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## 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IES LM-79-2008, IES LM-35-2002 (Withdrawn)  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**

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Catalog Number  
**DE-LED-x63-SP-9   SN-DE-LED-x63-SP-9   ST-DE-LED-x63-SP-9   SM-DE-LED-x63-SP-9**  
**UL-DE-LED-x63-SP-9   CK-LED-x63-SP-9   OL-LED-x63-SP-9**

Order Number

11353040

Test Number

11353040.24

Test Date

2016-09-08 - 2016-09-09

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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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, semi-specular linear 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: 1454 Lumens  
Efficacy: 66.8 lm/w  
CCT: 3990 K  
CRI (Ra): 79.6

#### Distribution

Total Luminaire Output: 1435 Lumens  
Luminaire Efficacy: 65.6 lm/w  
Maximum Candela: 7800 Candela

#### Electrical Data at 120 VAC

Test Temperature: 25.4 °C  
Voltage: 120.0 VAC  
Current: 0.1837 A  
Power: 21.76 W  
Power Factor: 0.987  
Frequency: 60 Hz  
Current THD: 11.2 %



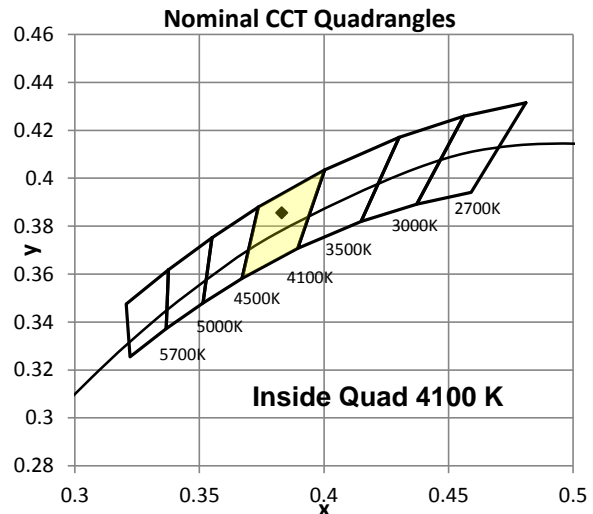
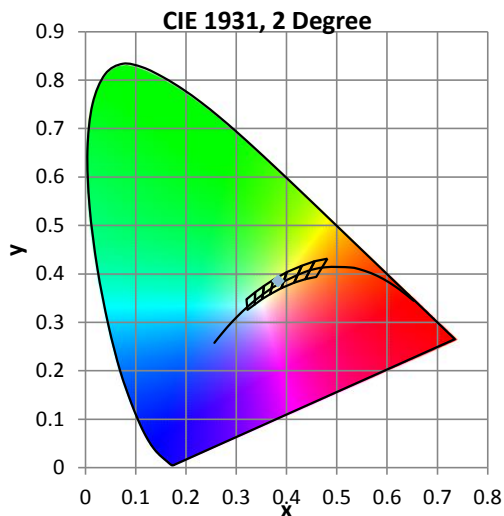
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.4 °C	120.0 VAC	0.1837 A	21.76 W	0.987	60 Hz	11.2 %

