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## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-10-2014, UL 1598-2008  
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017  
IES TM-30-2018

**Prepared For**  
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**Catalog Number**  
**XR20-50-WC-xx-yy-AC**

Order Number  
13212473  
Test Number  
13212473.01

Test Date

2020-02-05 - 2020-02-14

Prepared By

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Approved By

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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 3-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:** Gray formed metal housing with plastic patterned lens  
**Lamp:** White LED array  
**Mounting:** Pendant  
**Ballast/Driver:** One (1) uPowerTek BLD-200-C140-ERU-CP0000

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 9.00 in.  
Luminous Width: 14.50 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 20550 Lumens  
Efficacy: 144 lm/w  
CCT: 4980 K  
CRI (Ra): 75.2

**Distribution**

Roadway Classification: Type VS, Very Short  
Cutoff Classification: Full Cutoff  
BUG Rating: B4 U0 G2

**Electrical Data at 277 VAC**

Test Temperature: 24.7 °C  
Voltage: 277.1 VAC  
Current: 0.5276 A  
Power: 139.9 W  
Power Factor: 0.957  
Frequency: 60 Hz  
Current THD: 8.83 %

**In-Situ**

LED Temperature: 79.8 °C  
Driver Temperature: 46.5 °C  
Measured LED Current: 0.1505 A

Temperature is offset to an ambient temperature of 25°C as described in UL1598-2008.



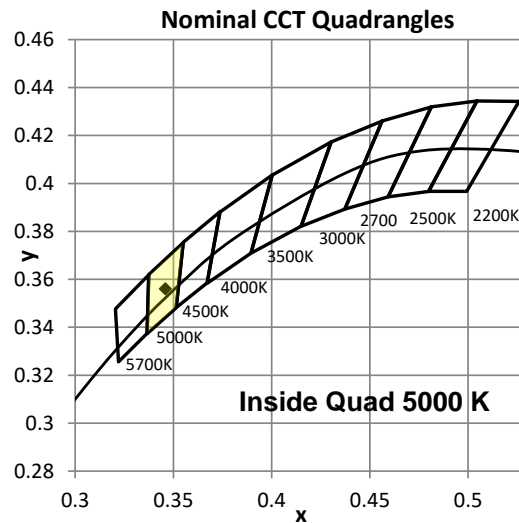
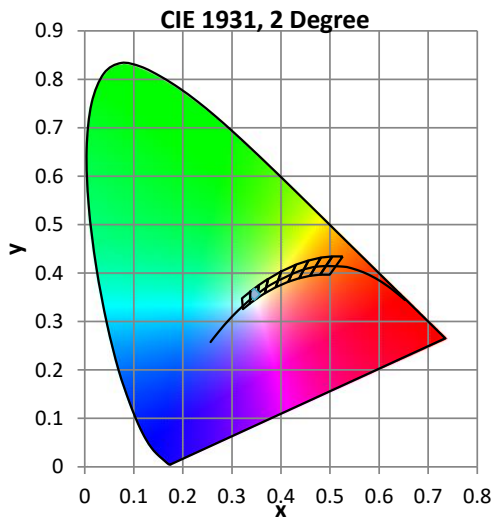
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.9 °C	120.1 VAC	1.196 A	142.7 W	0.994	60 Hz	9.87 %

