



8165 E Kaiser Blvd. Anaheim, CA 92808
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Test #: L061402510

Date: 6/16/2014



NVLAP LAB CODE 200927-0

Test Report: L061402510

Model Number: LED MV120V R30 14W 5K FL

Report Prepared For: Moon Visions Lighting
 780 S. Floyd Rd., Suite 2B, Richardson, TX 75080

Test: Electrical and Photometric tests as required by the IESNA test standards.

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. Fixture catalog number is LED MV120V R30 14W 5K FL .
 Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Photometry (IES file) and LM-79 report is from the previous Light Laboratory test L051409115.

Sample Arrival Date: 5/16/14

Date of Tests: 6/4/14 - 6/9/14

Seasoning of Sample SSL: 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	01/04/15
Xitron Power Analysis System	2503AH	MT-EL01	01/09/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/15
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/15
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.

LM-79 Test Summary

Manufacturer:	Moon Visions Lighting
Model Number:	LED MV120V R30 14W 5K FL
LAMPCAT:	N/A
Driver Model Number:	N/A
Total Lumens:	1388.88
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.13
Input Power (W):	14.14
Input Power Factor:	0.91
Total Harmonic Distortion @ 120V(%):	17%
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	98
Color Rendering Index (CRI):	84
Correlated Color Temperature (K):	5234
Chromaticity Coordinate x:	0.3391
Chromaticity Coordinate y:	0.3512
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:30
Off State Power(W):	0.00

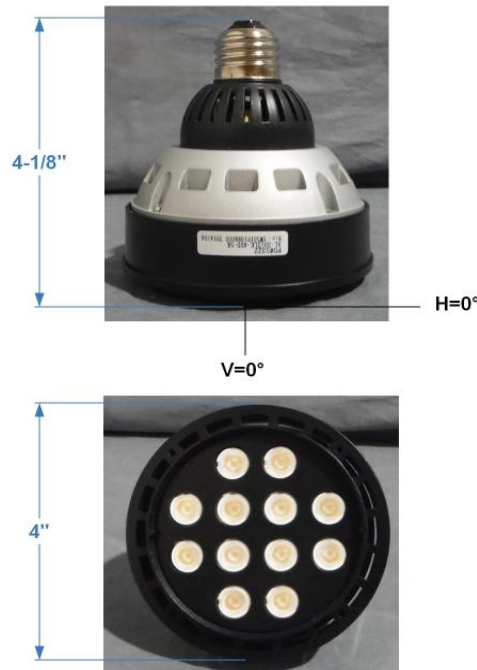
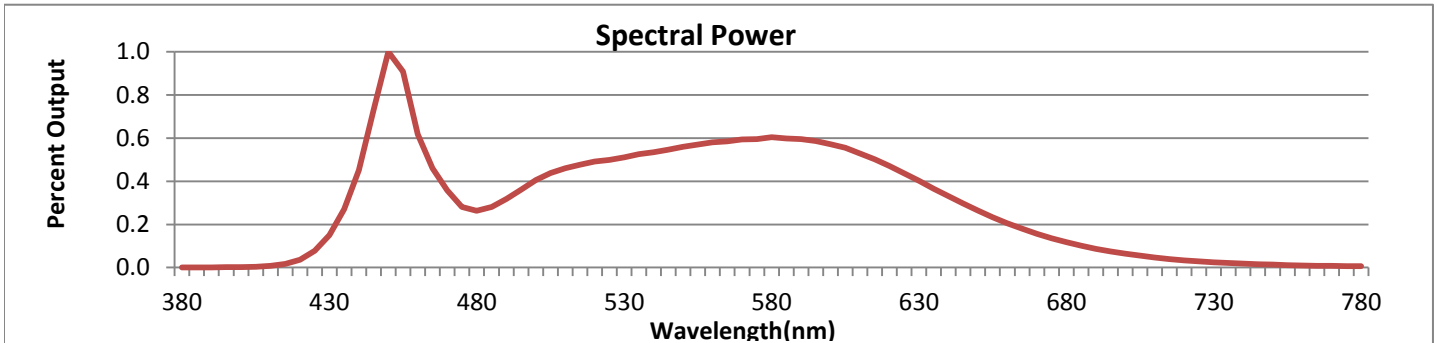


