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Report No: L051503001

Date: 5/28/2015



NVLAP LAB CODE 200927-0

Report No: L051503001

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

Model Number: 3106-X-13-W-VNS

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-VNS. 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: 5/18/15 - 5/28/15

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

Manufacturer:	USTE, dba Vista Professional Outdoor Lighting
Model Number:	3106-X-13-W-VNS
Driver Model Number:	N/A
Total Lumens:	269.18
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	1.11
Input Power (W):	9.91
Input Power Factor:	0.74
Current ATHD @ 12V(%):	78%
Current ATHD @ 277V(%):	N/A
Efficacy:	27
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	3073
Chromaticity Coordinate x:	0.4324
Chromaticity Coordinate y:	0.4034
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:15
Total Operating Time (Hours):	2:10
Off State Power(W):	0.00

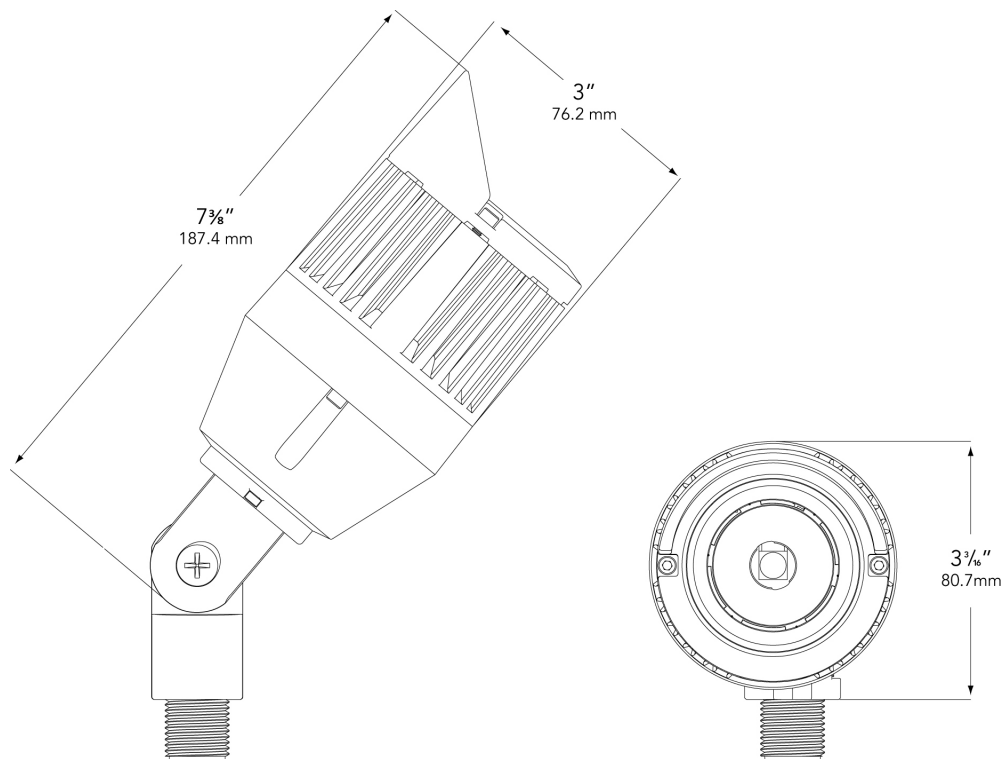
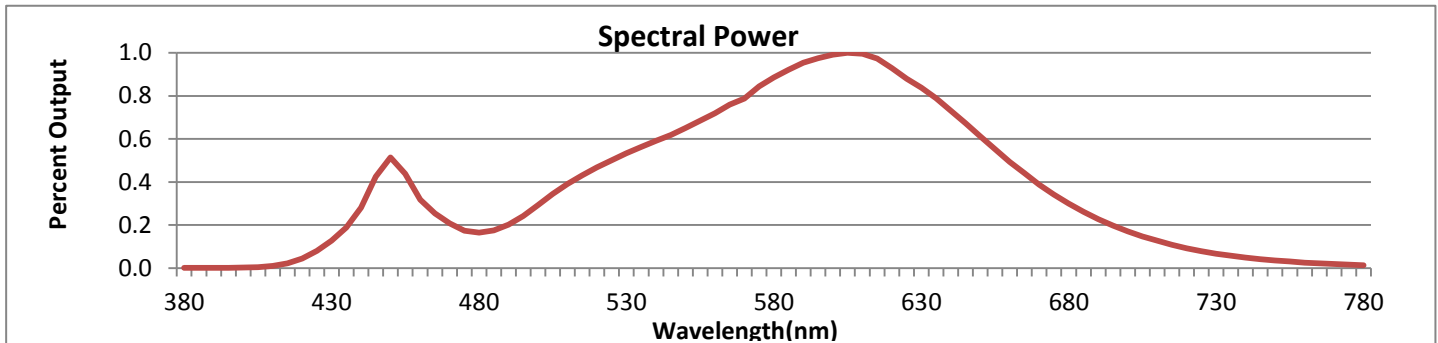