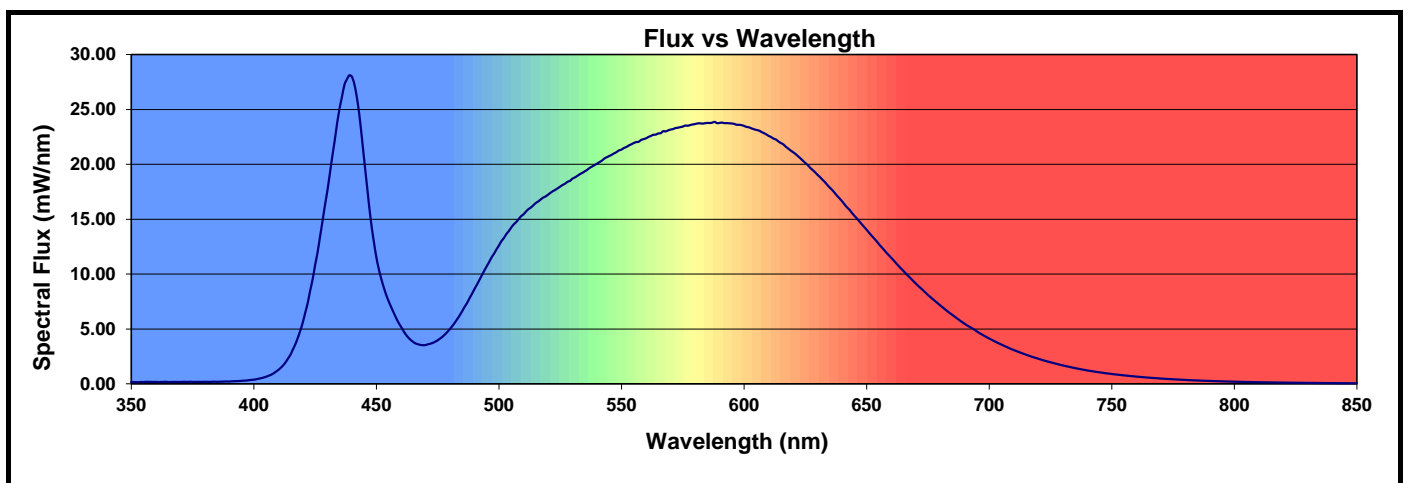
### Summary of Results

Total Output:	1454 Lumens	Chromaticity (x):	0.3831
Efficacy:	66.8 lm/w	Chromaticity (y):	0.3855
CCT:	3990 K	Chromaticity (u'):	0.2234
CRI (Ra):	79.6	Chromaticity (v'):	0.5058
CRI (R9):	9.7	TM-30 R <sub>f</sub> :	77.9
Peak Wavelength:	439.1 nm	TM-30 R <sub>g</sub> :	99.5
Dominant Wavelength:	577.5 nm	Duv:	0.0033
S/P Ratio:	1.59		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
79.6	78.3	82.5	87.4	81.3	78.7	77.7	84.0	66.8	9.7	60.4	82.1	63.1	78.1	92.8





## Distribution - Goniophotometer

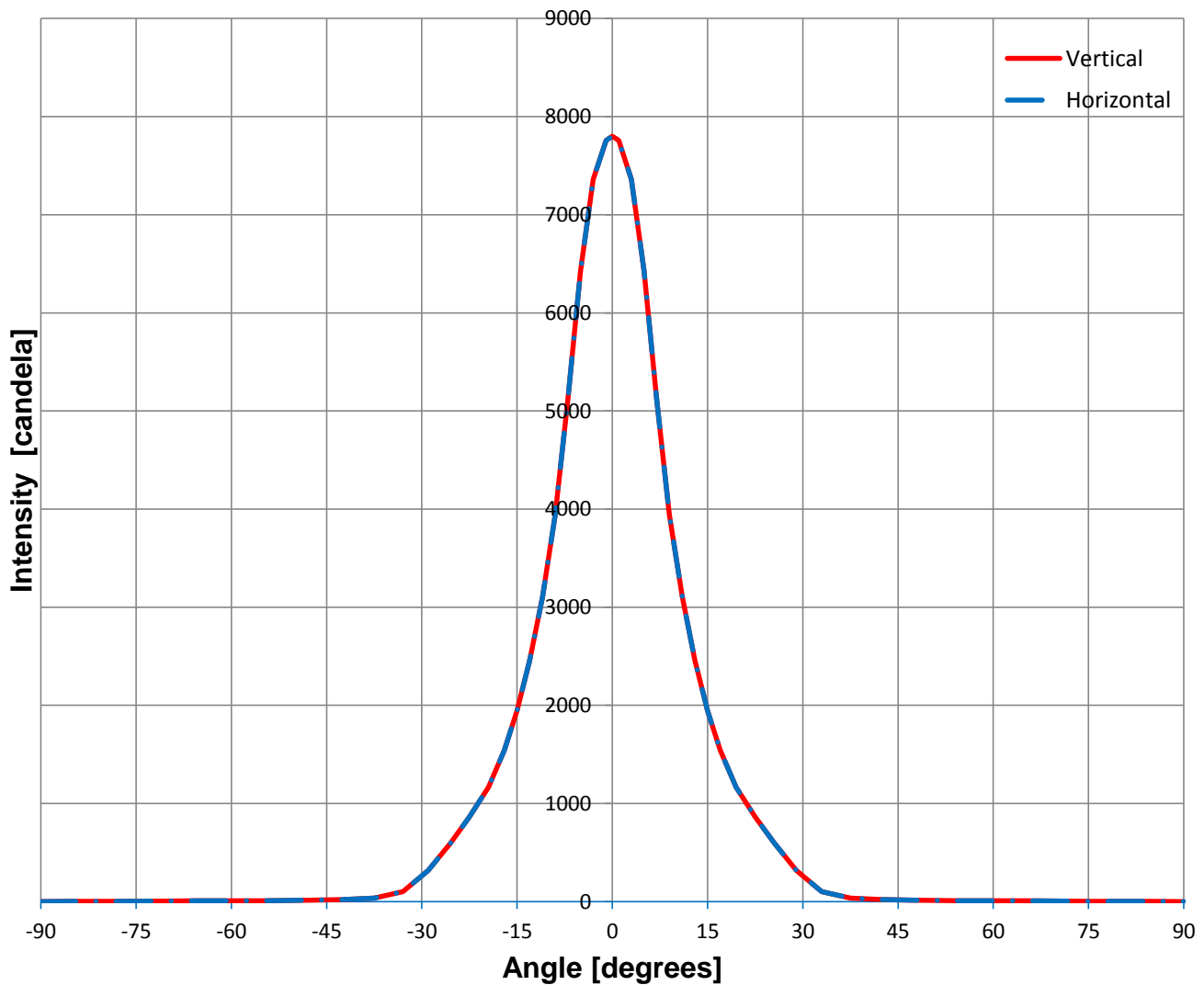
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.1 VAC	0.1845 A	21.86 W	0.987	60 Hz	11.1 %

