



8165 E Kaiser Blvd. Anaheim, CA 92808
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Report No: L051503002

Date: 5/20/2015



NVLAP LAB CODE 200927-0

Report No: L051503002

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

Model Number: 310, -X-1' -W-SP

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 310Ì -X-1H-W-SP. 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 - 5/20/15

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

Manufacturer:	USTE, dba Vista Professional Outdoor Lighting
Model Number:	3105-X-15-W-SP
Driver Model Number:	N/A
Total Lumens:	737.82
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	1.10
Input Power (W):	10.01
Input Power Factor:	0.76
Current ATHD @ 120V(%):	72%
Current ATHD @ 277V(%):	N/A
Efficacy:	74
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	3018
Chromaticity Coordinate x:	0.4379
Chromaticity Coordinate y:	0.4084
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:45
Off State Power(W):	0.00

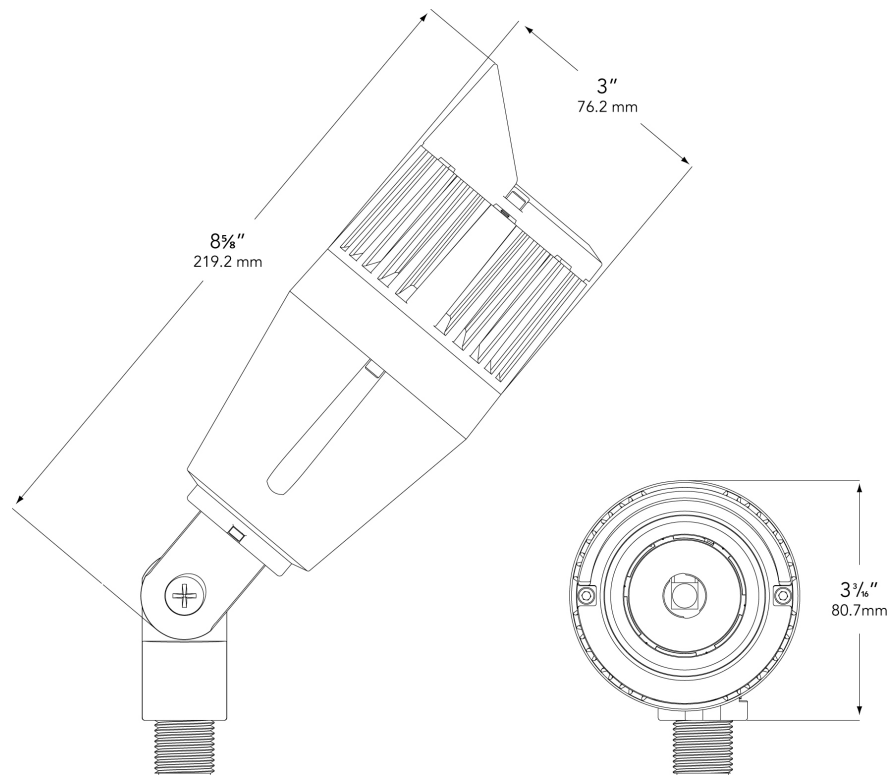
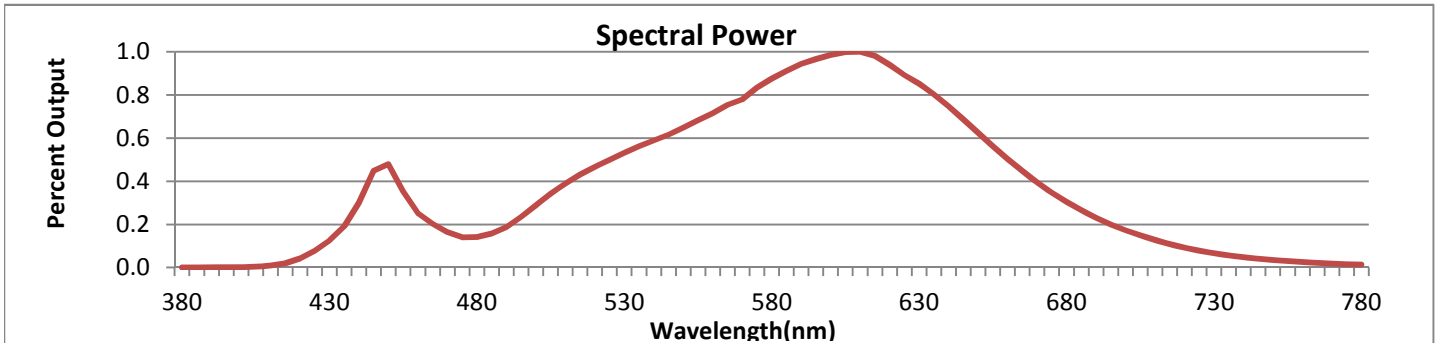