FIG. 1 LUMINAIRE

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



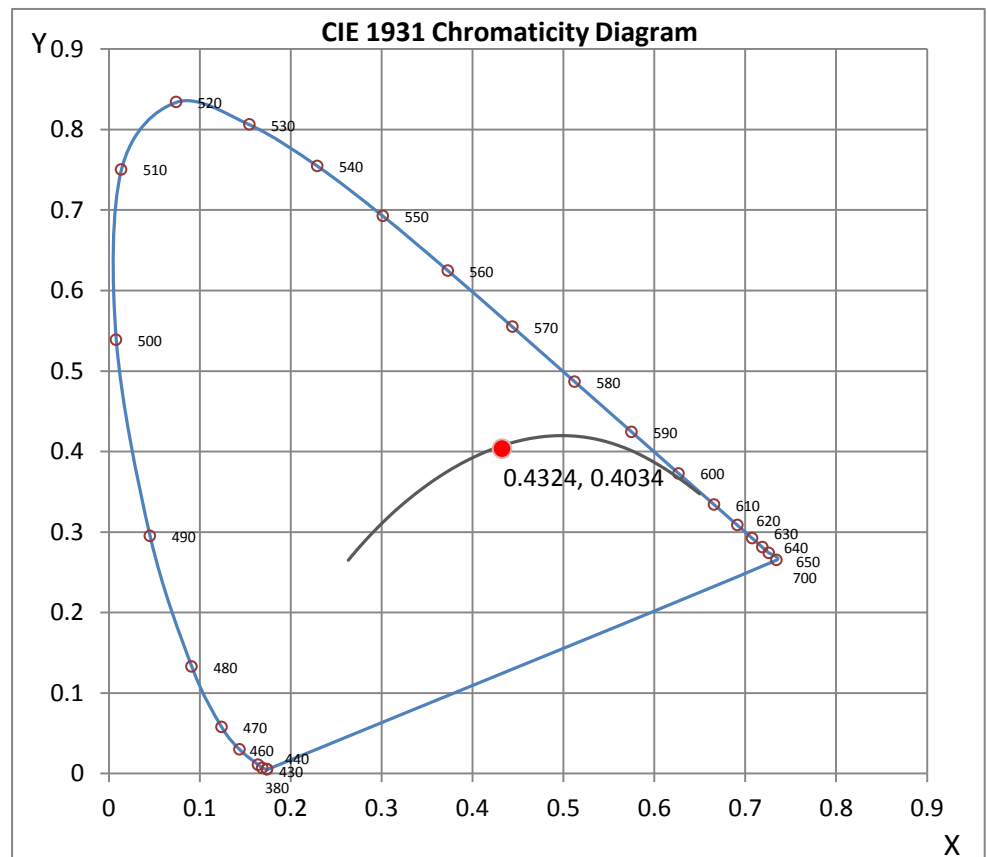
Wavelength	W/m ² nm	440	0.2810	510	0.3909	580	0.8851	650	0.6127	720	0.0911
380	0.0009	450	0.5148	520	0.4679	590	0.9542	660	0.4938	730	0.0670
390	0.0011	460	0.3174	530	0.5329	600	0.9909	670	0.3873	740	0.0489
400	0.0024	470	0.2082	540	0.5921	610	0.9961	680	0.2993	750	0.0355
410	0.0103	480	0.1641	550	0.6506	620	0.9291	690	0.2275	760	0.0257
420	0.0449	490	0.2014	560	0.7197	630	0.8388	700	0.1710	770	0.0190
430	0.1268	500	0.2928	570	0.7872	640	0.7312	710	0.1271	780	0.0138

CRI & CCT

x	0.4324
y	0.4034
u'	0.2479
v'	0.5204
CRI	82.80
CCT	3073
Duv	0.00037

R Values

R1	81.31
R2	89.20
R3	95.62
R4	81.77
R5	80.66
R6	85.74
R7	85.21
R8	62.92
R9	13.22
R10	74.40
R11	80.37
R12	67.54
R13	82.92
R14	97.19



*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 : L051503001.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L051503001
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 5/28/2015
[MANUFAC] USTE, DBA VISTA PROFESSIONAL OUTDOOR LIGHTING
[LUMCAT] 3106-X-13-W-VNS
[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, 9.91W
[TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

