LIGHT LABORATORY INC.
8165 E Kaiser Blvd.
Anaheim, CA 92808
www.lightlaboratory.com

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L022112401 **Issue Date: 2/25/2021**

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

Model Number: 1059-XX-MF-30-I-MV-ND

Test: Photometric/Colorimetric/Electrical Test

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. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 2/24/21

Date of Tests: 2/24/21 - 2/25/21

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-S4	1/9/22
BK PRECISION	1747	PS-DC04	1/10/22
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/22
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

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General Information	
Manufacturer:	USTE dba Vista Professioinal Outdoor Lighting
Model Number:	1059-XX-MF-30-I-MV-ND
Driver Model Number:	ERP SLM120W-2.0-56-TA

Test Summary	
Total Lumens:	10708.36
Efficacy:	95.03
Color Redering Index:	82.5
Correlated Color Temperature:	3098
Input Voltage (VAC/60Hz):	120.01
Input Current (Amp):	0.9522
Input Power (W):	112.68
Input Power Factor:	0.9861
Current ATHD (%):	9.7%

Test Condition	
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:00
Total Operating Time (Hours):	1:40

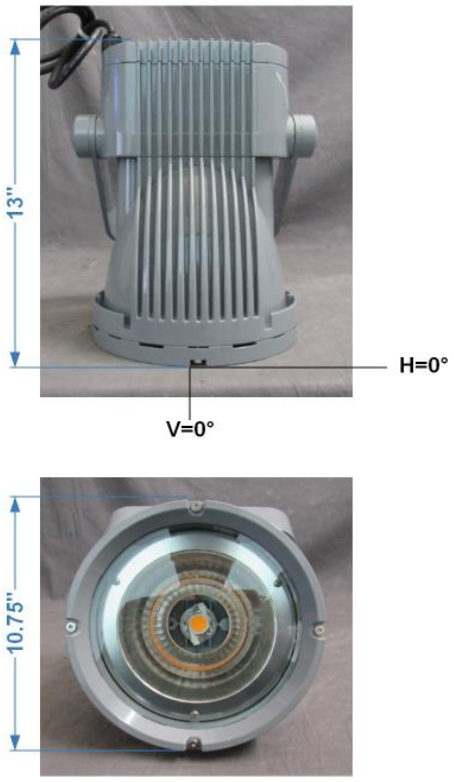

FIG. 1 LUMINAIRE

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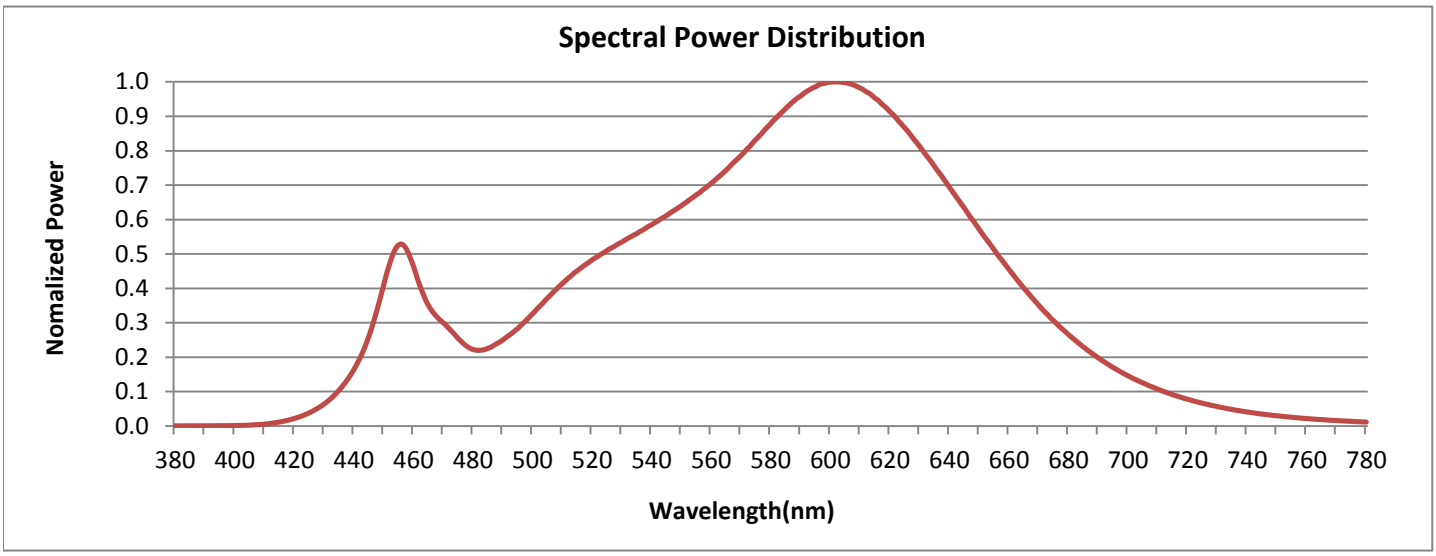
Colorimetry Test Results

