



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

## Photometric Test Report

Relevant Standards  
IES LM-79-2008, IES LM-35-2002 (Withdrawn)  
ANSI C78.377-2011, ANSI C82.77-2002  
CIE 13.3-1995, CIE 15-2004, IES TM-30-15

Prepared For  
**B-K LIGHTING INC**

Chris McCarthy  
40429 Brickyard Dr  
Madera, CA 93636-9515  
United States

Catalog Number  
**DE-LED-x63-WFL-9    SN-DE-LED-x63-WFL-9    ST-DE-LED-x63-WFL-9**  
**SM-DE-LED-x63-WFL-9    UL-DE-LED-x63-WFL-9**

Order Number  
11353040  
Test Number  
11353040.34

Test Date

2016-09-09 - 2016-09-12

Prepared By

Khang Nguyen, Technician

Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.  
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.  
This report must not be used by the client to claim product certification, approval, or endorsement by  
NVLAP, NIST, or any agency of the Federal Government.



## Table of Contents

<b>Summary of Results</b>	Page 3
<b>Integrating Sphere Results</b>	Page 4
<b>Distribution Results</b>	
Test Conditions / Summary of Results / Max. Candlepower Plot	Page 5
Candela Tabulation	Page 6
Candela Tabulation - continued	Page 7
Isocandela Diagram	Page 8

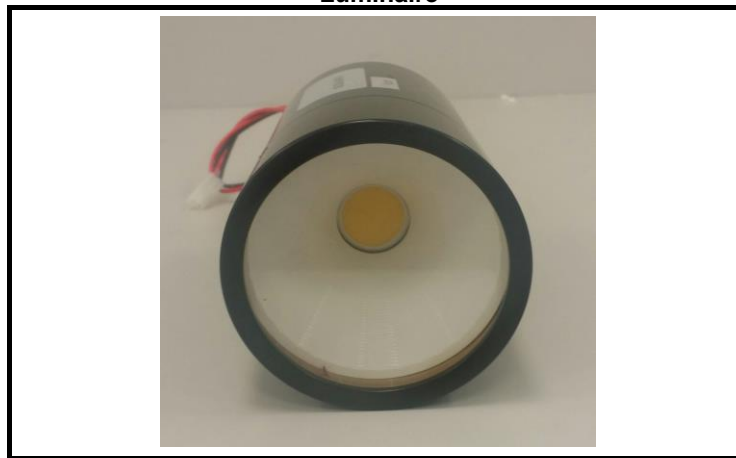
Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the  $4\pi$  geometry method.  
Absorption correction was employed for Sphere measurement



**Luminaire Description:** Circular black aluminum housing, white linear stepped reflector, and glass lens  
**Lamp:** One (1) White LED  
**Mounting:** VBU  
**Ballast/Driver:** PowerSelect PS60U700C21T

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 2.75 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 1192 Lumens  
Efficacy: 54.8 lm/w  
CCT: 3878 K  
CRI (Ra): 79.0

**Distribution**

Total Luminaire Output: 1168 Lumens  
Luminaire Efficacy: 53.6 lm/w  
Maximum Candela: 1152 Candela

**Electrical Data at 120 VAC**

Test Temperature: 24.6 °C  
Voltage: 120.0 VAC  
Current: 0.1837 A  
Power: 21.76 W  
Power Factor: 0.987  
Frequency: 60 Hz  
Current THD: 11.2 %