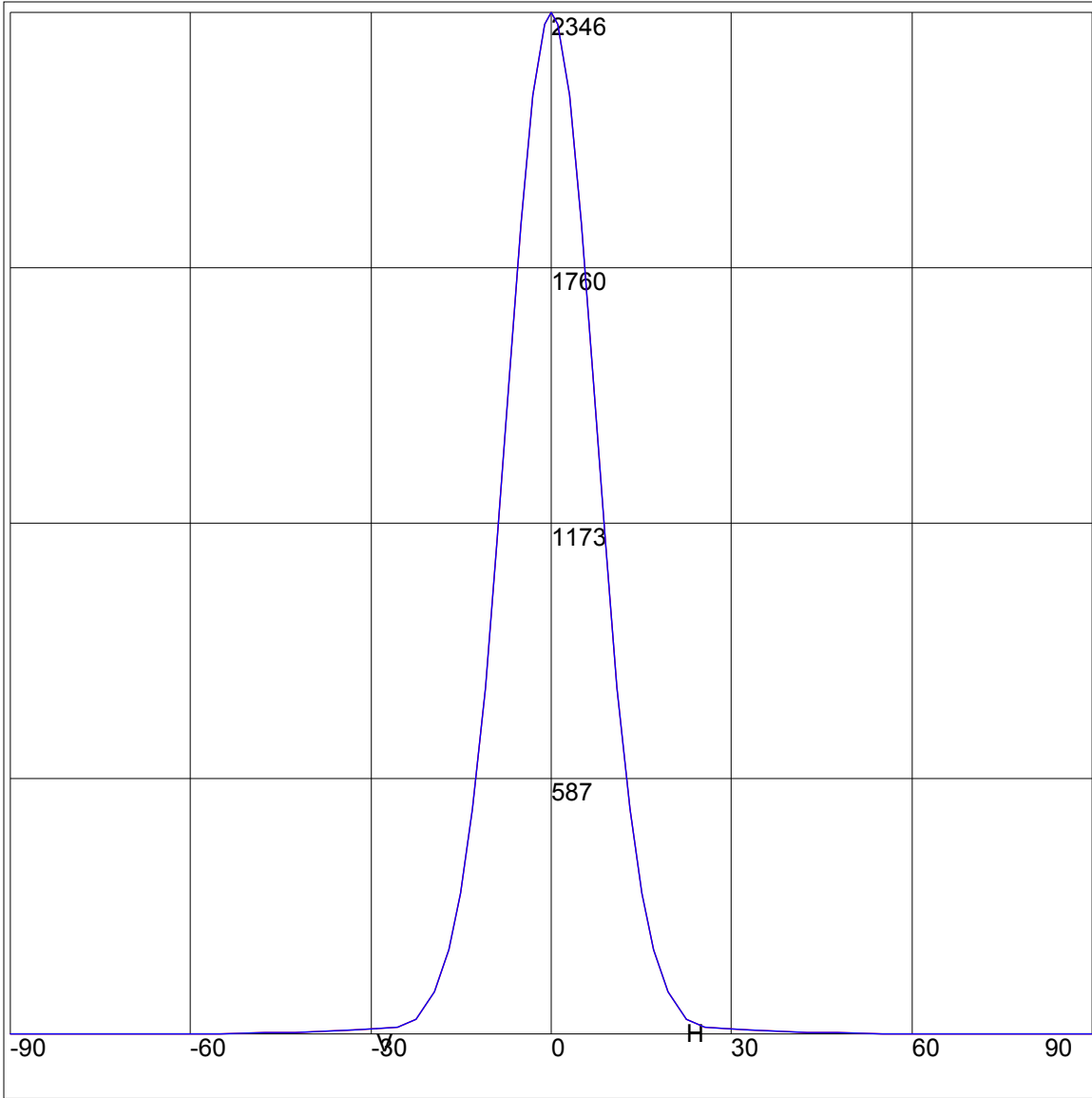
NEMA Type	3 H x 3 V
Maximum Candela	2346
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	17.7
Vertical Beam Angle (50%)	17.7
Horizontal Field Angle (10%)	32.8
Vertical Field Angle (10%)	32.8
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	124
Beam Efficiency	N.A.
Field Lumens	228
Field Efficiency	N.A.
Spill Lumens	41
Luminaire Lumens	269
Total Efficiency	N.A.
Total Luminaire Watts	9.91
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L051503001.IES

