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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L072112809R01 **Issue Date: 9/13/2021**

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

Model Number: 1141-X-WF-30-B-MV-ND

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:

IESNA LM79: 2019 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2017 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77-10:2014: 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: 7/29/21

Date of Tests: 8/18/21 - 8/19/21

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	4/7/23
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	3/17/23
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:	1141-X-WF-30-B-MV-ND
Driver Model Number:	ERP ESS020W-1400-14

Test Summary	
Total Lumens:	1603.70
Efficacy:	84.14
Color Redering Index:	81.5
Correlated Color Temperature:	3128
Input Voltage (VAC/60Hz):	119.99
Input Current (Amp):	0.1624
Input Power (W):	19.06
Input Power Factor:	0.9780
Current ATHD (%):	10.3%

Test Condition	
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:00

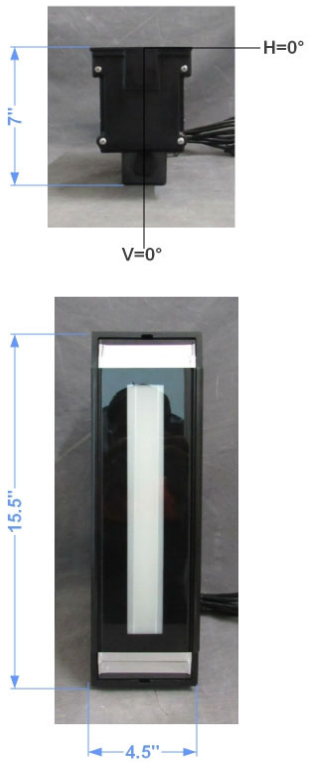

FIG. 1 LUMINAIRE

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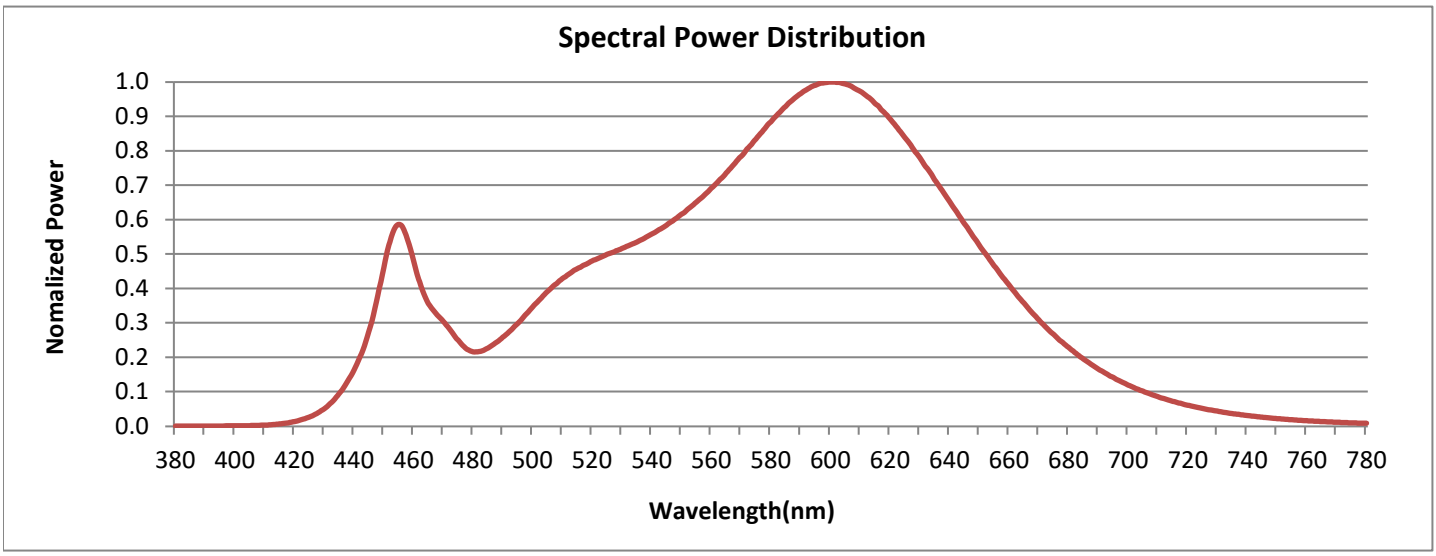
Colorimetry Test Results

