



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

Report No: L111602302R01

Date: 11/15/2016



NVLAP LAB CODE 200927-0

**Report No:** L111602302R01

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

**Model Number:** 128010-125

**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 128010-125. 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:** 11/10/16 - 11/14/16

**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**

<b>Manufacturer:</b>	Revolution Lighting Technologies
<b>Model Number:</b>	128010-125
<b>Driver Model Number:</b>	LETRON LP0240-1450
<b>Total Lumens:</b>	9429.92
<b>Input Voltage (VAC/60Hz):</b>	277.00
<b>Input Current (Amp):</b>	0.26
<b>Input Power (W):</b>	64.72
<b>Input Power Factor:</b>	0.91
<b>Current ATHD @ 120V(%):</b>	N/A
<b>Current ATHD @ 277V(%):</b>	19%
<b>Efficacy:</b>	146
<b>Color Rendering Index (CRI):</b>	85
<b>Correlated Color Temperature (K):</b>	4997
<b>Chromaticity Coordinate x:</b>	0.3452
<b>Chromaticity Coordinate y:</b>	0.3521
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	1:00
<b>Off State Power(W):</b>	0.00

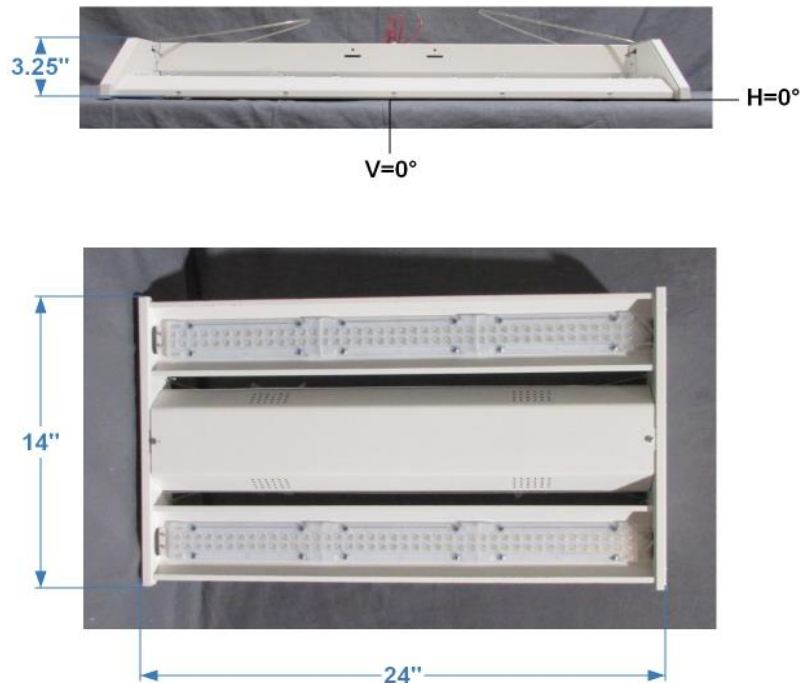
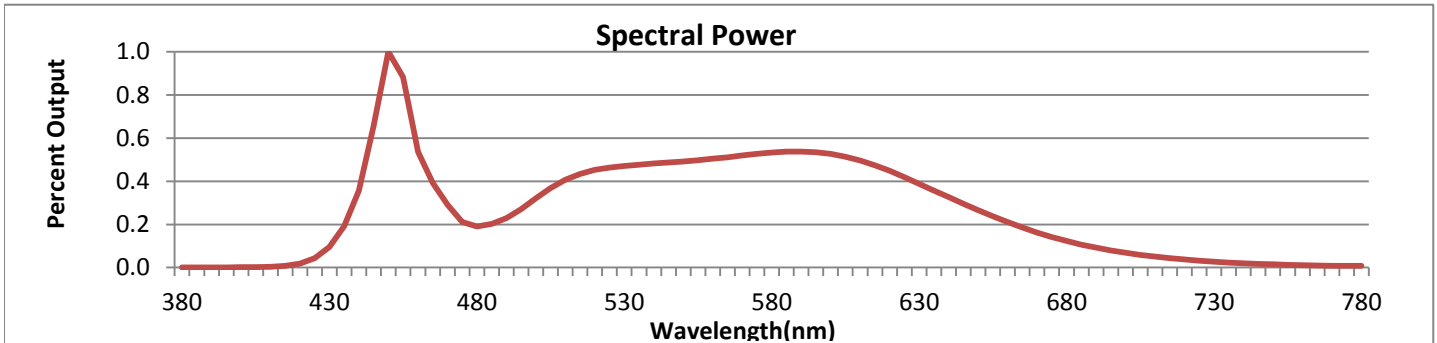