FIG.1 LUMINAIRE

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



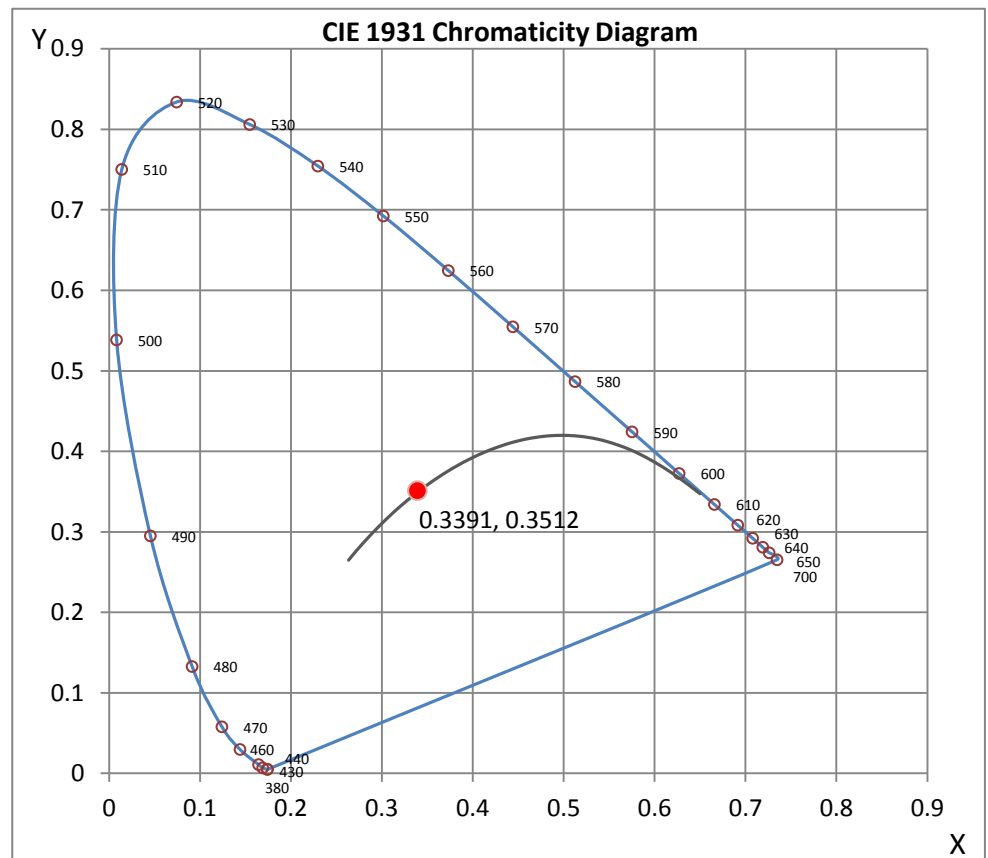
Wavelength	W/m ² nm	440	0.0142	510	0.0145	580	0.0191	650	0.0083	720	0.0011
380	0.0000	450	0.0315	520	0.0155	590	0.0188	660	0.0065	730	0.0008
390	0.0000	460	0.0195	530	0.0161	600	0.0180	670	0.0050	740	0.0006
400	0.0001	470	0.0113	540	0.0169	610	0.0167	680	0.0037	750	0.0004
410	0.0002	480	0.0083	550	0.0177	620	0.0148	690	0.0027	760	0.0003
420	0.0011	490	0.0100	560	0.0183	630	0.0127	700	0.0020	770	0.0002
430	0.0047	500	0.0128	570	0.0187	640	0.0104	710	0.0015	780	0.0002

CRI & CCT

x	0.3391
y	0.3512
u'	0.2075
v'	0.4836
CRI	83.50
CCT	5234
Duv	0.00228

R Values

R1	81.60
R2	89.03
R3	93.66
R4	83.07
R5	82.51
R6	84.25
R7	86.71
R8	66.93
R9	6.43
R10	73.88
R11	82.63
R12	63.81
R13	83.63
R14	96.53



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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 : Wilson Khounlavong

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 : L061402510.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L061402510
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 6/16/2014
[MANUFAC] MOON VISIONS LIGHTING
[LUMCAT] LED MV120V R30 14W 5K FL
[LUMINAIRE] 4"DIA. X 4-1/8"H. LED LAMP
[MORE] NO LENS
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] CANDELA AND ELECTRICAL VALUES ARE FROM
[MORE] LIGHT LABORATORY TEST L051409115
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 14.14W
[TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

