



8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
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Test #: L10121102

Date: 10/8/2012



NVLAP LAB CODE 200927-0

Test Report: L10121102

Model Number: EEL592

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

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

Description of Sample: Client submitted the sample. Fixture catalog number is EEL592. Received in working and undamaged condition. No modifications were necessary. Tested at 150W mode.

Sample Arrival Date: 10/1/12

Date of Tests: 10/4/12 - 10/8/12

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	01/04/13
Xitron Power Analysis System	2503AH	MT-EL01	01/09/13
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/13
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

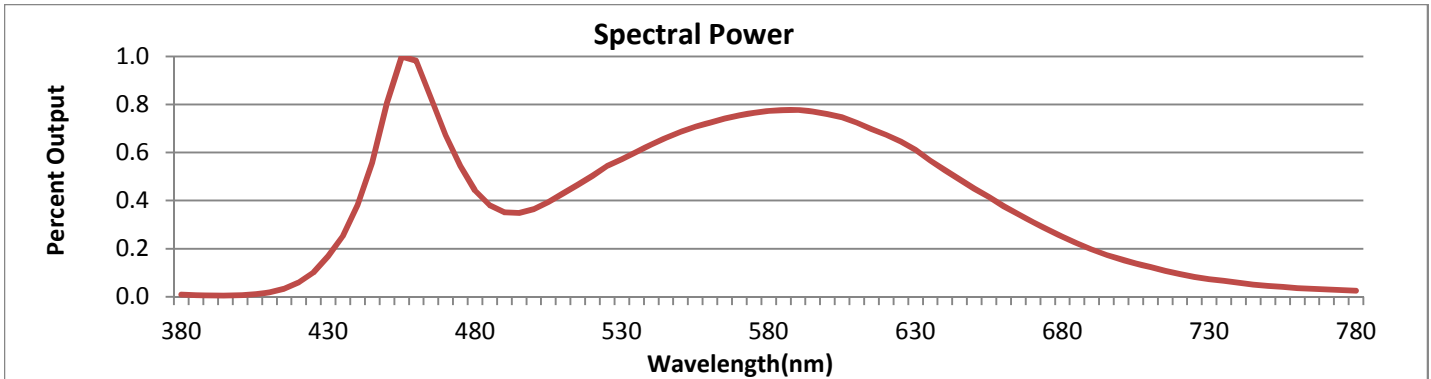
*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

LM-79 Test Summary

Manufacturer:	ELATION LIGHTING
Model Number:	EEL592
LAMPCAT:	N/A
Driver Model:	N/A
Total Lumens:	2278.72
Input Voltage (VAC):	120.00
Input Current (Amp):	1.37
Input Power (W):	163.85
Input Power Factor:	0.99
Total Harmonic Distortion @ 120V(%):	8%
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	13.91
Color Rendering Index (CRI):	85.90
Correlated Color Temperature (CCT):	4510
Chromaticity Coordinate x:	0.3590
Chromaticity Coordinate y:	0.3520
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	1:20
Total Operating Time (Hours):	2:00



