



**PROFESSIONAL**  
OUTDOOR LIGHTING



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Report No: L021606503  
Date: 3/3/2016



NVLAP LAB CODE 200927-0

**Report No:** L021606503

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

**Model Number:** 1043-X-MF-30-16W-MV-ND

**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 1043-X-MF-30-16W-MV-ND. Received in working and undamaged condition. No modifications were necessary.

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

**Sample Arrival Date:** 2/25/16

**Date of Tests:** 3/2/16 - 3/3/16

**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	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
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.

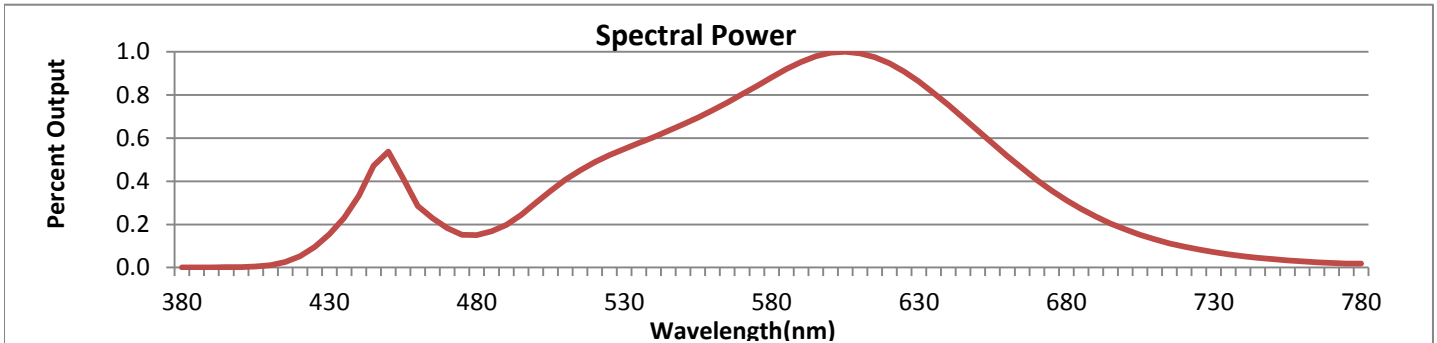
**Test Summary**

<b>Manufacturer:</b>	Vista Professional Outdoor Li ghting
<b>Model Number:</b>	1043-X-MF-30-16W-MV-ND
<b>Driver Model Number:</b>	ERP ESS020W-1400-14
<b>Total Lumens:</b>	1035.16
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.13
<b>Input Power (W):</b>	15.60
<b>Input Power Factor:</b>	0.98
<b>Current ATHD @ 120V(%):</b>	13%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	66
<b>Color Rendering Index (CRI):</b>	82
<b>Correlated Color Temperature (K):</b>	3039
<b>Chromaticity Coordinate x:</b>	0.4350
<b>Chromaticity Coordinate y:</b>	0.4048
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:55
<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.



