



UL LLC  
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## Photometric Test Report

Relevant Standards  
IES LM-79-2008, IES LM-31-1995 (Withdrawn)  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  
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Madera, CA 93636-9515  
United States

Catalog Number  
**AR-LS-20-LED-4000K**

Order Number  
11609579  
Test Number  
11609579.09

Test Date

2016-01-19 - 2017-01-24

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

Tested in 30 planes left side, 30 planes right side, left and right averaged

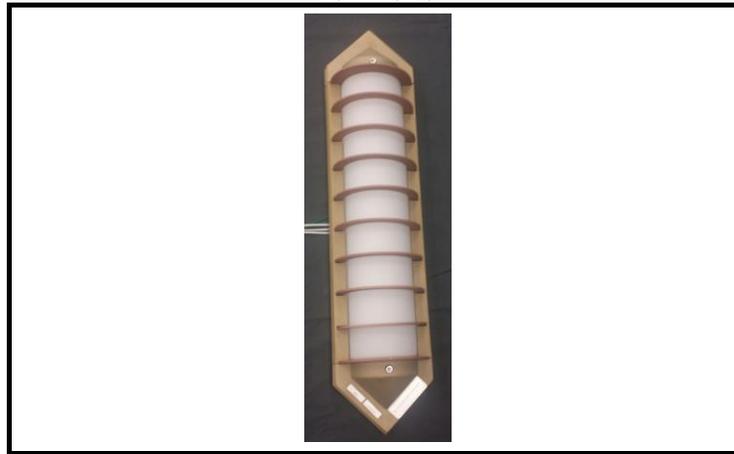
Vertical test increments are 2.5 degrees

Test distance exceeds five times the greatest luminous opening of luminaire



**Luminaire Description:** Formed aluminum housing, 10 louvers, white plastic diffuse lens  
**Lamp:** 24 White LEDs  
**Mounting:** Surface – Wall  
**Ballast/Driver:** FX95100

Luminaire



**Luminaire Characteristics**

Luminous Length: 2.00 in.  
Luminous Width: 3.750 in.  
Luminous Height: 18.00 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 260 Lumens  
Efficacy: 26.8 lm/w  
CCT: 3731 K  
CRI (Ra): 96.6

**Distribution**

Roadway Classification: Type II, Very Short  
Cutoff Classification: Noncutoff  
BUG Rating: B0 U3 G1

**Electrical Data at 120 VAC**

Test Temperature: 25.7 °C  
Voltage: 120.0 VAC  
Current: 0.08812 A  
Power: 9.701 W  
Power Factor: 0.918  
Frequency: 60 Hz  
Current THD: 41.7 %



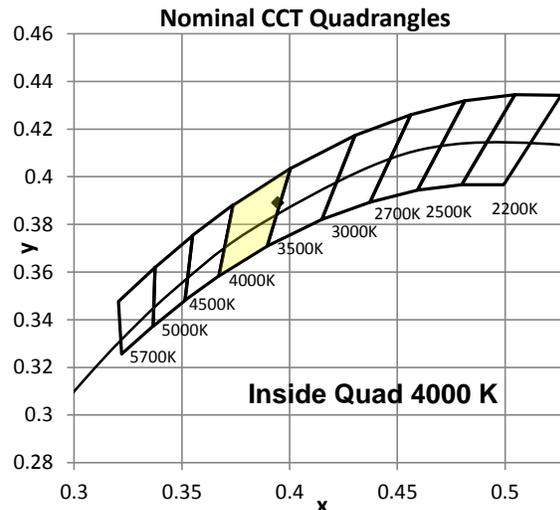
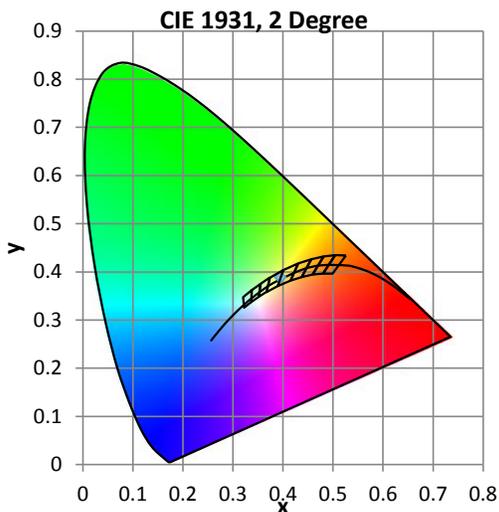
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.7 °C	120.0 VAC	0.08812 A	9.701 W	0.918	60 Hz	41.7 %

