



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

## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-2002, UL 1598-2008  
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017  
IES TM-30-2018

**Prepared For**  
**SLOANLED**

Jamie Beckham  
5725 Olvias Park Dr.  
Ventura, CA 93003-7697  
United States

**Catalog Number**  
**701269-6WMA3-MB**

Order Number  
12742250  
Test Number  
12742250.01

Test Date

2019-03-08 - 2019-03-15

Prepared By

Austin Duff, Technician

Approved By

Yilmaz Yucelidag, 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



**Luminaire Description:** White rectangular plastic housing  
**Lamp:** One (1) LED with optic attached  
**Mounting:** VBU

### Luminaire



### Luminaire Characteristics

Luminous Diameter: 0.75 in.  
Luminous Height: 0.1250 in.

### Summary of Results

#### Integrating Sphere

Luminous Flux: 51.73 Lumens  
Efficacy: 103.88 lm/w  
CCT: 6632 K  
CRI (Ra): 71.3

#### Electrical Data at 12 VDC

Test Temperature: 24.9 °C  
Voltage: 12.06 VDC  
Current: 0.04129 A  
Power: 0.4980 W

#### Distribution

Total Luminaire Output: 49.74 Lumens  
Luminaire Efficacy: 101.4 lm/w  
Maximum Candela: 13 Candela

#### In-Situ

LED Temperature: 39.9 °C  
Measured LED Current: 0.04000 A

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



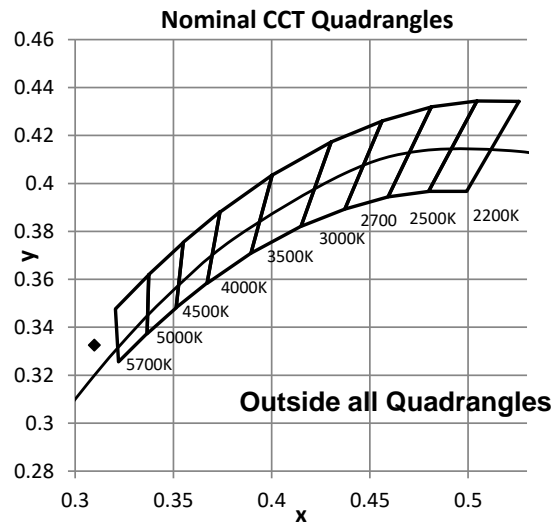
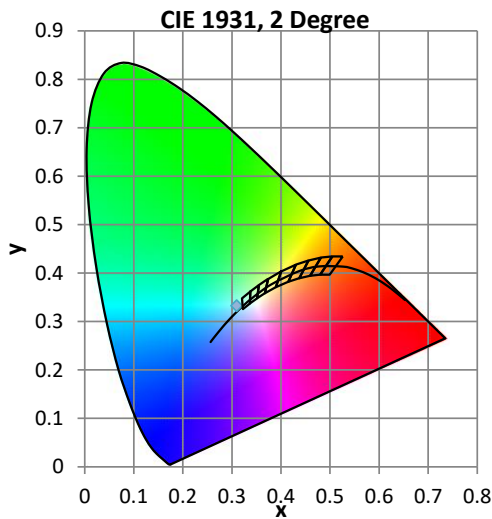
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	12.06 VDC	0.04129 A	0.4980 W	N/A	N/A	N/A

