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Report No: L021606606

Date: 3/3/2016



NVLAP LAB CODE 200927-0

Report No: L021606606

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

Model Number: 1185-B-WF-30-C-MV-CX-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 1185-B-WF-30-C-MV-CX-ND . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 2/22/16

Date of Tests: 2/29/16 - 2/29/16

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

Manufacturer:	Vista Professional Outdoor Lighting
Model Number:	1185-B-WF-30-C-MV-CX-ND
Driver Model Number:	ERP ESS030W-0620-42
Total Lumens:	1625.10
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.22
Input Power (W):	25.69
Input Power Factor:	0.99
Current ATHD @ 120V(%):	12%
Current ATHD @ 277V(%):	N/A
Efficacy:	63
Color Rendering Index (CRI):	84
Correlated Color Temperature (K):	3079
Chromaticity Coordinate x:	0.4313
Chromaticity Coordinate y:	0.4019
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:00
Off State Power(W):	0.00

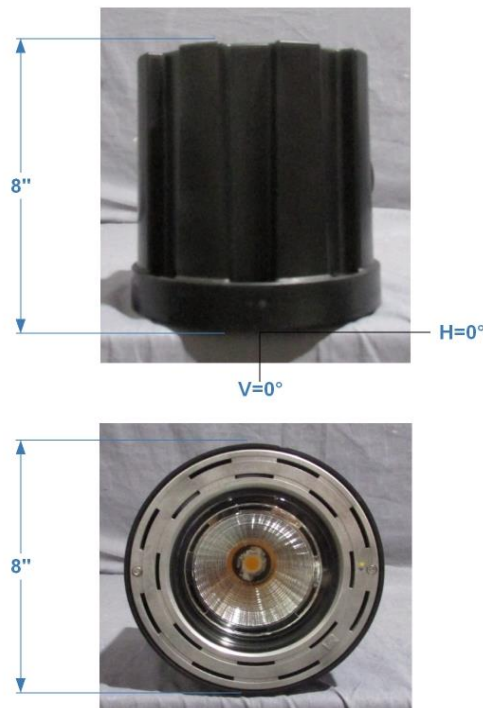
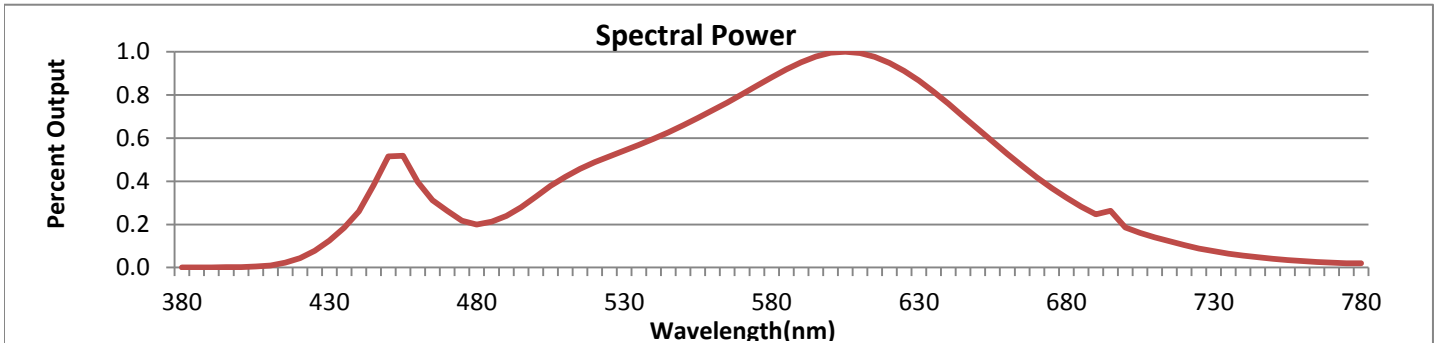