FIG. 1 LUMINAIRE

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



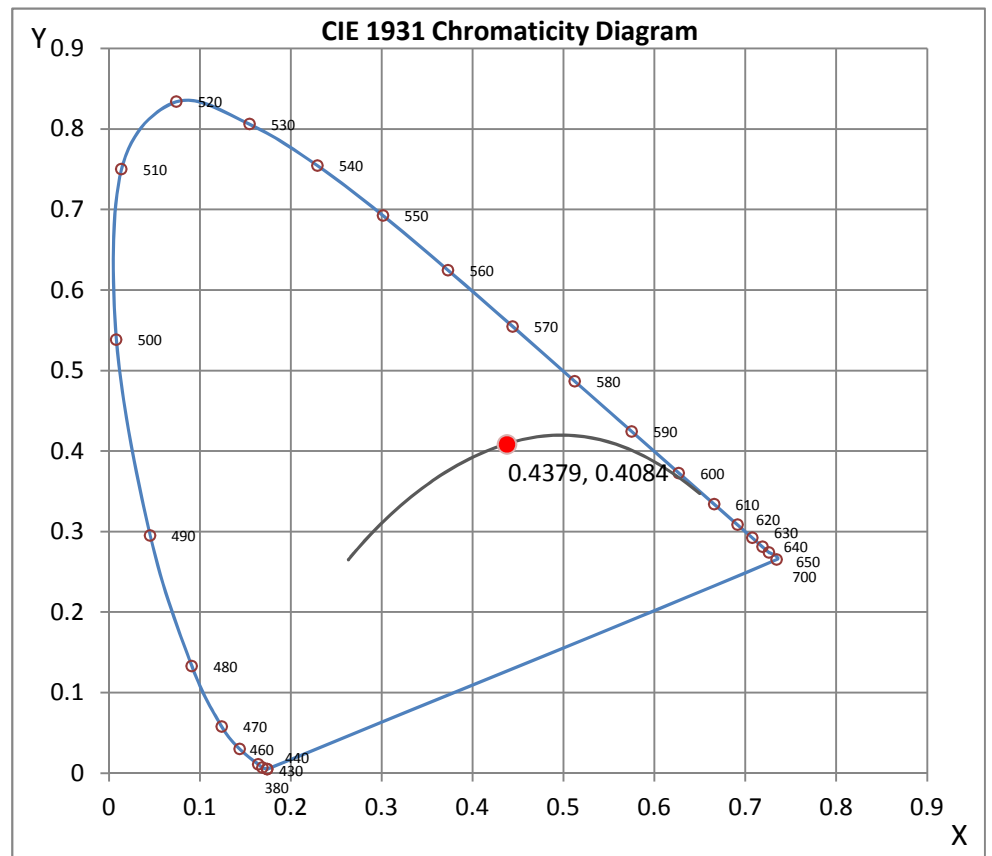
Wavelength	W/m ² nm	440	0.3003	510	0.3894	580	0.8755	650	0.6254	720	0.0914
380	0.0009	450	0.4801	520	0.4669	590	0.9437	660	0.5038	730	0.0671
390	0.0011	460	0.2509	530	0.5310	600	0.9861	670	0.3947	740	0.0485
400	0.0021	470	0.1634	540	0.5900	610	1.0000	680	0.3042	750	0.0351
410	0.0091	480	0.1413	550	0.6484	620	0.9395	690	0.2309	760	0.0251
420	0.0421	490	0.1879	560	0.7155	630	0.8529	700	0.1728	770	0.0185
430	0.1244	500	0.2879	570	0.7801	640	0.7463	710	0.1278	780	0.0136

CRI & CCT

x	0.4379
y	0.4084
u'	0.2493
v'	0.5232
CRI	82.70
CCT	3018
Duv	0.00158

R Values

R1	81.20
R2	88.40
R3	94.82
R4	82.43
R5	80.42
R6	84.80
R7	85.86
R8	63.53
R9	13.95
R10	72.76
R11	81.29
R12	66.56
R13	82.49
R14	96.59



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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*

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



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Photometric Test Report

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L051503002.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L051503002
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 5/20/2015
 [MANUFAC] USTE, DBA VISTA PROFESSIONAL OUTDOOR LIGHTING
 [LUMCAT] 3108-X-1H-W-SP
 [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, 10.01W
 [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	3848
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	18.6
Vertical Beam Angle (50%)	18.6
Horizontal Field Angle (10%)	40.2
Vertical Field Angle (10%)	40.2
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	230
Beam Efficiency	N.A.
Field Lumens	472
Field Efficiency	N.A.
Spill Lumens	265
Luminaire Lumens	738
Total Efficiency	N.A.
Total Luminaire Watts	10.01
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L051503002.IES

