



8165 E Kaiser Blvd. Anaheim, CA 92808  
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Report No: L051503003

Date: 5/20/2015



NVLAP LAB CODE 200927-0

**Report No:** L051503003

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

**Model Number:** 3106-X-13-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 3106-X-15-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:** 5/19/15 - 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>	3106-X-13-W-MF
<b>Driver Model Number:</b>	N/A
<b>Total Lumens:</b>	711.34
<b>Input Voltage (VAC/60Hz):</b>	12.00
<b>Input Current (Amp):</b>	1.06
<b>Input Power (W):</b>	9.70
<b>Input Power Factor:</b>	0.76
<b>Current ATHD @ 120V(%):</b>	69%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	73
<b>Color Rendering Index (CRI):</b>	83
<b>Correlated Color Temperature (K):</b>	3037
<b>Chromaticity Coordinate x:</b>	0.4341
<b>Chromaticity Coordinate y:</b>	0.4025
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:45
<b>Off State Power(W):</b>	0.00

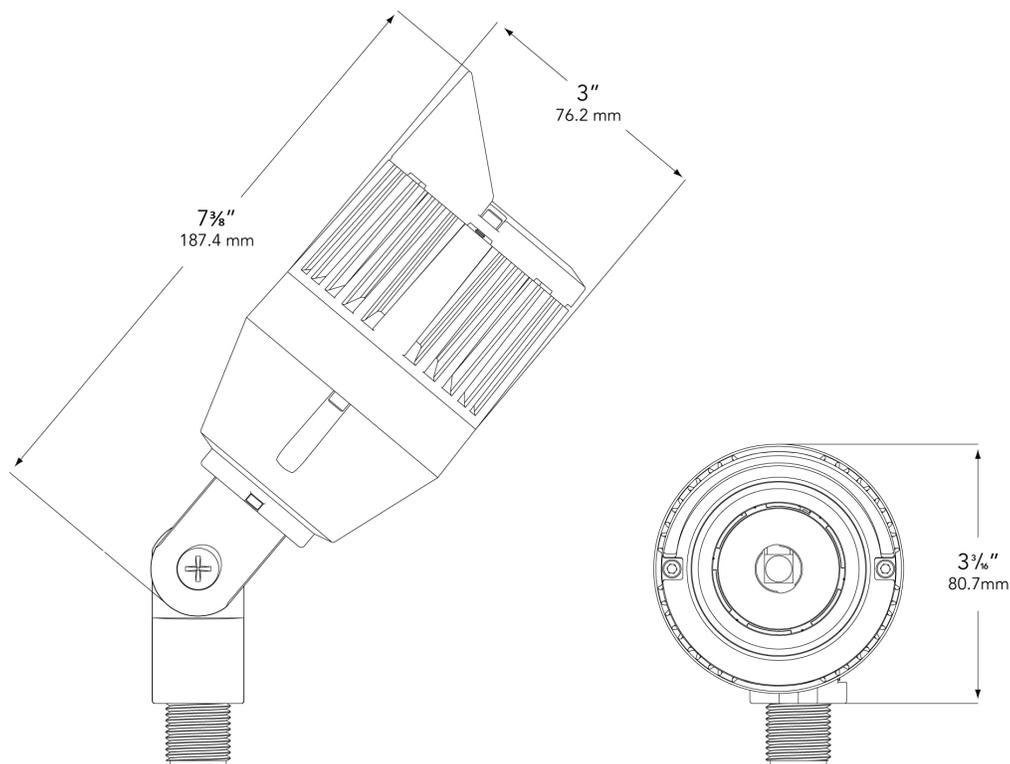
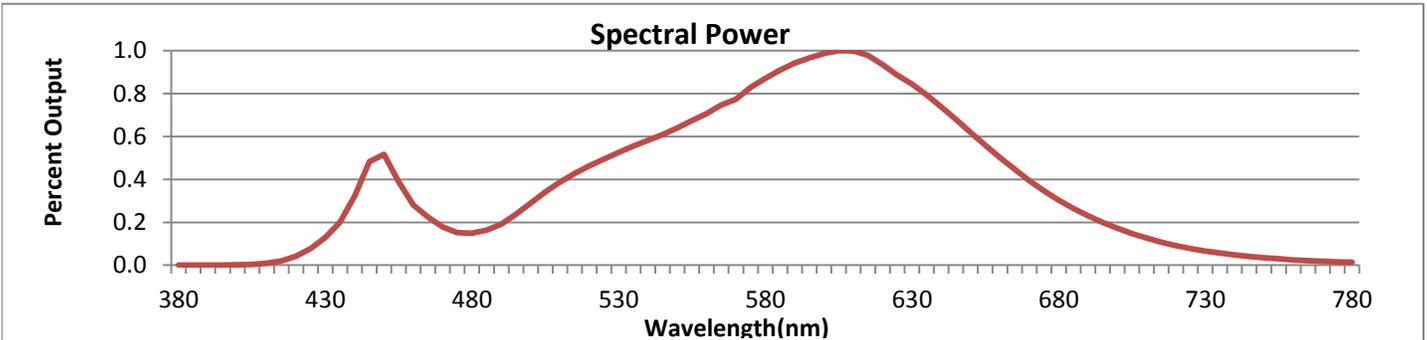


