



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

Report No: L111602305R01

Date: 11/15/2016



NVLAP LAB CODE 200927-0

Report No: L111602305R01

Report Prepared For: Revolution Lighting Technologies
 4139 Guardian St. Simi Valley, CA 93063

Model Number: 128012-123

Test: Electrical and Photometric tests

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. Catalog number is 128012-123 . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 11/9/16

Date of Tests: 11/11/16 - 11/15/16

Seasoning of Sample: 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	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
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.

Test Summary

Manufacturer:	Revolution Lighting Technologies
Model Number:	128012-123
Driver Model Number:	LETRON LP0240-1450(2 DRIVERS)
Total Lumens:	19081.92
Input Voltage (VAC/60Hz):	277.00
Input Current (Amp):	0.51
Input Power (W):	129.01
Input Power Factor:	0.90
Current ATHD @ 120V(%):	N/A
Current ATHD @ 277V(%):	19%
Efficacy:	148
Color Rendering Index (CRI):	84
Correlated Color Temperature (K):	4036
Chromaticity Coordinate x:	0.3816
Chromaticity Coordinate y:	0.3860
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:20
Off State Power(W):	0.00

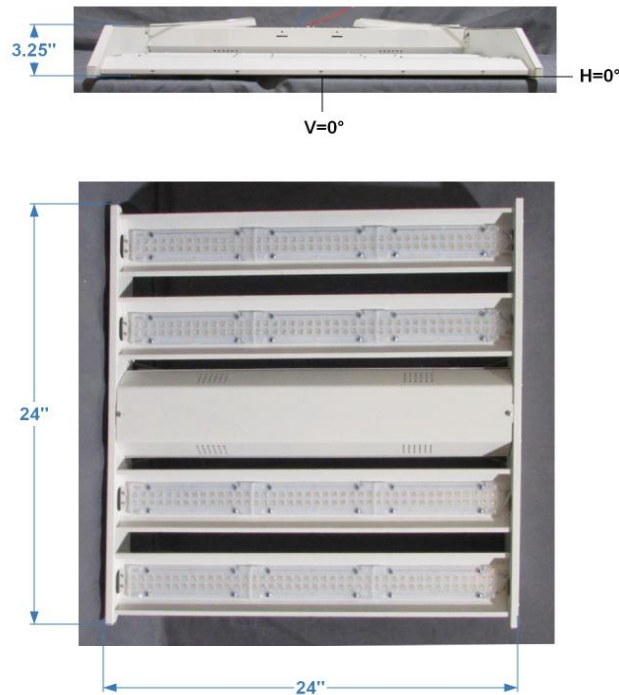
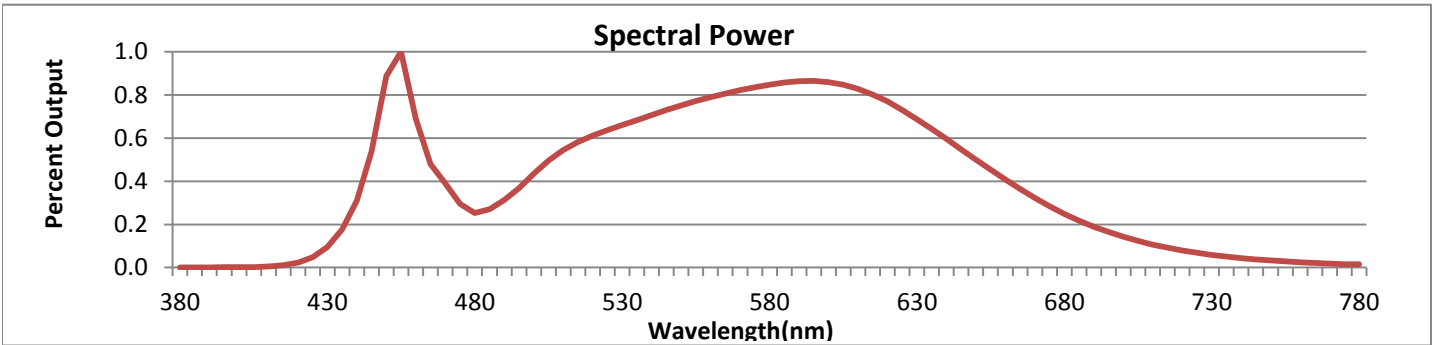


