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p. 714.282.2270
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Test #: L08124210

Date: 9/21/2012



NVLAP LAB CODE 200927-0

Test Report: L08124210

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 ALL on. Received in working and undamaged condition. No modifications were necessary.

Sample Arrival Date: 9/20/12

Date of Tests: 9/21/12 - 9/21/12

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:	1372.18
Input Voltage (VAC):	120.00
Input Current (Amp):	0.82
Input Power (W):	96.87
Input Power Factor:	0.99
Total Harmonic Distortion @ 120V(%):	N/A
Total Harmonic Distortion @ 277V(%):	N/A
Efficacy:	14.17
Color Rendering Index (CRI):	48.13
Correlated Color Temperature (CCT):	104150
Chromaticity Coordinate x:	0.2682
Chromaticity Coordinate y:	0.2192
Ambient Temperature (°F):	77
Stabilization Time (Hours):	1:40
Total Operating Time (Hours):	2:20

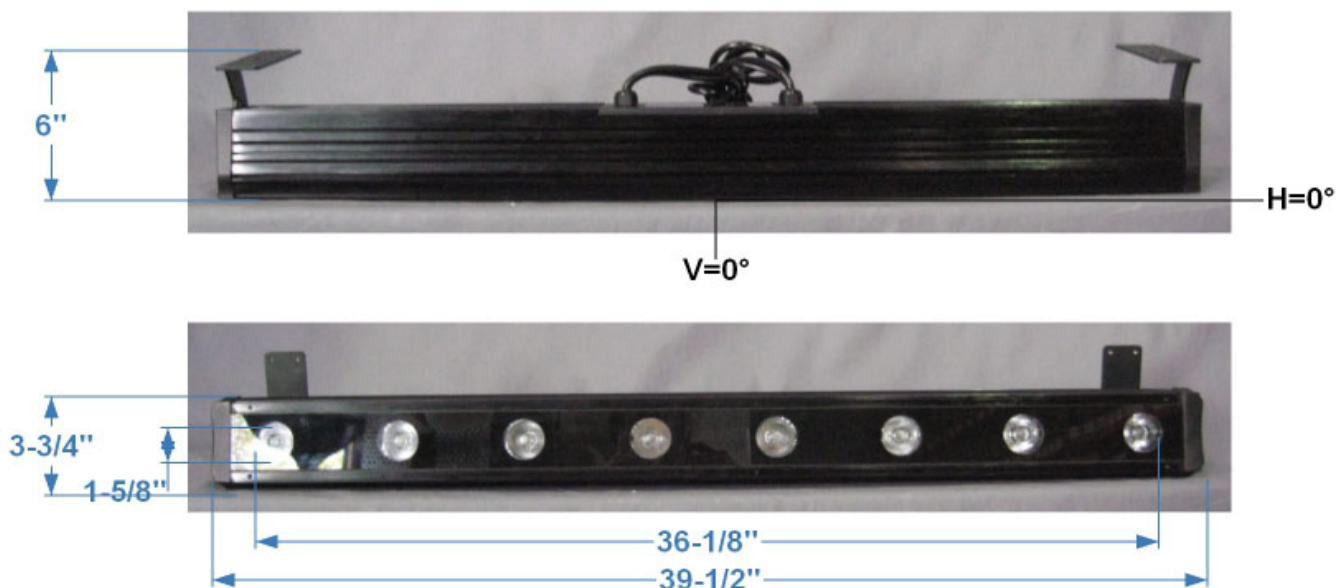
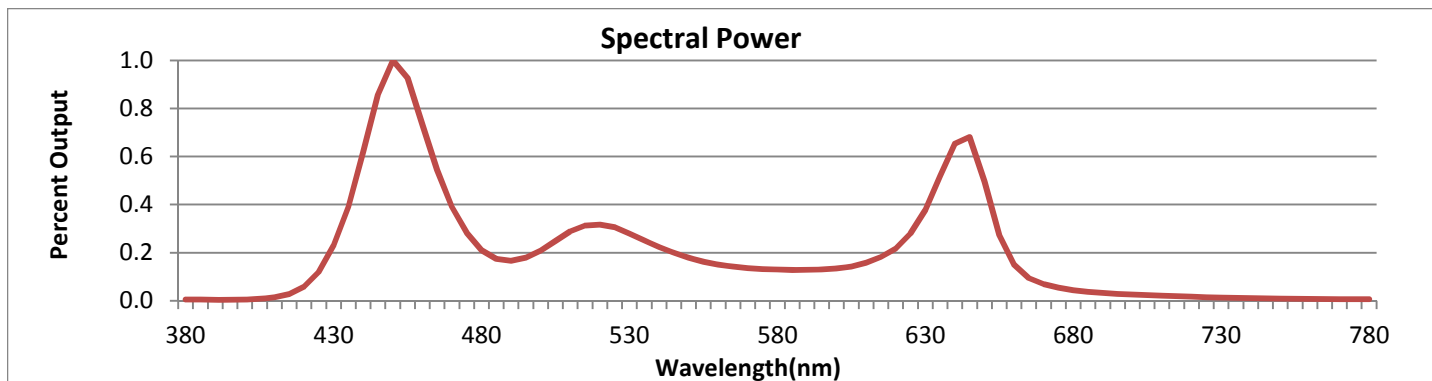


