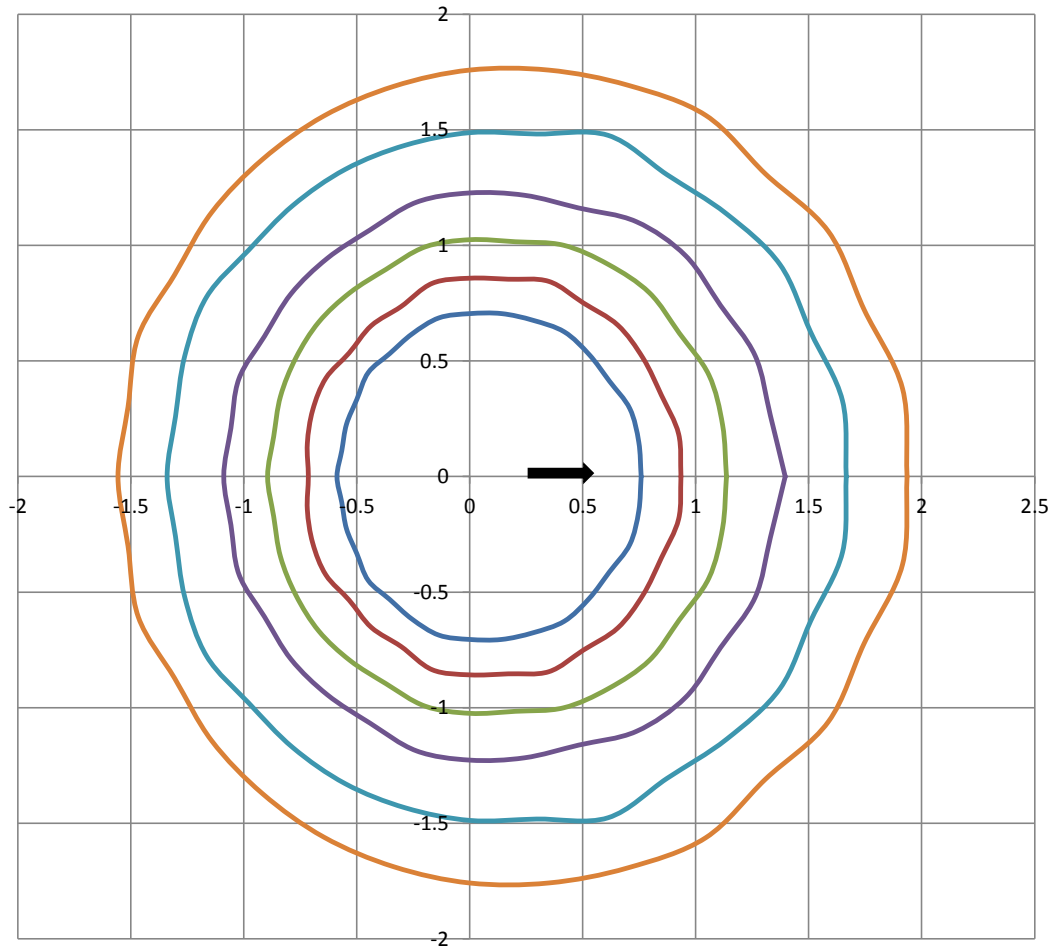
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1219 Candela
Central Cone Intensity:	1215 Candela
Beam Flux:	1076.0 Lumens
Beam Angle (0-180):	66.4 Degrees
Beam Angle (90-270):	70.0 Degrees
Field Angle (0-180):	101.8 Degrees
Field Angle (90-270):	102.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		76.2	4.29
6.00		33.9	6.43
8.00		19.0	8.58
10.0		12.2	10.7
12.0		8.46	12.9
14.0		6.22	15.0
16.0		4.76	17.2



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