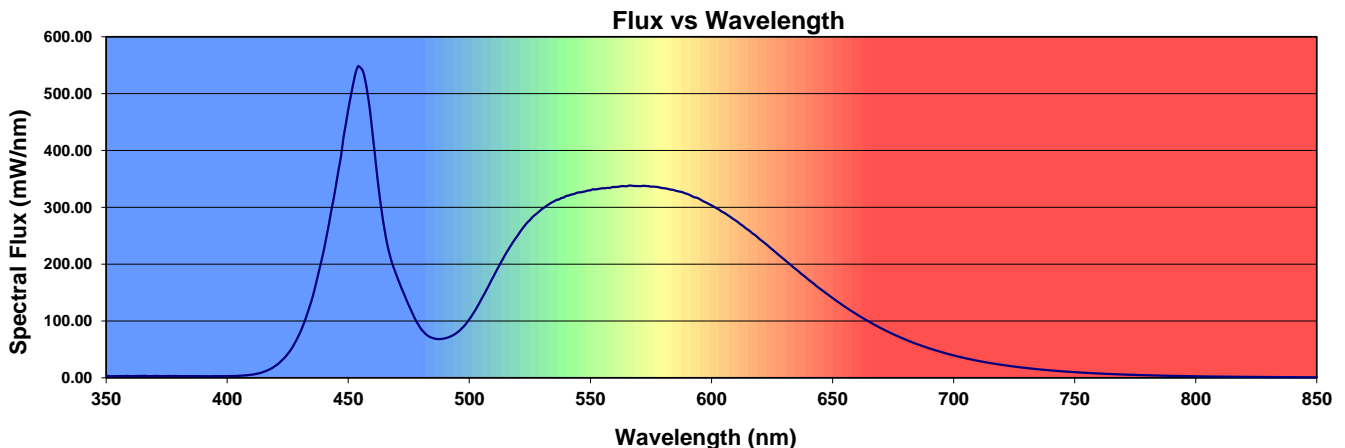
### Summary of Results

<b>Total Output:</b>	20550 Lumens	<b>Chromaticity (x):</b>	0.3459
<b>Efficacy:</b>	144.0 lm/w	<b>Chromaticity (y):</b>	0.3561
<b>CCT:</b>	4980 K	<b>Chromaticity (u'):</b>	0.2103
<b>CRI (Ra):</b>	75.2	<b>Chromaticity (v'):</b>	0.4870
<b>CRI (R9):</b>	-12.8	<b>TM-30 Rf:</b>	75.8
<b>Peak Wavelength:</b>	455 nm	<b>TM-30 Rg:</b>	94.1
<b>Dominant Wavelength:</b>	571 nm	<b>Duv:</b>	0.0019
<b>S/P Ratio:</b>	1.81		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
75.2	73.0	80.9	84.3	73.5	71.8	71.3	85.5	61.7	-12.8	51.8	68.2	38.2	74.7	90.9	68.3





## Distribution - Goniophotometer

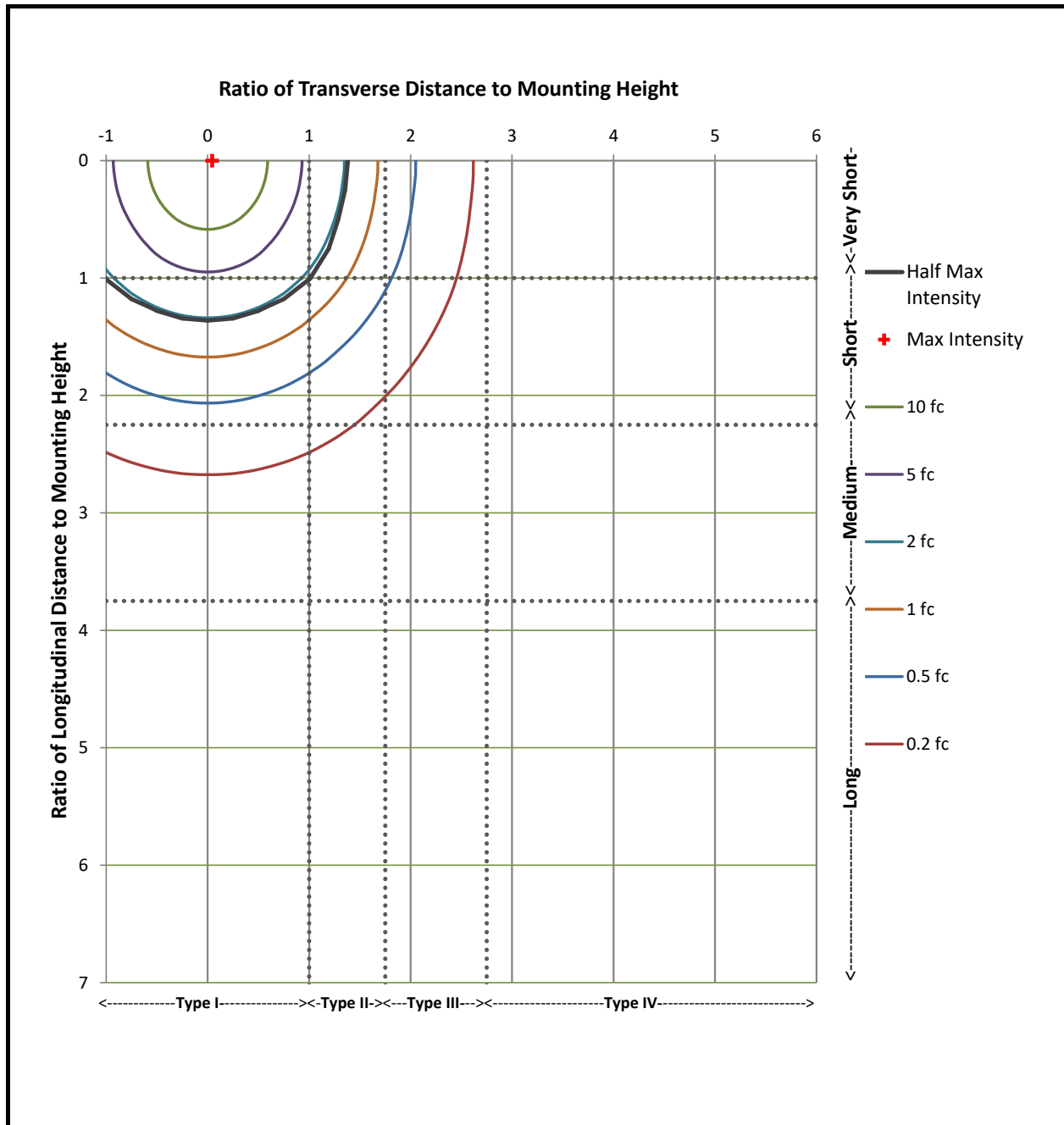
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.1 VAC	1.196 A	142.7 W	0.993	60 Hz	9.88 %