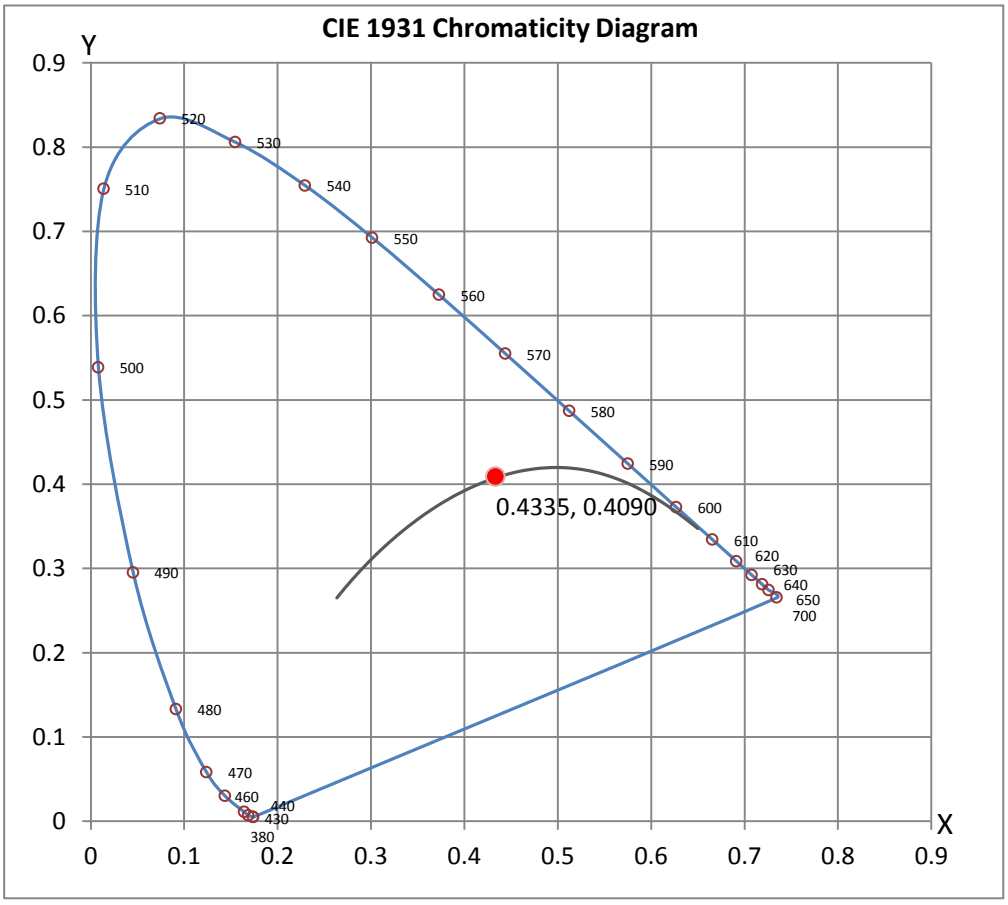


CRI & CCT

x	0.4335
y	0.4090
u'	0.2463
v'	0.5228
CRI	82.50
CCT	3098
Duv	0.00245

R Values

R1	80.51
R2	90.62
R3	97.07
R4	80.11
R5	80.57
R6	88.83
R7	83.24
R8	58.90
R9	5.73
R10	78.25
R11	78.86
R12	67.46
R13	82.90
R14	98.86
R15	72.73



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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^{o}C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25^{o}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^{o}C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25^{o}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 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 : L022112401.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022112401
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 2/25/2021
[MANUFAC] USTE dba Vista Professioinal Outdoor Lighting
[LUMCAT] 1059-XX-MF-30-I-MV-ND
[LUMINAIRE] LED FLOODLIGHT
[BALLASTCAT] ERP SLM120W-2.0-56-TA
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120.01VAC, 112.68W
[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	11300
Maximum Candela Angle	-11H -5V
Horizontal Beam Angle (50%)	57.2
Vertical Beam Angle (50%)	60.3
Horizontal Field Angle (10%)	73.1
Vertical Field Angle (10%)	75.0
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	8619
Beam Efficiency	N.A.
Field Lumens	9995
Field Efficiency	N.A.
Spill Lumens	714
Luminaire Lumens	10708
Total Efficiency	N.A.
Total Luminaire Watts	112.68
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L022112401.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	23	85	23
75	34	75	34
65	67	65	67
55	141	55	141
47.5	284	47.5	284
42.5	462	42.5	462
37.5	1188	37.5	1188
33	3466	33	3466
29	7123	29	7123
25.5	10117	25.5	10117
22.5	10796	22.5	10796
19.5	11138	19.5	11138
17	11069	17	11069
15	11104	15	11104
13	11237	13	11237
11	11266	11	11266
9	11115	9	11115
7	10840	7	10840
5	10455	5	10455
3	10473	3	10473
1	10530	1	10530
0	10539	0	10539
-1	10530	-1	10530
-3	10473	-3	10473
-5	10455	-5	10455
-7	10840	-7	10840
-9	11115	-9	11115
-11	11266	-11	11266
-13	11237	-13	11237
-15	11104	-15	11104
-17	11069	-17	11069
-19.5	11138	-19.5	11138
-22.5	10796	-22.5	10796
-25.5	10117	-25.5	10117
-29	7123	-29	7123
-33	3466	-33	3466
-37.5	1188	-37.5	1188
-42.5	462	-42.5	462
-47.5	284	-47.5	284
-55	141	-55	141
-65	67	-65	67
-75	34	-75	34
-85	23	-85	23
-90	0	-90	0