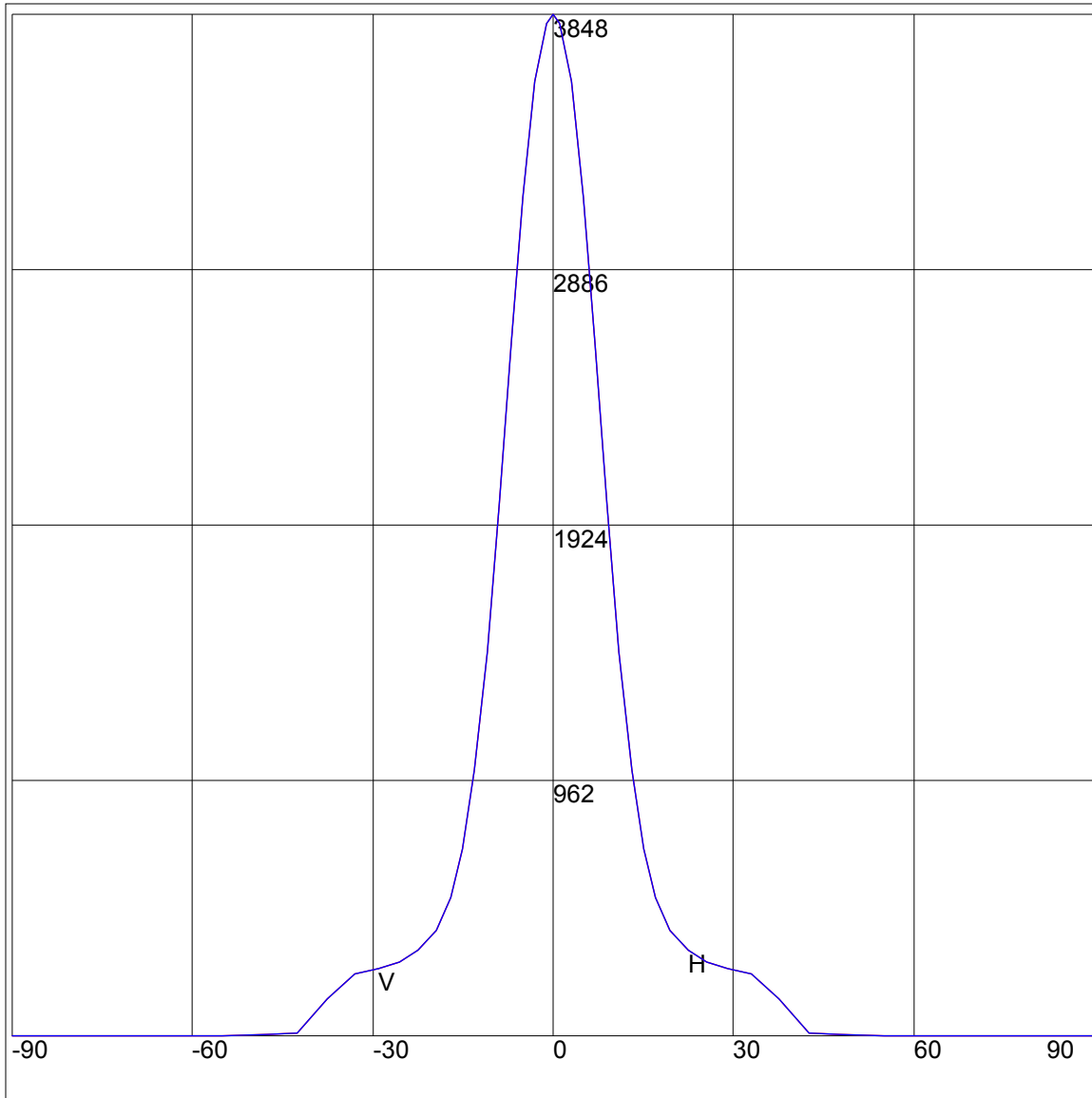
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	0	75	0
65	1	65	1
55	4	55	4
47.5	7	47.5	7
42.5	10	42.5	10
37.5	140	37.5	140
33	236	33	236
29	253	29	253
25.5	281	25.5	281
22.5	322	22.5	322
19.5	400	19.5	400
17	525	17	525
15	707	15	707
13	1003	13	1003
11	1451	11	1451
9	2006	9	2006
7	2602	7	2602
5	3161	5	3161
3	3593	3	3593
1	3814	1	3814
0	3848	0	3848
-1	3814	-1	3814
-3	3593	-3	3593
-5	3161	-5	3161
-7	2602	-7	2602
-9	2006	-9	2006
-11	1451	-11	1451
-13	1003	-13	1003
-15	707	-15	707
-17	525	-17	525
-19.5	400	-19.5	400
-22.5	322	-22.5	322
-25.5	281	-25.5	281
-29	253	-29	253
-33	236	-33	236
-37.5	140	-37.5	140
-42.5	10	-42.5	10
-47.5	7	-47.5	7
-55	4	-55	4
-65	1	-65	1
-75	0	-75	0
-85	0	-85	0
-90	0	-90	0

