



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

Test #: L08124206

Date: 9/11/2012



NVLAP LAB CODE 200927-0

Test Report: L08124206

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 RED 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:	378.10
Input Voltage (VAC):	120.00
Input Current (Amp):	0.29
Input Power (W):	31.52
Input Power Factor:	0.91
Total Harmonic Distortion @ 120V(%):	N/A
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	12.00
Color Rendering Index (CRI):	66.87
Correlated Color Temperature (CCT):	651
Chromaticity Coordinate x:	0.7023
Chromaticity Coordinate y:	0.2974
Ambient Temperature (°F):	77
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:25

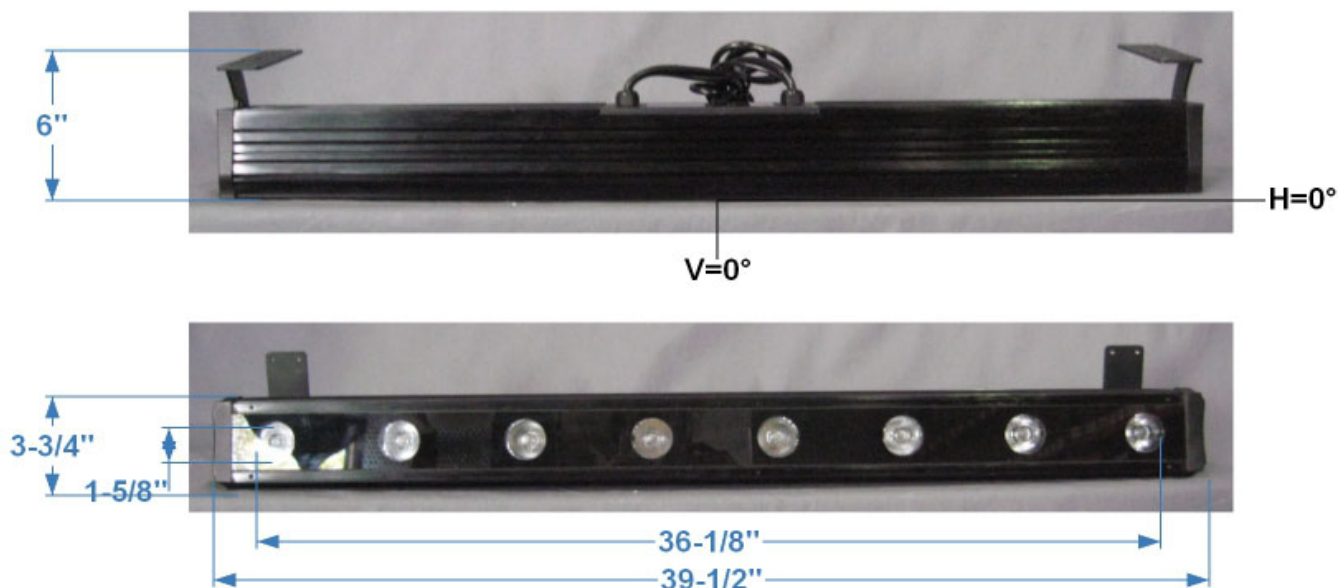
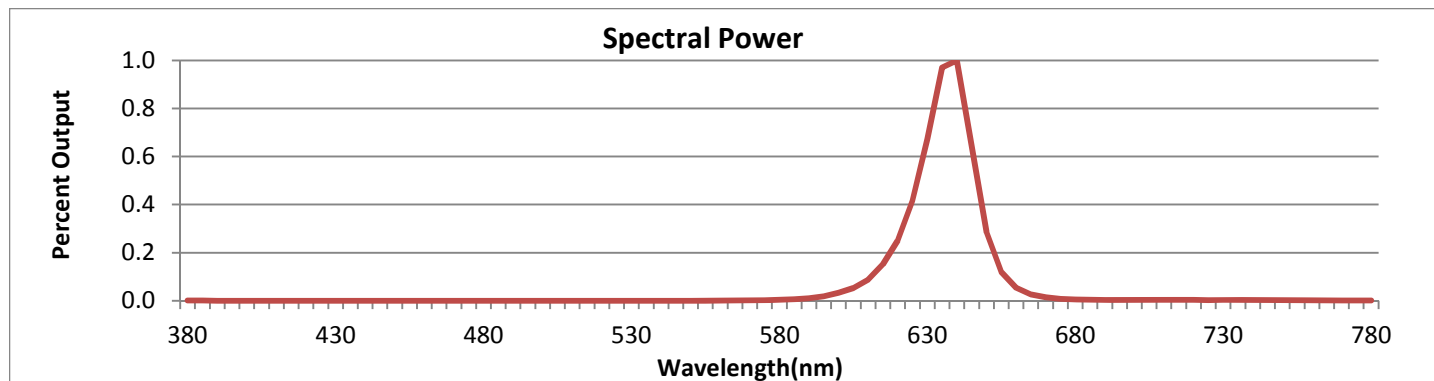


