



8165 E Kaiser Blvd. Anaheim, CA 92808  
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Report No: L051503007

Date: 5/21/2015



NVLAP LAB CODE 200927-0

**Report No:** L051503007

**Report Prepared For:** USTE, dba Vista Professional Outdoor Lighting  
 1625 Surveyor Ave., Simi Valley CA 93063

**Model Number:** 3108-X-9.5-W-MF

**Test:** Electrical and Photometric tests

**Standards Used:** Appropriate part or all test guidelines were used for test performed:  
*IESNA LM79: 2008* Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products  
*ANSI NEMA ANSLG C78.377: 2008* Specification of the Chromaticity of Solid State Lighting Products  
*ANSI C82.77:2002:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Catalog number is 3108-X-9.5-W-MF . Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 5/15/15

**Date of Tests:** 5/20/15 - 5/21/15

**Seasoning of Sample:** No seasoning was performed in accordance with IESNA LM-79.

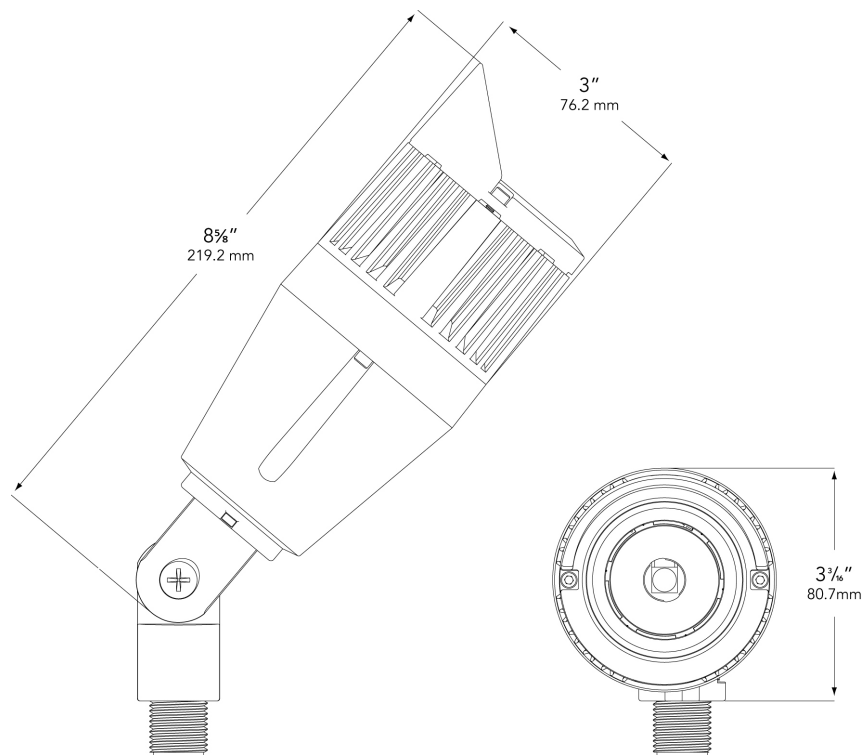
**Equipment List**

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/10/15
Xitron Power Analysis System	2503AH	MT-EL01	10/20/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/05/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

