LIGHT LABORATORY INC.
8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270f. 714.676.5558

Test #: L10137603
Date: 10/30/2013

NVLAP LAB CODE 200927-0

Test Report: **L10137603**

Model Number: **cuepix strip ww**

Report Prepared For: ELATION LIGHTING
6122 S. EASTERN AVE, COMMERCE, CA 90040

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 cuepix strip ww. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 10/11/13

Date of Tests: 10/29/13 - 10/30/13

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	01/04/14
Xitron Power Analysis System	2503AH	MT-EL01	01/09/14
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/14
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.

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LM-79 Test Summary	
Manufacturer:	ELATION LIGHTING
Model Number:	cuepix strip ww
LAMPCAT:	N/A
Driver Model Number:	CUSTOM DRIVER
Total Lumens:	4628.92
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	1.00
Input Power (W):	119.37
Input Power Factor:	0.99
Total Harmonic Distortion @ 120V(%):	7%
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	39
Color Rendering Index (CRI):	66
Correlated Color Temperature (K):	2953
Chromaticity Coordinate x:	0.4556
Chromaticity Coordinate y:	0.4360
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	1:20
Total Operating Time (Hours):	2:30
Off State Power(W):	0.00

FIG1. LUMINAIRE

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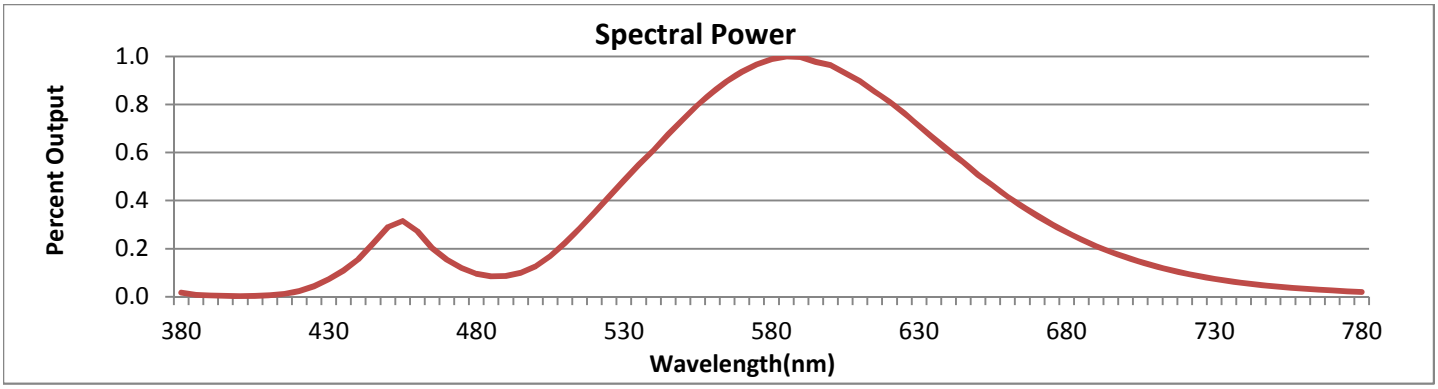