FIG. 1 LUMINAIRE



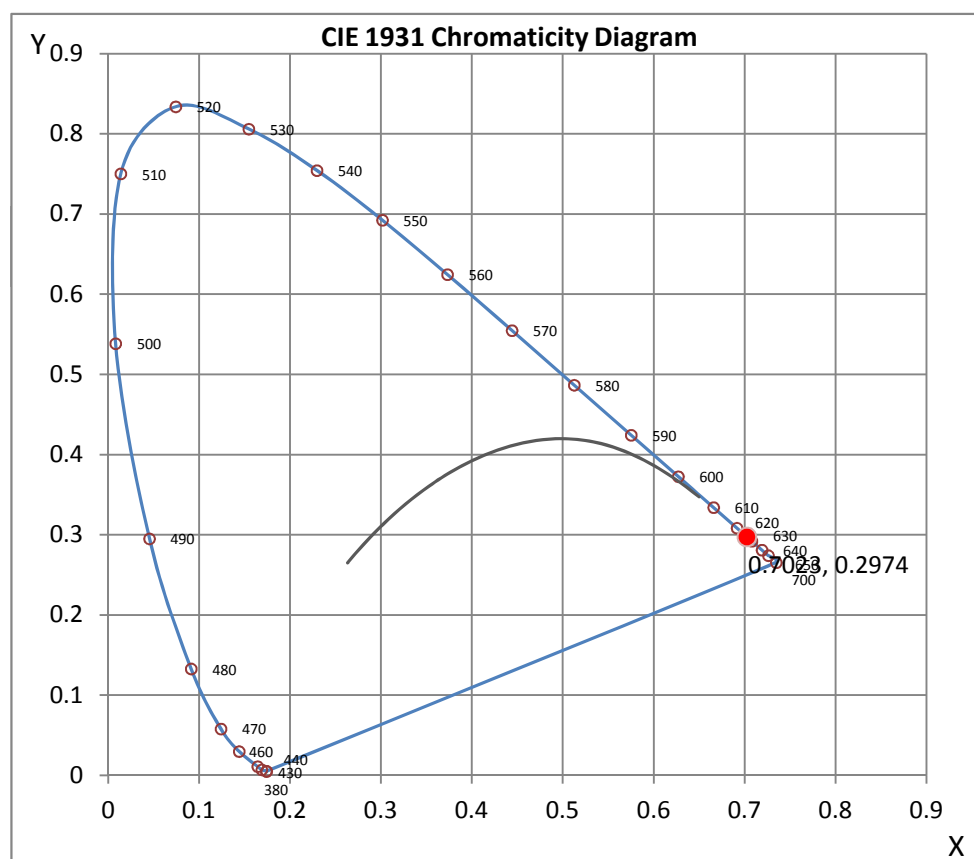
Wavelength	W/m ² nm	440	0.0000	510	0.0020	580	0.0695	650	5.6951	720	0.0663
380	0.0181	450	0.0000	520	0.0031	590	0.2110	660	1.0818	730	0.0639
390	0.0023	460	0.0035	530	0.0026	600	0.6516	670	0.2774	740	0.0642
400	0.0000	470	0.0025	540	0.0029	610	1.7610	680	0.0947	750	0.0364
410	0.0018	480	0.0004	550	0.0014	620	5.0166	690	0.0710	760	0.0337
420	0.0008	490	0.0013	560	0.0042	630	13.4973	700	0.0558	770	0.0246
430	0.0000	500	0.0000	570	0.0232	640	20.0311	710	0.0610	780	0.0041

CRI & CCT

x	0.7023
y	0.2974
u'	0.5440
v'	0.5183
CRI	66.87
CCT	651
Duv	0.19097

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 : L08124206.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L08124206
[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 RED 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, 31.52W
[_TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