FIG. 1 LUMINAIRE



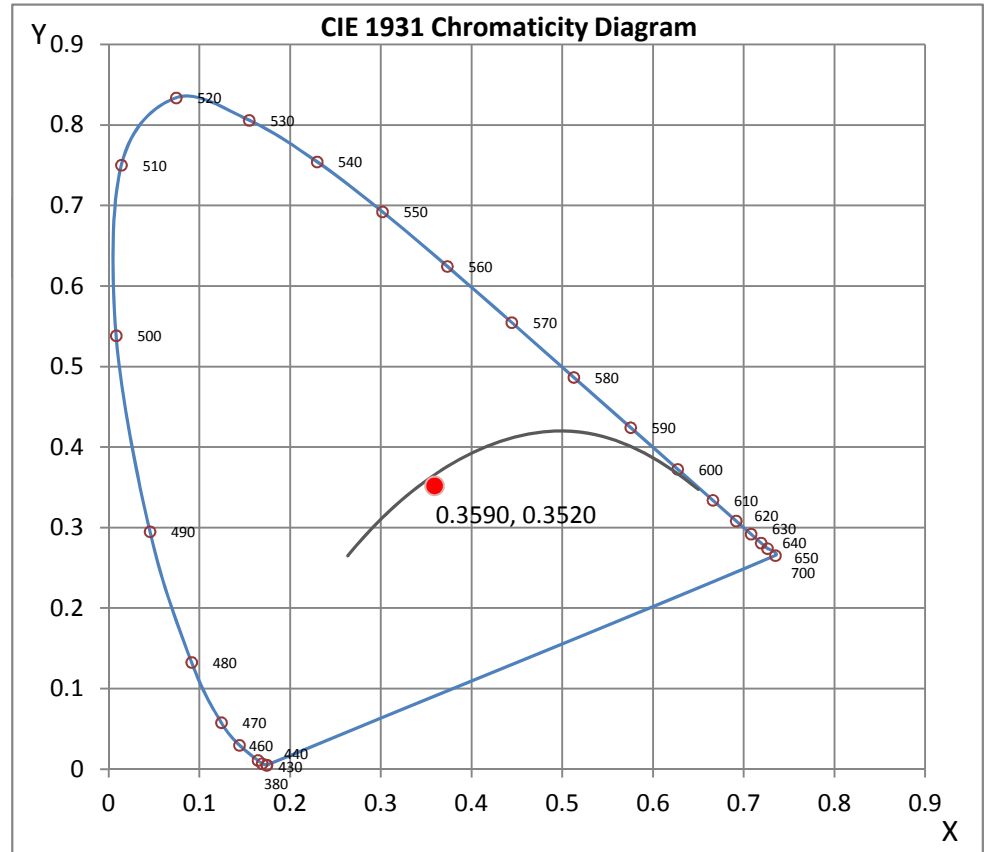
Wavelength	W/m ² nm	440	2.1900	510	2.4600	580	4.4300	650	2.5800	720	0.5370
380	0.0486	450	4.6300	520	2.8800	590	4.4600	660	2.1600	730	0.4190
390	0.0273	460	5.6300	530	3.2800	600	4.3600	670	1.7800	740	0.3340
400	0.0341	470	3.8500	540	3.6300	610	4.1500	680	1.4300	750	0.2570
410	0.1020	480	2.5300	550	3.9300	620	3.8600	690	1.1300	760	0.2050
420	0.3410	490	2.0100	560	4.1500	630	3.5000	700	0.8900	770	0.1740
430	0.9690	500	2.0900	570	4.3300	640	3.0200	710	0.7060	780	0.1400

CRI & CCT

x	0.3590
y	0.3520
u'	0.2207
v'	0.4869
CRI	85.90
CCT	4510
Duv	-0.00512

R Values

R1	85.80
R2	94.40
R3	95.00
R4	80.60
R5	84.30
R6	87.90
R7	86.70
R8	72.40
R9	32.40
R10	83.00
R11	77.20
R12	63.70
R13	88.70
R14	97.90





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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.

Test Report Released by:

Joseph Shin
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 : L10121102.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L10121101
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 10/8/2012
[MANUFAC] ELATION LIGHTING
[LUMCAT] EEL592
[LUMINAIRE] 8"SQ. X 15-1/4"H. DOWNLIGHT LED
[MORE] 4000K LEDS ARRAY TESTED 150WATT MODE
[BALLASTCAT] N/A
[BALLAST] INPUT: 100-240VAC, 47-63Hz., 1.5A-0.8A
[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, 163.85W
[_TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

