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p. 714.282.2270
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Test #: L08124207

Date: 9/11/2012



NVLAP LAB CODE 200927-0

Test Report: L08124207

Model Number: Elar Quad Strip

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 Elar Quad Strip. Tested with GREEN on. Received in working and undamaged condition. No modifications were necessary.

Sample Arrival Date: 8/17/12

Date of Tests: 8/29/12 - 9/11/12

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:	Elar Quad Strip
Total Lumens:	643.90
Input Voltage (VAC):	120.00
Input Current (Amp):	0.36
Input Power (W):	40.53
Input Power Factor:	0.94
Total Harmonic Distortion @ 120V(%):	N/A
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	15.89
Color Rendering Index (CRI):	66.87
Correlated Color Temperature (CCT):	N/A
Chromaticity Coordinate x:	0.1635
Chromaticity Coordinate y:	0.6695
Ambient Temperature (°F):	77
Stabilization Time (Hours):	0:20
Total Operating Time (Hours):	1:00

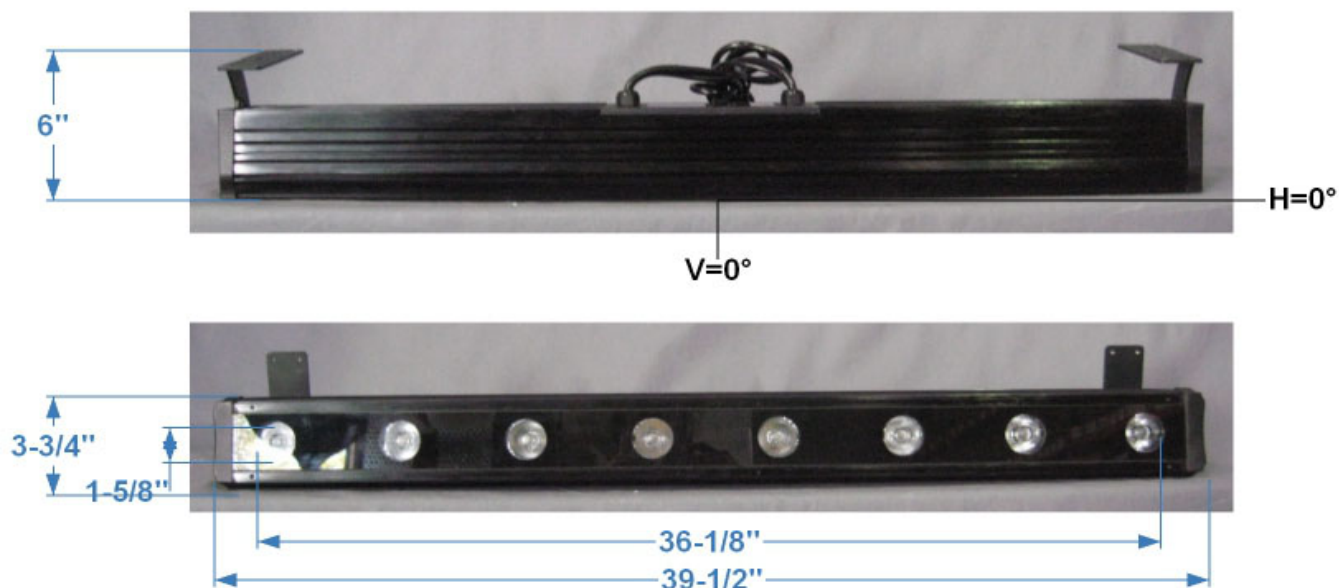
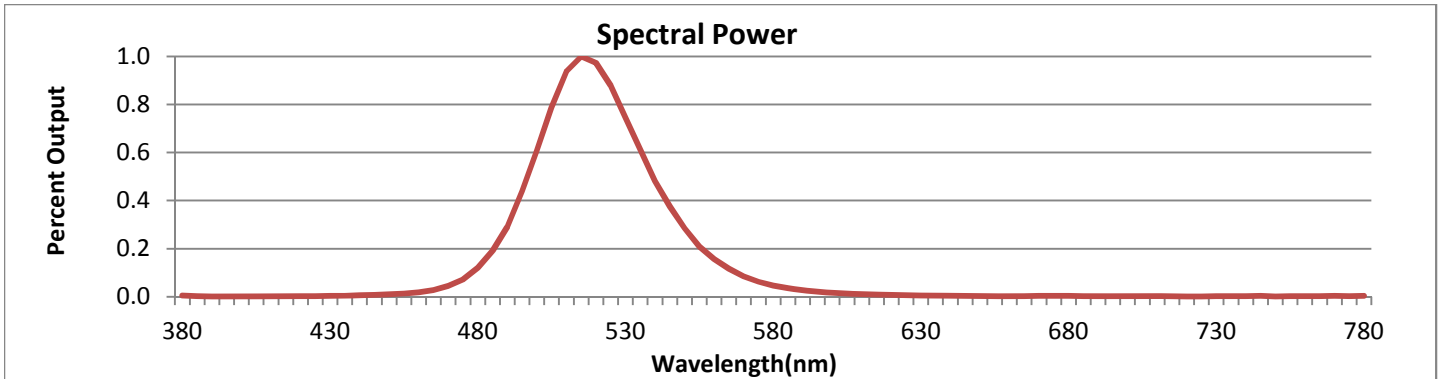


