



8165 E Kaiser Blvd. Anaheim, CA 92808
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Report No: L111602309R01

Date: 11/15/2016



NVLAP LAB CODE 200927-0

Report No: L111602309R01

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

Model Number: 128014-123

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 128014-123 . 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:	128014-123
Driver Model Number:	LETRON LP0240-1450 (4 DRIVERS)
Total Lumens:	36321.86
Input Voltage (VAC/60Hz):	244.00
Input Current (Amp):	0.95
Input Power (W):	243.43
Input Power Factor:	0.92
Current ATHD @ 120V(%):	17%
Current ATHD @ 277V(%):	N/A
Efficacy:	149
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	4029
Chromaticity Coordinate x:	0.3820
Chromaticity Coordinate y:	0.3867
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:00
Off State Power(W):	0.00

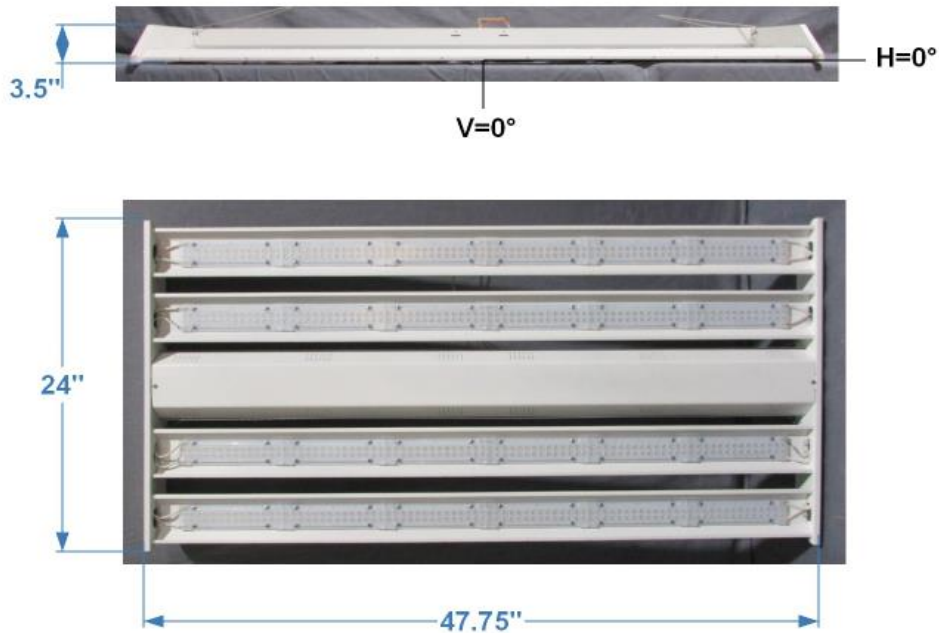
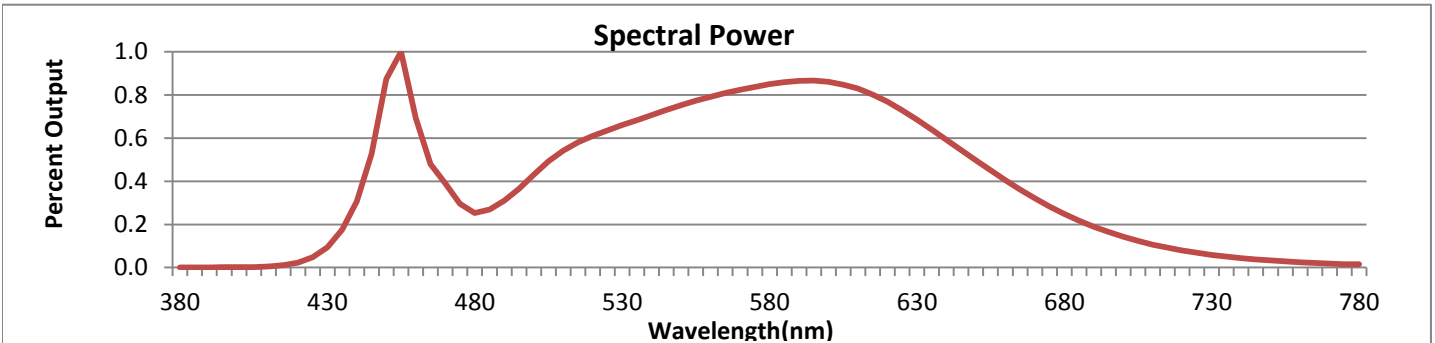