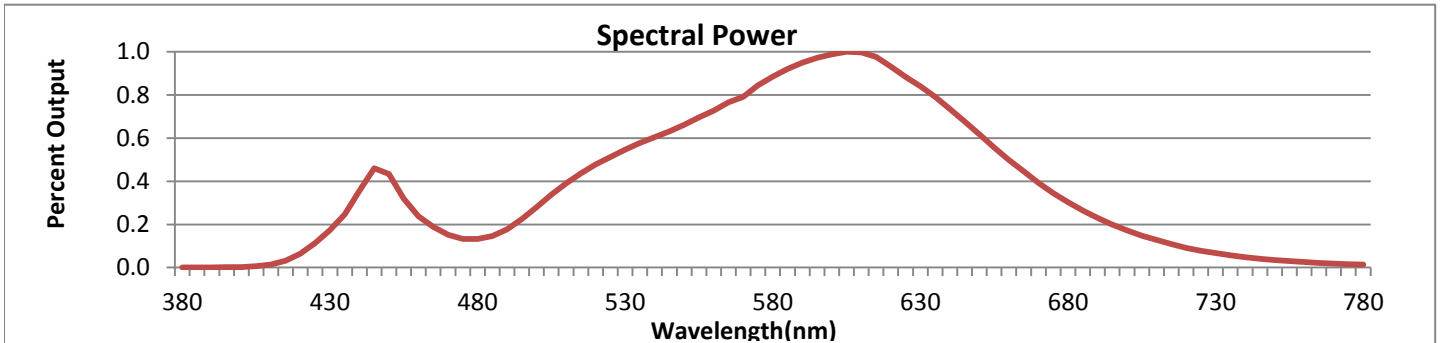
**Test Summary**

<b>Manufacturer:</b>	USTE, dba Vista Professional Outdoor I
<b>Model Number:</b>	3108-X-9.5-W-MF
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	487.16
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	0.76
<b>Input Power (W):</b>	7.44
<b>Input Power Factor:</b>	0.82
<b>Current ATHD @ 12V(%):</b>	36%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	65
<b>Color Rendering Index (CRI):</b>	82
<b>Correlated Color Temperature (K):</b>	3051
<b>Chromaticity Coordinate x:</b>	0.4360
<b>Chromaticity Coordinate y:</b>	0.4085
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:35
<b>Total Operating Time (Hours):</b>	1:50
<b>Off State Power(W):</b>	0.00



**FIG. 1 LUMINAIRE**

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



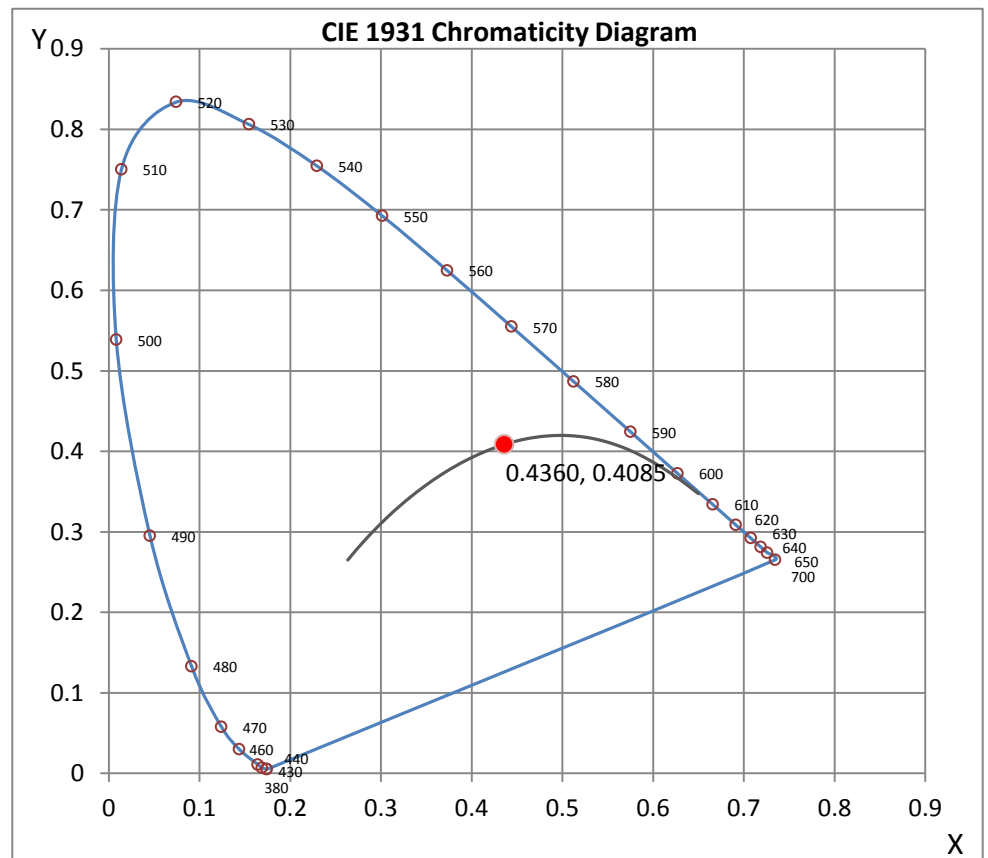
Wavelength	W/m <sup>2</sup> nm	440	0.3567	510	0.3912	580	0.8843	650	0.6172	720	0.0912
380	0.0009	450	0.4339	520	0.4778	590	0.9504	660	0.4992	730	0.0669
390	0.0010	460	0.2385	530	0.5460	600	0.9890	670	0.3923	740	0.0485
400	0.0026	470	0.1524	540	0.6047	610	0.9979	680	0.3032	750	0.0353
410	0.0139	480	0.1323	550	0.6626	620	0.9317	690	0.2298	760	0.0251
420	0.0648	490	0.1770	560	0.7283	630	0.8409	700	0.1721	770	0.0185
430	0.1729	500	0.2799	570	0.7911	640	0.7348	710	0.1277	780	0.0137