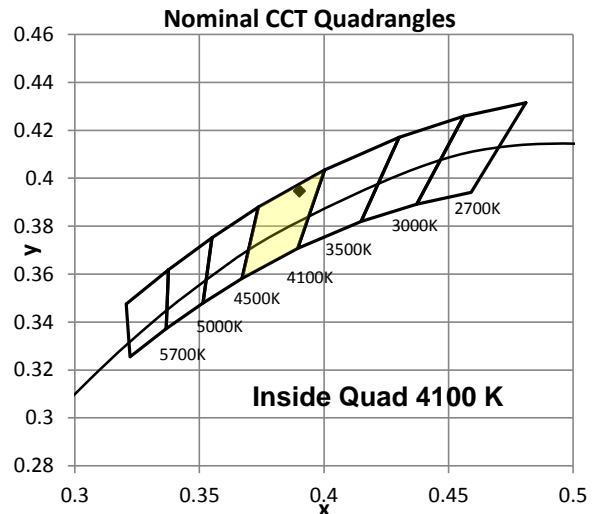
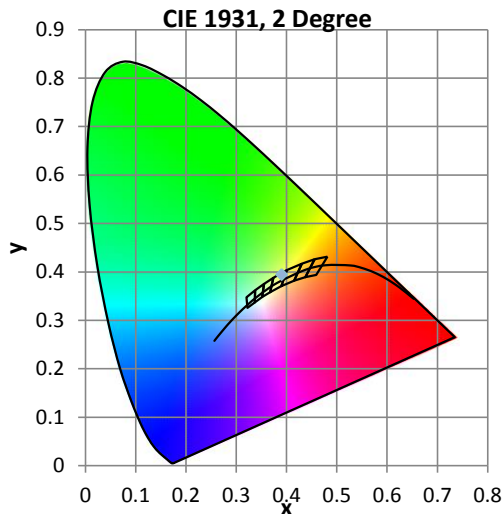
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.1837 A	21.76 W	0.987	60 Hz	11.2 %