FIG. 1 LUMINAIRE

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



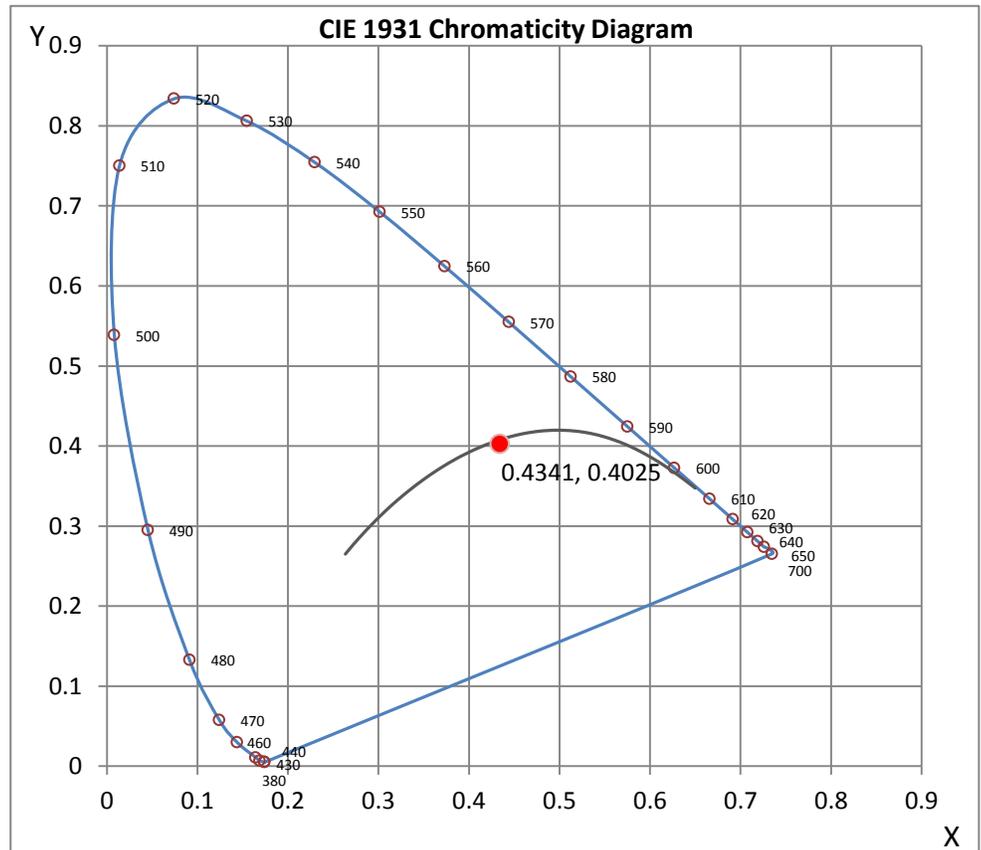
Wavelength	W/m <sup>2</sup> nm	440	0.3228	510	0.3883	580	0.8715	650	0.6195	720	0.0907
380	0.0009	450	0.5168	520	0.4640	590	0.9431	660	0.5013	730	0.0664
390	0.0011	460	0.2809	530	0.5253	600	0.9874	670	0.3932	740	0.0479
400	0.0019	470	0.1793	540	0.5827	610	0.9995	680	0.3030	750	0.0348
410	0.0087	480	0.1492	550	0.6398	620	0.9352	690	0.2302	760	0.0249
420	0.0423	490	0.1925	560	0.7068	630	0.8448	700	0.1720	770	0.0183
430	0.1290	500	0.2896	570	0.7732	640	0.7379	710	0.1273	780	0.0134

**CRI & CCT**

x	0.4341
y	0.4025
u'	0.2494
v'	0.5203
CRI	83.10
CCT	3037
Duv	-0.00024

**R Values**

R1	81.91
R2	89.24
R3	95.27
R4	82.56
R5	81.30
R6	85.94
R7	85.27
R8	63.62
R9	15.11
R10	74.61
R11	81.61
R12	68.72
R13	83.36
R14	96.93



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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 : L051503003.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L051503003  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 5/20/2015  
[MANUFAC] USTE, DBA VISTA PROFESSIONAL OUTDOOR LIGHTING  
[LUMCAT] 3106-X-13-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, 9.70W  
[TEST PROCEDURE] IESNA:LM-79-08