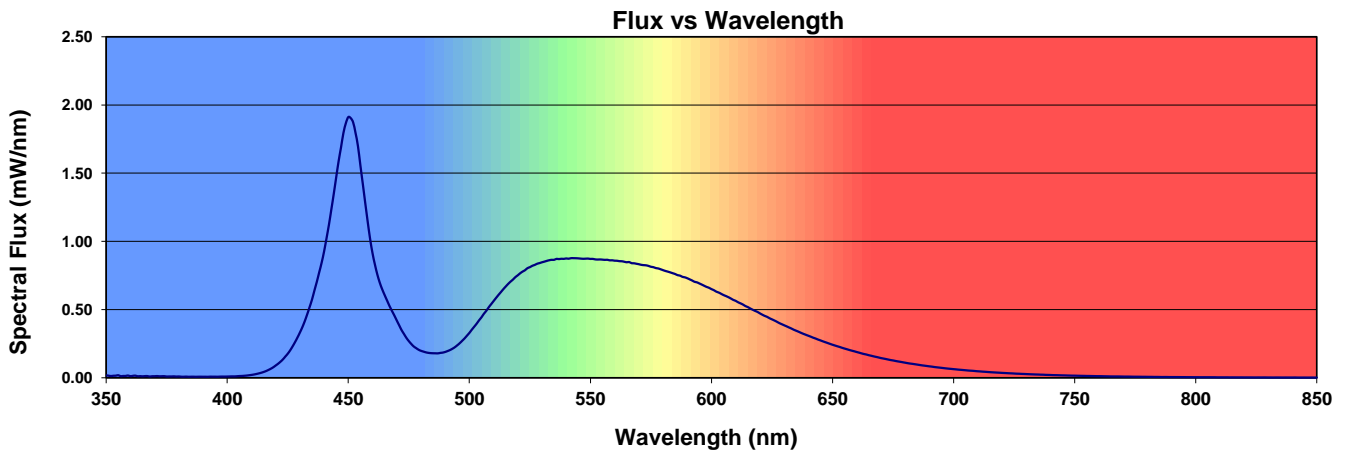
### Summary of Results

<b>Total Output:</b>	52 Lumens	<b>Chromaticity (x):</b>	0.3097
<b>Efficacy:</b>	103.9 lm/w	<b>Chromaticity (y):</b>	0.3326
<b>CCT:</b>	6632 K	<b>Chromaticity (u'):</b>	0.1944
<b>CRI (Ra):</b>	71.3	<b>Chromaticity (v'):</b>	0.4698
<b>CRI (R9):</b>	-36.0	<b>TM-30 Rf:</b>	72.8
<b>Peak Wavelength:</b>	451 nm	<b>TM-30 Rg:</b>	91.8
<b>Dominant Wavelength:</b>	491 nm	<b>Duv:</b>	0.0065
<b>S/P Ratio:</b>	2.06		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
71.3	68.4	74.9	78.2	72.1	69.7	66.0	81.9	59.4	-36.0	39.3	68.9	37.2	69.3	87.8	62.3





## Distribution - Goniophotometer

### Distribution Test Conditions

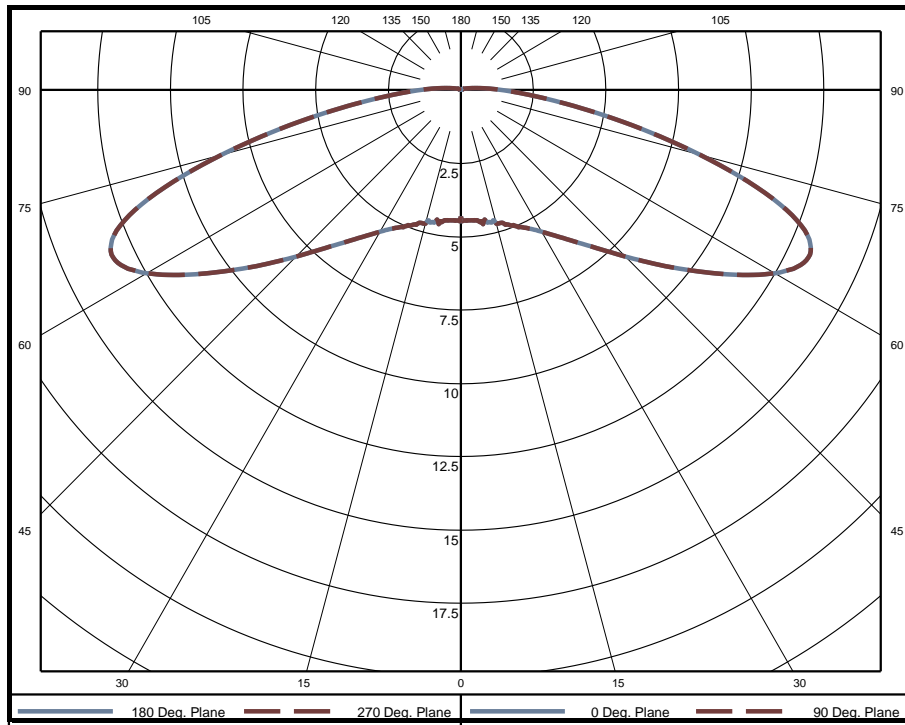
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	11.99 VDC	0.04089 A	0.4904 W	N/A	N/A	N/A