FIG. 1 LUMINAIRE



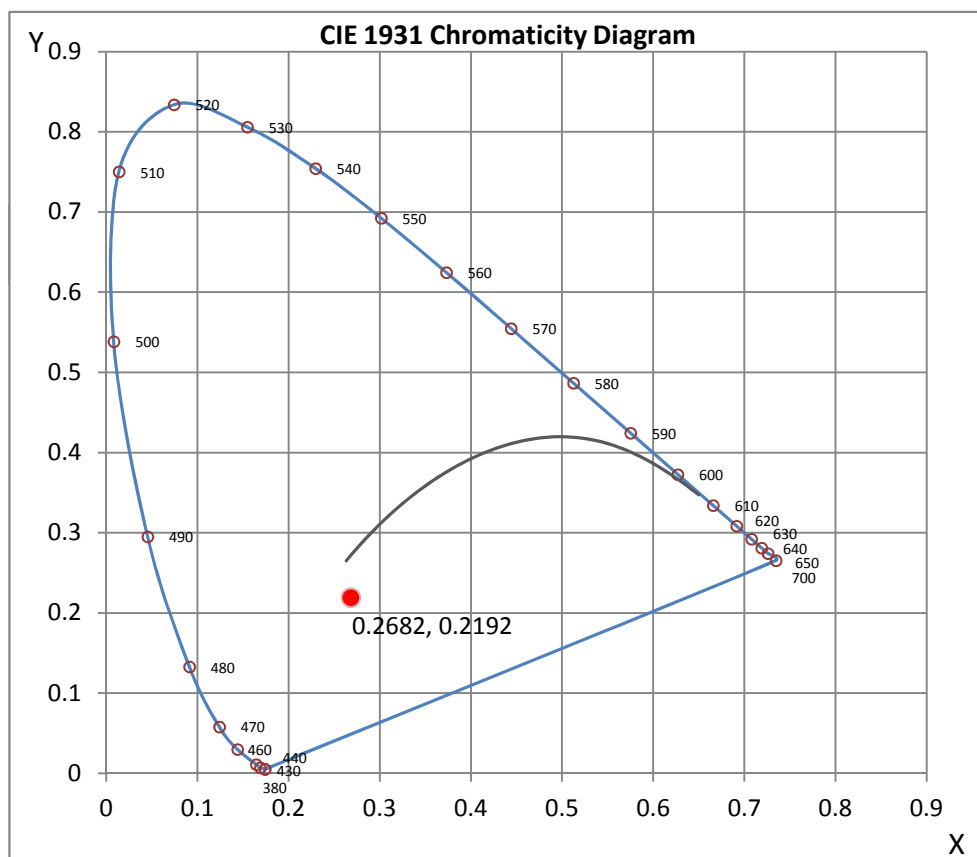
Wavelength	W/m ² nm	440	5.4052	510	2.5201	580	1.1317	650	4.3196	720	0.1456
380	0.0461	450	8.7310	520	2.7699	590	1.1212	660	1.3125	730	0.1147
390	0.0299	460	6.4016	530	2.4398	600	1.1749	670	0.5964	740	0.0916
400	0.0415	470	3.4190	540	1.9494	610	1.3782	680	0.3815	750	0.0770
410	0.1189	480	1.8341	550	1.5630	620	1.8948	690	0.2786	760	0.0710
420	0.5025	490	1.4512	560	1.3106	630	3.3036	700	0.2225	770	0.0557
430	2.0187	500	1.8255	570	1.1813	640	5.7139	710	0.1832	780	0.0499