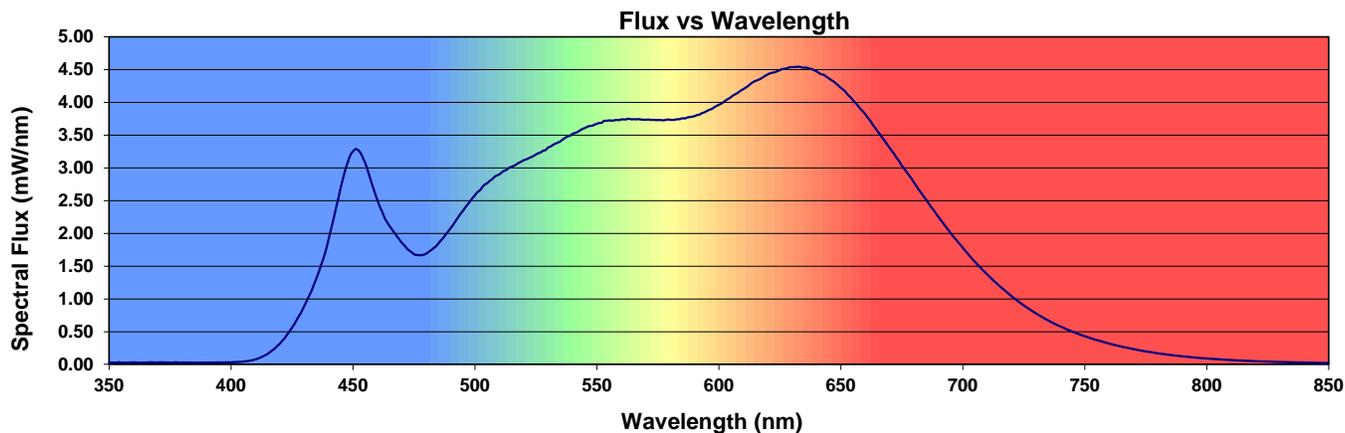
### Summary of Results

<b>Total Output:</b>	260 Lumens	<b>Chromaticity (x):</b>	0.3945
<b>Efficacy:</b>	26.8 lm/w	<b>Chromaticity (y):</b>	0.3890
<b>CCT:</b>	3731 K	<b>Chromaticity (u'):</b>	0.2294
<b>CRI (Ra):</b>	96.6	<b>Chromaticity (v'):</b>	0.5090
<b>CRI (R9):</b>	89.4	<b>TM-30 R<sub>f</sub>:</b>	94.1
<b>Peak Wavelength:</b>	632.3 nm	<b>TM-30 R<sub>g</sub>:</b>	100.2
<b>Dominant Wavelength:</b>	579.2 nm	<b>Duv:</b>	0.0013
<b>S/P Ratio:</b>	1.716		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
96.6	97.3	96.8	94.6	97.6	96.2	94.8	98.7	96.6	89.4	91.3	97.1	81.1	97.0	96.5