FIG. 1 LUMINAIRE

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



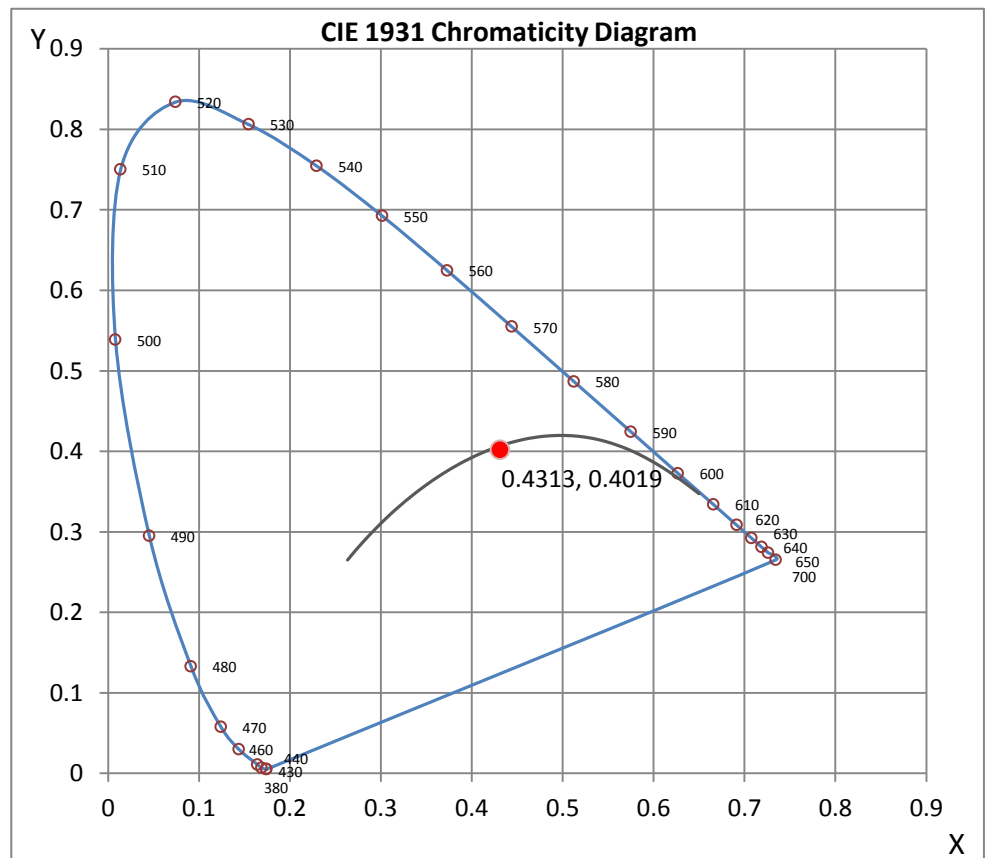
Wavelength	W/m ² nm	440	0.0049	510	0.0079	580	0.0164	650	0.0120	720	0.0019
380	0.0000	450	0.0096	520	0.0091	590	0.0178	660	0.0098	730	0.0014
390	0.0000	460	0.0074	530	0.0101	600	0.0186	670	0.0078	740	0.0010
400	0.0000	470	0.0049	540	0.0111	610	0.0186	680	0.0060	750	0.0008
410	0.0002	480	0.0037	550	0.0123	620	0.0177	690	0.0046	760	0.0006
420	0.0008	490	0.0045	560	0.0136	630	0.0162	700	0.0035	770	0.0004
430	0.0023	500	0.0061	570	0.0150	640	0.0142	710	0.0026	780	0.0004

CRI & CCT

x	0.4313
y	0.4019
u'	0.2479
v'	0.5197
CRI	84.00
CCT	3079
Duv	-0.00007

R Values

R1	82.51
R2	90.77
R3	96.80
R4	82.30
R5	82.14
R6	87.99
R7	85.33
R8	64.18
R9	17.60
R10	78.21
R11	81.05
R12	70.76
R13	84.34
R14	98.20



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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 : JEFF AHN

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 : L021606606.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L021606606
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 3/3/2016
[MANUFAC] VISTA PROFESSIONAL OUTDOOR LIGHTING
[LUMCAT] 1185-B-WF-30-C-MV-CX-ND
[LUMINAIRE] 8"DIA. X 8"H. LED Ingrade, WF Distribution
[BALLASTCAT] ERP ESS030W-0620-42
[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, 25.69W
[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	3879
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	38.2
Vertical Beam Angle (50%)	38.2
Horizontal Field Angle (10%)	56.0
Vertical Field Angle (10%)	56.0
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	1094
Beam Efficiency	N.A.
Field Lumens	1501
Field Efficiency	N.A.
Spill Lumens	124
Luminaire Lumens	1625
Total Efficiency	N.A.
Total Luminaire Watts	25.69
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L021606606.IES