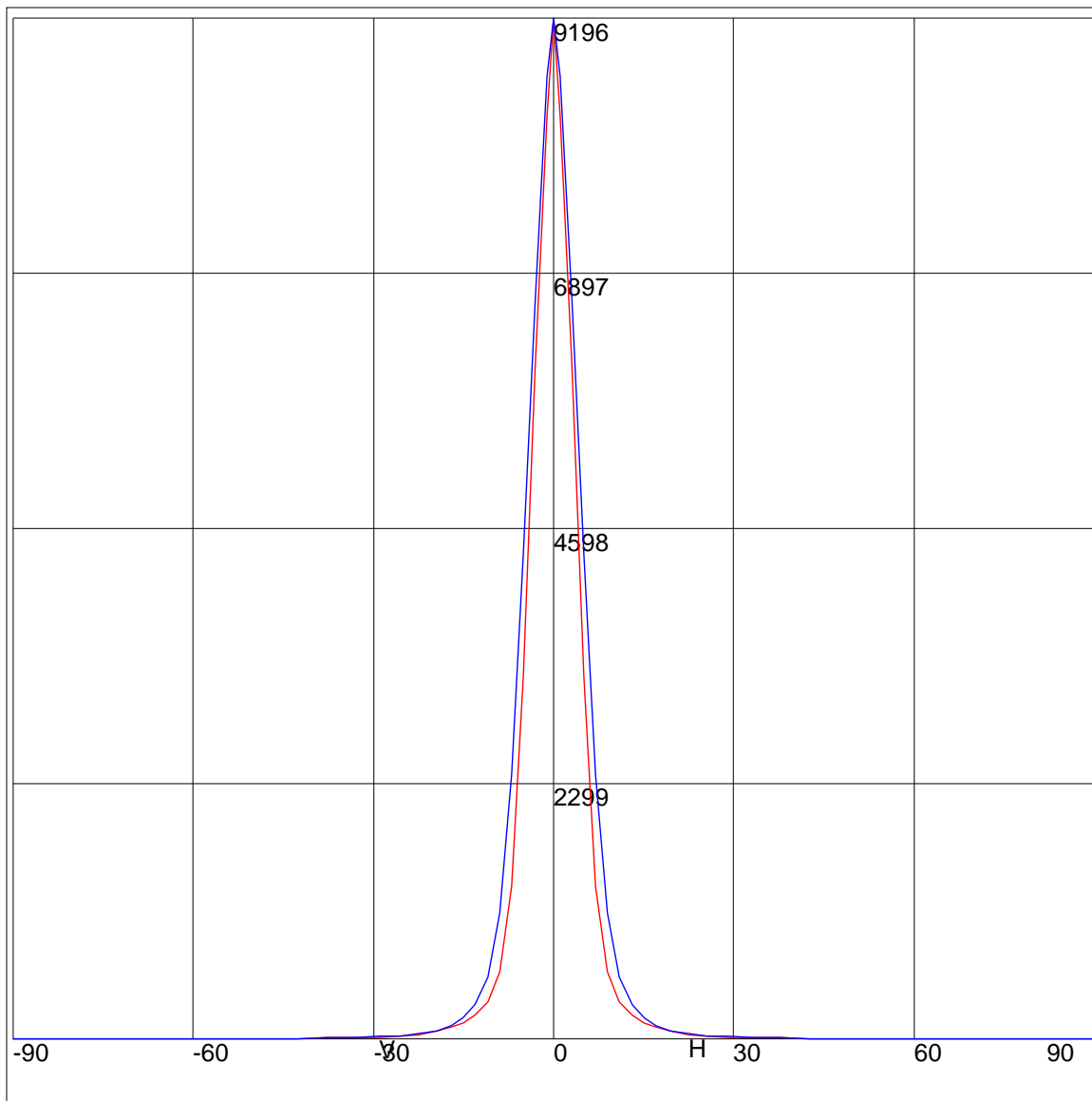
NEMA Type	1 H x 2 V
Maximum Candela	9196
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	8.1
Vertical Beam Angle (50%)	9.6
Horizontal Field Angle (10%)	16.4
Vertical Field Angle (10%)	19.5
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	125
Beam Efficiency	N.A.
Field Lumens	249
Field Efficiency	N.A.
Spill Lumens	129
Luminaire Lumens	378
Total Efficiency	N.A.
Total Luminaire Watts	31.52
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L08124206.IES