### Summary of Results

Total Lumen Output:	1434.7 Lumens	Maximum Candela:	7799.9 Candela
Luminaire Efficacy:	65.6 Lumens/Watt	Maximum Angle:	0 H 0 V
Field Lumens:	1192.9 Lumens	Field Angle :	46.8 H X 46.8 V
Beam Lumens:	459.8 Lumens	Beam Angle :	18.2 H X 18.2 V
Spill Light Lumens:	241.8 Lumens	IESNA Type:	4 H X 4 V

### Maximum Candlepower Plot





### Candela Tabulation

Lateral Angle (Degrees)

Vertical Angle (Degrees)	Lateral Angle (Degrees)										
	0	1	3	5	7	9	11	13	15	17	19.5
85.0	1	1	1	1	1	1	1	1	1	1	1
75.0	4	4	4	4	4	4	4	4	4	4	4
65.0	8	8	8	8	8	8	8	8	8	8	8
55.0	10	10	10	10	10	10	10	10	10	10	10
47.5	14	14	14	14	13	13	13	13	12	12	11
42.5	21	21	21	21	20	20	19	18	18	17	16
37.5	36	36	36	35	34	33	31	29	27	25	23
33.0	100	100	96	90	81	69	60	51	44	40	35
29.0	318	317	308	292	268	237	202	165	127	93	62
25.5	596	595	582	557	521	474	420	360	296	233	157
22.5	861	859	844	815	771	715	647	569	484	396	289
19.5	1166	1163	1138	1092	1033	961	881	790	691	583	445
17.0	1542	1537	1499	1425	1325	1207	1087	972	859	740	583
15.0	1943	1936	1881	1774	1632	1469	1298	1135	990	859	691
13.0	2458	2448	2366	2209	2007	1779	1548	1331	1135	972	790
11.0	3107	3092	2971	2743	2454	2142	1835	1548	1298	1087	881
9.0	3942	3917	3724	3381	2976	2550	2142	1779	1469	1207	961
7.0	5118	5073	4730	4161	3542	2976	2454	2007	1632	1325	1033
5.0	6429	6366	5901	5076	4161	3381	2743	2209	1774	1425	1092
3.0	7359	7295	6834	5901	4730	3724	2971	2366	1881	1499	1138
1.0	7756	7698	7295	6366	5073	3917	3092	2448	1936	1537	1163
0.0	7800	7756	7359	6429	5118	3942	3107	2458	1943	1542	1166
-1.0	7756	7698	7295	6366	5073	3917	3092	2448	1936	1537	1163
-3.0	7359	7295	6834	5901	4730	3724	2971	2366	1881	1499	1138
-5.0	6429	6366	5901	5076	4161	3381	2743	2209	1774	1425	1092
-7.0	5118	5073	4730	4161	3542	2976	2454	2007	1632	1325	1033
-9.0	3942	3917	3724	3381	2976	2550	2142	1779	1469	1207	961
-11.0	3107	3092	2971	2743	2454	2142	1835	1548	1298	1087	881
-13.0	2458	2448	2366	2209	2007	1779	1548	1331	1135	972	790
-15.0	1943	1936	1881	1774	1632	1469	1298	1135	990	859	691
-17.0	1542	1537	1499	1425	1325	1207	1087	972	859	740	583
-19.5	1166	1163	1138	1092	1033	961	881	790	691	583	445
-22.5	861	859	844	815	771	715	647	569	484	396	289
-25.5	596	595	582	557	521	474	420	360	296	233	157
-29.0	318	317	308	292	268	237	202	165	127	93	62
-33.0	100	100	96	90	81	69	60	51	44	40	35
-37.5	36	36	36	35	34	33	31	29	27	25	23
-42.5	21	21	21	21	20	20	19	18	18	17	16
-47.5	14	14	14	14	13	13	13	13	12	12	11
-55.0	10	10	10	10	10	10	10	10	10	10	10
-65.0	8	8	8	8	8	8	8	8	8	8	8
-75.0	4	4	4	4	4	4	4	4	4	4	4
-85.0	1	1	1	1	1	1	1	1	1	1	1



