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Report No: L051503004

Date: 5/20/2015



NVLAP LAB CODE 200927-0

**Report No:** L051503004

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

**Model Number:** 3108-X-13-W-WF

**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-15-W-WF . 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:** 5/19/15 - 5/20/15

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

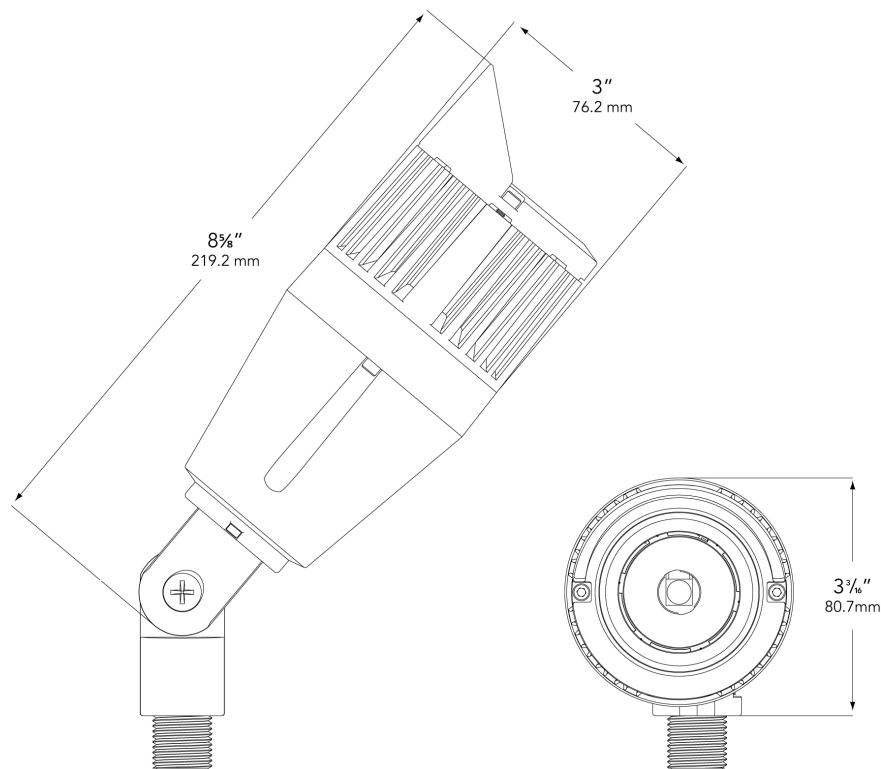
**Equipment List**

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.

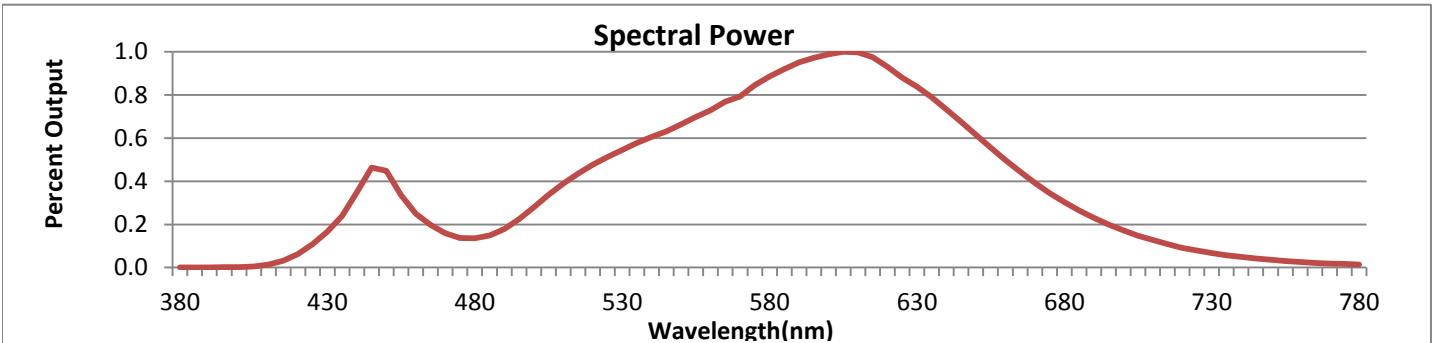
**Test Summary**

<b>Manufacturer:</b>	USTE, dba Vista Professional Outdoor I
<b>Model Number:</b>	3108-X-13-W-WF
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	685.78
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	1.06
<b>Input Power (W):</b>	9.59
<b>Input Power Factor:</b>	0.76
<b>Current ATHD @ 120V(%):</b>	66%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	71
<b>Color Rendering Index (CRI):</b>	82
<b>Correlated Color Temperature (K):</b>	3058
<b>Chromaticity Coordinate x:</b>	0.4353
<b>Chromaticity Coordinate y:</b>	0.4077
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	1:00
<b>Total Operating Time (Hours):</b>	2:00
<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.