## Distribution - Goniophotometer

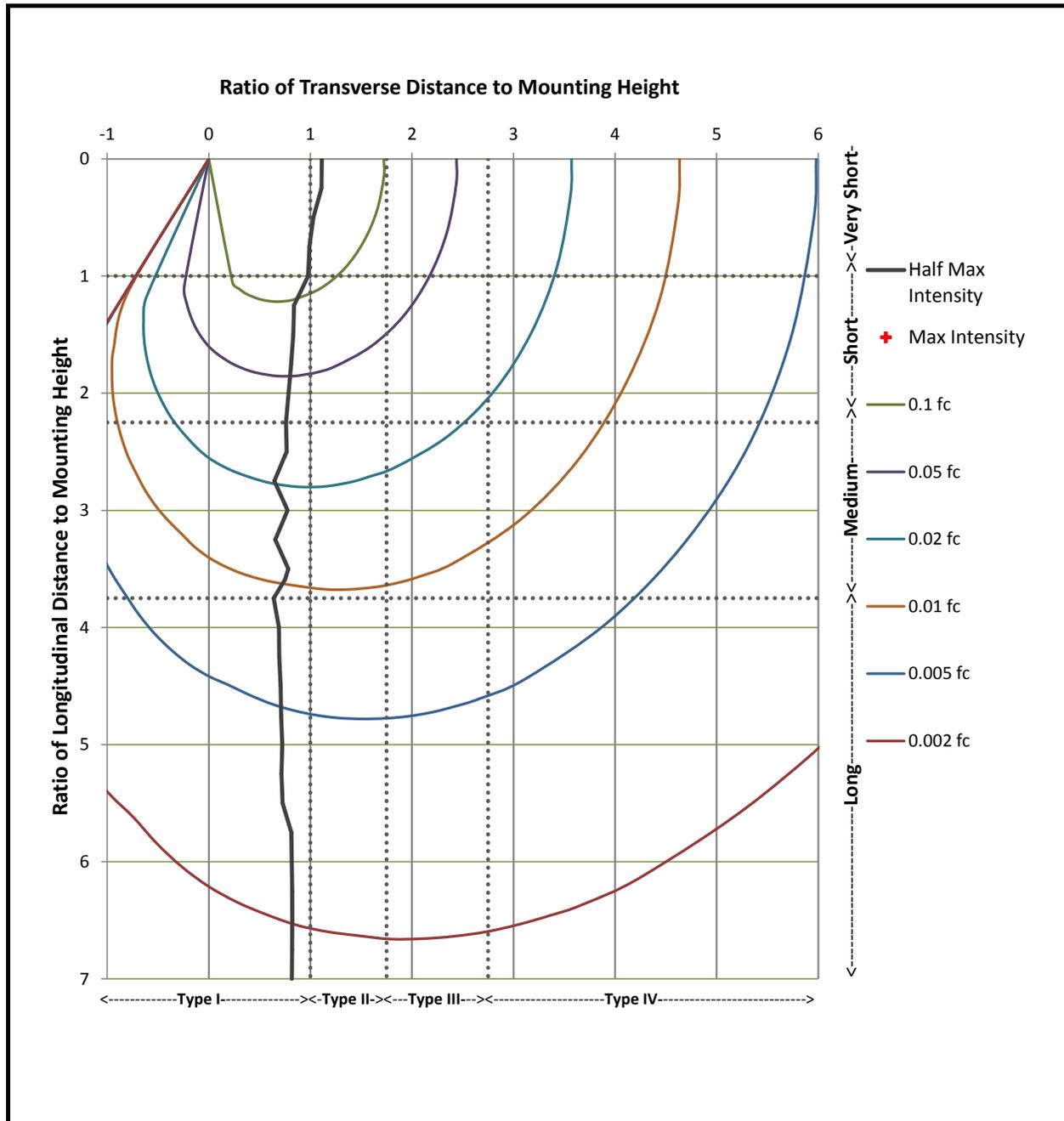
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.08740 A	9.645 W	0.920	60 Hz	41.8 %

### Summary of Results

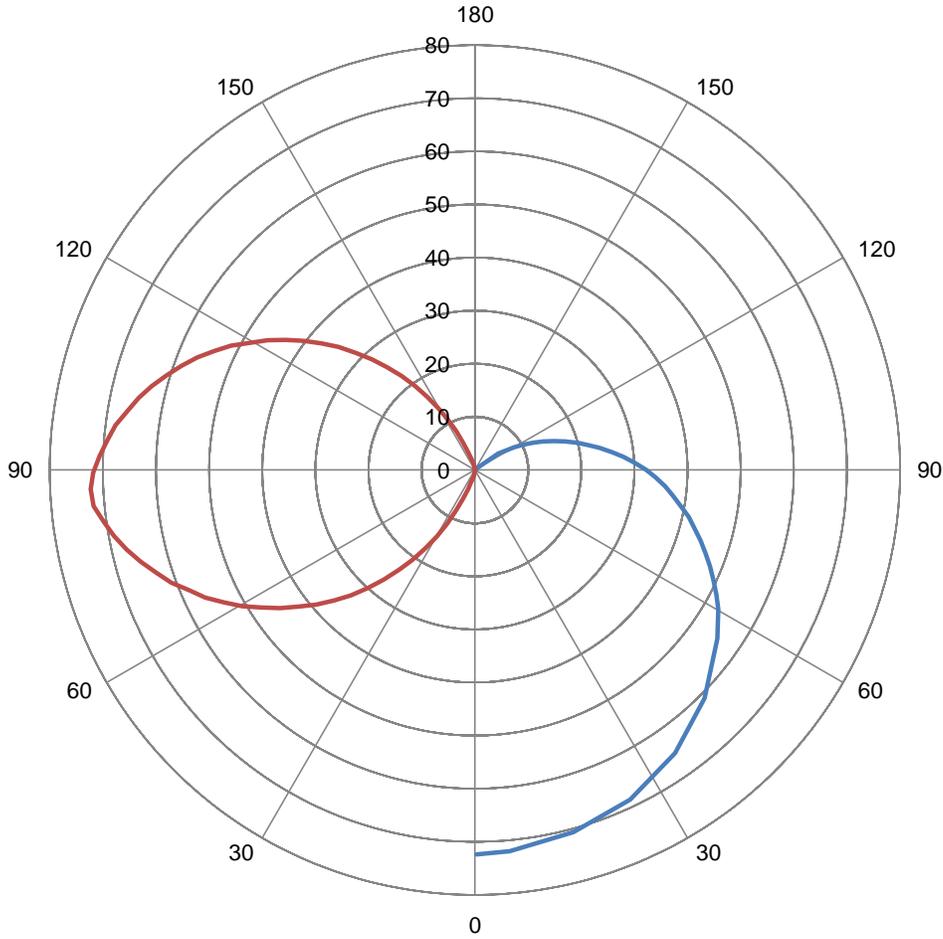
<b>IES Roadway Classification:</b>	Type II, Very Short	<b>Total Lumen Output:</b>	254 Lumens
<b>Cutoff Classification</b>	Noncutoff	<b>Luminaire Efficacy:</b>	26.4 lm/w
<b>BUG Rating:</b>	B0 U3 G1	<b>Maximum Candela:</b>	72 Candela