FIG. 1 LUMINAIRE



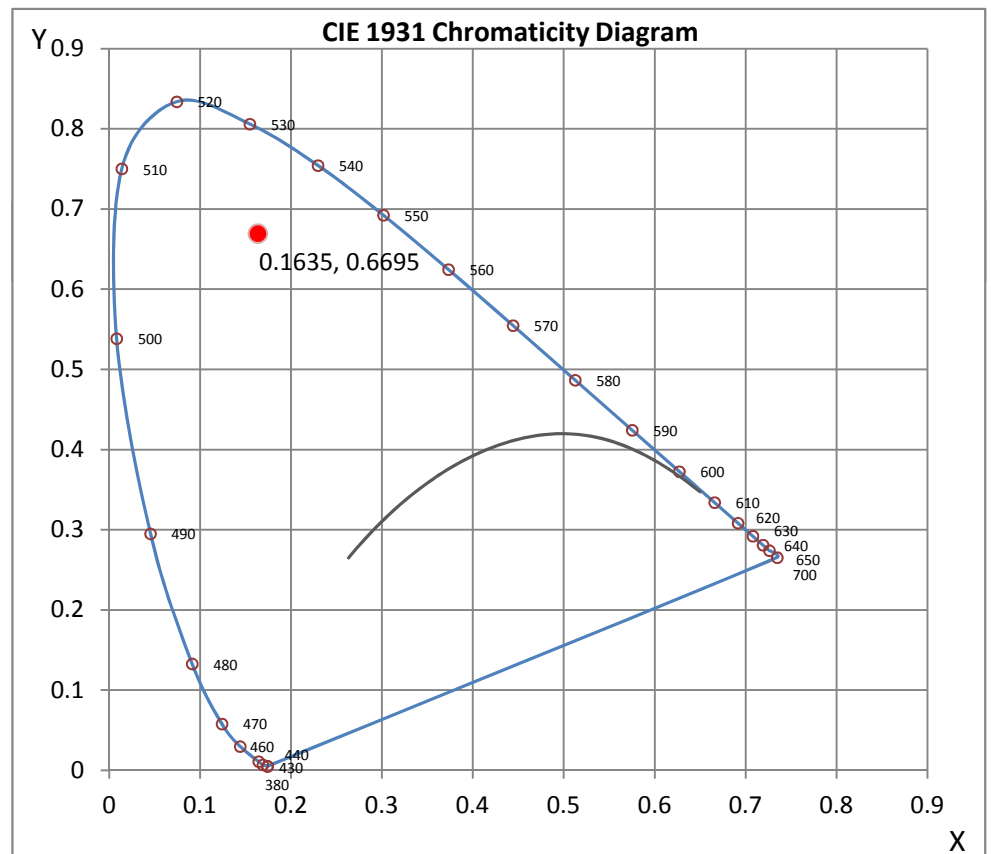
Wavelength	W/m ² nm	440	0.0231	510	3.8963	580	0.1924	650	0.0117	720	0.0056
380	0.0225	450	0.0401	520	4.0403	590	0.1104	660	0.0104	730	0.0081
390	0.0017	460	0.0739	530	3.0944	600	0.0689	670	0.0129	740	0.0116
400	0.0048	470	0.1835	540	2.0010	610	0.0422	680	0.0125	750	0.0056
410	0.0048	480	0.5025	550	1.1800	620	0.0313	690	0.0088	760	0.0117
420	0.0068	490	1.2110	560	0.6496	630	0.0222	700	0.0102	770	0.0160
430	0.0148	500	2.5255	570	0.3529	640	0.0166	710	0.0083	780	0.0141