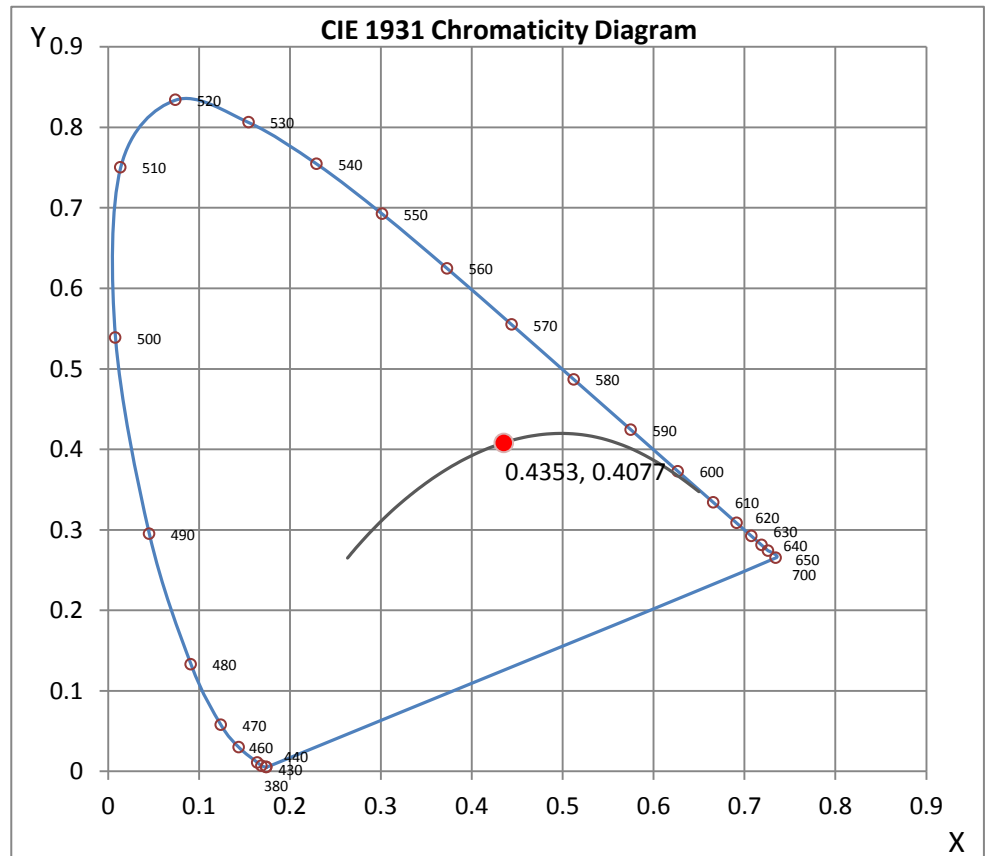
Wavelength	W/m <sup>2</sup> nm	440	0.3488	510	0.3898	580	0.8862	650	0.6161	720	0.0916
380	0.0010	450	0.4487	520	0.4771	590	0.9515	660	0.4984	730	0.0673
390	0.0010	460	0.2500	530	0.5457	600	0.9884	670	0.3915	740	0.0489
400	0.0024	470	0.1590	540	0.6057	610	0.9979	680	0.3026	750	0.0356
410	0.0137	480	0.1358	550	0.6632	620	0.9309	690	0.2304	760	0.0254
420	0.0625	490	0.1783	560	0.7294	630	0.8393	700	0.1722	770	0.0188
430	0.1671	500	0.2797	570	0.7928	640	0.7334	710	0.1284	780	0.0138

**CRI & CCT**

x	0.4353
y	0.4077
u'	0.2480
v'	0.5226
CRI	81.70
CCT	3058
Duv	0.00167

**R Values**

R1	80.18
R2	87.23
R3	93.57
R4	81.69
R5	79.26
R6	83.03
R7	85.64
R8	62.83
R9	11.12
R10	70.00
R11	80.26
R12	64.79
R13	81.33
R14	95.82



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

## 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:



Jeff Ahn  
Engineering Manager

Test Report Reviewed by:



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 : L051503004.IES**

## DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L051503004  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 5/20/2015  
[MANUFAC] USTE, DBA VISTA PROFESSIONAL OUTDOOR LIGHTING  
[LUMCAT] 3108-X-13-W-WF  
[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, 9.59W  
[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	1037
Maximum Candela Angle	-1H 0V
Horizontal Beam Angle (50%)	45.5
Vertical Beam Angle (50%)	45.5
Horizontal Field Angle (10%)	77.1
Vertical Field Angle (10%)	77.1
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	381
Beam Efficiency	N.A.
Field Lumens	632
Field Efficiency	N.A.
Spill Lumens	54
Luminaire Lumens	686
Total Efficiency	N.A.
Total Luminaire Watts	9.59
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L051503004.IES**