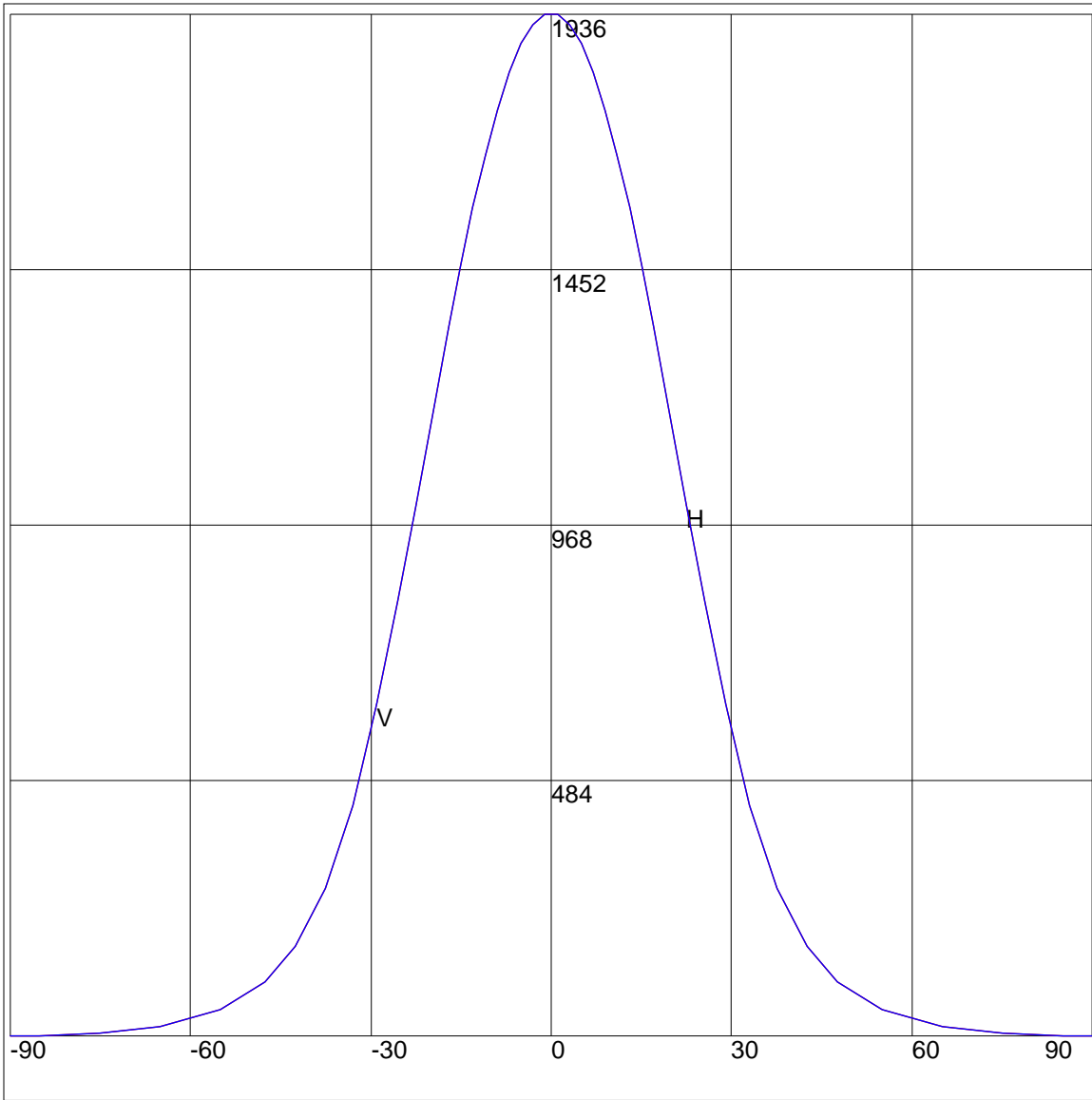
NEMA Type	5 H x 5 V
Maximum Candela	1936
Maximum Candela Angle	-1H 0V
Horizontal Beam Angle (50%)	46.3
Vertical Beam Angle (50%)	46.3
Horizontal Field Angle (10%)	82.9
Vertical Field Angle (10%)	82.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	704
Beam Efficiency	N.A.
Field Lumens	1226
Field Efficiency	N.A.
Spill Lumens	163
Luminaire Lumens	1389
Total Efficiency	N.A.
Total Luminaire Watts	14.14
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L061402510.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	0	85	0
75	6	75	6
65	18	65	18
55	50	55	50
47.5	104	47.5	104
42.5	171	42.5	171
37.5	281	37.5	281
33	437	33	437
29	629	29	629
25.5	824	25.5	824
22.5	1006	22.5	1006
19.5	1195	19.5	1195
17	1345	17	1345
15	1460	15	1460
13	1569	13	1569
11	1668	11	1668
9	1755	9	1755
7	1827	7	1827
5	1880	5	1880
3	1917	3	1917
1	1936	1	1936
0	1935	0	1935
-1	1936	-1	1936
-3	1917	-3	1917
-5	1880	-5	1880
-7	1827	-7	1827
-9	1755	-9	1755
-11	1668	-11	1668
-13	1569	-13	1569
-15	1460	-15	1460
-17	1345	-17	1345
-19.5	1195	-19.5	1195
-22.5	1006	-22.5	1006
-25.5	824	-25.5	824
-29	629	-29	629
-33	437	-33	437
-37.5	281	-37.5	281
-42.5	171	-42.5	171
-47.5	104	-47.5	104
-55	50	-55	50
-65	18	-65	18
-75	6	-75	6
-85	0	-85	0
-90	0	-90	0