CRI & CCT

x	0.1635
y	0.6695
u'	0.0611
v'	0.5628
CRI	66.87
CCT	0
Duv	0.15259

R Values

R1	72.17
R2	97.84
R3	85.96
R4	62.02
R5	71.95
R6	74.73
R7	49.06
R8	21.21
R9	-30.75
R10	91.12
R11	78.79
R12	8.76
R13	82.99
R14	77.99





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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 : L08124207.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L08124207
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 9/11/2012
[MANUFAC] ELATION LIGHTING
[LUMCAT] Elar Quad STRIP
[LUMINAIRE] 39-1/2"L. X 3-3/4"W. X 6"H. ELAR QUAD STRIP LUMINAIRE
[MORE] EIGHT 10W CREE QUAD RGBW LED WITH 11° BEAM ANGLE OPTICS
[MORE] TESTED WITH ONLY GREEN ON.
[BALLASTCAT] N/A
[BALLAST] 100-240VAC 50/60Hz
[LAMPPOSITION] 0,0
[LAMPCAT] 10W QUAD RGBW LED
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[_INPUT] 120VAC, 40.53W
[_TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

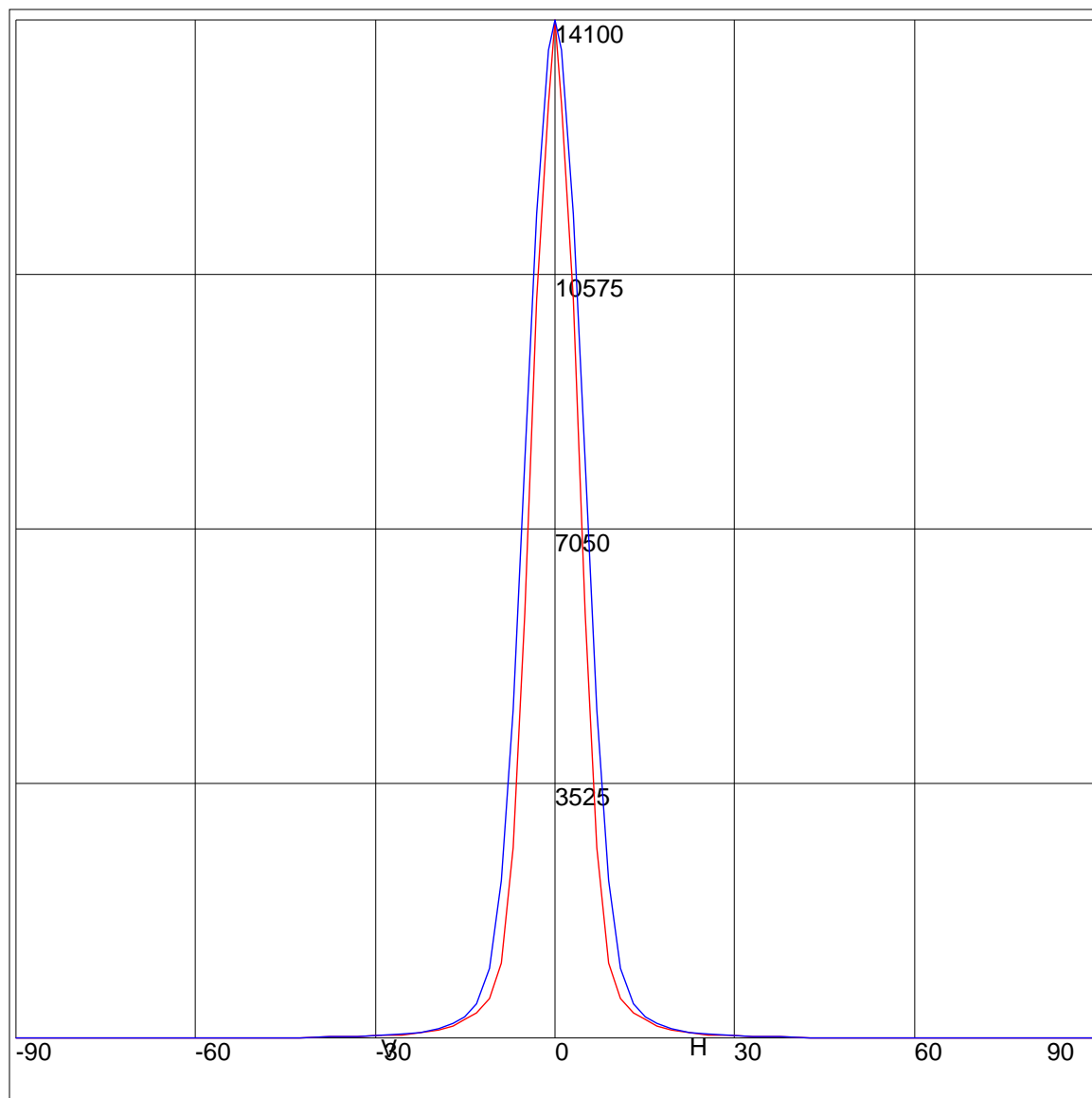
NEMA Type	1 H x 2 V
Maximum Candela	14100
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	8.9