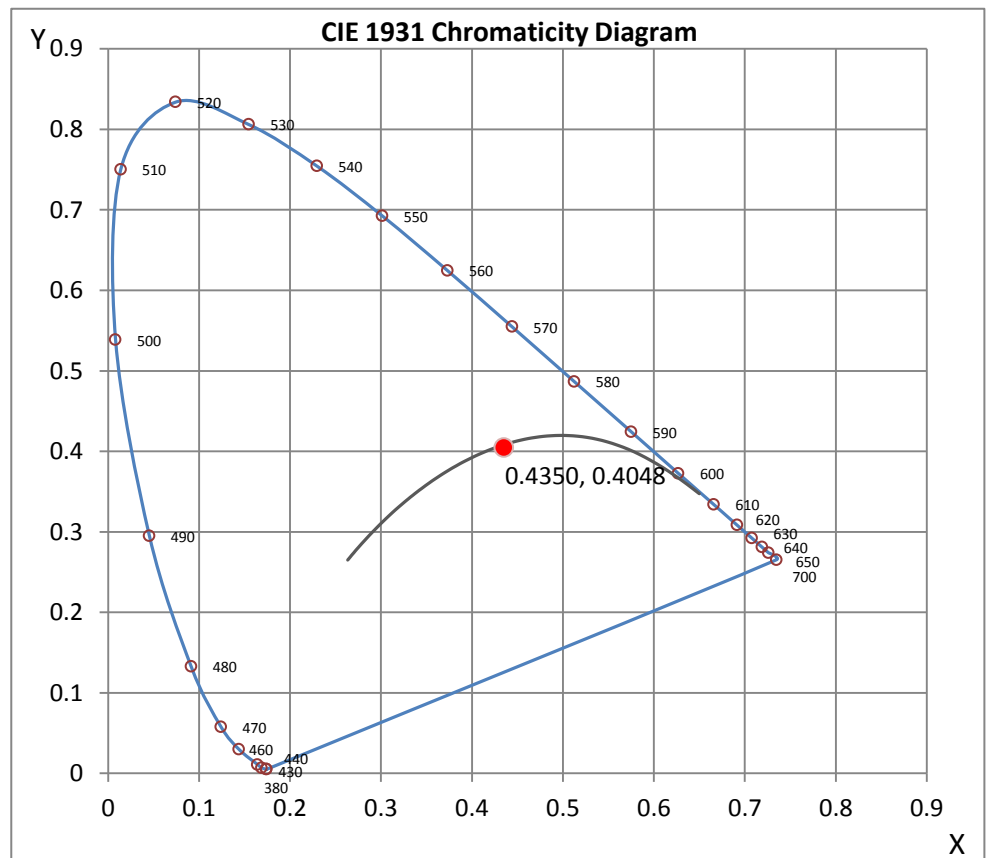
Wavelength	W/m <sup>2</sup> nm	440	0.0044	510	0.0054	580	0.0117	650	0.0085	720	0.0013
380	0.0000	450	0.0072	520	0.0065	590	0.0127	660	0.0069	730	0.0009
390	0.0000	460	0.0038	530	0.0073	600	0.0133	670	0.0054	740	0.0007
400	0.0000	470	0.0024	540	0.0080	610	0.0132	680	0.0042	750	0.0005
410	0.0002	480	0.0020	550	0.0088	620	0.0126	690	0.0031	760	0.0004
420	0.0007	490	0.0026	560	0.0097	630	0.0115	700	0.0023	770	0.0003
430	0.0021	500	0.0040	570	0.0107	640	0.0100	710	0.0017	780	0.0002

**CRI & CCT**

x	0.4350
y	0.4048
u'	0.2490
v'	0.5214
CRI	82.20
CCT	3039
Duv	0.00056

**R Values**

R1	80.70
R2	88.28
R3	94.83
R4	81.60
R5	80.00
R6	84.51
R7	85.23
R8	62.80
R9	12.61
R10	72.55
R11	80.28
R12	66.71
R13	82.09
R14	96.66



\*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 : L021606503.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L021606503  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 3/3/2016  
[MANUFAC] VISTA PROFESSIONAL OUTDOOR LIGHTING  
[LUMCAT] 1043-X-MF-30-16W-MV-ND  
[LUMINAIRE] 2.75"DIA. X 9.75"H. LED ACCENT LUMINAIRE  
[MORE] MF DISTRIBUTION  
[BALLASTCAT] ERP ESS020W-1400-14  
[LAMPPOSITION] 0,0  
[LAMPCAT] N/A  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120VAC, 15.60W  
[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	2687
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	28.6
Vertical Beam Angle (50%)	28.6
Horizontal Field Angle (10%)	67.5
Vertical Field Angle (10%)	67.5
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	372
Beam Efficiency	N.A.
Field Lumens	873
Field Efficiency	N.A.
Spill Lumens	161
Luminaire Lumens	1035
Total Efficiency	N.A.
Total Luminaire Watts	15.6
Ballast Factor	1.00