FIG. 1 LUMINAIRE

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



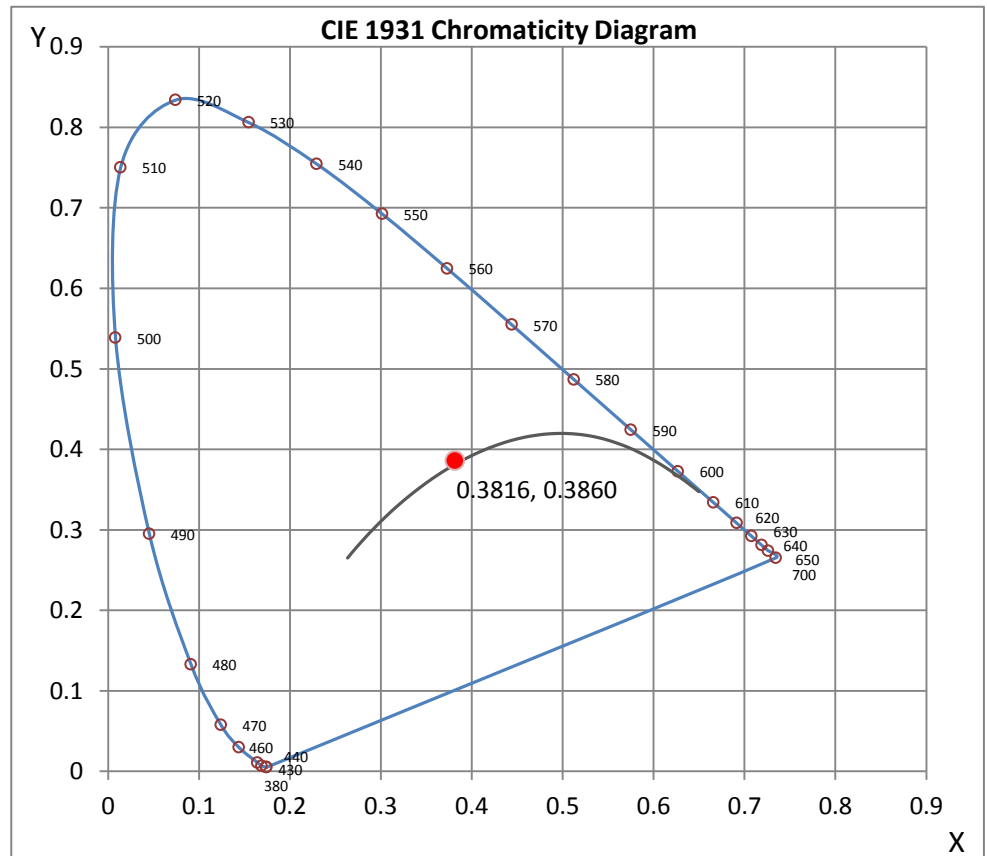
Wavelength	W/m ² nm	440	0.3112	510	0.5455	580	0.8482	650	0.5008	720	0.0793
380	0.0009	450	0.8885	520	0.6116	590	0.8643	660	0.4082	730	0.0586
390	0.0012	460	0.6906	530	0.6602	600	0.8595	670	0.3223	740	0.0435
400	0.0017	470	0.3901	540	0.7069	610	0.8292	680	0.2488	750	0.0325
410	0.0048	480	0.2527	550	0.7515	620	0.7703	690	0.1888	760	0.0243
420	0.0228	490	0.3134	560	0.7895	630	0.6878	700	0.1425	770	0.0183
430	0.0948	500	0.4351	570	0.8222	640	0.5967	710	0.1060	780	0.0160

CRI & CCT

x	0.3816
y	0.3860
u'	0.2222
v'	0.5058
CRI	83.50
CCT	4036
Duv	0.00394

R Values

R1	81.46
R2	88.83
R3	94.53
R4	81.95
R5	80.69
R6	83.93
R7	88.39
R8	67.83
R9	15.80
R10	73.20
R11	80.30
R12	56.82
R13	83.20
R14	96.74



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

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: 9*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L111602305R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L111602305R01
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 11/15/2016
 [MANUFAC] REVOLUTION LIGHTING TECHNOLOGIES
 [LUMCAT] 128012-123
 [LUMINAIRE] 128W ECO LINEAR HIGH BAY 4000K MEDIUM OPTIC
 [BALLASTCAT] LETRON LP0240-1450(2 DRIVERS)
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 277VAC, 129.01W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	19082
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	148
Total Luminaire Watts	129.01
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	16162	22385	18206
55	7641	12040	7630
65	3102	4357	2439
75	1853	1496	506
85	1060	649	615

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L111602305R01.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	10193	10193	10193	10193	10193
5	10238	10239	10281	10173	10110
10	10569	10523	10475	10342	10249
15	10665	10717	10585	10369	10210
20	10355	10526	10443	10048	9787
25	9550	9900	9946	9392	9025
30	8436	8901	9164	8489	8053
35	7134	7646	8101	7398	6948
40	5771	6245	7189	6190	5840
45	3836	4632	5313	4457	4321
50	2647	3143	3434	3193	2679
55	1471	1803	2318	1820	1469
60	805	900	1260	899	830
65	440	470	618	430	346
70	262	284	306	177	135
75	161	170	130	59	44
80	86	77	44	28	27
85	31	19	19	19	18
90	0	0	0	0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	3940.58	N.A.	20.70
0-30	8347.88	N.A.	43.70
0-40	13060.00	N.A.	68.40
0-60	18385.16	N.A.	96.30
0-80	19056.84	N.A.	99.90
0-90	19081.92	N.A.	100.00
10-90	18099.07	N.A.	94.80
20-40	9119.41	N.A.	47.80
20-50	12713.62	N.A.	66.60
40-70	5858.99	N.A.	30.70
60-80	671.69	N.A.	3.50
70-80	137.87	N.A.	0.70
80-90	25.08	N.A.	0.10
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	19081.92	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	982.85
10-20	2957.73
20-30	4407.3
30-40	4712.11
40-50	3594.2
50-60	1730.96
60-70	533.83
70-80	137.87
80-90	25.08
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