Vertical Beam Angle (50%)	11.1
Horizontal Field Angle (10%)	17.1
Vertical Field Angle (10%)	20.6
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	247
Beam Efficiency	N.A.
Field Lumens	450
Field Efficiency	N.A.
Spill Lumens	194
Luminaire Lumens	644
Total Efficiency	N.A.
Total Luminaire Watts	40.53
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L08124207.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	7	85	7
75	7	75	7
65	8	65	9
55	10	55	10
47.5	12	47.5	13
42.5	15	42.5	16
37.5	21	37.5	21
33	27	33	27
29	37	29	37
25.5	53	25.5	55
22.5	78	22.5	81
19.5	121	19.5	128
17	177	17	201
15	258	15	295
13	356	13	473
11	549	11	978
9	1042	9	2183
7	2635	7	4552
5	5896	5	8001
3	10233	3	11410
1	12930	1	13686
0	14100	0	14100
-1	12930	-1	13686
-3	10233	-3	11410
-5	5896	-5	8001
-7	2635	-7	4552
-9	1042	-9	2183
-11	549	-11	978
-13	356	-13	473
-15	258	-15	295
-17	177	-17	201
-19.5	121	-19.5	128
-22.5	78	-22.5	81
-25.5	53	-25.5	55
-29	37	-29	37
-33	27	-33	27
-37.5	21	-37.5	21
-42.5	15	-42.5	16
-47.5	12	-47.5	13
-55	10	-55	10
-65	8	-65	9
-75	7	-75	7
-85	7	-85	7
-90	0	-90	0