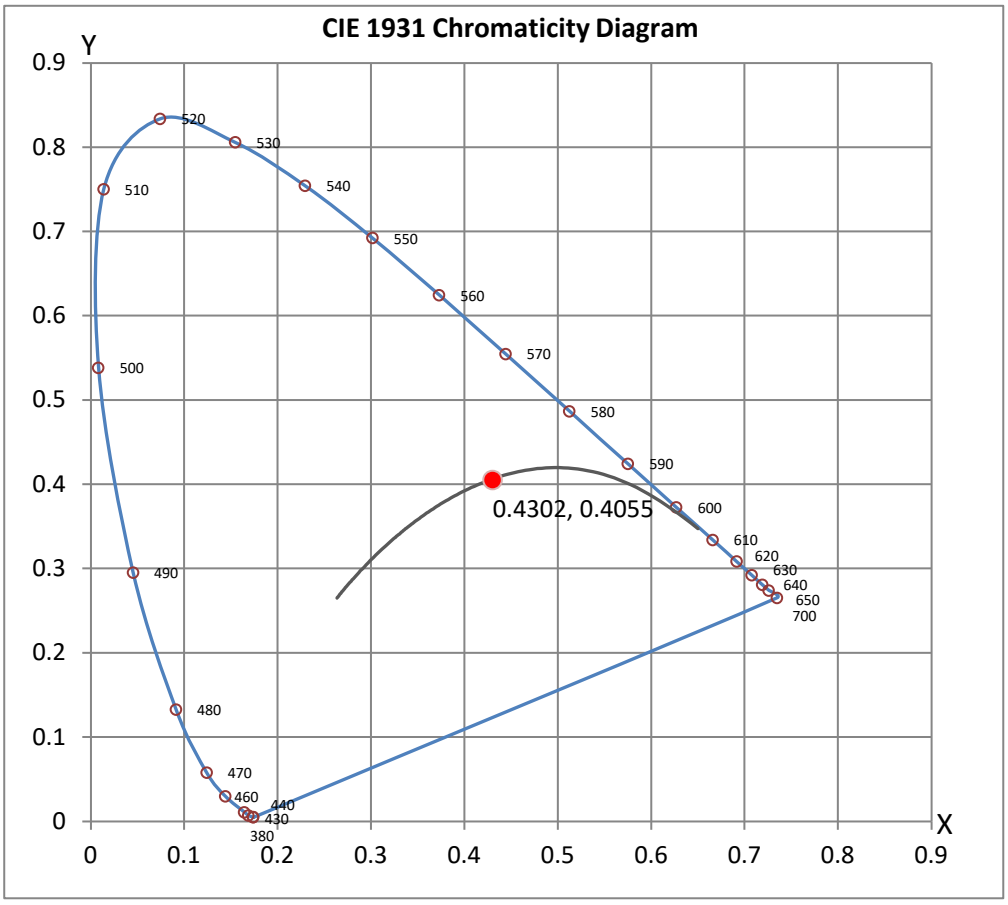


CRI & CCT

x	0.4302
y	0.4055
u'	0.2456
v'	0.5209
CRI	81.50
CCT	3128
Duv	0.00156

R Values

R1	79.67
R2	91.03
R3	95.29
R4	79.05
R5	80.37
R6	89.80
R7	81.22
R8	55.63
R9	-0.85
R10	80.02
R11	78.49
R12	68.47
R13	82.47
R14	97.96
R15	71.16



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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:

The results related only to the samples as received and tested. This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government.

Report Prepared by : Kunjan Modi

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports.*

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Photometric Test Report

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L072112809R01.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L072112809
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/25/21
[MANUFAC] USTE dba Vista Professioinal Outdoor Lighting
[LUMCAT] 1141-X-WF-30-B-MV-ND
[LUMINAIRE] LED LUMINAIRE
[BALLASTCAT] ERP ESS020W-1400-14
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 119.99VAC
[TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

NEMA Type	7 H x 7 V
Maximum Candela	719.26
Maximum Candela Angle	0H -19.5V
Horizontal Beam Angle (50%)	80.9
Vertical Beam Angle (50%)	91.7
Horizontal Field Angle (10%)	150.6
Vertical Field Angle (10%)	150.2
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	1034
Beam Efficiency	N.A.
Field Lumens	1556
Field Efficiency	N.A.
Spill Lumens	48
Luminaire Lumens	1605
Total Efficiency	N.A.
Total Luminaire Watts	19.06
Ballast Factor	1.00