CRI & CCT

x	0.2682
y	0.2192
u'	0.2106
v'	0.3873
CRI	48.13
CCT	104150
Duv	-0.03093

R Values

R1	30.86
R2	69.34
R3	63.97
R4	33.28
R5	47.10
R6	73.24
R7	68.34
R8	-1.08
R9	-223.39
R10	43.17
R11	18.93
R12	66.26
R13	38.66
R14	75.35





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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 : L08124210.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L08124210
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 9/21/2012
[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 ALL 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, 96.87W
[_TEST PROCEDURE] IESNA:LM-79-08

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

CHARACTERISTICS

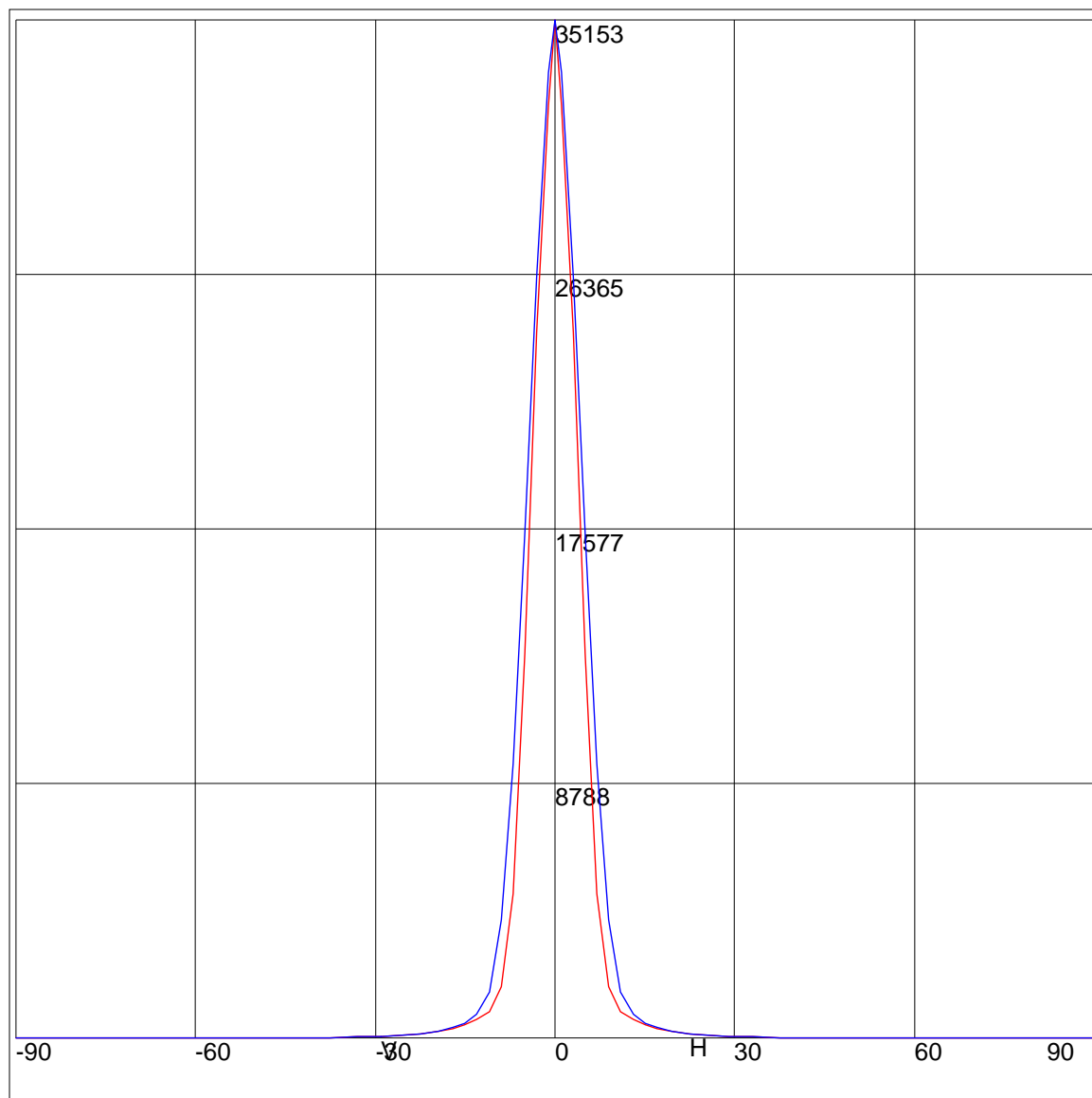
NEMA Type	1 H x 2 V
Maximum Candela	35153
Maximum Candela Angle	0H 0V
Horizontal Beam Angle (50%)	8.5
Vertical Beam Angle (50%)	9.9
Horizontal Field Angle (10%)	15.8
Vertical Field Angle (10%)	18.9
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Beam Lumens	494
Beam Efficiency	N.A.
Field Lumens	951
Field Efficiency	N.A.
Spill Lumens	421
Luminaire Lumens	1372
Total Efficiency	N.A.
Total Luminaire Watts	96.87
Ballast Factor	1.00