**CRI & CCT**

x	0.4360
y	0.4085
u'	0.2481
v'	0.5230
CRI	81.70
CCT	3051
Duv	0.00189

**R Values**

R1	80.20
R2	87.12
R3	93.43
R4	81.85
R5	79.29
R6	82.94
R7	85.70
R8	62.91
R9	11.18
R10	69.80
R11	80.54
R12	64.90
R13	81.29
R14	95.74



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**Test Methods**

**Photometric Measurements - Goniophotometer**

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

**Spectral Measurements - Integrating Sphere**

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

**Disclaimers:**

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Released by:

Test Report Reviewed by:

Jeff Ahn  
 Engineering Manager

Steve Kang  
 Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 8*

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## Photometric Test Report

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L051503007.IES**

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L051503007  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 5/21/2015  
[MANUFAC] USTE, DBA VISTA PROFESSIONAL OUTDOOR LIGHTING  
[LUMCAT] 3108-X-9.5-W-MF  
[LUMINAIRE] 6"DIA. X 2-3/4"H. LED ACCENT  
[MORE] CLEAR LENS  
[LAMPPOSITION] 0,0  
[LAMPCAT] N/A  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 12VAC, 7.44W  
[TEST PROCEDURE] IESNA:LM-79-08

Note: Candela values converted from Type-C to Type-B

### CHARACTERISTICS

NEMA Type	5 H x 5 V
Maximum Candela	1111
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	30.9
Vertical Beam Angle (50%)	30.9
Horizontal Field Angle (10%)	71.1
Vertical Field Angle (10%)	71.1
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	177
Beam Efficiency	N.A.
Field Lumens	421
Field Efficiency	N.A.
Spill Lumens	67
Luminaire Lumens	487
Total Efficiency	N.A.
Total Luminaire Watts	7.44
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L051503007.IES**