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

### CHARACTERISTICS

NEMA Type	4 H x 4 V
Maximum Candela	1737
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	29.7
Vertical Beam Angle (50%)	29.7
Horizontal Field Angle (10%)	69.9
Vertical Field Angle (10%)	69.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	260
Beam Efficiency	N.A.
Field Lumens	620
Field Efficiency	N.A.
Spill Lumens	91
Luminaire Lumens	711
Total Efficiency	N.A.
Total Luminaire Watts	9.7
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L051503003.IES**

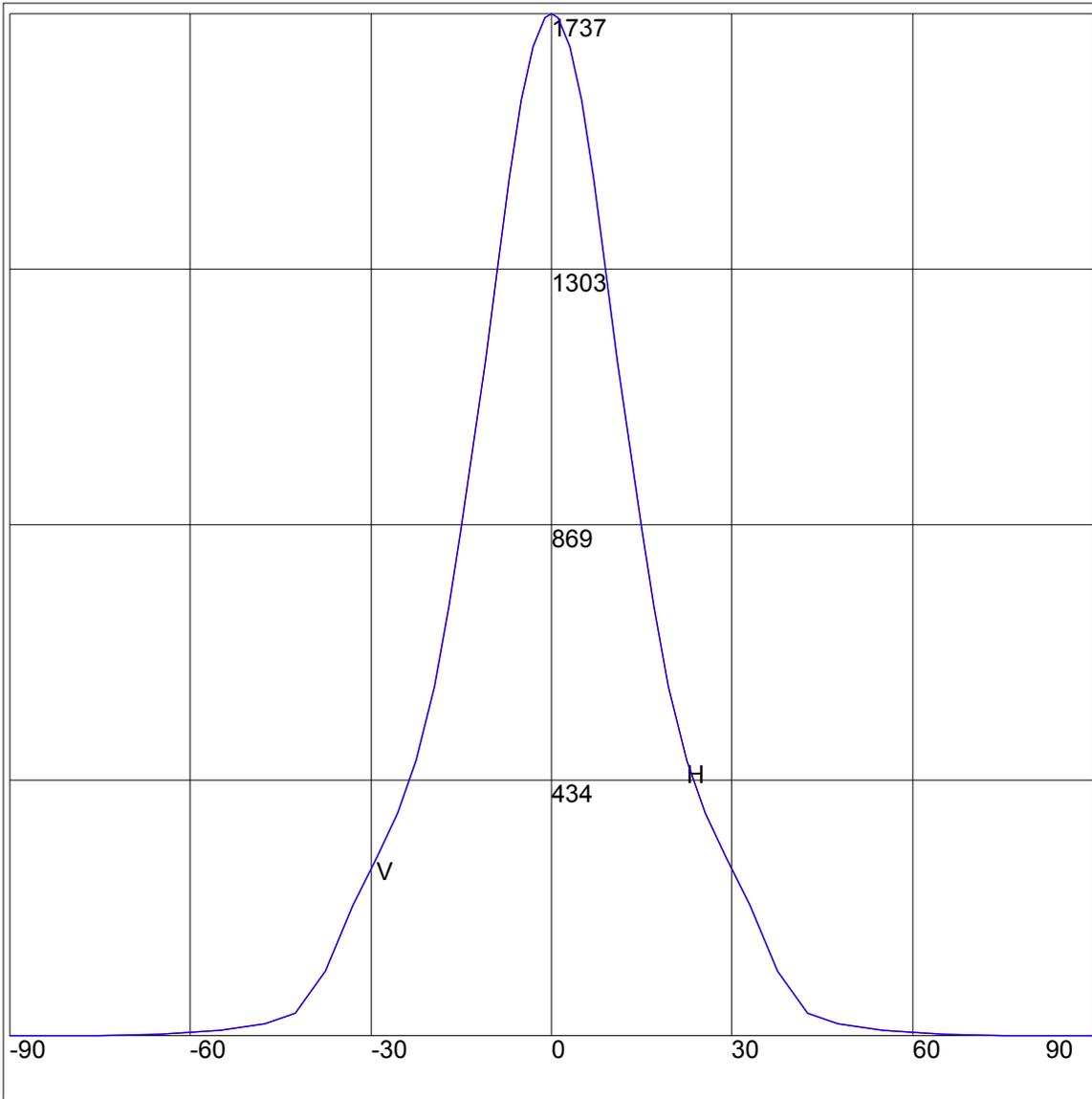
**AXIAL CANDELA**

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	22	47.5	22
42.5	40	42.5	40
37.5	111	37.5	111
33	222	33	222
29	304	29	304
25.5	380	25.5	380
22.5	468	22.5	468
19.5	594	19.5	594
17	731	17	731
15	858	15	858
13	997	13	997
11	1149	11	1149
9	1305	9	1305
7	1460	7	1460
5	1590	5	1590
3	1682	3	1682
1	1730	1	1730
0	1737	0	1737
-1	1730	-1	1730
-3	1682	-3	1682
-5	1590	-5	1590
-7	1460	-7	1460
-9	1305	-9	1305
-11	1149	-11	1149
-13	997	-13	997
-15	858	-15	858
-17	731	-17	731
-19.5	594	-19.5	594
-22.5	468	-22.5	468
-25.5	380	-25.5	380
-29	304	-29	304
-33	222	-33	222
-37.5	111	-37.5	111
-42.5	40	-42.5	40
-47.5	22	-47.5	22
-55	11	-55	11
-65	4	-65	4
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