# Candela Tabulation

Lateral Angle (Degrees)

Vertical 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	4	3	3	3	3	3	2	2	2	1	0
65.0	7	7	7	6	5	5	4	4	3	2	0
55.0	10	10	9	9	9	8	7	5	4	2	1
47.5	11	10	10	10	10	9	9	7	4	2	1
42.5	14	13	12	11	10	10	9	8	5	3	1
37.5	21	18	16	13	11	10	10	9	5	3	1
33.0	30	25	21	17	13	11	10	9	6	3	1
29.0	43	35	27	21	16	12	10	9	7	3	1
25.5	85	48	35	25	18	13	10	10	7	3	1
22.5	173	85	43	30	21	14	11	10	7	4	1
19.5	289	157	62	35	23	16	11	10	8	4	1
17.0	396	233	93	40	25	17	12	10	8	4	1
15.0	484	296	127	44	27	18	12	10	8	4	1
13.0	569	360	165	51	29	18	13	10	8	4	1
11.0	647	420	202	60	31	19	13	10	8	4	1
9.0	715	474	237	69	33	20	13	10	8	4	1
7.0	771	521	268	81	34	20	13	10	8	4	1
5.0	815	557	292	90	35	21	14	10	8	4	1
3.0	844	582	308	96	36	21	14	10	8	4	1
1.0	859	595	317	100	36	21	14	10	8	4	1
0.0	861	596	318	100	36	21	14	10	8	4	1
-1.0	859	595	317	100	36	21	14	10	8	4	1
-3.0	844	582	308	96	36	21	14	10	8	4	1
-5.0	815	557	292	90	35	21	14	10	8	4	1
-7.0	771	521	268	81	34	20	13	10	8	4	1
-9.0	715	474	237	69	33	20	13	10	8	4	1
-11.0	647	420	202	60	31	19	13	10	8	4	1
-13.0	569	360	165	51	29	18	13	10	8	4	1
-15.0	484	296	127	44	27	18	12	10	8	4	1
-17.0	396	233	93	40	25	17	12	10	8	4	1
-19.5	289	157	62	35	23	16	11	10	8	4	1
-22.5	173	85	43	30	21	14	11	10	7	4	1
-25.5	85	48	35	25	18	13	10	10	7	3	1
-29.0	43	35	27	21	16	12	10	9	7	3	1
-33.0	30	25	21	17	13	11	10	9	6	3	1
-37.5	21	18	16	13	11	10	10	9	5	3	1
-42.5	14	13	12	11	10	10	9	8	5	3	1
-47.5	11	10	10	10	10	9	9	7	4	2	1
-55.0	10	10	9	9	9	8	7	5	4	2	1
-65.0	7	7	7	6	5	5	4	4	3	2	0
-75.0	4	3	3	3	3	3	2	2	2	1	0
-85.0	1	1	1	1	1	1	1	1	0	0	0



## Isocandela Diagram (Percent of Maximum Intensity)