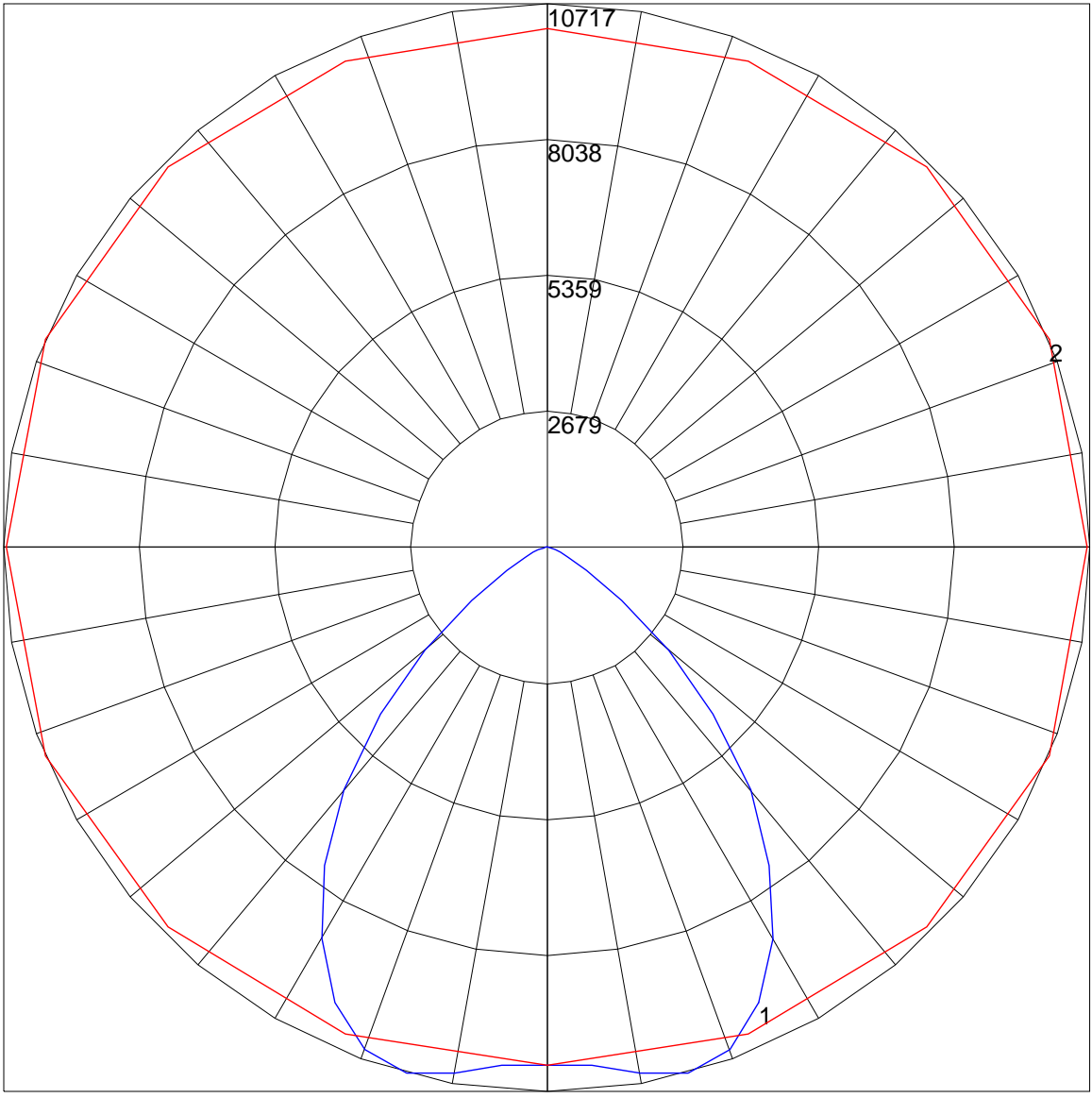
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	105	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90
2	104	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72
4	91	81	74	69	89	80	73	68	78	72	67	75	71	67	73	69	66	64
5	85	74	67	61	83	73	66	61	71	65	60	69	64	60	68	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	53	52
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	43
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	41	39
10	61	49	42	38	60	49	42	38	48	42	38	47	41	37	46	41	37	36

POLAR GRAPH



Maximum Candela = 10717 Located At Horizontal Angle = 22.5, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)