ZONAL LUMEN SUMMARY

Zone	%
0-20	62.8
0-30	80.4
0-40	95.1
0-60	99.6
0-80	100
0-90	100
10-90	70.2
20-40	32.3
20-50	36.3
40-70	4.8
60-80	0.4
70-80	0.1
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

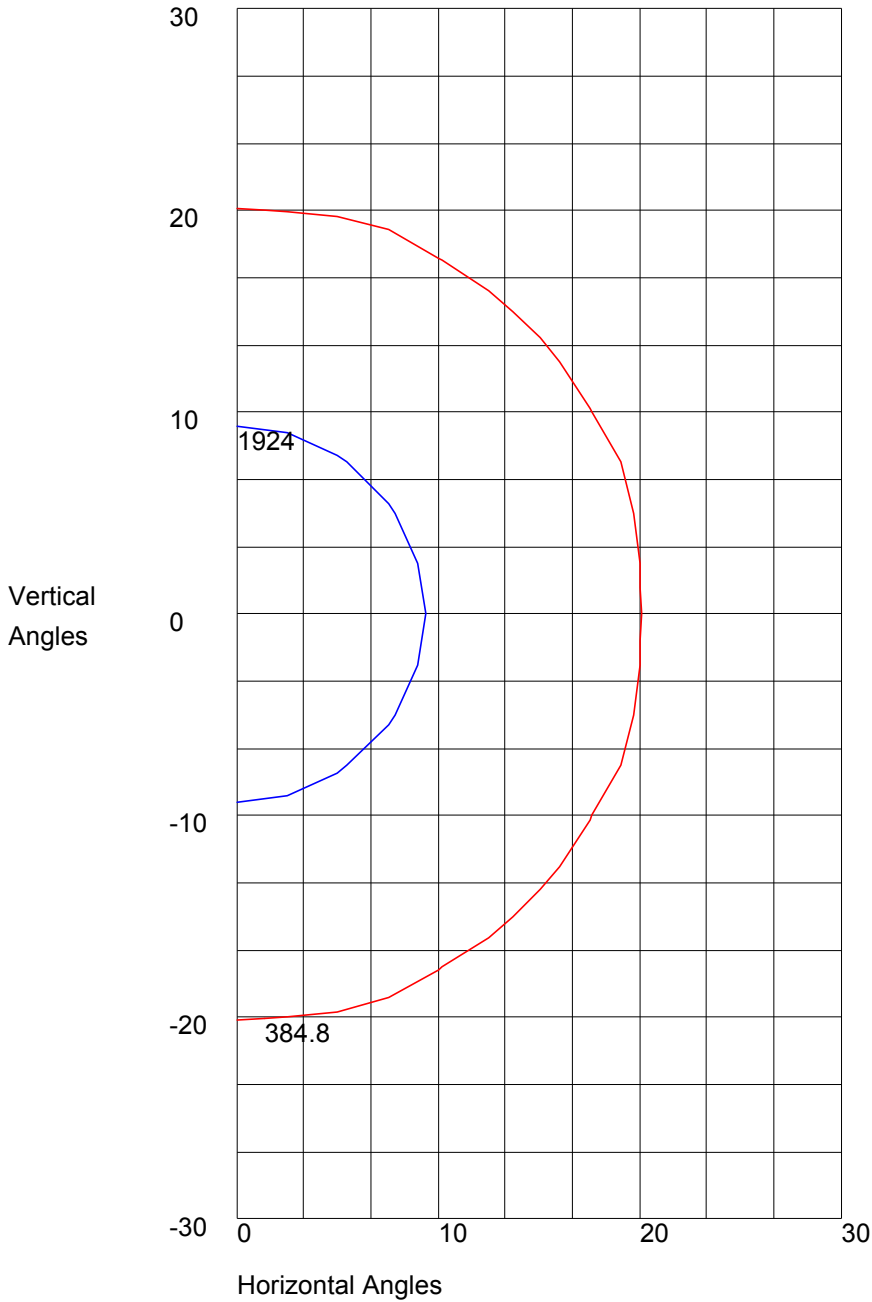


Maximum Candela = 3848 Located At Horizontal Angle = 0, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 3848 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 1924
10% Maximum Candela = 384.8