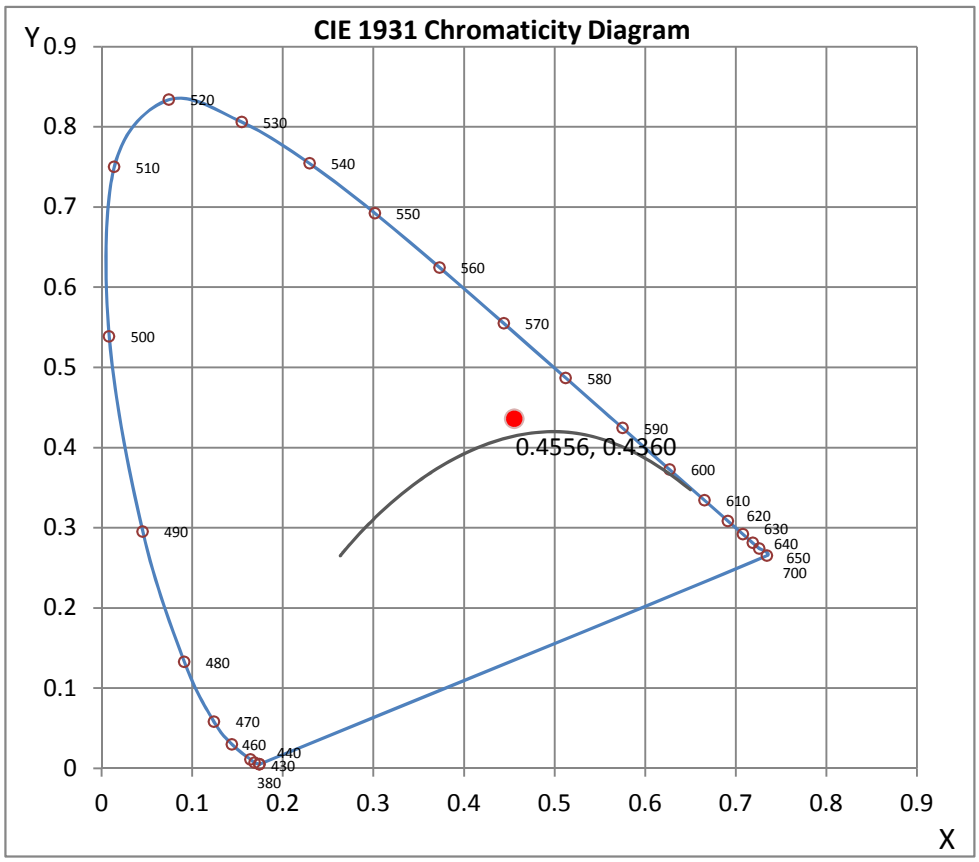
Wavelength	W/m²nm	440	0.0571	510	0.0818	580	0.3630	650	0.1863	720	0.0357
380	0.0061	450	0.1064	520	0.1282	590	0.3664	660	0.1531	730	0.0274
390	0.0017	460	0.1003	530	0.1773	600	0.3543	670	0.1236	740	0.0208
400	0.0009	470	0.0566	540	0.2242	610	0.3295	680	0.0988	750	0.0160
410	0.0020	480	0.0349	550	0.2707	620	0.2983	690	0.0773	760	0.0123
420	0.0086	490	0.0316	560	0.3125	630	0.2609	700	0.0605	770	0.0094
430	0.0269	500	0.0462	570	0.3439	640	0.2236	710	0.0468	780	0.0074

CRI & CCT

x	0.4556
y	0.4360
u'	0.2489
v'	0.5360
CRI	65.80
CCT	2953
Duv	0.00970

R Values

R1	60.20
R2	75.32
R3	89.07
R4	60.08
R5	56.57
R6	62.20
R7	80.99
R8	41.98
R9	-41.99
R10	42.19
R11	48.42
R12	25.31
R13	62.56
R14	93.34



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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 : 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 : L10137603.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L10137603
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 10/30/2013
[MANUFAC] ELATION LIGHTING
[LUMCAT] cuepix strip ww
[LUMINAIRE] 7"L. X 21-3/4"W. X 6"H. LED LUMINAIRE
[MORE] ALUMINUM REFLECTOR WITH CLEAR LENS
[BALLASTCAT] CUSTOM DRIVER
[BALLAST] INPUT: 120VAC, 60Hz.
[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, 119.37W
[_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	4275
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	67.6
Vertical Beam Angle (50%)	67.2
Horizontal Field Angle (10%)	92.2
Vertical Field Angle (10%)	92.0
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	3069
Beam Efficiency	N.A.
Field Lumens	4285
Field Efficiency	N.A.
Spill Lumens	344
Luminaire Lumens	4629
Total Efficiency	N.A.
Total Luminaire Watts	119.37
Ballast Factor	1.00

