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## Photometric Test Report

### Relevant Standards

IES LM-79-2008, ANSI C82.77-2002, CIE 13.3-1995  
CIE 15-2004, ANSI C78.377-2015, IES TM-30-2015

### Prepared For

#### **Cree, Inc**

4600 Silicon Dr  
Durham, NC 27703-8475  
United States

### Catalog Number

**RSWM-A-HT-2ME-9L-30K7-UL-xxxxx**

Order Number

**11683107**

Test Number

**11683107.07**

### Test Date

2017-03-23 - 2017-03-27

### Prepared By

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### Approved By

Edward Bush, Project Handler

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 BMC housing, clear acrylic lens, white inner reflector

**Lamp:** 24 white LEDs

**Mounting:** Pole/Arm

**Ballast/Driver:** LEA02609X0001

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 5.50 in.  
Luminous Width: 9.000 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 8976 Lumens  
Efficacy: 108.5 lm/w  
CCT: 2969 K  
CRI (Ra): 71.0

**Distribution**

Roadway Classification: Type III, Short  
Cutoff Classification: Semicutoff  
BUG Rating: B2 U0 G2

**Electrical Data at 277 VAC**

Test Temperature: 25.8 °C  
Voltage: 277.0 VAC  
Current: 0.3192 A  
Power: 82.52 W  
Power Factor: 0.933  
Frequency: 60 Hz  
Current THD: 10.5 %



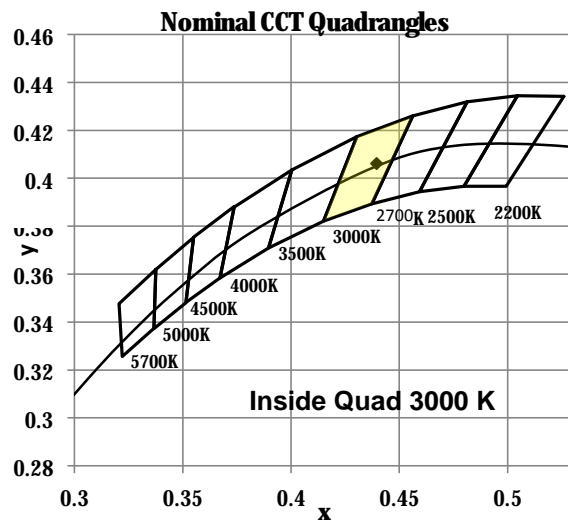
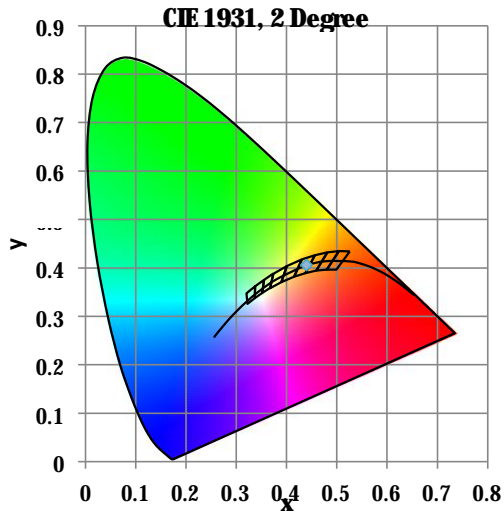
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power	Frequency	Current THD
25.0 °C	120.0 VAC	0.6924 A	82.70 W	0.996	60 Hz	2.82 %