### Summary of Results

**Spacing Criteria**  
 0-180: 2.76  
 90-270: 2.76

**Total Lumen Output:** 49.74 Lumens  
**Luminaire Efficacy:** 101.4 lm/w  
**Maximum Candela:** 13 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.105	0.2%	60-65	6.295	12.7%	120-125	0	0.0%
5-10	0.321	0.6%	65-70	6.460	13.0%	125-130	0	0.0%
10-15	0.539	1.1%	70-75	5.362	10.8%	130-135	0	0.0%
15-20	0.780	1.6%	75-80	3.565	7.2%	135-140	0	0.0%
20-25	1.045	2.1%	80-85	2.004	4.0%	140-145	0	0.0%
25-30	1.345	2.7%	85-90	1.044	2.1%	145-150	0	0.0%
30-35	1.712	3.4%	90-95	0.527	1.1%	150-155	0	0.0%
35-40	2.167	4.4%	95-100	0.246	0.5%	155-160	0	0.0%
40-45	2.748	5.5%	100-105	0.117	0.2%	160-165	0	0.0%
45-50	3.491	7.0%	105-110	0.057	0.1%	165-170	0	0.0%
50-55	4.386	8.8%	110-115	0.024	0.0%	170-175	0	0.0%
55-60	5.398	10.9%	115-120	0.005	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	8	16.1%
0-60	24	48.3%
0-90	49	98.0%
90-180	1	2.0%



**Candela Tabulation**  
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26
5	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41
10	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49
15	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67
20	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
25	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13
30	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53
35	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11	6.11
40	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90	6.90
45	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98	7.98
50	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33	9.33
55	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87
60	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44	12.44
65	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22	13.22
70	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88	11.88
75	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47	8.47
80	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
85	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
90	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
95	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
100	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
105	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
110	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
115	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

	0	45	90
0	14960	14960	14960
45	51980	51980	51980
55	68710	68710	68710
65	75950	75950	75950
75	45740	45740	45740
85	13780	13780	13780