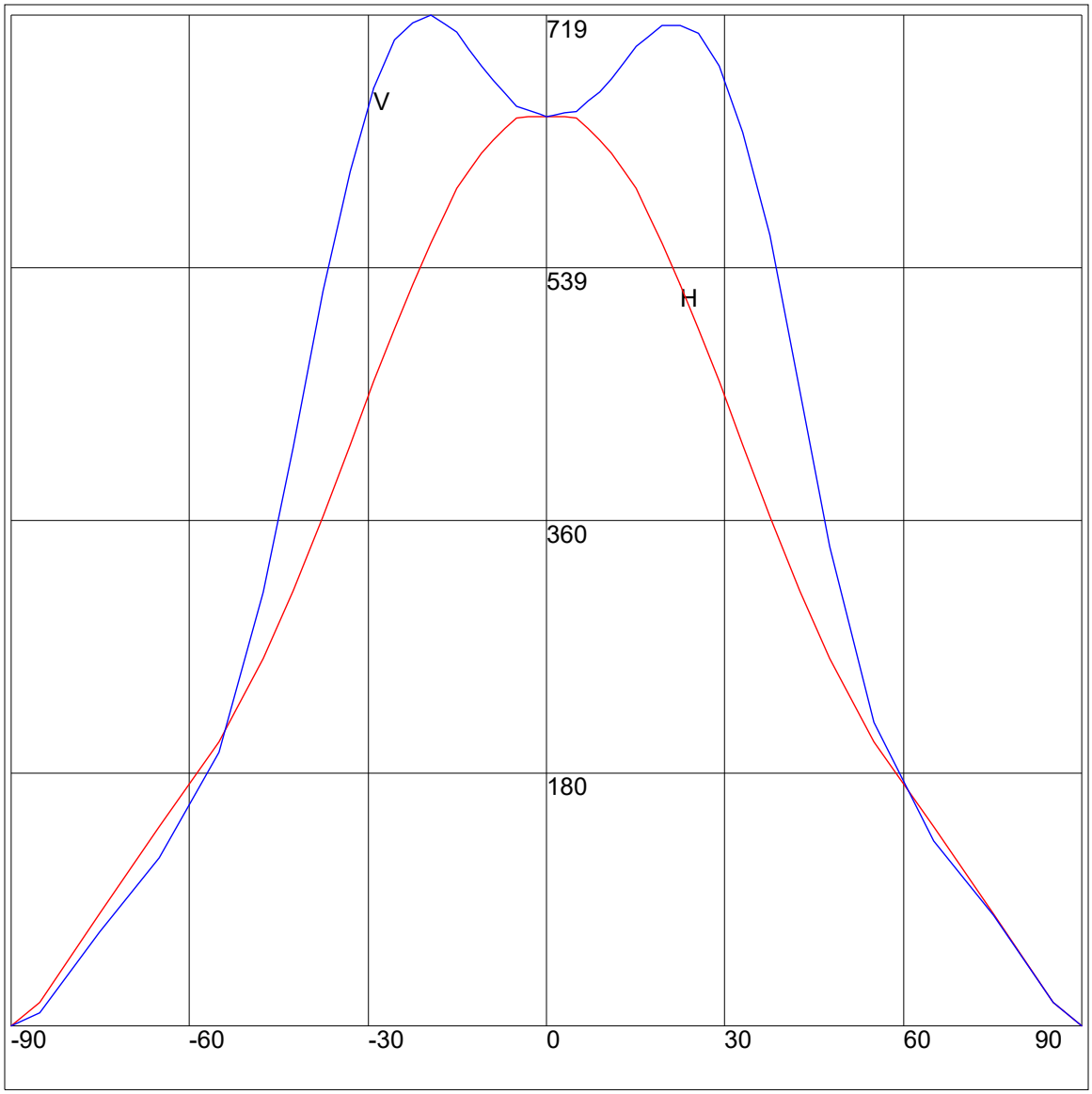
IES FLOOD REPORT
PHOTOMETRIC FILENAME : L072112809R01.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	.034	90	.034
85	17.189	85	17.053
75	80.148	75	78.716
65	142.084	65	131.511
55	202.451	55	215.957
47.5	261.59	47.5	341.193
42.5	309.611	42.5	452.65
37.5	362.747	37.5	562.333
33	413.456	33	635.947
29	458.516	29	682.794
25.5	496.475	25.5	706.668
22.5	527.579	22.5	711.512
19.5	557.517	19.5	711.389
17	578.799	17	703.613
15	595.825	15	697.391
13	608.239	13	685.823
11	620.654	11	674.254
9	630.654	9	665.005
7	638.239	7	658.074
5	645.824	5	651.144
3	646.626	3	649.818
1	646.93	1	647.994
0	647	0	647
-1	646.93	-1	648.649
-3	646.626	-3	651.782
-5	645.824	-5	654.418
-7	638.239	-7	663.695
-9	630.654	-9	672.972
-11	620.654	-11	683.558
-13	608.239	-13	695.454
-15	595.825	-15	707.35
-17	578.799	-17	712.644
-19.5	557.517	-19.5	719.26
-22.5	527.579	-22.5	713.557
-25.5	496.475	-25.5	701.689
-29	458.516	-29	667.788
-33	413.456	-33	607.844
-37.5	362.747	-37.5	522.907
-42.5	309.611	-42.5	411.723
-47.5	261.59	-47.5	308.588
-55	202.451	-55	195.221
-65	142.084	-65	119.643
-75	80.148	-75	67.12
-85	17.189	-85	9.686
-90	.034	-90	.019