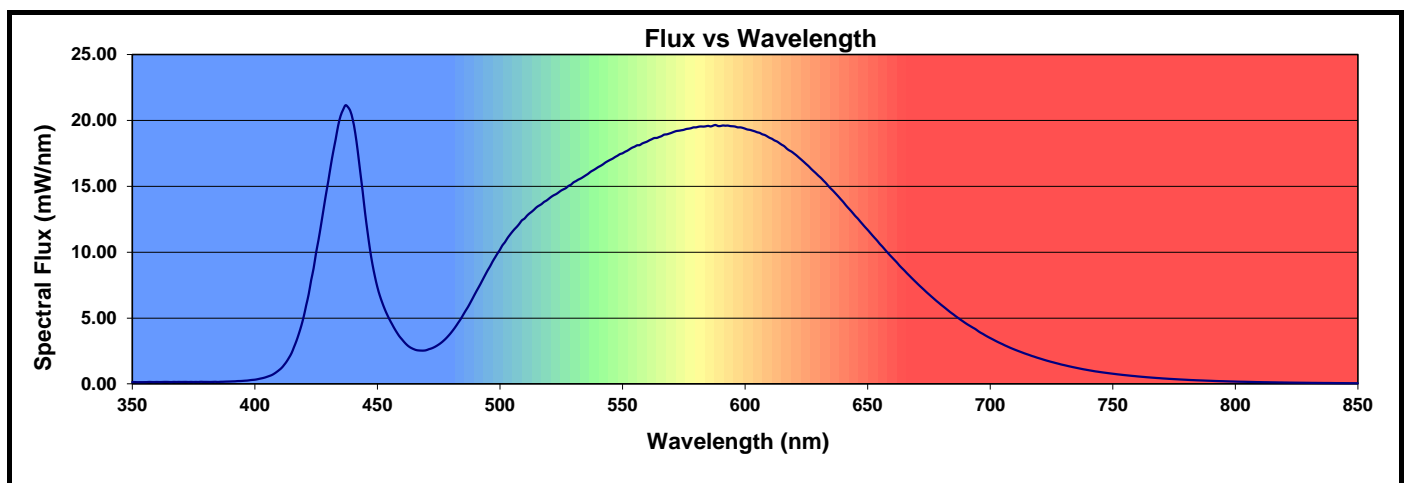
### Summary of Results

Total Output:	1192 Lumens	Chromaticity (x):	0.3902
Efficacy:	54.8 lm/w	Chromaticity (y):	0.3946
CCT:	3878 K	Chromaticity (u'):	0.2244
CRI (Ra):	79.0	Chromaticity (v'):	0.5106
CRI (R9):	6.8	TM-30 R <sub>f</sub> :	77.6
Peak Wavelength:	437.3 nm	TM-30 R <sub>g</sub> :	98.9
Dominant Wavelength:	577.1 nm	Duv:	0.0053
S/P Ratio:	1.546		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
79.0	77.3	81.8	87.5	81.0	77.6	77.0	84.0	65.6	6.8	59.2	81.6	61.2	77.1	92.9





## Distribution - Goniophotometer

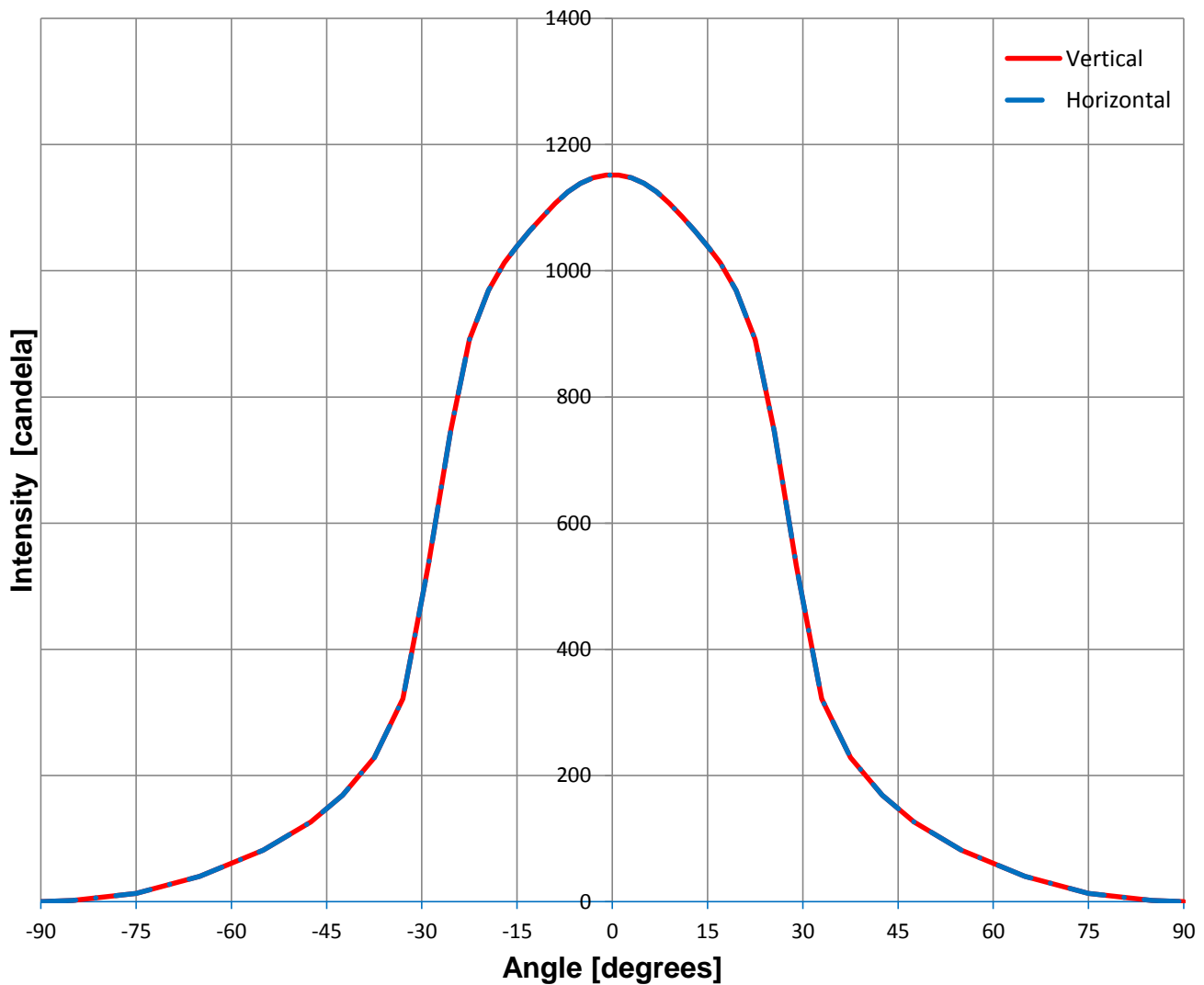
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.1 VAC	0.1840 A	21.80 W	0.987	60 Hz	11.2 %