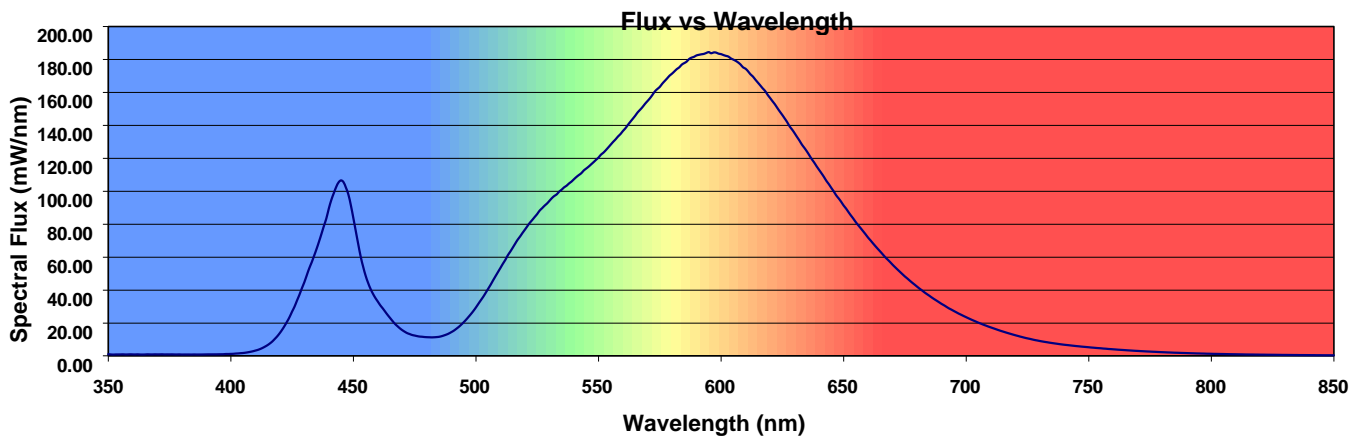
### Summary of Results

<b>Total Output:</b>	8976 Lumens	<b>Chromaticity (x):</b>	0.4396
<b>Efficacy:</b>	108.5 lm/w	<b>Chromaticity (y):</b>	0.4060
<b>CCT:</b>	2969 K	<b>Chromaticity (u'):</b>	0.2514
<b>CRI (Ra):</b>	71.0	<b>Chromaticity (v'):</b>	0.5226
<b>CRI (R9):</b>	-29.1	<b>TM-30 R<sub>f</sub>:</b>	68.4
<b>Peak Wavelength:</b>	595.8 nm	<b>TM-30 R<sub>g</sub>:</b>	96.6
<b>Dominant Wavelength:</b>	582.8 nm	<b>Duv:</b>	0.0002
<b>S/P Ratio:</b>	1.151		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
71.0	67.9	79.5	89.8	68.8	66.3	71.0	78.4	46.0	-29.1	52.4	63.6	44.8	69.5	93.8