### Summary of Results

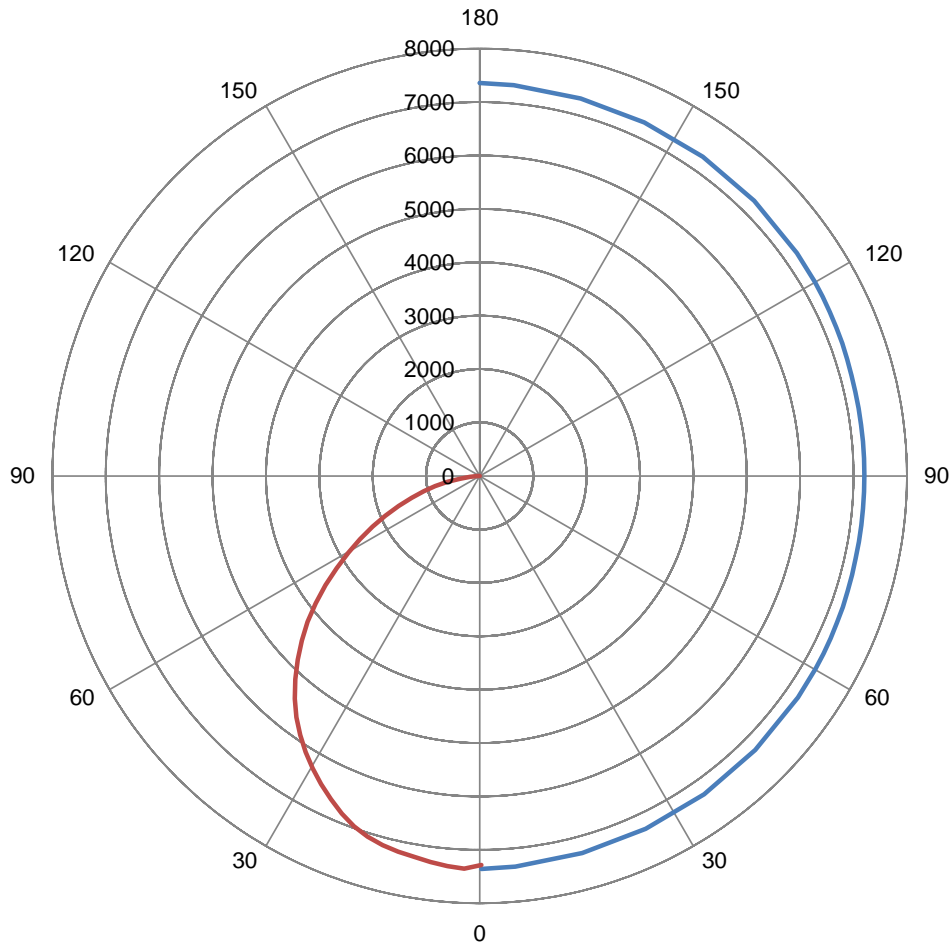
<b>IES Roadway Classification:</b> Type VS, Very Short	<b>Total Lumen Output:</b> 20130 Lumens
<b>Cutoff Classification:</b> Full Cutoff	<b>Luminaire Efficacy:</b> 141.0 lm/w
<b>BUG Rating:</b> B4 U0 G2	<b>Maximum Candela:</b> 7358 Candela