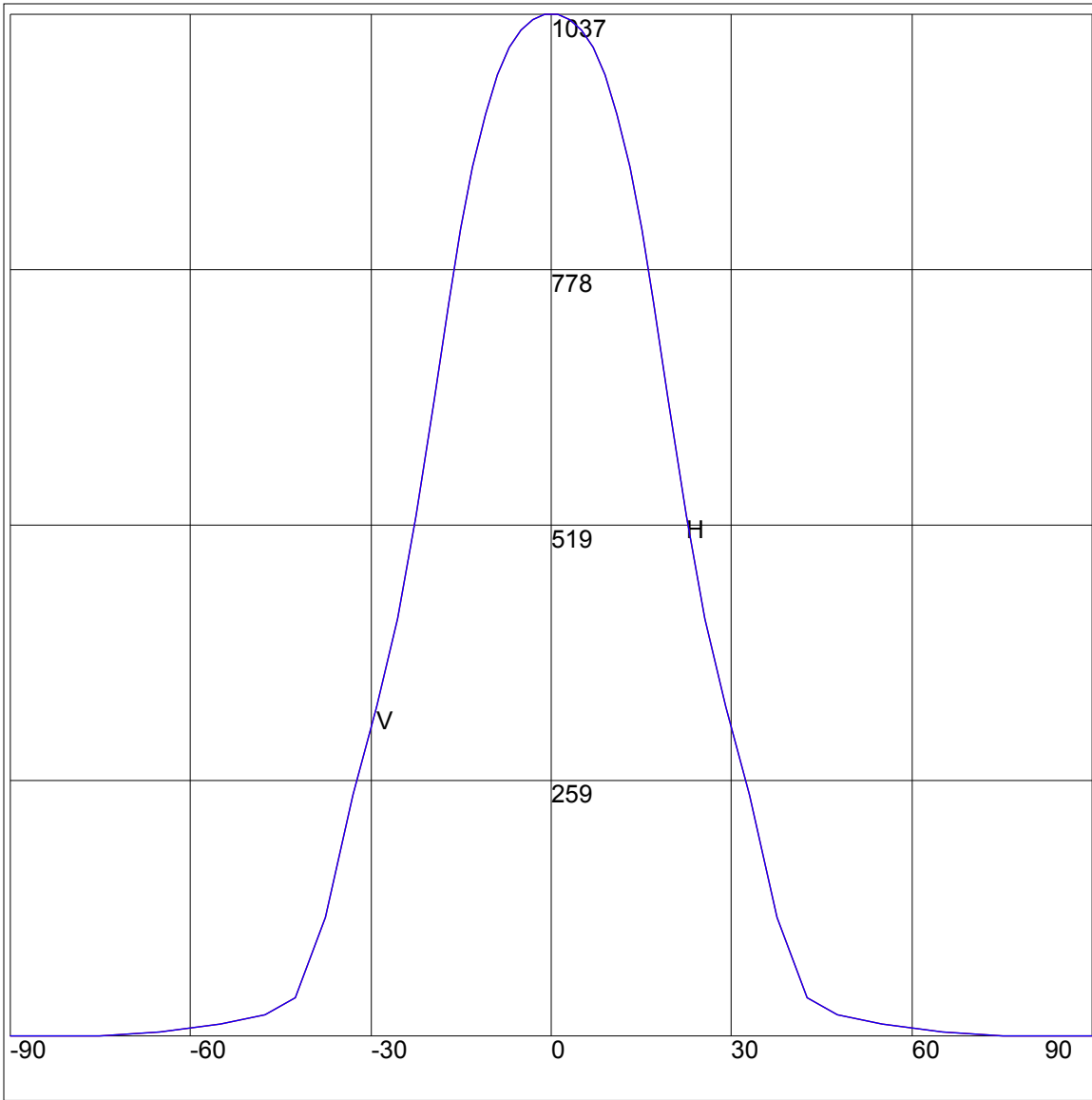
**AXIAL CANDELA**

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	4	65	4
55	12	55	12
47.5	22	47.5	22
42.5	39	42.5	39
37.5	121	37.5	121
33	245	33	245
29	334	29	334
25.5	424	25.5	424
22.5	528	22.5	528
19.5	647	19.5	647
17	745	17	745
15	819	15	819
13	882	13	882
11	935	11	935
9	975	9	975
7	1003	7	1003
5	1021	5	1021
3	1031	3	1031
1	1037	1	1037
0	1037	0	1037
-1	1037	-1	1037
-3	1031	-3	1031
-5	1021	-5	1021
-7	1003	-7	1003
-9	975	-9	975
-11	935	-11	935
-13	882	-13	882
-15	819	-15	819
-17	745	-17	745
-19.5	647	-19.5	647
-22.5	528	-22.5	528
-25.5	424	-25.5	424
-29	334	-29	334
-33	245	-33	245
-37.5	121	-37.5	121
-42.5	39	-42.5	39
-47.5	22	-47.5	22
-55	12	-55	12
-65	4	-65	4
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