### Distribution - Goniophotometer

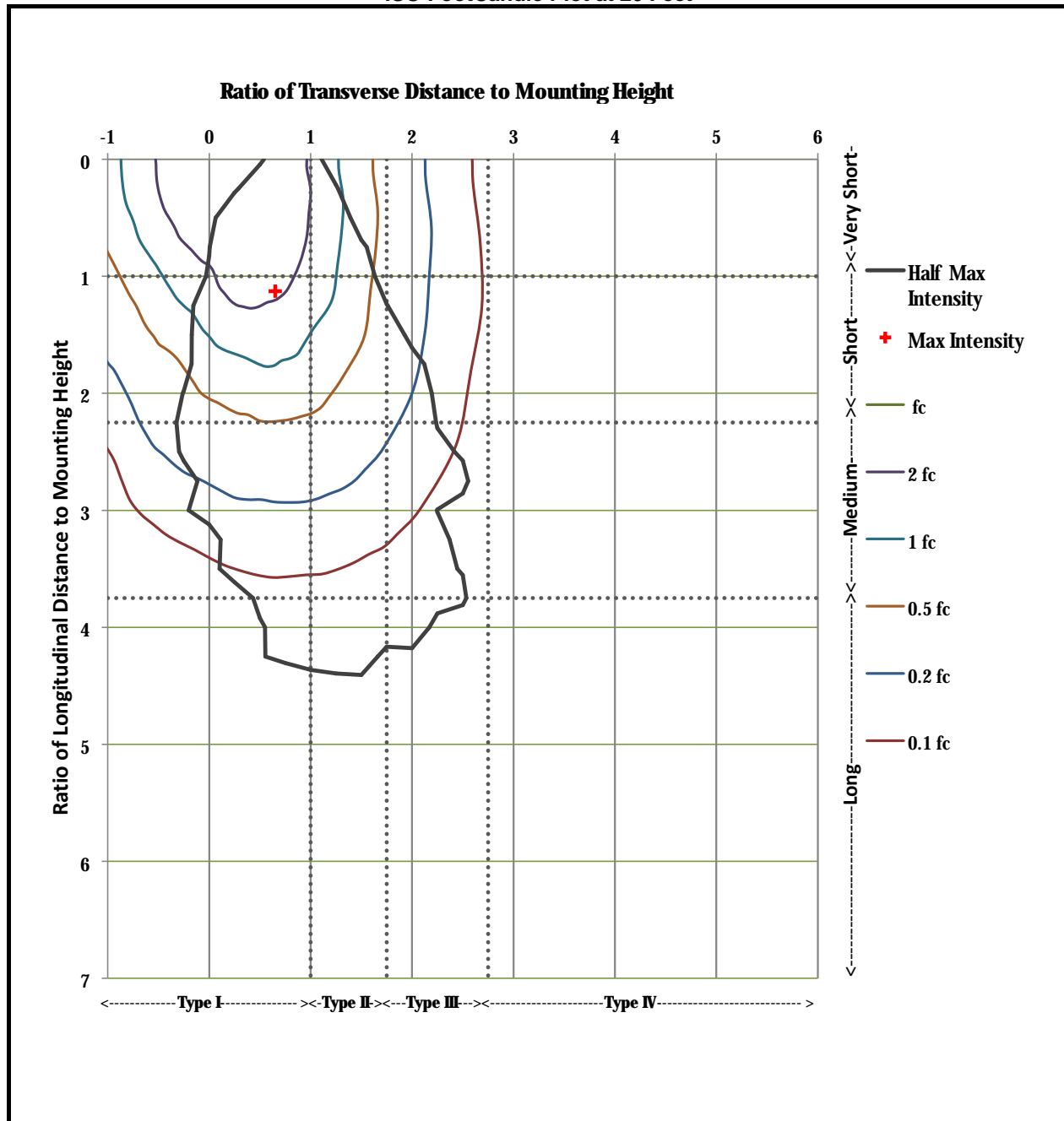
#### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power	Frequency	Current THD
25.3 °C	120.0 VAC	0.6920 A	82.67 W	0.996	60 Hz	2.80 %

#### Summary of Results

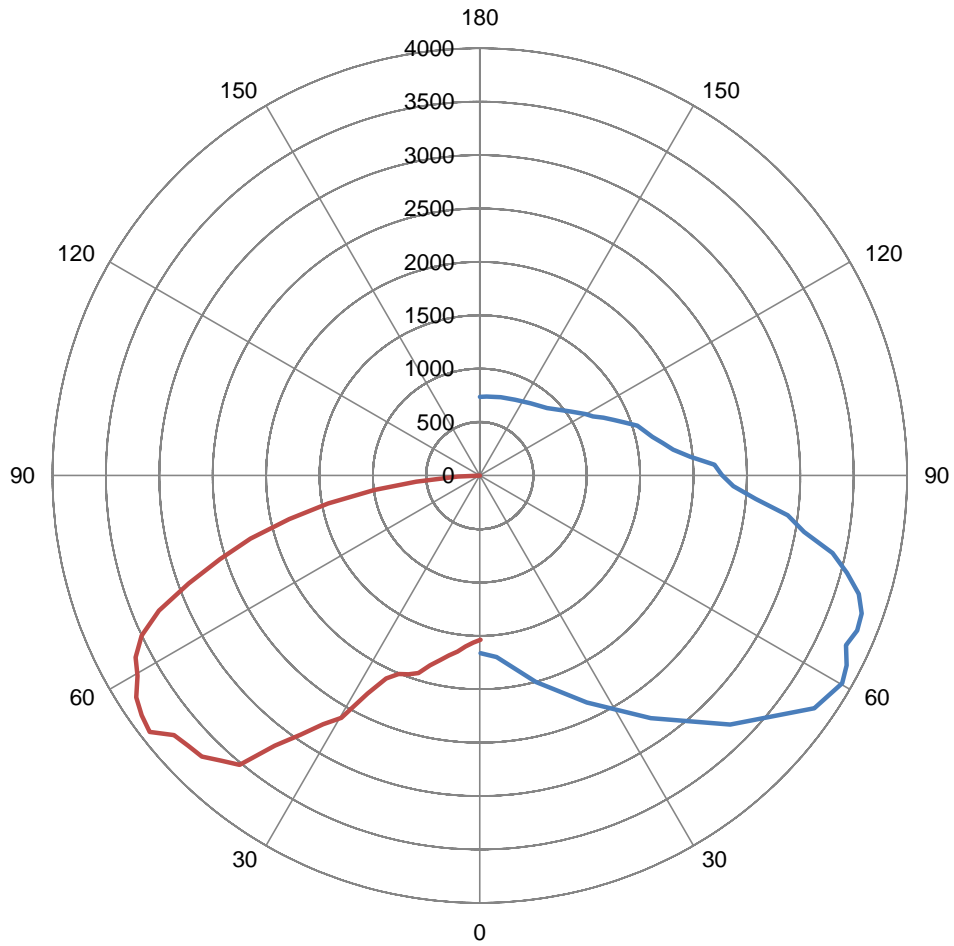
IES Roadway Classification:	Type III, Short	Total Lumen Output:	9093 Lumens
Cutoff Classification:	Semicutoff	Luminaire Efficacy:	110.0 lm/w
BUG Rating:	B2 U0 G2	Maximum Candela:	3911 Candela