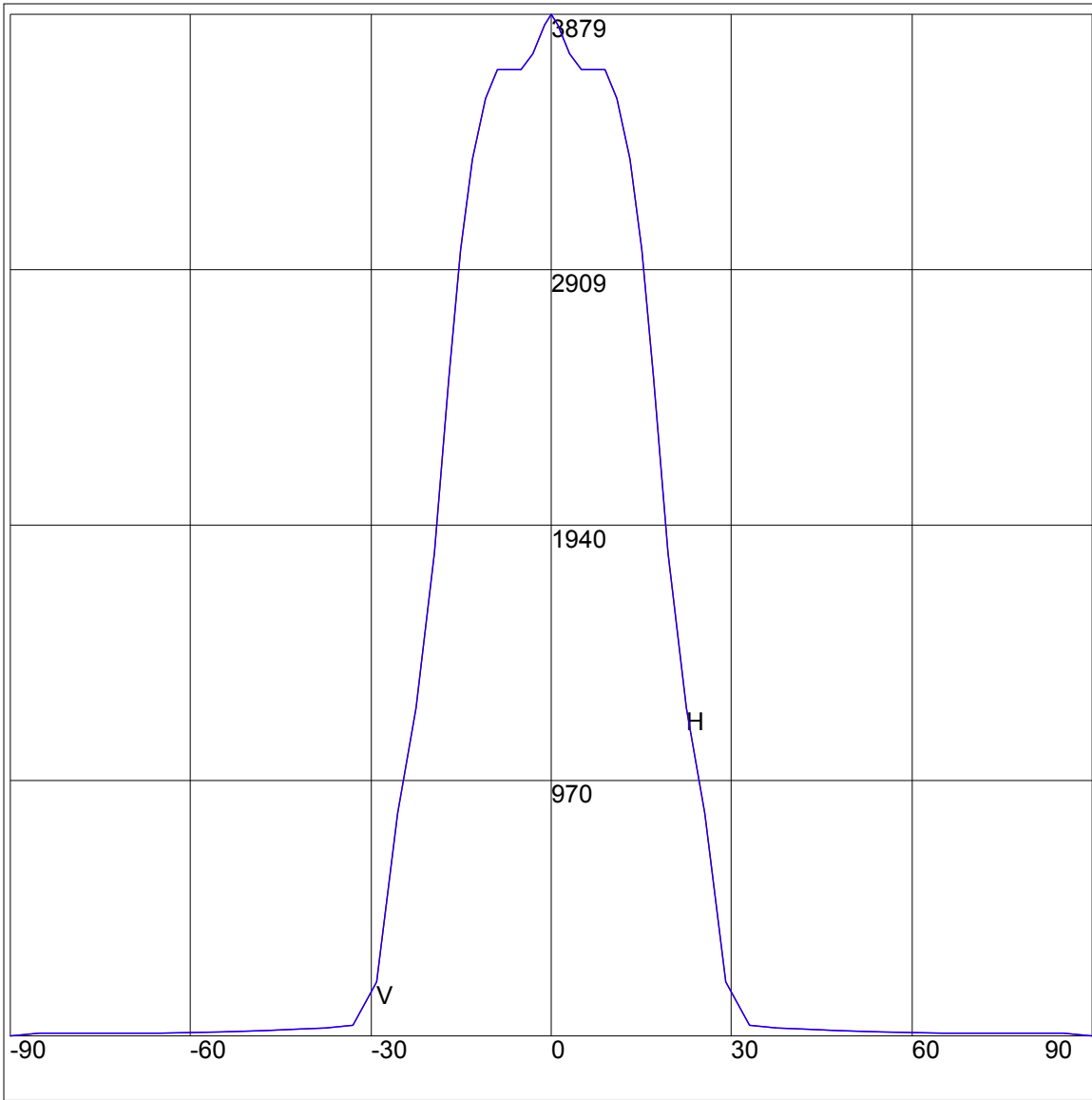
AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	10	85	10
75	11	75	11
65	13	65	13
55	16	55	16
47.5	22	47.5	22
42.5	26	42.5	26
37.5	33	37.5	33
33	44	33	44
29	208	29	208
25.5	845	25.5	845
22.5	1245	22.5	1245
19.5	1838	19.5	1838
17	2502	17	2502
15	2986	15	2986
13	3329	13	3329
11	3557	11	3557
9	3667	9	3667
7	3669	7	3669
5	3667	5	3667
3	3731	3	3731
1	3840	1	3840
0	3879	0	3879
-1	3840	-1	3840
-3	3731	-3	3731
-5	3667	-5	3667
-7	3669	-7	3669
-9	3667	-9	3667
-11	3557	-11	3557
-13	3329	-13	3329
-15	2986	-15	2986
-17	2502	-17	2502
-19.5	1838	-19.5	1838
-22.5	1245	-22.5	1245
-25.5	845	-25.5	845
-29	208	-29	208
-33	44	-33	44
-37.5	33	-37.5	33
-42.5	26	-42.5	26
-47.5	22	-47.5	22
-55	16	-55	16
-65	13	-65	13
-75	11	-75	11
-85	10	-85	10
-90	0	-90	0