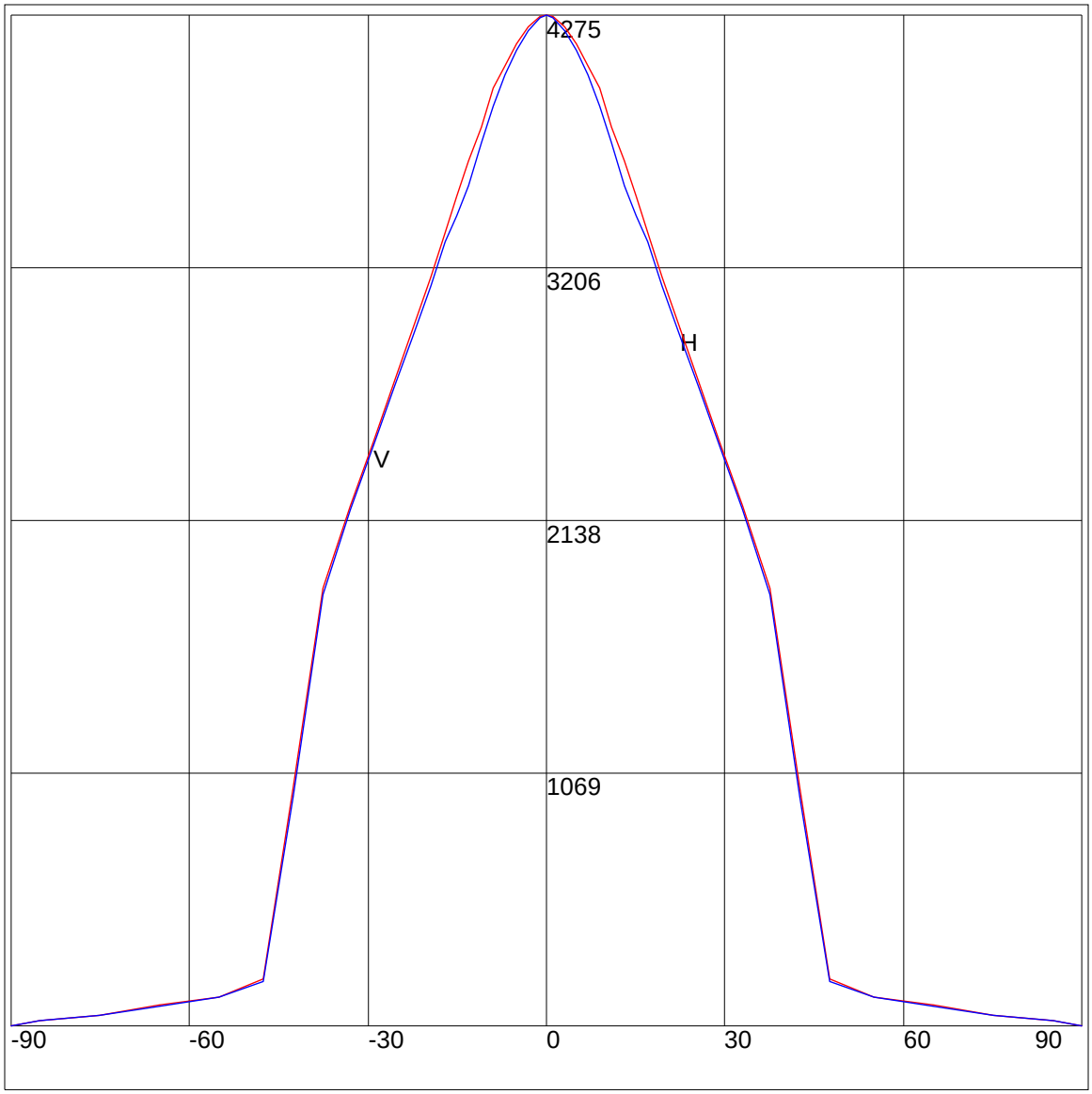
IES FLOOD REPORT
PHOTOMETRIC FILENAME : L10137603.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	25	85	25
75	49	75	48
65	88	65	86
55	124	55	122
47.5	200	47.5	189
42.5	1010	42.5	973
37.5	1850	37.5	1827
33	2202	33	2184
29	2477	29	2460
25.5	2730	25.5	2704
22.5	2946	22.5	2915
19.5	3169	19.5	3128
17	3353	17	3316
15	3507	15	3426
13	3660	13	3554
11	3803	11	3734
9	3965	9	3889
7	4060	7	4019
5	4156	5	4128
3	4228	3	4208
1	4268	1	4263
0	4275	0	4275
-1	4268	-1	4263
-3	4228	-3	4208
-5	4156	-5	4128
-7	4060	-7	4019
-9	3965	-9	3889
-11	3803	-11	3734
-13	3660	-13	3554
-15	3507	-15	3426
-17	3353	-17	3316
-19.5	3169	-19.5	3128
-22.5	2946	-22.5	2915
-25.5	2730	-25.5	2704
-29	2477	-29	2460
-33	2202	-33	2184
-37.5	1850	-37.5	1827
-42.5	1010	-42.5	973
-47.5	200	-47.5	189
-55	124	-55	122
-65	88	-65	86
-75	49	-75	48
-85	25	-85	25
-90	0	-90	0