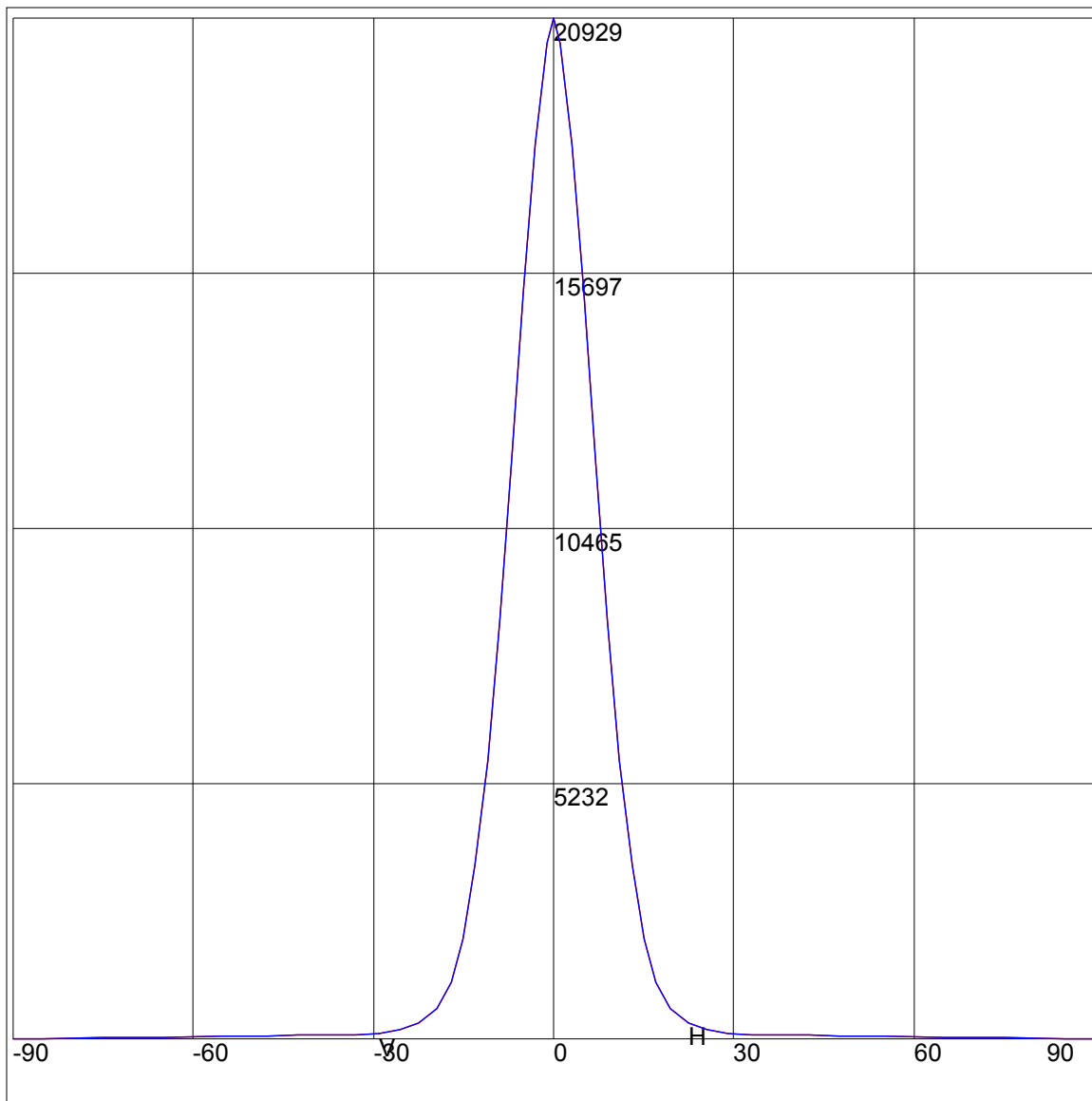
NEMA Type	3 H x 3 V
Maximum Candela	20929
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	15.7
Vertical Beam Angle (50%)	15.7
Horizontal Field Angle (10%)	29.9
Vertical Field Angle (10%)	29.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	815
Beam Efficiency	N.A.
Field Lumens	1669
Field Efficiency	N.A.
Spill Lumens	610
Luminaire Lumens	2279
Total Efficiency	N.A.
Total Luminaire Watts	163.85
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L10121102.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	21	90	21
85	23	85	23
75	48	75	48
65	50	65	50
55	63	55	63
47.5	75	47.5	75
42.5	82	42.5	82
37.5	83	37.5	83
33	88	33	88
29	128	29	128
25.5	204	25.5	204
22.5	336	22.5	336
19.5	631	19.5	631
17	1168	17	1168
15	2050	15	2050
13	3561	13	3561
11	5739	11	5739
9	8582	9	8582
7	11874	7	11874
5	15310	5	15310
3	18345	3	18345
1	20420	1	20420
0	20929	0	20929
-1	20420	-1	20420
-3	18345	-3	18345
-5	15310	-5	15310
-7	11874	-7	11874
-9	8582	-9	8582
-11	5739	-11	5739
-13	3561	-13	3561
-15	2050	-15	2050
-17	1168	-17	1168
-19.5	631	-19.5	631
-22.5	336	-22.5	336
-25.5	204	-25.5	204
-29	128	-29	128
-33	88	-33	88
-37.5	83	-37.5	83
-42.5	82	-42.5	82
-47.5	75	-47.5	75
-55	63	-55	63
-65	50	-65	50
-75	48	-75	48
-85	23	-85	23
-90	21	-90	21