ZONAL LUMEN SUMMARY

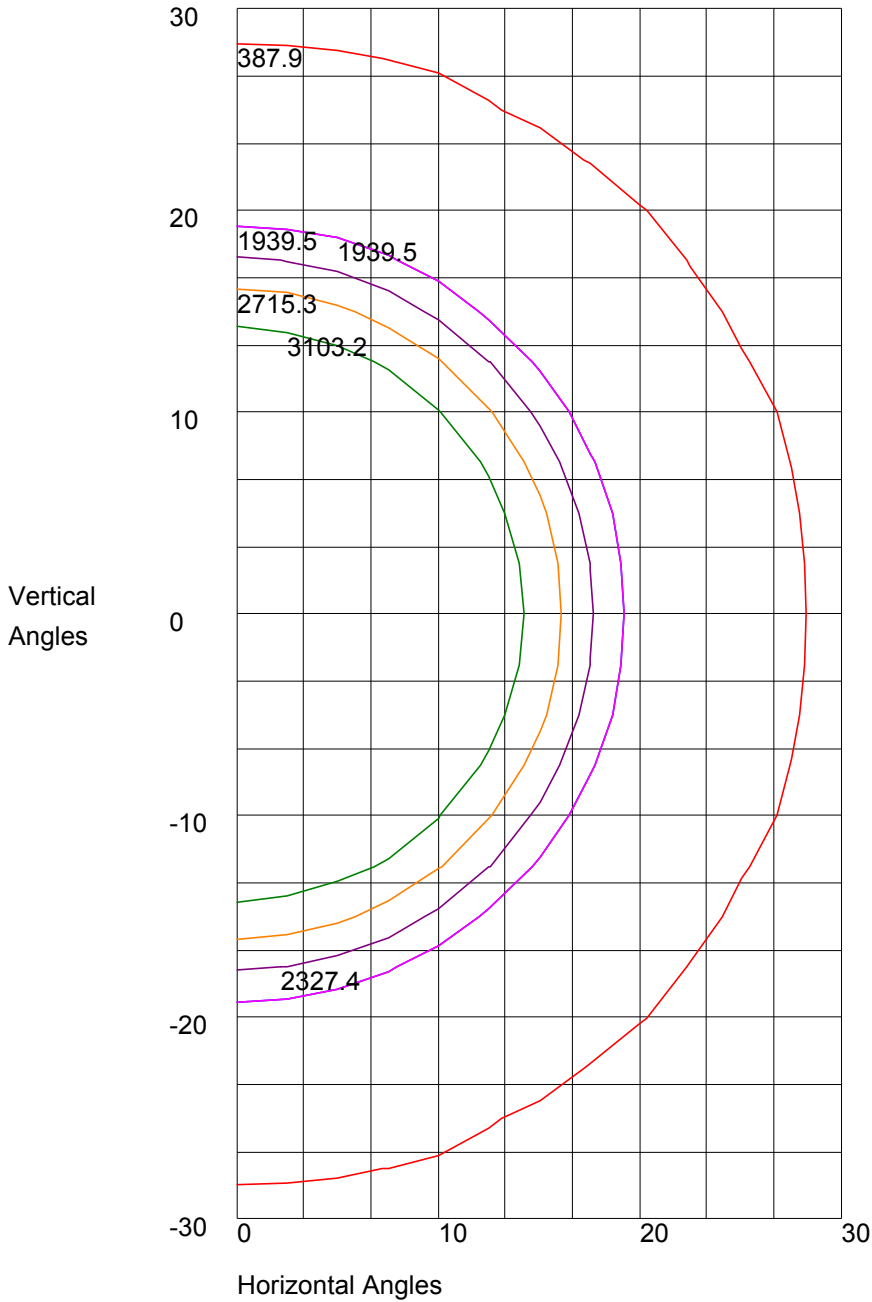
Zone	%
0-20	67.7
0-30	93.1
0-40	95.6
0-60	97.5
0-80	99.1
0-90	100
10-90	82.4
20-40	27.9
20-50	29.1
40-70	2.8
60-80	1.6
70-80	0.8
80-90	0.9
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

AXIAL CANDELA DISPLAY



Maximum Candela = 3879 Located At Horizontal Angle = 0, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 3879 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 1939.5
10% Maximum Candela = 387.9