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L10137603.IES

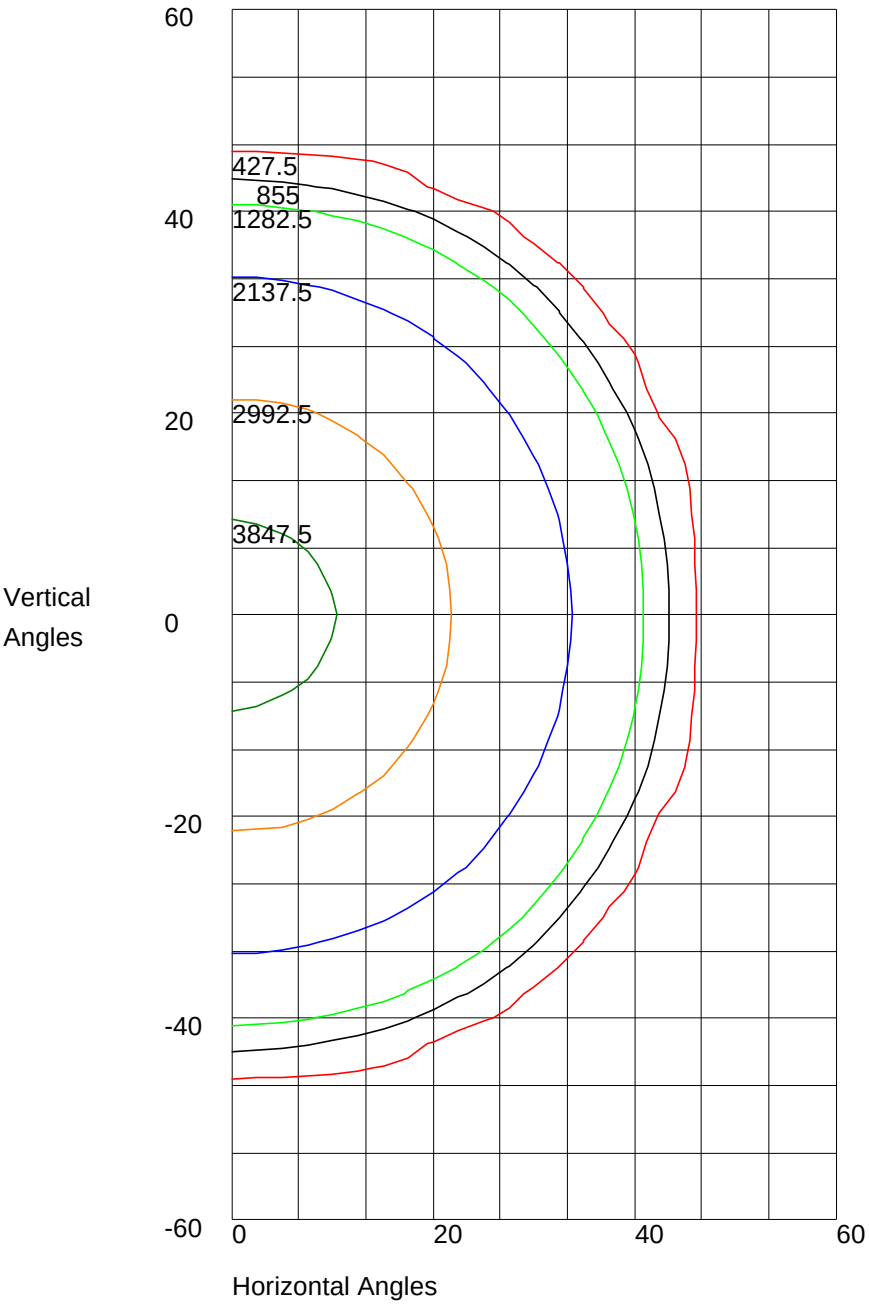
AXIAL CANDELA DISPLAY



Maximum Candela = 4275 Located At Horizontal Angle = 0, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L10137603.IES

ISOCANDELA CURVES



Maximum Candela = 4275 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 2137.5
10% Maximum Candela = 427.5