### Summary of Results

Total Lumen Output:	1168.2 Lumens	Maximum Candela:	1151.8 Candela
Luminaire Efficacy:	53.6 Lumens/Watt	Maximum Angle:	0 H 0 V
Field Lumens:	1034.8 Lumens	Field Angle :	98.7 H X 98.7 V
Beam Lumens:	689.3 Lumens	Beam Angle :	56.6 H X 56.6 V
Spill Light Lumens:	133.4 Lumens	IESNA Type:	5 H X 5 V

### Maximum Candlepower Plot





### Candela Tabulation

Lateral Angle (Degrees)

	0	1	3	5	7	9	11	13	15	17	19.5
85.0	2	2	2	2	2	2	2	2	2	2	2
75.0	13	13	13	13	13	13	13	12	12	12	11
65.0	40	40	40	40	39	39	38	38	37	36	35
55.0	81	81	81	81	80	79	78	76	75	73	71
47.5	126	126	126	125	124	122	120	117	114	111	107
42.5	169	168	168	166	164	161	158	154	149	144	138
37.5	228	228	227	224	221	216	210	203	196	188	178
33.0	322	321	317	310	299	286	273	260	249	239	225
29.0	532	531	524	509	486	458	424	388	350	313	276
25.5	745	744	736	719	694	660	617	568	512	454	380
22.5	891	890	884	871	849	819	778	727	667	598	506
19.5	969	969	965	957	944	926	899	859	804	737	637
17.0	1013	1012	1009	1002	991	976	956	929	890	833	737
15.0	1039	1039	1035	1029	1019	1006	988	964	935	890	804
13.0	1063	1063	1059	1052	1042	1029	1013	992	964	929	859
11.0	1086	1085	1081	1074	1063	1049	1032	1013	988	956	899
9.0	1107	1106	1102	1093	1081	1067	1049	1029	1006	976	926
7.0	1125	1124	1120	1111	1098	1081	1063	1042	1019	991	944
5.0	1139	1138	1134	1124	1111	1093	1074	1052	1029	1002	957
3.0	1147	1147	1142	1134	1120	1102	1081	1059	1035	1009	965
1.0	1152	1151	1147	1138	1124	1106	1085	1063	1039	1012	969
0.0	1152	1152	1147	1139	1125	1107	1086	1063	1039	1013	969
-1.0	1152	1151	1147	1138	1124	1106	1085	1063	1039	1012	969
-3.0	1147	1147	1142	1134	1120	1102	1081	1059	1035	1009	965
-5.0	1139	1138	1134	1124	1111	1093	1074	1052	1029	1002	957
-7.0	1125	1124	1120	1111	1098	1081	1063	1042	1019	991	944
-9.0	1107	1106	1102	1093	1081	1067	1049	1029	1006	976	926
-11.0	1086	1085	1081	1074	1063	1049	1032	1013	988	956	899
-13.0	1063	1063	1059	1052	1042	1029	1013	992	964	929	859
-15.0	1039	1039	1035	1029	1019	1006	988	964	935	890	804
-17.0	1013	1012	1009	1002	991	976	956	929	890	833	737
-19.5	969	969	965	957	944	926	899	859	804	737	637
-22.5	891	890	884	871	849	819	778	727	667	598	506
-25.5	745	744	736	719	694	660	617	568	512	454	380
-29.0	532	531	524	509	486	458	424	388	350	313	276
-33.0	322	321	317	310	299	286	273	260	249	239	225
-37.5	228	228	227	224	221	216	210	203	196	188	178
-42.5	169	168	168	166	164	161	158	154	149	144	138
-47.5	126	126	126	125	124	122	120	117	114	111	107
-55.0	81	81	81	81	80	79	78	76	75	73	71
-65.0	40	40	40	40	39	39	38	38	37	36	35
-75.0	13	13	13	13	13	13	13	12	12	12	11
-85.0	2	2	2	2	2	2	2	2	2	2	2