**IES FLOOD REPORT**  
**PHOTOMETRIC FILENAME : L021606503.IES**

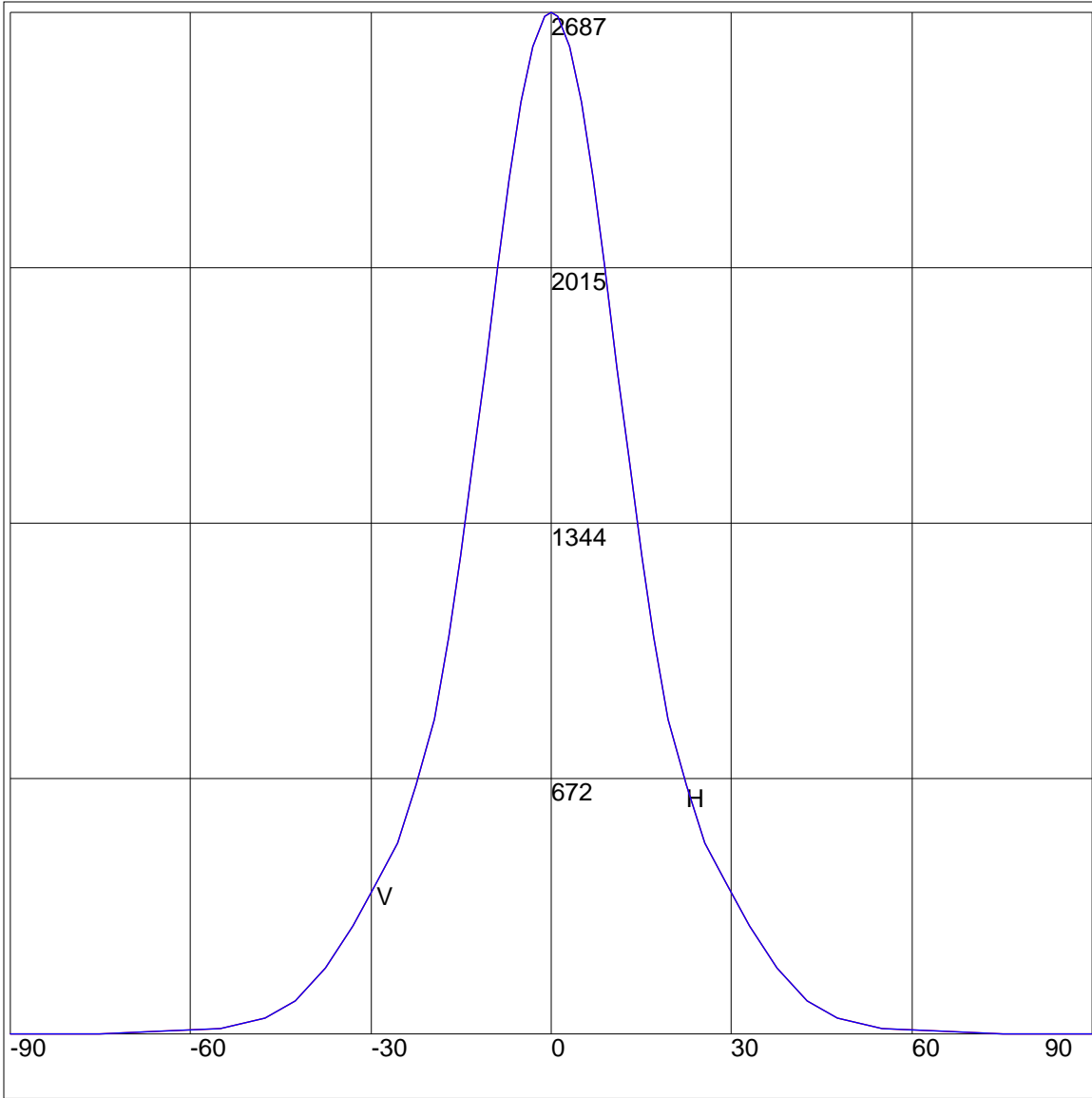
**AXIAL CANDELA**

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	2	75	2
65	7	65	7
55	16	55	16
47.5	42	47.5	42
42.5	87	42.5	87
37.5	176	37.5	176
33	287	33	287
29	398	29	398
25.5	505	25.5	505
22.5	654	22.5	654
19.5	827	19.5	827
17	1046	17	1046
15	1258	15	1258
13	1498	13	1498
11	1754	11	1754
9	2011	9	2011
7	2251	7	2251
5	2453	5	2453
3	2598	3	2598
1	2676	1	2676
0	2687	0	2687
-1	2676	-1	2676
-3	2598	-3	2598
-5	2453	-5	2453
-7	2251	-7	2251
-9	2011	-9	2011
-11	1754	-11	1754
-13	1498	-13	1498
-15	1258	-15	1258
-17	1046	-17	1046
-19.5	827	-19.5	827
-22.5	654	-22.5	654
-25.5	505	-25.5	505
-29	398	-29	398
-33	287	-33	287
-37.5	176	-37.5	176
-42.5	87	-42.5	87
-47.5	42	-47.5	42
-55	16	-55	16
-65	7	-65	7
-75	2	-75	2
-85	0	-85	0
-90	0	-90	0