AXIAL CANDELA DISPLAY

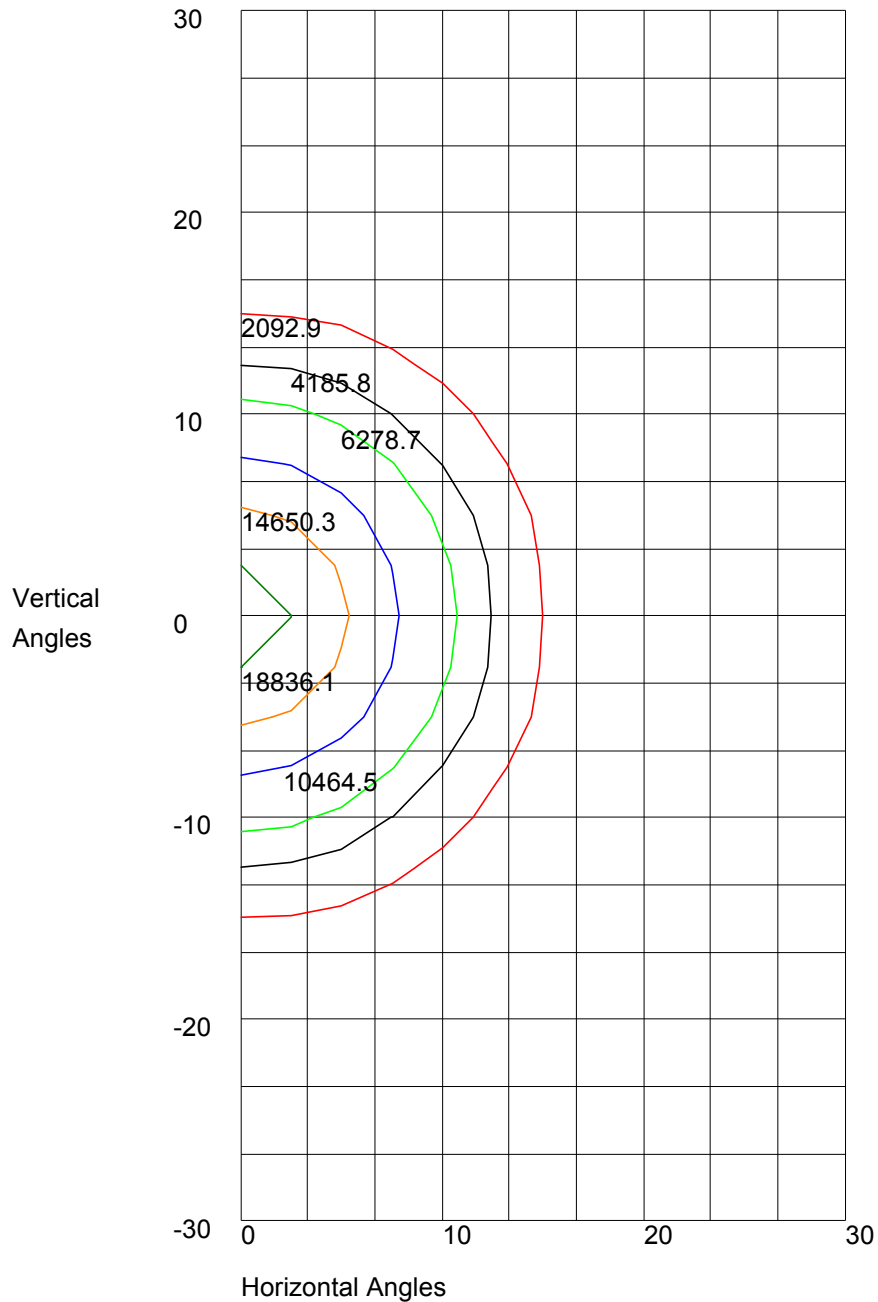


Maximum Candela = 20929 Located At Horizontal Angle = 0, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 20929 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 10464.5
10% Maximum Candela = 2092.9