### ISO FootCandle Plot at 8 Feet





**Maximum Plane and Cone Plots of Candela**



Vertical Plane Through

0 ° Lateral

Lateral Cone Through

87.5 ° Vertical

**Maximum Intensity (Candlepower):**

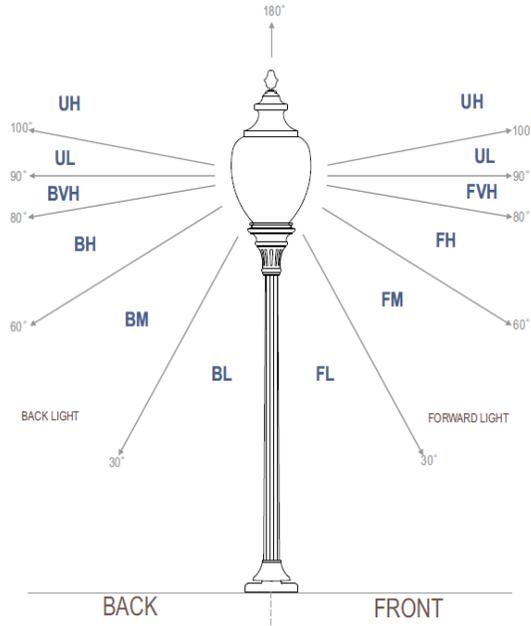
72 Candela

**Zonal Lumen Summary**

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.0	0.0%	60-65	11.8	4.6%	120-125	9.7	3.8%
5-10	0.0	0.0%	65-70	13.4	5.3%	125-130	8.0	3.2%
10-15	0.1	0.0%	70-75	14.8	5.8%	130-135	6.3	2.5%
15-20	0.2	0.1%	75-80	16.1	6.4%	135-140	4.8	1.9%
20-25	0.6	0.2%	80-85	17.2	6.8%	140-145	3.4	1.3%
25-30	1.3	0.5%	85-90	17.8	7.0%	145-150	2.1	0.8%
30-35	2.3	0.9%	90-95	17.5	6.9%	150-155	1.2	0.5%
35-40	3.6	1.4%	95-100	16.7	6.6%	155-160	0.5	0.2%
40-45	5.1	2.0%	100-105	15.7	6.2%	160-165	0.1	0.1%
45-50	6.7	2.6%	105-110	14.4	5.7%	165-170	0.0	0.0%
50-55	8.4	3.3%	110-115	13.0	5.1%	170-175	0.0	0.0%
55-60	10.1	4.0%	115-120	11.4	4.5%	175-180	0.0	0.0%



**IES "BUG" Rating**  
 (Back Light, Uplight, Glare)  
 Per IES TM-15-11



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	1.9	0.8%
FM	(30-60)	32.2	12.7%
FH	(60-80)	49.8	19.6%
FVH	(80-90)	31.0	12.2%
BL	(0-30)	0.2	0.1%
BM	(30-60)	3.9	1.5%
BH	(60-80)	6.3	2.5%
BVH	(80-90)	3.9	1.5%
UL	(90-100)	34.2	13.5%
UH	(100-180)	90.7	35.7%
Total		254.2	100.0%
<b>BUG Rating</b>	<b>B0 U3 G1</b>		