AXIAL CANDELA DISPLAY

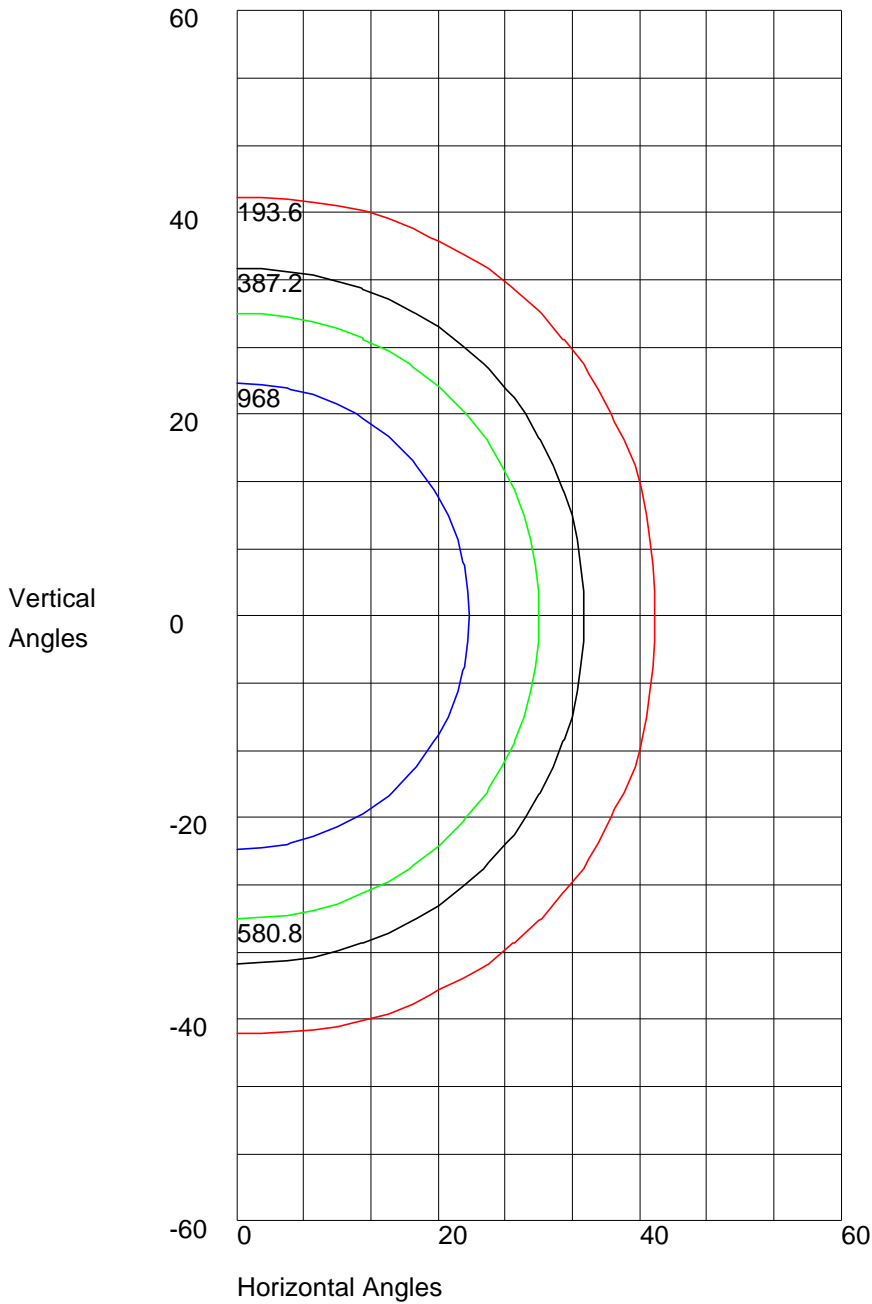


Maximum Candela = 1936 Located At Horizontal Angle = -1, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 1936 Located At Horizontal Angle = -1, Vertical Angle = 0
50% Maximum Candela = 968
10% Maximum Candela = 193.6