**ZONAL LUMEN SUMMARY**

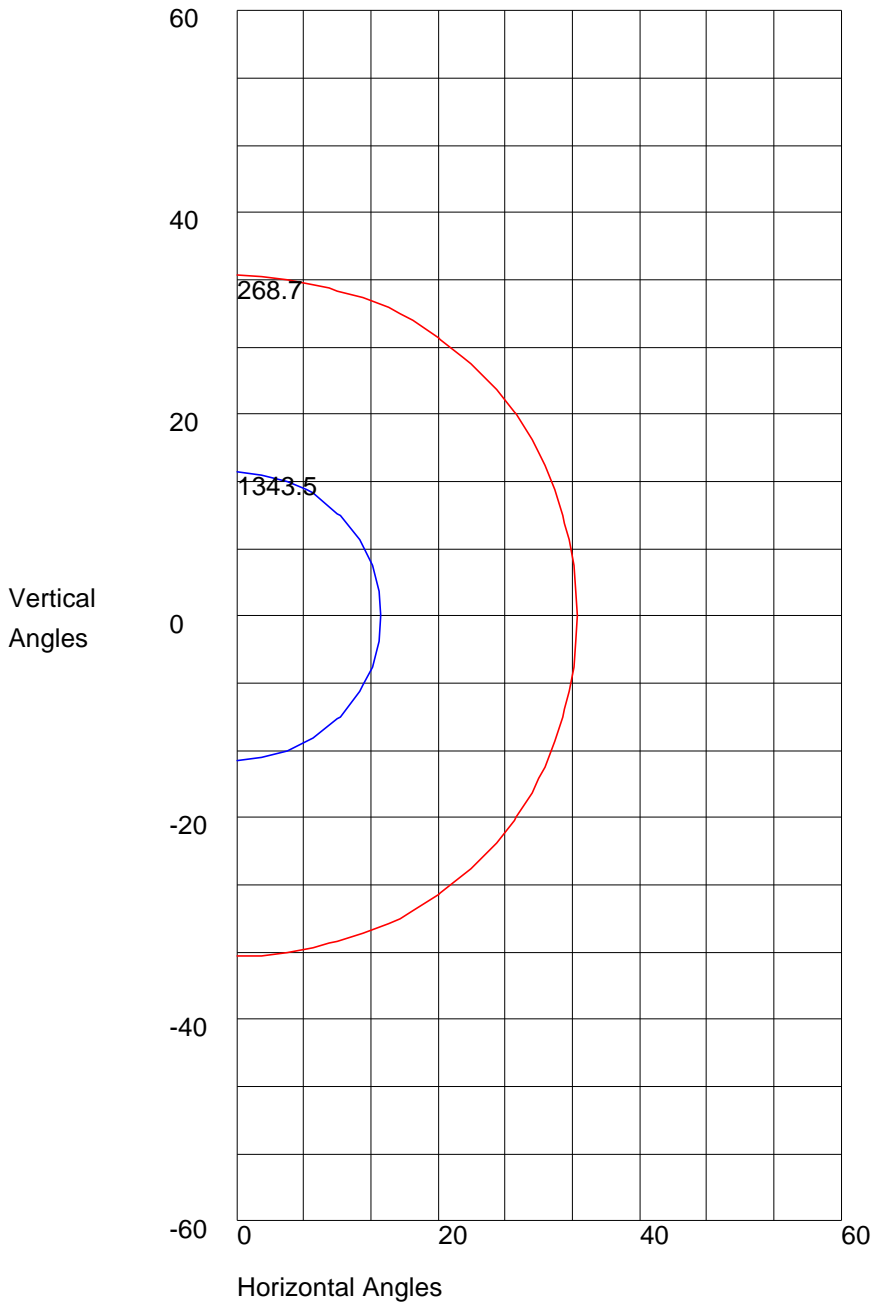
Zone	%
0-20	54.5
0-30	78.6
0-40	92.8
0-60	99.1
0-80	100
0-90	100
10-90	79.2
20-40	38.4
20-50	43.1
40-70	7
60-80	0.9
70-80	0.2
80-90	0
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 2687 Located At Horizontal Angle = 0, Vertical Angle = 0  
H - Horizontal Axial Candela  
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 2687 Located At Horizontal Angle = 0, Vertical Angle = 0  
50% Maximum Candela = 1343.5  
10% Maximum Candela = 268.7