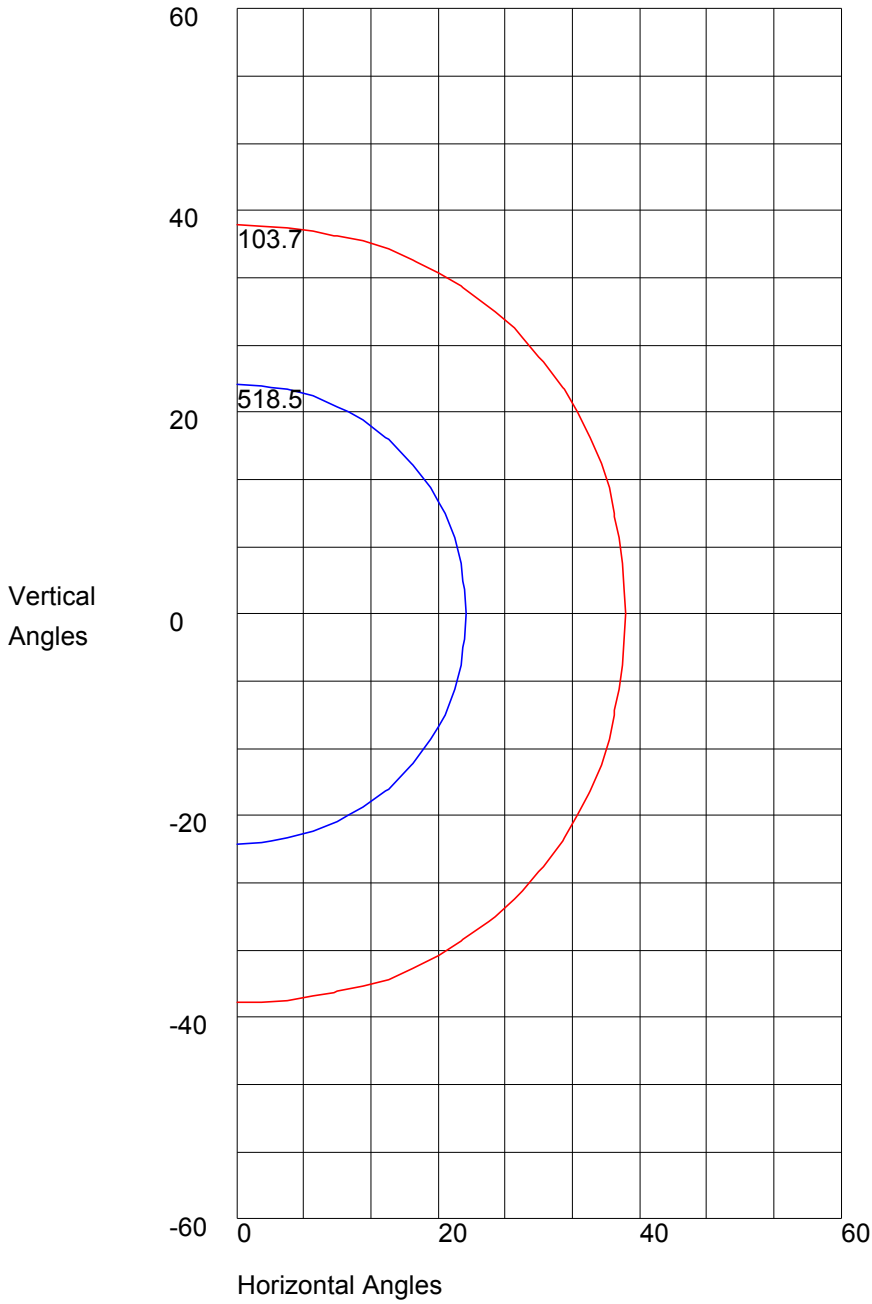
Zone	%
0-20	44.9
0-30	74
0-40	91.2
0-60	98.6
0-80	100
0-90	100
10-90	88.6
20-40	46.2
20-50	52.1
40-70	8.5
60-80	1.4
70-80	0.3
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 1037 Located At Horizontal Angle = -1, Vertical Angle = 0  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1037 Located At Horizontal Angle = -1, Vertical Angle = 0  
50% Maximum Candela = 518.5  
10% Maximum Candela = 103.7