IES FLOOD REPORT
PHOTOMETRIC FILENAME : L08124210.IES

AXIAL CANDELA

DEG.	HOR.	DEG.	VERT.
90	0	90	0
85	15	85	15
75	16	75	17
65	18	65	19
55	22	55	23
47.5	26	47.5	28
42.5	32	42.5	33
37.5	42	37.5	42
33	53	33	54
29	73	29	73
25.5	105	25.5	109
22.5	153	22.5	158
19.5	240	19.5	255
17	351	17	381
15	468	15	537
13	640	13	826
11	945	11	1611
9	1776	9	4078
7	4997	7	9461
5	13299	5	17453
3	24392	3	26262
1	32218	1	33347
0	35153	0	35153
-1	32218	-1	33347
-3	24392	-3	26262
-5	13299	-5	17453
-7	4997	-7	9461
-9	1776	-9	4078
-11	945	-11	1611
-13	640	-13	826
-15	468	-15	537
-17	351	-17	381
-19.5	240	-19.5	255
-22.5	153	-22.5	158
-25.5	105	-25.5	109
-29	73	-29	73
-33	53	-33	54
-37.5	42	-37.5	42
-42.5	32	-42.5	33
-47.5	26	-47.5	28
-55	22	-55	23
-65	18	-65	19
-75	16	-75	17
-85	15	-85	15
-90	0	-90	0