AXIAL CANDELA

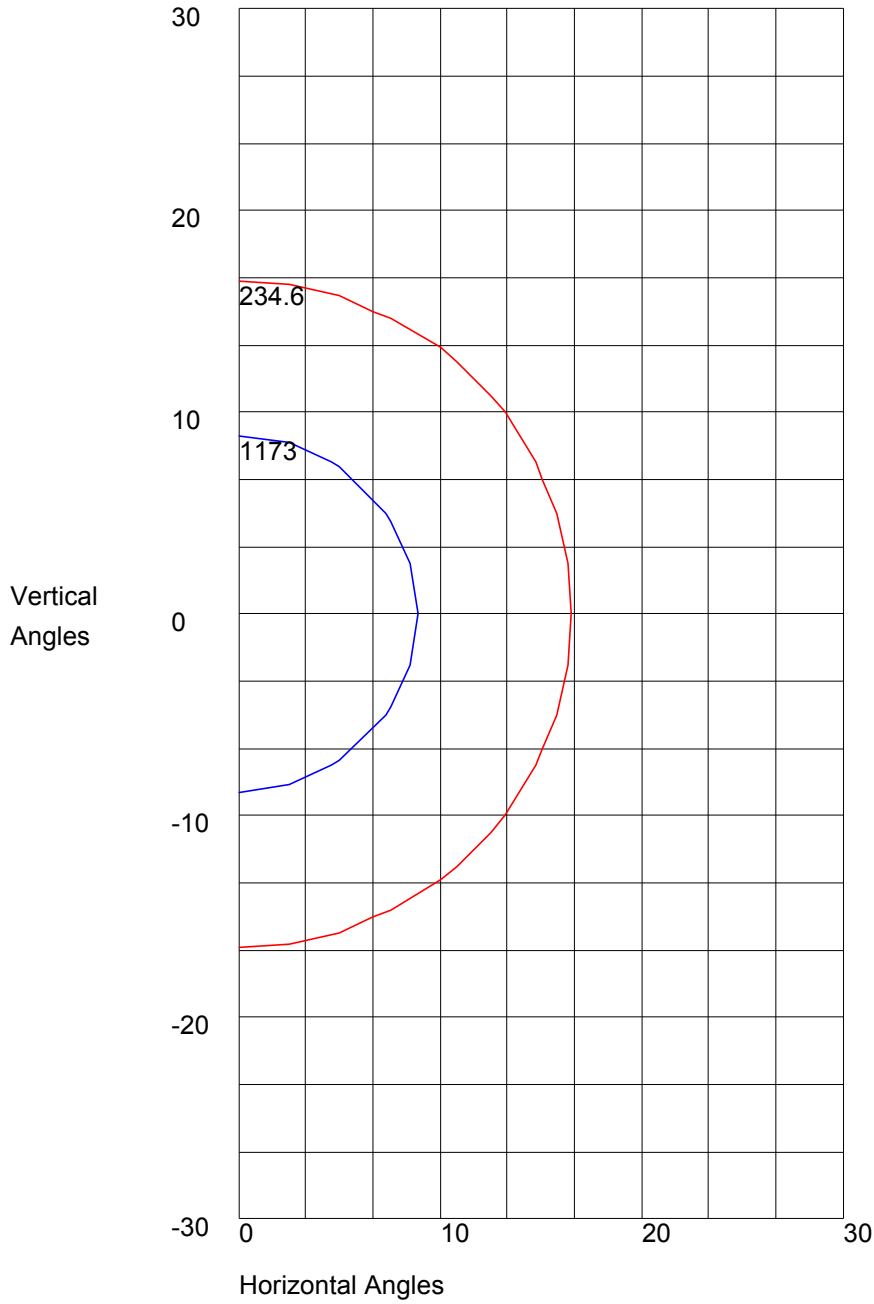
DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	0	65	0
55	1	55	1
47.5	3	47.5	3
42.5	4	42.5	4
37.5	6	37.5	6
33	9	33	9
29	12	29	12
25.5	17	25.5	17
22.5	36	22.5	36
19.5	97	19.5	97
17	196	17	196
15	324	15	324
13	517	13	517
11	796	11	796
9	1142	9	1142
7	1505	7	1505
5	1859	5	1859
3	2157	3	2157
1	2318	1	2318
0	2346	0	2346
-1	2318	-1	2318
-3	2157	-3	2157
-5	1859	-5	1859
-7	1505	-7	1505
-9	1142	-9	1142
-11	796	-11	796
-13	517	-13	517
-15	324	-15	324
-17	196	-17	196
-19.5	97	-19.5	97
-22.5	36	-22.5	36
-25.5	17	-25.5	17
-29	12	-29	12
-33	9	-33	9
-37.5	6	-37.5	6
-42.5	4	-42.5	4
-47.5	3	-47.5	3
-55	1	-55	1
-65	0	-65	0
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

AXIAL CANDELA DISPLAY



Maximum Candela = 2346 Located At Horizontal Angle = 0, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 2346 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 1173
10% Maximum Candela = 234.6