Vertical Angle (Degrees)



### Candela Tabulation

Lateral Angle (Degrees)

Vertical Angle (Degrees)	Lateral Angle (Degrees)										
	22.5	25.5	29	33	37.5	42.5	47.5	55	65	75	85
85.0	1	1	1	1	1	1	1	1	0	0	0
75.0	11	10	10	9	8	7	6	4	2	1	0
65.0	33	32	30	27	24	20	16	11	6	2	0
55.0	67	64	59	54	47	40	33	23	11	4	1
47.5	101	95	88	79	69	58	48	33	16	6	1
42.5	130	121	111	99	86	72	58	40	20	7	1
37.5	165	152	137	121	104	86	69	47	24	8	1
33.0	205	186	165	143	121	99	79	54	27	9	1
29.0	246	223	194	165	137	111	88	59	30	10	1
25.5	304	256	223	186	152	121	95	64	32	10	1
22.5	395	304	246	205	165	130	101	67	33	11	1
19.5	506	380	276	225	178	138	107	71	35	11	2
17.0	598	454	313	239	188	144	111	73	36	12	2
15.0	667	512	350	249	196	149	114	75	37	12	2
13.0	727	568	388	260	203	154	117	76	38	12	2
11.0	778	617	424	273	210	158	120	78	38	13	2
9.0	819	660	458	286	216	161	122	79	39	13	2
7.0	849	694	486	299	221	164	124	80	39	13	2
5.0	871	719	509	310	224	166	125	81	40	13	2
3.0	884	736	524	317	227	168	126	81	40	13	2
1.0	890	744	531	321	228	168	126	81	40	13	2
0.0	891	745	532	322	228	169	126	81	40	13	2
-1.0	890	744	531	321	228	168	126	81	40	13	2
-3.0	884	736	524	317	227	168	126	81	40	13	2
-5.0	871	719	509	310	224	166	125	81	40	13	2
-7.0	849	694	486	299	221	164	124	80	39	13	2
-9.0	819	660	458	286	216	161	122	79	39	13	2
-11.0	778	617	424	273	210	158	120	78	38	13	2
-13.0	727	568	388	260	203	154	117	76	38	12	2
-15.0	667	512	350	249	196	149	114	75	37	12	2
-17.0	598	454	313	239	188	144	111	73	36	12	2
-19.5	506	380	276	225	178	138	107	71	35	11	2
-22.5	395	304	246	205	165	130	101	67	33	11	1
-25.5	304	256	223	186	152	121	95	64	32	10	1
-29.0	246	223	194	165	137	111	88	59	30	10	1
-33.0	205	186	165	143	121	99	79	54	27	9	1
-37.5	165	152	137	121	104	86	69	47	24	8	1
-42.5	130	121	111	99	86	72	58	40	20	7	1
-47.5	101	95	88	79	69	58	48	33	16	6	1
-55.0	67	64	59	54	47	40	33	23	11	4	1
-65.0	33	32	30	27	24	20	16	11	6	2	0
-75.0	11	10	10	9	8	7	6	4	2	1	0
-85.0	1	1	1	1	1	1	1	1	0	0	0



## Isocandela Diagram (Percent of Maximum Intensity)