AXIAL CANDELA DISPLAY

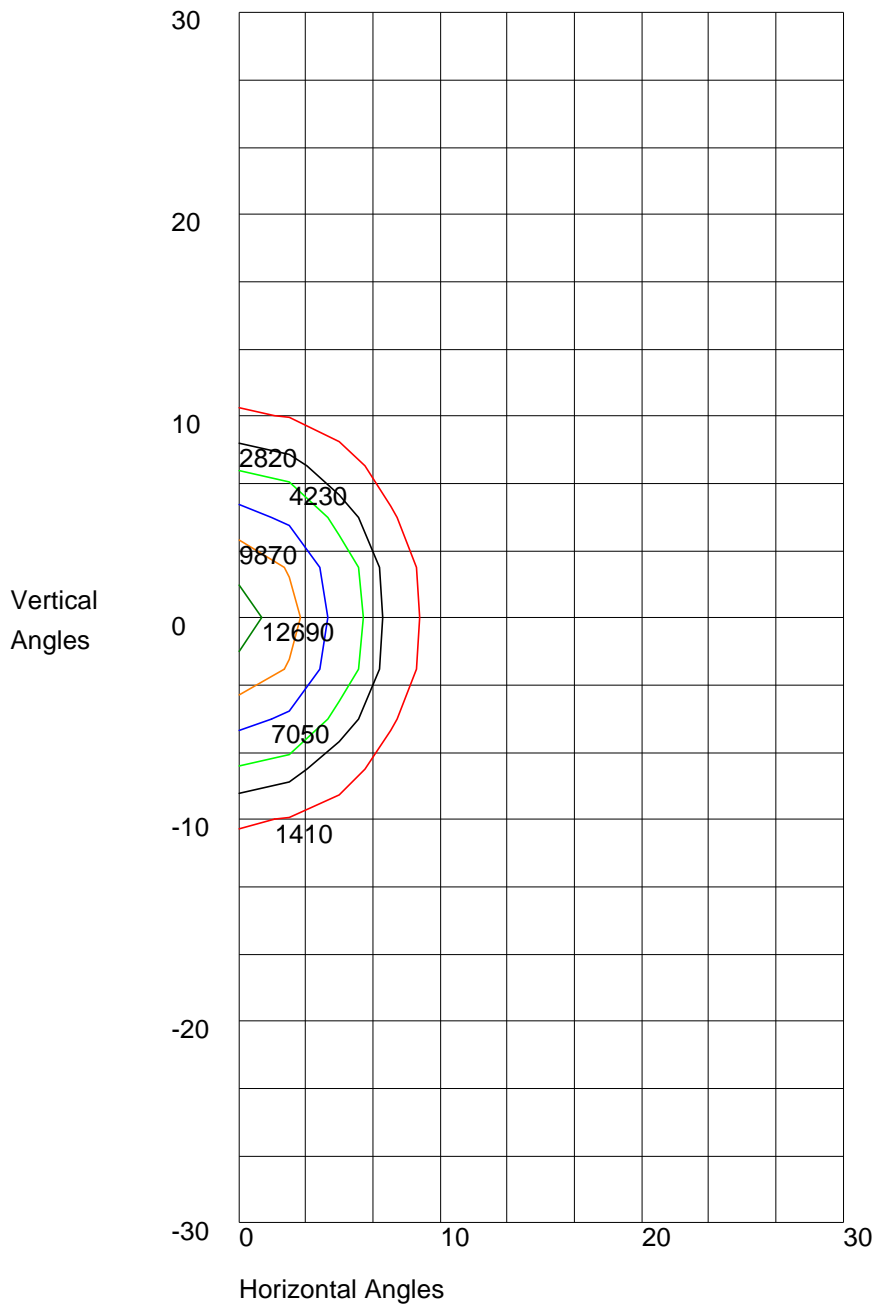


Maximum Candela = 14100 Located At Horizontal Angle = 0, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 14100 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 7050
10% Maximum Candela = 1410