AXIAL CANDELA DISPLAY

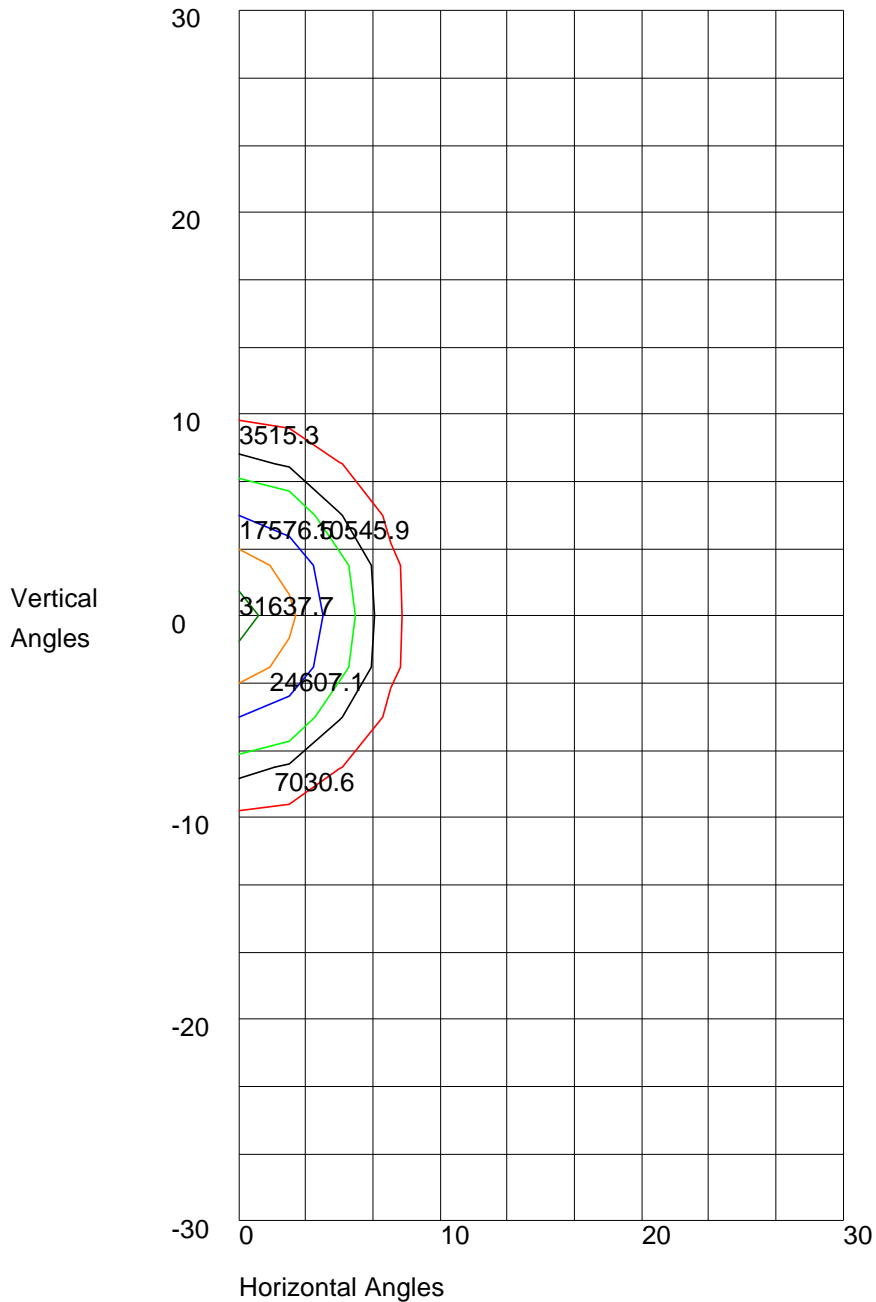


Maximum Candela = 35153 Located At Horizontal Angle = 0, Vertical Angle = 0

H - Horizontal Axial Candela

V - Vertical Axial Candela

ISOCANDELA CURVES



Maximum Candela = 35153 Located At Horizontal Angle = 0, Vertical Angle = 0
50% Maximum Candela = 17576.5
10% Maximum Candela = 3515.3