### ISO FootCandle Plot at 20 Feet





**Maximum Plane and Cone Plots of Candela**



Vertical Plane Through

0 ° Lateral

Lateral Cone Through

2.5 ° Vertical

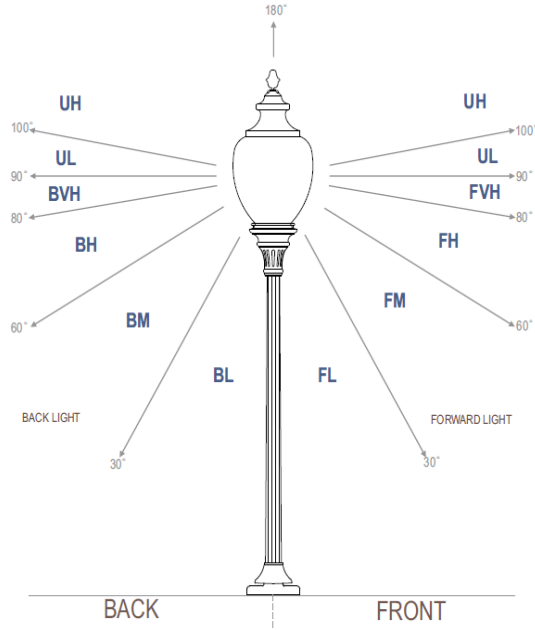
**Maximum Intensity (Candlepower):** 7358 Candela

**Zonal Lumen Summary**

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	184.4	0.9%	60-65	1252.3	6.2%	120-125	0.0	0.0%
5-10	514.8	2.6%	65-70	1015.7	5.0%	125-130	0.0	0.0%
10-15	843.1	4.2%	70-75	772.9	3.8%	130-135	0.0	0.0%
15-20	1148.9	5.7%	75-80	481.5	2.4%	135-140	0.0	0.0%
20-25	1412.7	7.0%	80-85	200.7	1.0%	140-145	0.0	0.0%
25-30	1625.4	8.1%	85-90	36.8	0.2%	145-150	0.0	0.0%
30-35	1789.4	8.9%	90-95	0.0	0.0%	150-155	0.0	0.0%
35-40	1894.5	9.4%	95-100	0.0	0.0%	155-160	0.0	0.0%
40-45	1922.0	9.5%	100-105	0.0	0.0%	160-165	0.0	0.0%
45-50	1854.0	9.2%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	1697.0	8.4%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	1483.9	7.4%	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)	2864.6	14.2%
FM	(30-60)	5320.4	26.4%
FH	(60-80)	1761.2	8.7%
FVH	(80-90)	118.7	0.6%
BL	(0-30)	2864.6	14.2%
BM	(30-60)	5320.4	26.4%
BH	(60-80)	1761.2	8.7%
BVH	(80-90)	118.7	0.6%
UL	(90-100)	0.0	0.0%
UH	(100-180)	0.0	0.0%
Total		20129.9	100.0%
<b>BUG Rating</b>		<b>B4 U0 G2</b>	



## In-Situ Test

### In-Situ Test Conditions

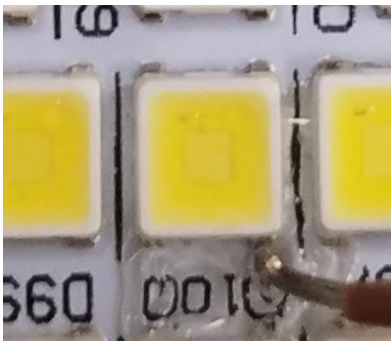
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
22.0 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

### Summary of Results

LED Temperature: 79.8 °C  
Driver Temperature: 46.5 °C  
Measured LED Current: 0.1505 A

Temperatures are offset to an ambient temperature of 25°C as described in UL1598-2008

### LED Temperature Location



### Thermocouple Reference



### Driver Temperature Location