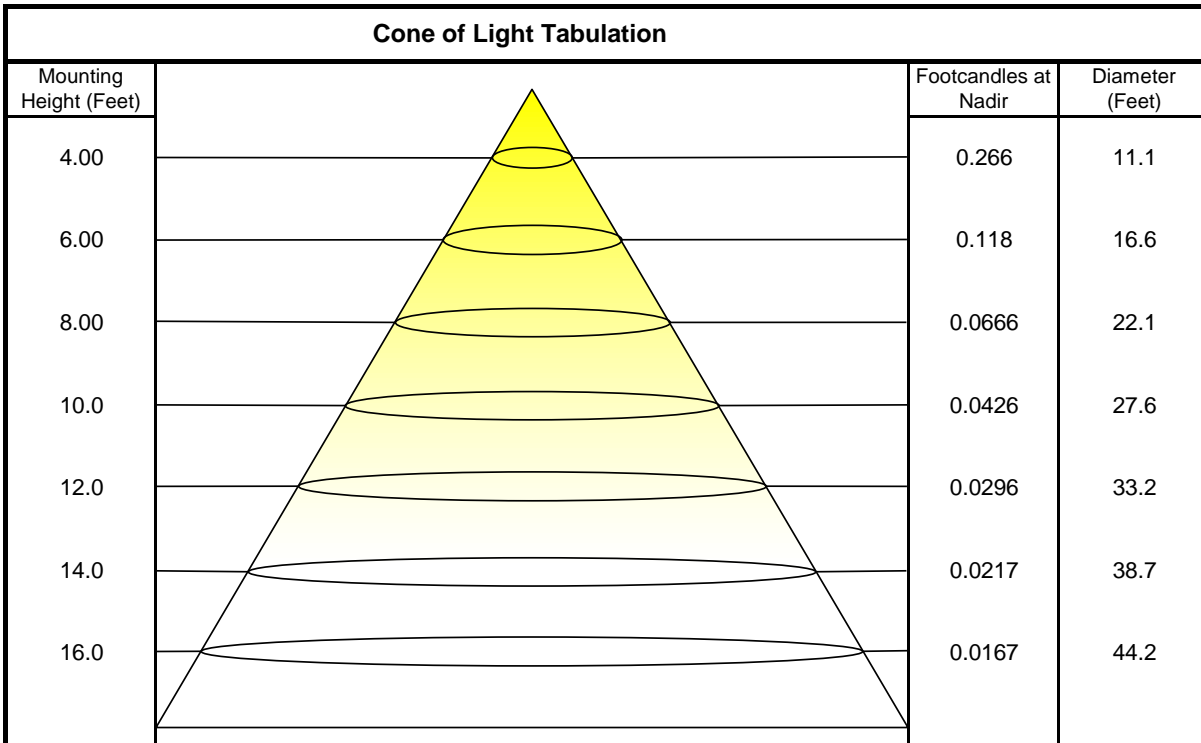


### Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	103	96	90	84	100	93	88	82	88	84	79	84	80	76	80	77	74	71
2	90	78	69	61	87	76	67	60	72	64	58	68	62	56	64	59	54	52
3	79	65	54	45	76	63	53	45	59	51	44	56	49	42	53	47	41	38
4	71	55	44	35	68	53	43	35	50	41	34	48	39	33	45	38	32	29
5	64	47	36	28	61	46	35	28	43	34	27	41	33	26	39	32	26	23
6	58	42	31	23	56	40	30	22	38	29	22	36	28	22	34	27	21	19
7	53	37	26	19	51	36	26	19	34	25	18	32	24	18	30	23	18	15
8	49	33	23	16	47	32	23	16	31	22	16	29	21	15	28	20	15	13
9	45	30	20	14	44	29	20	14	28	19	14	26	19	13	25	18	13	11
10	42	27	18	12	41	27	18	12	25	17	12	24	17	12	23	16	11	9