#### ISO FootCandle Plot at 20 Feet





**Maximum Plane and Cone Plots of Candela**



Vertical Plane Through

60 ° Lateral

Lateral Cone Through

52.5 ° Vertical

**Maximum Intensity (Candlepower):**

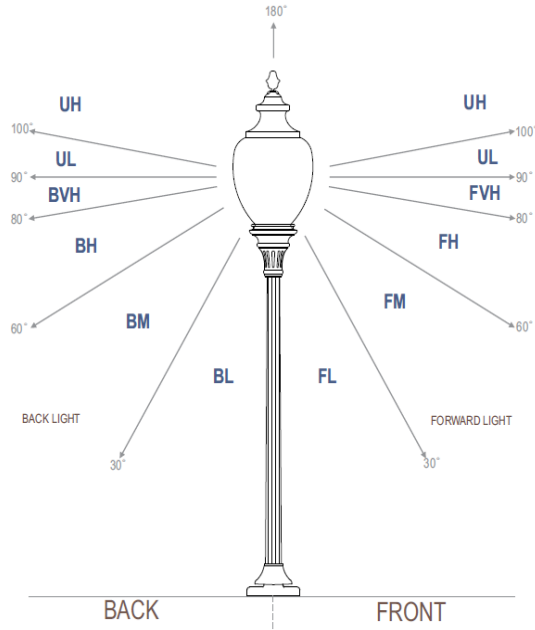
3911 Candela

**Zonal Lumen Summary**

Zone	Lumens	% of	Zone	Lumens	% of	Zone	Lumens	% of
0-5	39.3	0.4%	60-65	838.1	9.2%	120-125	0.0	0.0%
5-10	112.4	1.2%	65-70	771.2	8.5%	125-130	0.0	0.0%
10-15	191.3	2.1%	70-75	647.4	7.1%	130-135	0.0	0.0%
15-20	276.8	3.0%	75-80	471.3	5.2%	135-140	0.0	0.0%
20-25	361.8	4.0%	80-85	252.0	2.8%	140-145	0.0	0.0%
25-30	457.1	5.0%	85-90	60.6	0.7%	145-150	0.0	0.0%
30-35	577.8	6.4%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	693.0	7.6%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	779.2	8.6%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	833.2	9.2%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	864.9	9.5%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	865.0	9.5%	115-120	0.0	0.0%	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)	824.3	9.1%
FM	(30-60)	3262.6	35.9%
FH	(60-80)	1948.5	21.4%
FVH	(80-90)	209.0	2.3%
BL	(0-30)	614.4	6.8%
BM	(30-60)	1350.5	14.9%
BH	(60-80)	779.5	8.6%
BVH	(80-90)	103.6	1.1%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		9092.5	100.0%
<b>BUG Rating</b>	<b>B2 U0 G2</b>		