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L072112809R01.IES

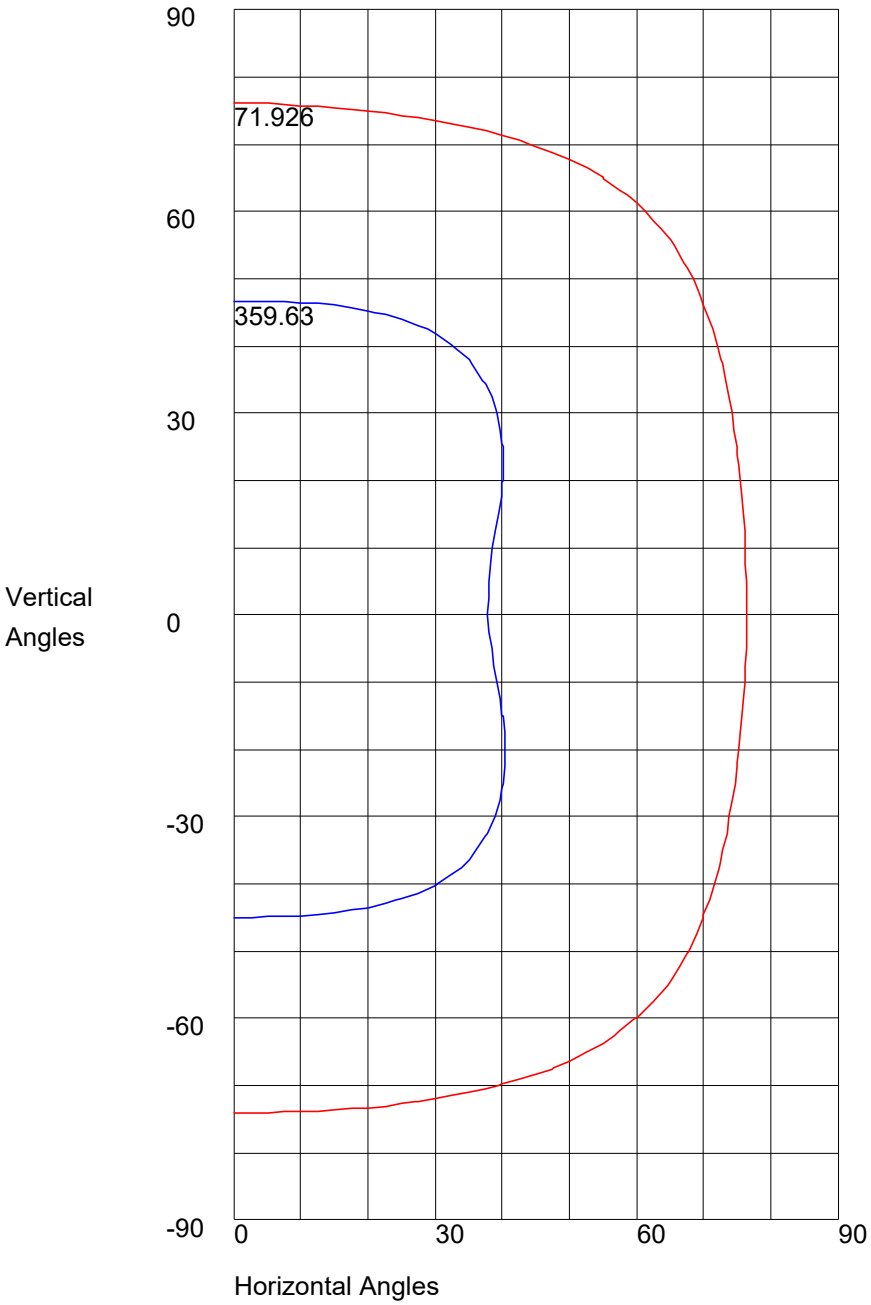
AXIAL CANDELA DISPLAY



Maximum Candela = 719.26 Located At Horizontal Angle = 0, Vertical Angle =-19.5
H - Horizontal Axial Candela
V - Vertical Axial Candela

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L072112809R01.IES

ISOCANDELA CURVES



Maximum Candela = 719.26 Located At Horizontal Angle = 0, Vertical Angle =-19.5
50% Maximum Candela = 359.63
10% Maximum Candela = 71.926