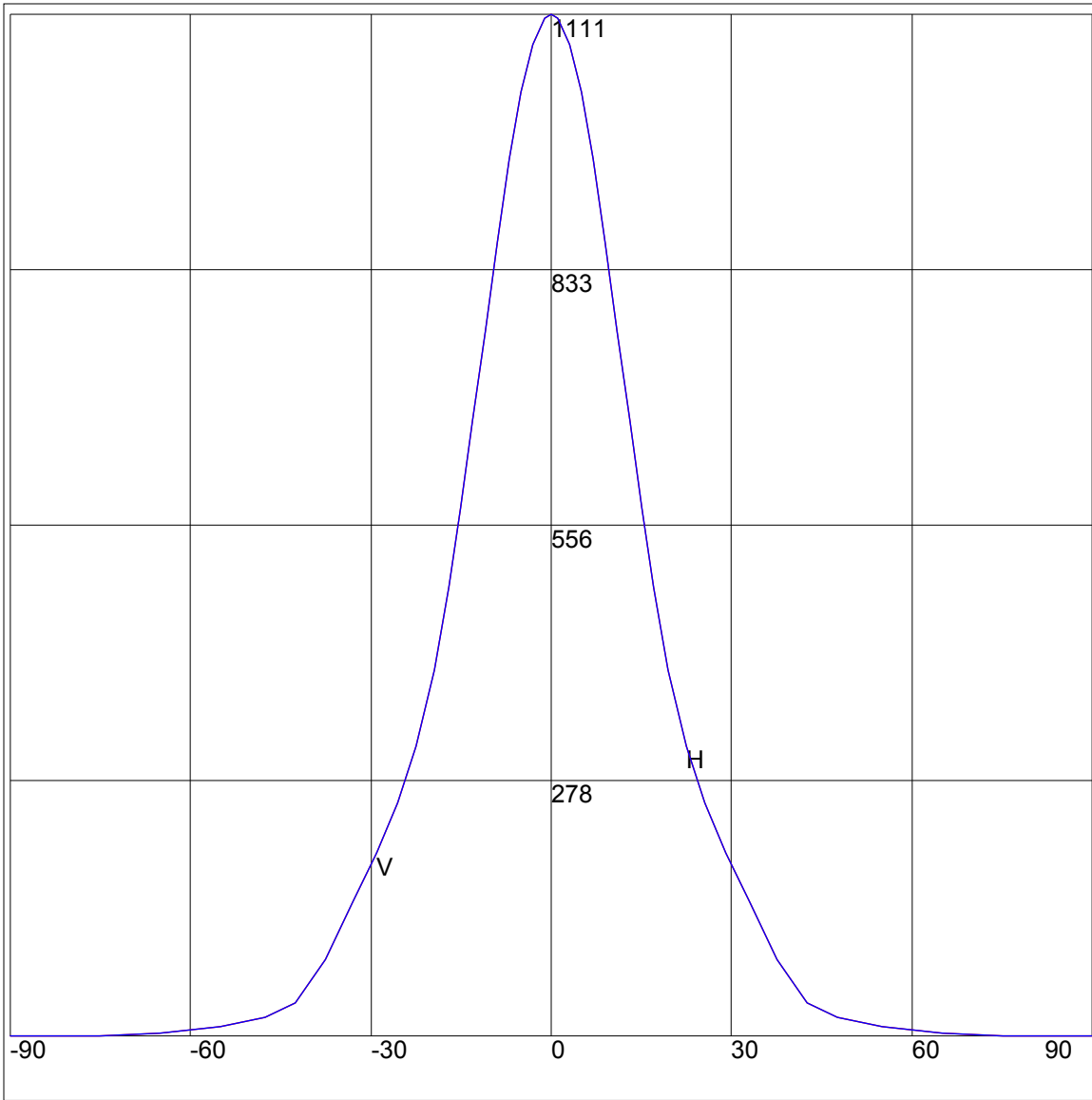
**AXIAL CANDELA**

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	4	65	4
55	11	55	11
47.5	21	47.5	21
42.5	37	42.5	37
37.5	84	37.5	84
33	147	33	147
29	200	29	200
25.5	254	25.5	254
22.5	315	22.5	315
19.5	399	19.5	399
17	489	17	489
15	575	15	575
13	669	13	669
11	768	11	768
9	864	9	864
7	954	7	954
5	1027	5	1027
3	1078	3	1078
1	1106	1	1106
0	1111	0	1111
-1	1106	-1	1106
-3	1078	-3	1078
-5	1027	-5	1027
-7	954	-7	954
-9	864	-9	864
-11	768	-11	768
-13	669	-13	669
-15	575	-15	575
-17	489	-17	489
-19.5	399	-19.5	399
-22.5	315	-22.5	315
-25.5	254	-25.5	254
-29	200	-29	200
-33	147	-33	147
-37.5	84	-37.5	84
-42.5	37	-42.5	37
-47.5	21	-47.5	21
-55	11	-55	11
-65	4	-65	4
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