FIG. 1 LUMINAIRE

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



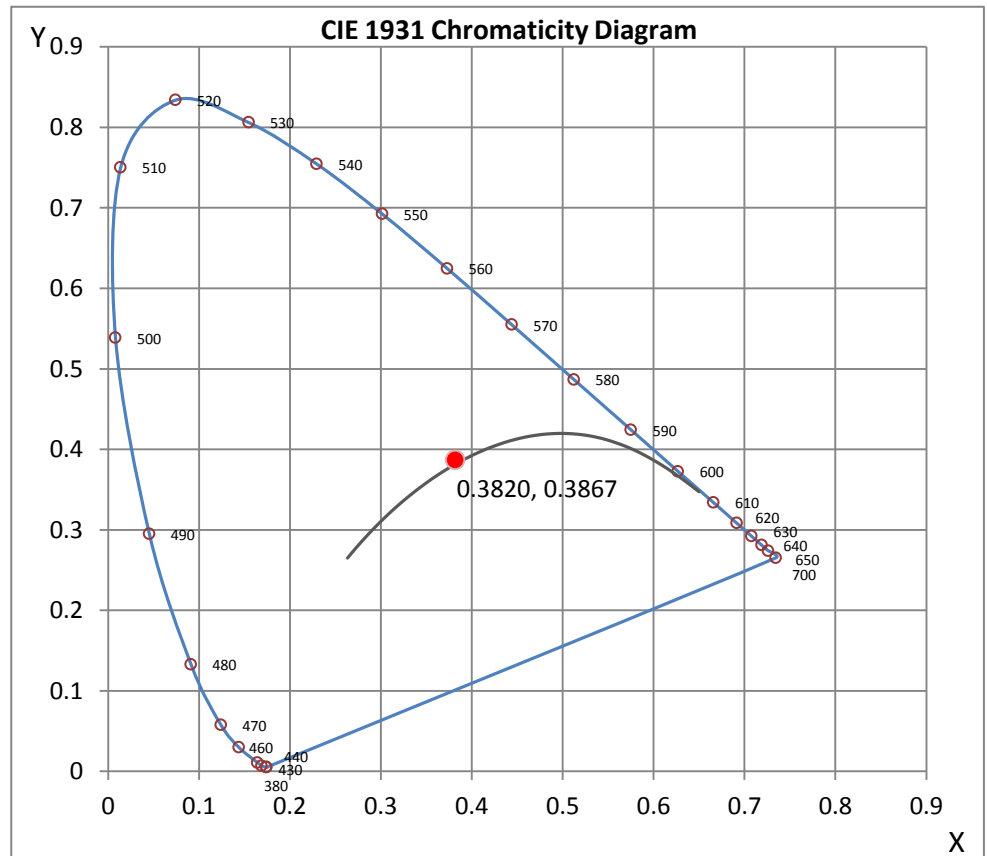
Wavelength	W/m ² nm	440	0.3071	510	0.5426	580	0.8504	650	0.4976	720	0.0793
380	0.0010	450	0.8741	520	0.6100	590	0.8661	660	0.4062	730	0.0590
390	0.0011	460	0.6933	530	0.6601	600	0.8609	670	0.3208	740	0.0434
400	0.0017	470	0.3911	540	0.7076	610	0.8300	680	0.2477	750	0.0326
410	0.0047	480	0.2523	550	0.7533	620	0.7689	690	0.1891	760	0.0245
420	0.0228	490	0.3104	560	0.7914	630	0.6855	700	0.1427	770	0.0183
430	0.0942	500	0.4305	570	0.8240	640	0.5932	710	0.1065	780	0.0160

CRI & CCT

x	0.3820
y	0.3867
u'	0.2222
v'	0.5061
CRI	83.20
CCT	4029
Duv	0.00414

R Values

R1	81.12
R2	88.64
R3	94.48
R4	81.59
R5	80.32
R6	83.66
R7	88.26
R8	67.35
R9	14.51
R10	72.74
R11	79.84
R12	56.34
R13	82.88
R14	96.71



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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.

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:

Test Report Reviewed by:

Jeff Ahn
 Engineering Manager

Steve Kang
 Quality Assurance

**Attached are photometric data reports. Total number of pages: 9*

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



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L111602309R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L111602309R01
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 11/15/2016
 [MANUFAC] REVOLUTION LIGHTING TECHNOLOGIES
 [LUMCAT] 128014-123
 [LUMINAIRE] 258W ECO LINEAR HIGH BAY 4000K MEDIUM OPTIC
 [BALLASTCAT] LETRON LP0240-1450 (4 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, 243.43W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	36322
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	149
Total Luminaire Watts	243.43
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.90 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	16019	20342	16015
55	6879	10134	6595
65	3405	4133	2697
75	2510	1983	1258
85	3063	2743	2743