ZONAL LUMEN SUMMARY

Zone	%
0-20	39.3
0-30	80.5
0-40	94.9
0-60	98.8
0-80	99.8
0-90	100
10-90	90.3
20-40	55.6
20-50	58.3
40-70	4.6
60-80	1
70-80	0.3
80-90	0.2
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES FLOOD REPORT
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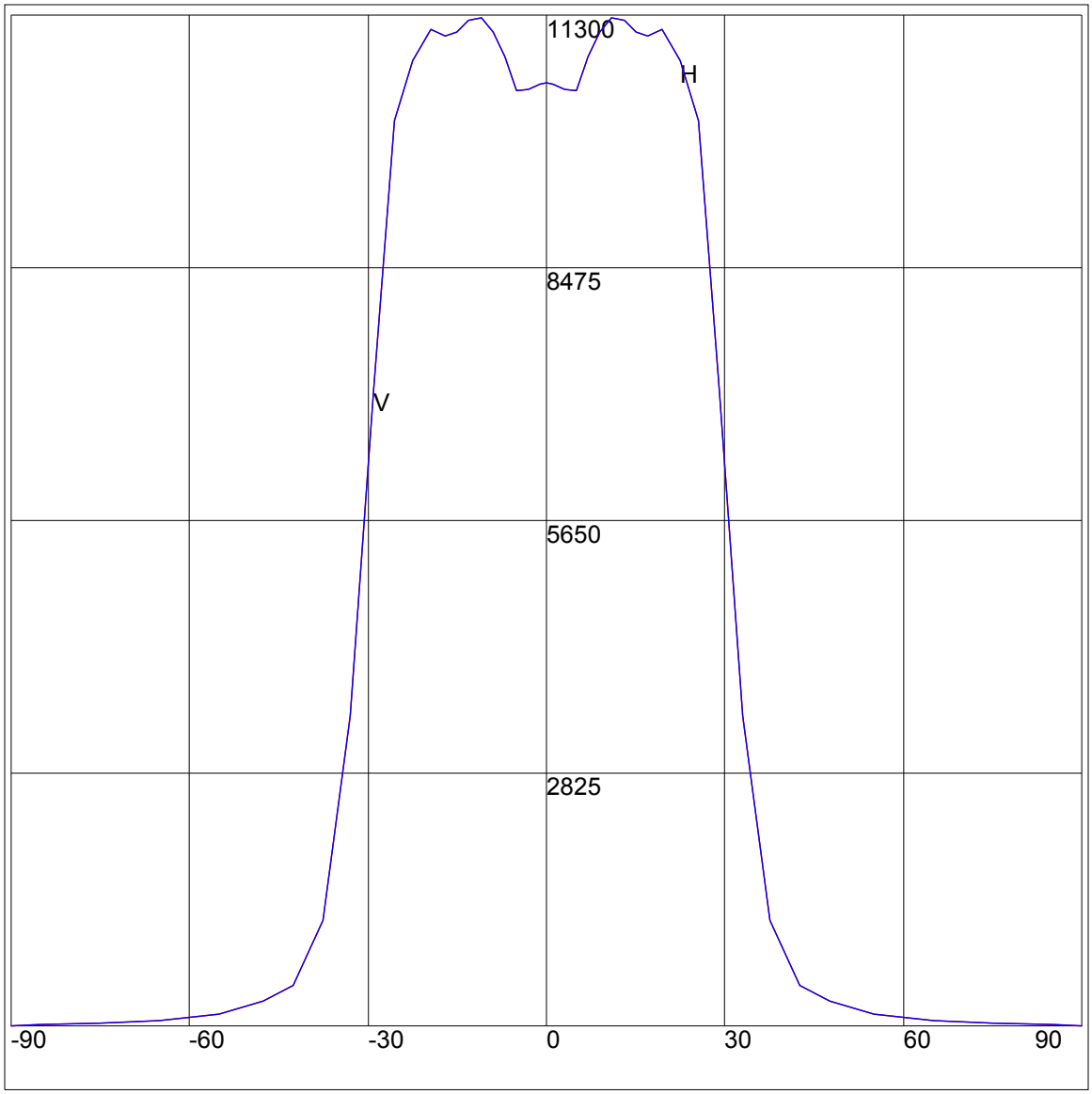
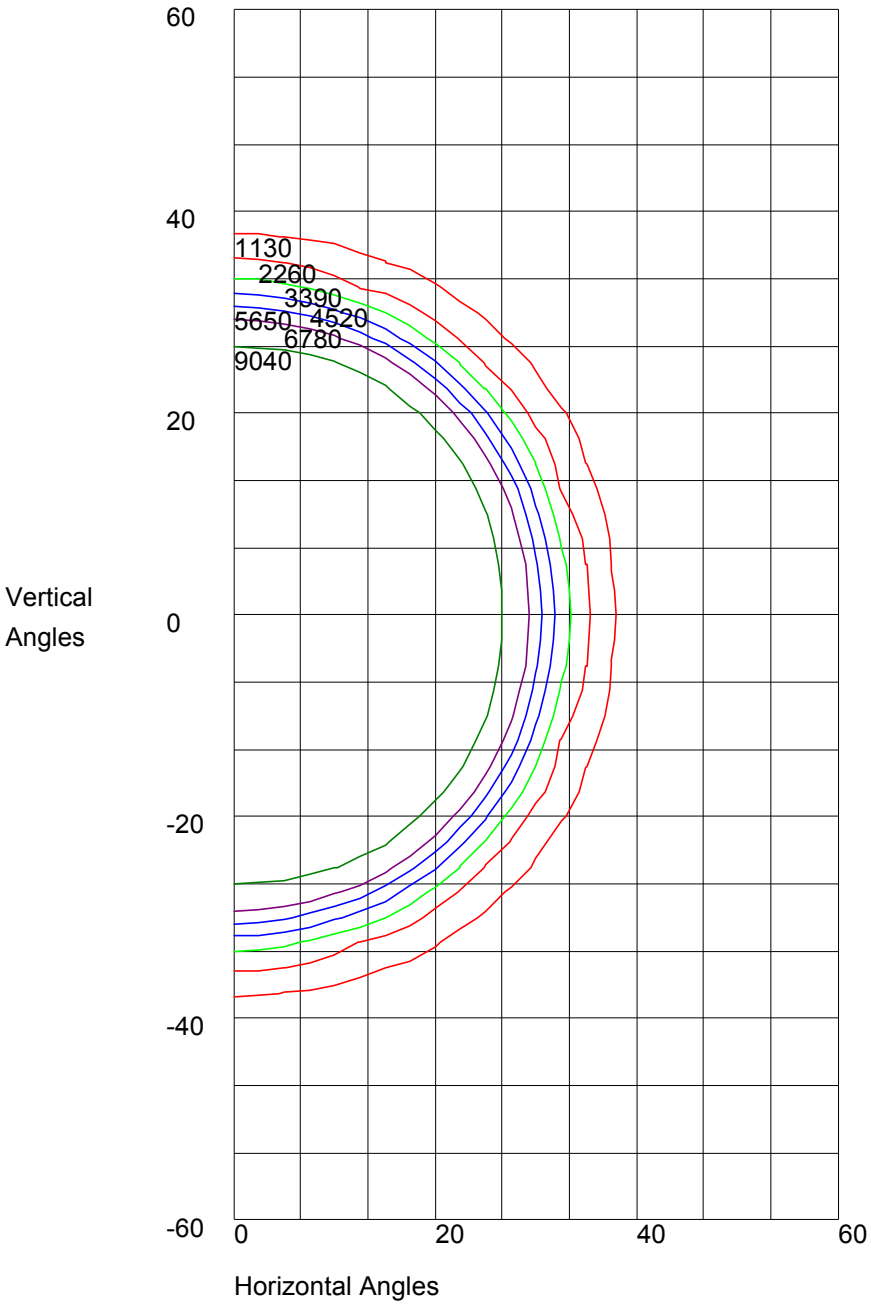
AXIAL CANDELA DISPLAY



Maximum Candela = 11300 Located At Horizontal Angle =-11, Vertical Angle =-5
H - Horizontal Axial Candela
V - Vertical Axial Candela

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L022112401.IES

ISOCANDELA CURVES



Maximum Candela = 11300 Located At Horizontal Angle =-11, Vertical Angle =-5
50% Maximum Candela = 5650
10% Maximum Candela = 1130