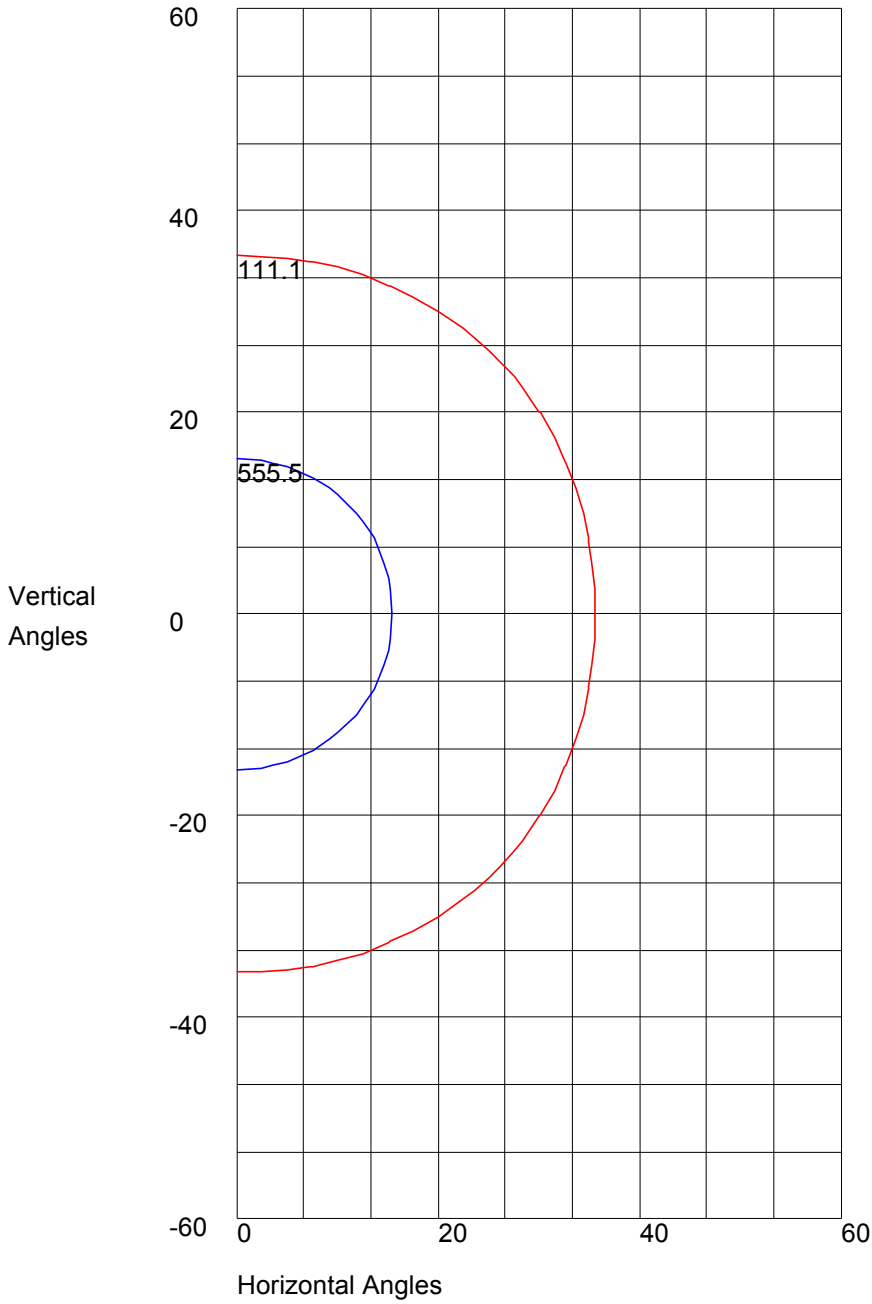
Zone	%
0-20	49.9
0-30	74.5
0-40	89.3
0-60	98.1
0-80	100
0-90	100
10-90	84.4
20-40	39.4
20-50	46.1
40-70	10.2
60-80	1.9
70-80	0.4
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 1111 L ocated At Horizontal Angle = 0, Vertical Angle = 0  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1111 L ocated At Horizontal Angle = 0, Vertical Angle = 0  
50% Maximum Candela = 555.5  
10% Maximum Candela = 111.1