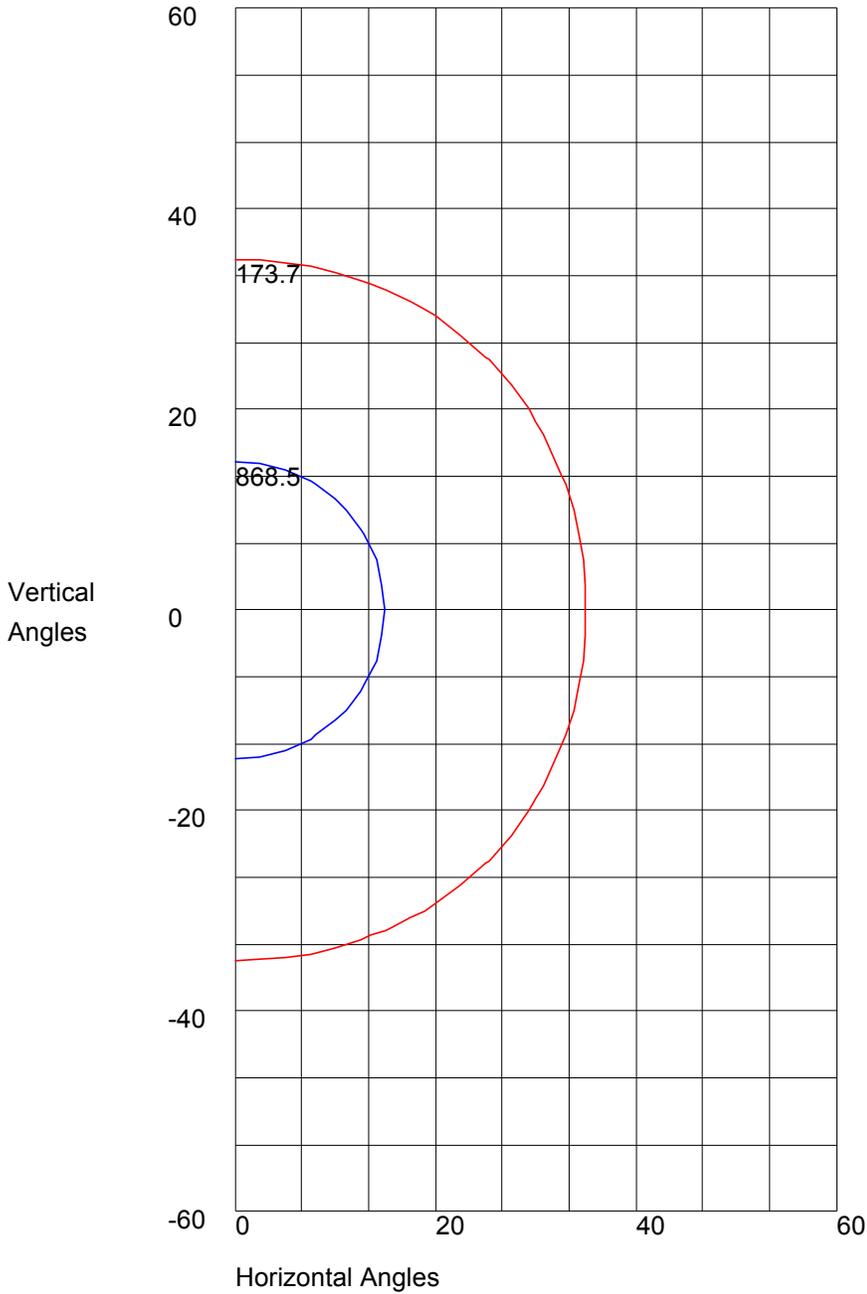
Zone	%
0-20	51.6
0-30	76.8
0-40	91.8
0-60	98.7
0-80	100
0-90	100
10-90	83.6
20-40	40.2
20-50	45.7
40-70	7.9
60-80	1.3
70-80	0.3
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 1737 Located At Horizontal Angle = 0, Vertical Angle = 0  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1737 Located At Horizontal Angle = 0, Vertical Angle = 0  
50% Maximum Candela = 868.5  
10% Maximum Candela = 173.7