AXIAL CANDELA

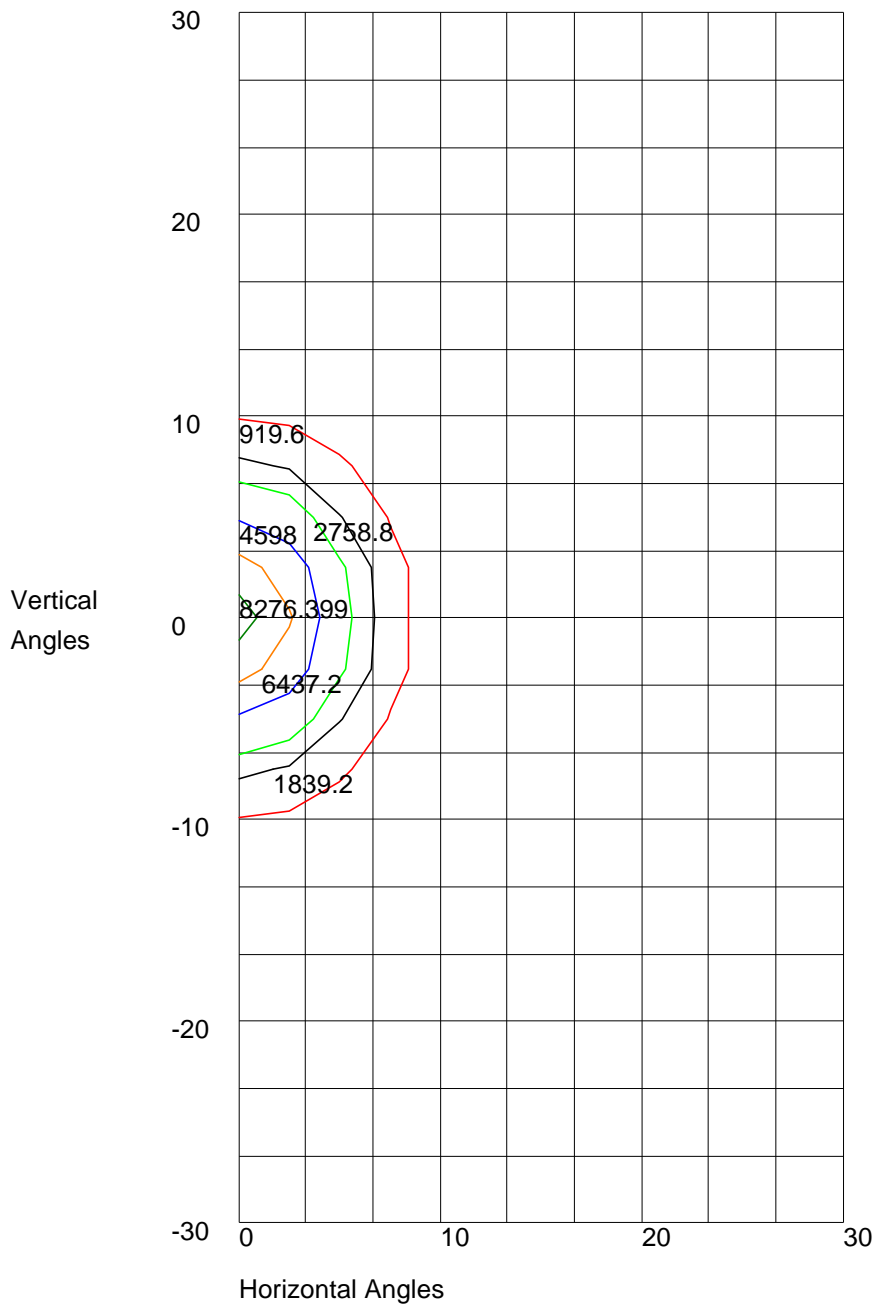
DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	5	85	5
75	5	75	5
65	6	65	7
55	7	55	7
47.5	8	47.5	9
42.5	10	42.5	10
37.5	14	37.5	14
33	17	33	18
29	22	29	25
25.5	32	25.5	35
22.5	46	22.5	49
19.5	72	19.5	81
17	107	17	127
15	151	15	193
13	219	13	319
11	338	11	567
9	610	9	1141
7	1374	7	2382
5	3277	5	4374
3	6061	3	6648
1	8322	1	8675
0	9196	0	9196
-1	8322	-1	8675
-3	6061	-3	6648
-5	3277	-5	4374
-7	1374	-7	2382
-9	610	-9	1141
-11	338	-11	567
-13	219	-13	319
-15	151	-15	193
-17	107	-17	127
-19.5	72	-19.5	81
-22.5	46	-22.5	49
-25.5	32	-25.5	35
-29	22	-29	25
-33	17	-33	18
-37.5	14	-37.5	14
-42.5	10	-42.5	10
-47.5	8	-47.5	9
-55	7	-55	7
-65	6	-65	7
-75	5	-75	5
-85	5	-85	5
-90	0	-90	0

AXIAL CANDELA DISPLAY



Maximum Candela = 9196 Located At Horizontal Angle = 0, Vertical Angle = 0
H - Horizontal Axial Candela
V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 9196 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 4598
10% Maximum Candela = 919.6