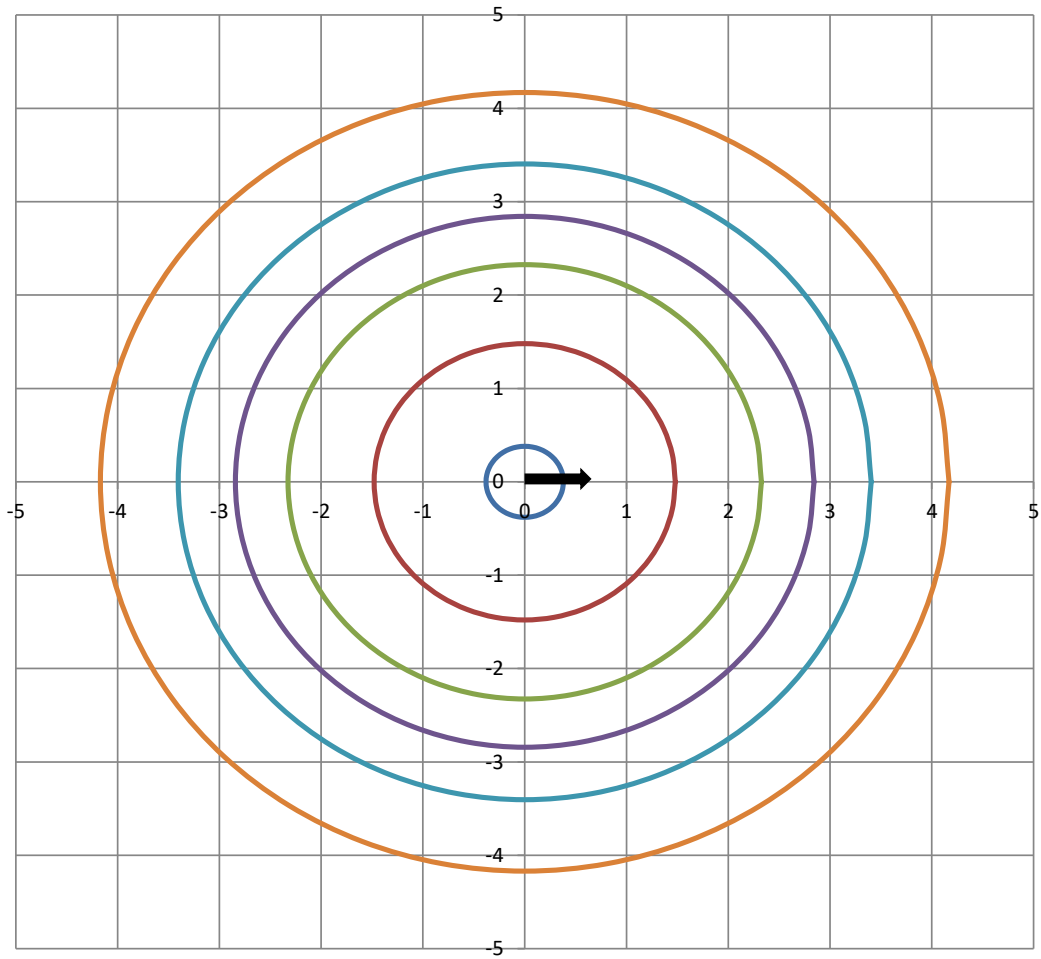
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4.26 Candela
Central Cone Intensity:	4 Candela
Beam Flux:	48.1 Lumens
Beam Angle (0-180):	173.0 Degrees
Beam Angle (90-270):	173.0 Degrees
Field Angle (0-180):	195.4 Degrees
Field Angle (90-270):	195.4 Degrees



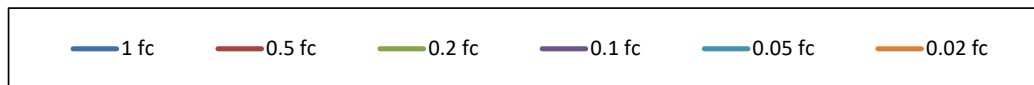


# ISOFootcandle Plot

Mounting Height - 2 Feet



Grid Lines in Units of Mounting Height







## In-Situ Test

### In-Situ Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
22.0 °C	12.01 VDC	N/A	N/A	N/A	N/A	N/A

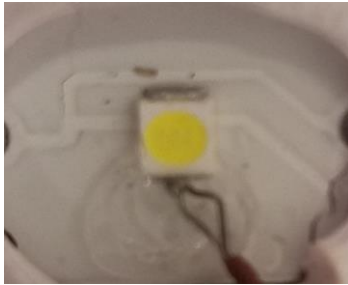
### Summary of Results

LED Temperature: 39.9 °C

Measured LED Current: 0.04000 A

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

#### LED Temperature Location



#### Thermocouple Reference