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L111602309R01.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	19476	19476	19476	19476	19476
5	19746	19717	19695	19664	19617
10	20311	20275	20138	19926	19823
15	20595	20621	20413	19889	19616
20	19962	20222	20124	19221	18716
25	18379	18949	19108	17889	17205
30	16200	16999	17487	16113	15297
35	13678	14562	15322	13931	13166
40	10832	11761	12732	11438	10697
45	7723	8661	9807	8569	7721
50	4804	5626	6681	5565	4742
55	2690	3224	3963	3135	2579
60	1581	1830	2257	1749	1468
65	981	1047	1191	923	777
70	647	684	682	467	391
75	443	452	350	244	222
80	292	269	190	185	186
85	182	159	163	163	163
90	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L111602309R01.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	7580.91	N.A.	20.90
0-30	16015.28	N.A.	44.10
0-40	24900.04	N.A.	68.60
0-60	34679.65	N.A.	95.50
0-80	36172.2	N.A.	99.60
0-90	36321.86	N.A.	100.00
10-90	34430.21	N.A.	94.80
20-40	17319.13	N.A.	47.70
20-50	23989.45	N.A.	66.00
40-70	10877.11	N.A.	29.90
60-80	1492.55	N.A.	4.10
70-80	395.05	N.A.	1.10
80-90	149.65	N.A.	0.40
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	36321.86	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1891.66
10-20	5689.26
20-30	8434.37
30-40	8884.76
40-50	6670.32
50-60	3109.29
60-70	1097.49
70-80	395.05
80-90	149.65
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

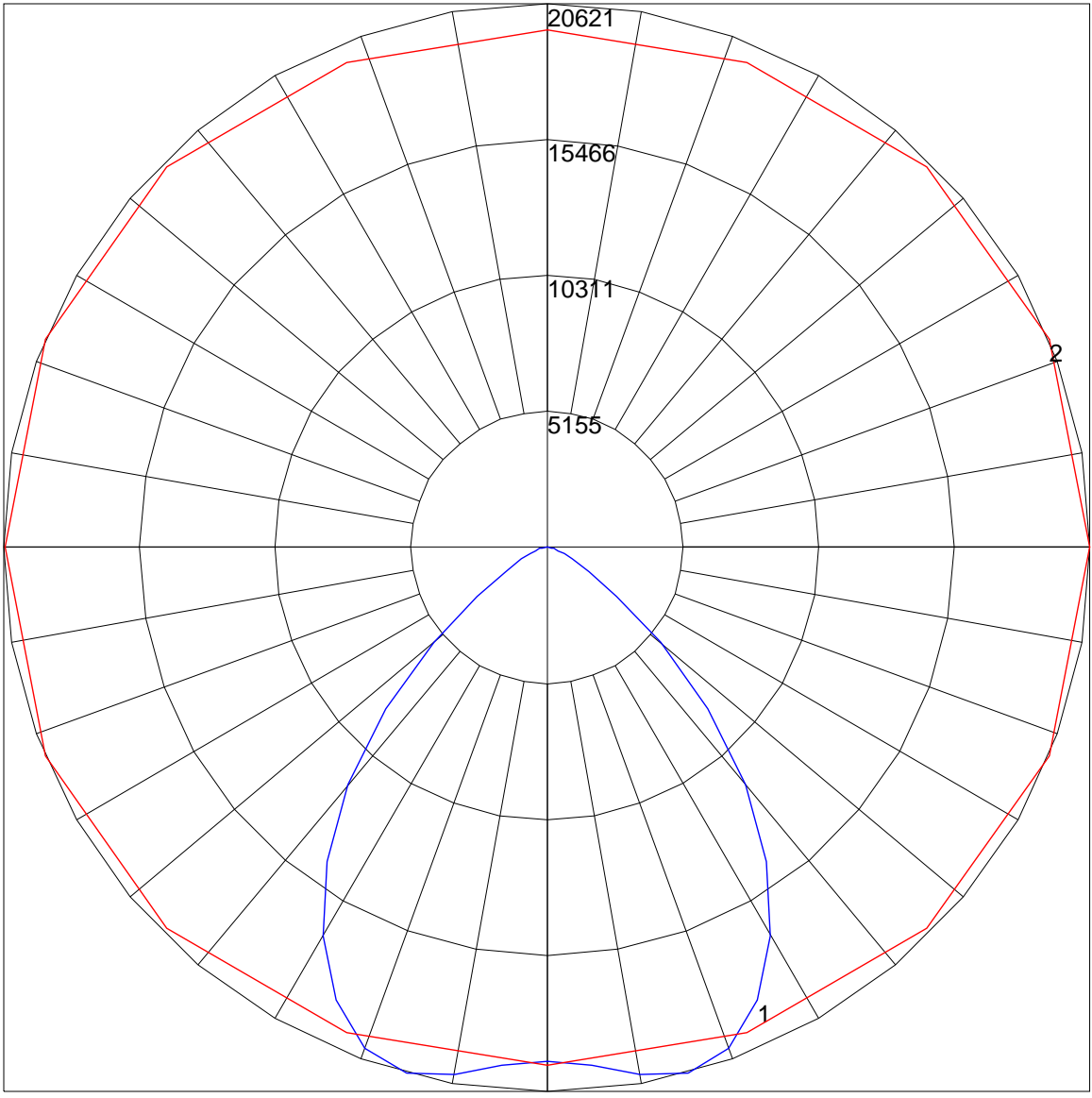
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	87	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	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	42	37	46	41	37	36

POLAR GRAPH



Maximum Candela = 20621 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.)