FIG. 1 LUMINAIRE

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



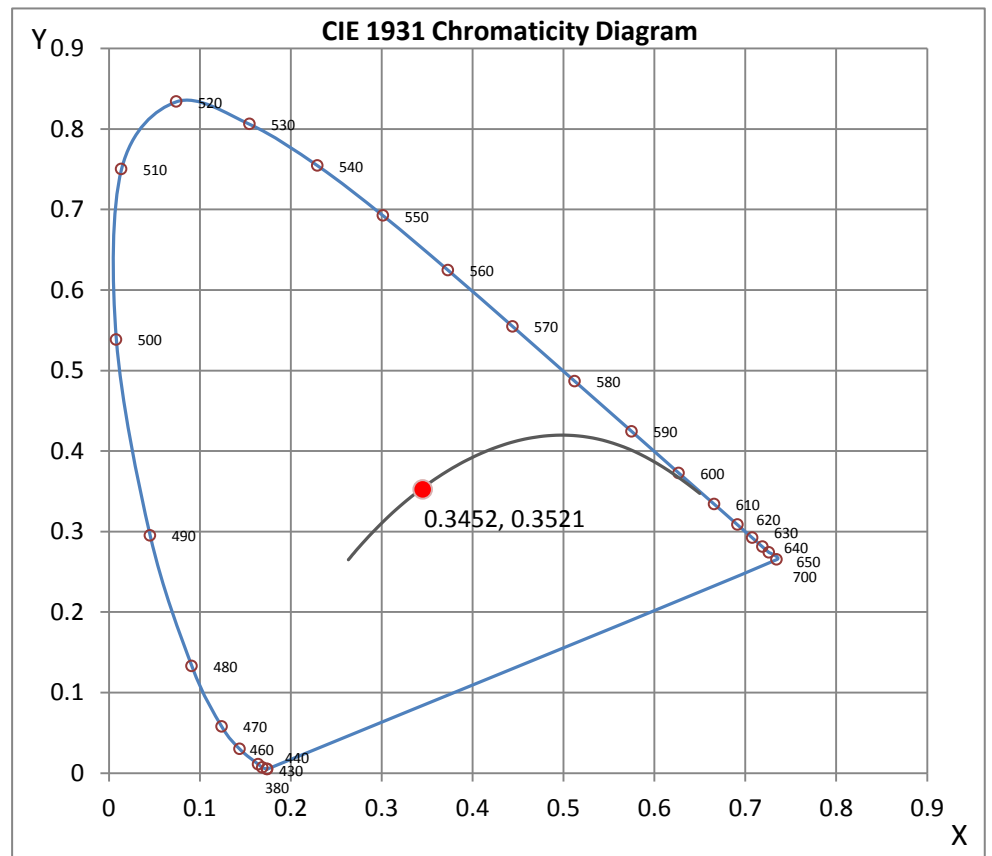
Wavelength	W/m <sup>2</sup> nm	440	0.3568	510	0.4071	580	0.5336	650	0.2662	720	0.0370
380	0.0008	450	1.0000	520	0.4525	590	0.5380	660	0.2112	730	0.0272
390	0.0009	460	0.5361	530	0.4713	600	0.5268	670	0.1628	740	0.0200
400	0.0013	470	0.2917	540	0.4823	610	0.4962	680	0.1231	750	0.0149
410	0.0036	480	0.1902	550	0.4924	620	0.4487	690	0.0921	760	0.0111
420	0.0186	490	0.2283	560	0.5045	630	0.3883	700	0.0682	770	0.0084
430	0.0950	500	0.3216	570	0.5194	640	0.3266	710	0.0502	780	0.0072

**CRI & CCT**

x	0.3452
y	0.3521
u'	0.2113
v'	0.4849
CRI	84.60
CCT	4997
Duv	0.00022

**R Values**

R1	83.76
R2	89.33
R3	92.42
R4	84.65
R5	83.32
R6	83.74
R7	88.74
R8	71.12
R9	18.55
R10	73.73
R11	84.13
R12	56.06
R13	85.44
R14	95.58



\*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*



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

# Photometric Test Report

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L111602302R01.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L111602302R01  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 11/15/2016  
 [MANUFAC] REVOLUTION LIGHTING TECHNOLOGIES  
 [LUMCAT] 128010-125  
 [LUMINAIRE] 64W ECO LINEAR HIGH BAY 5000K MEDIUM OPTIC  
 [BALLASTCAT] LETRON LP0240-1450  
 [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, 64.72W  
 [TEST PROCEDURE] IESNA:LM-79-08

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9430
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	146
Total Luminaire Watts	64.72
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.06 ft
Luminous Height	0.00 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	15065	19145	14848
55	6366	9443	5850
65	3038	3663	2276
75	2287	1694	1123
85	2910	2546	2546

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L111602302R01.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
<b>0</b>	4979	4979	4979	4979	4979
<b>5</b>	5070	5068	5050	5038	5016
<b>10</b>	5239	5240	5200	5147	5099
<b>15</b>	5339	5361	5317	5182	5098
<b>20</b>	5188	5281	5272	5027	4882
<b>25</b>	4777	4949	5017	4692	4495
<b>30</b>	4205	4438	4610	4240	4008
<b>35</b>	3549	3788	4025	3655	3441
<b>40</b>	2819	3059	3327	2995	2804
<b>45</b>	2016	2255	2562	2225	1987
<b>50</b>	1244	1468	1743	1415	1171
<b>55</b>	691	838	1025	779	635
<b>60</b>	396	464	562	427	352
<b>65</b>	243	263	293	222	182
<b>70</b>	162	169	164	110	93
<b>75</b>	112	111	83	59	55
<b>80</b>	75	67	48	48	48
<b>85</b>	48	42	42	42	42
<b>90</b>	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L111602302R01.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1965.59	N.A.	20.80
0-30	4172.76	N.A.	44.30
0-40	6496.65	N.A.	68.90
0-60	9024.5	N.A.	95.70
0-80	9391.34	N.A.	99.60
0-90	9429.92	N.A.	100.00
10-90	8943.75	N.A.	94.80
20-40	4531.06	N.A.	48.00
20-50	6265.59	N.A.	66.40
40-70	2797.9	N.A.	29.70
60-80	366.84	N.A.	3.90
70-80	96.80	N.A.	1.00
80-90	38.57	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	9429.92	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	486.16
10-20	1479.43
20-30	2207.17
30-40	2323.89
40-50	1734.53
50-60	793.32
60-70	270.05
70-80	96.80
80-90	38.57
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

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L111602302R01.IES**

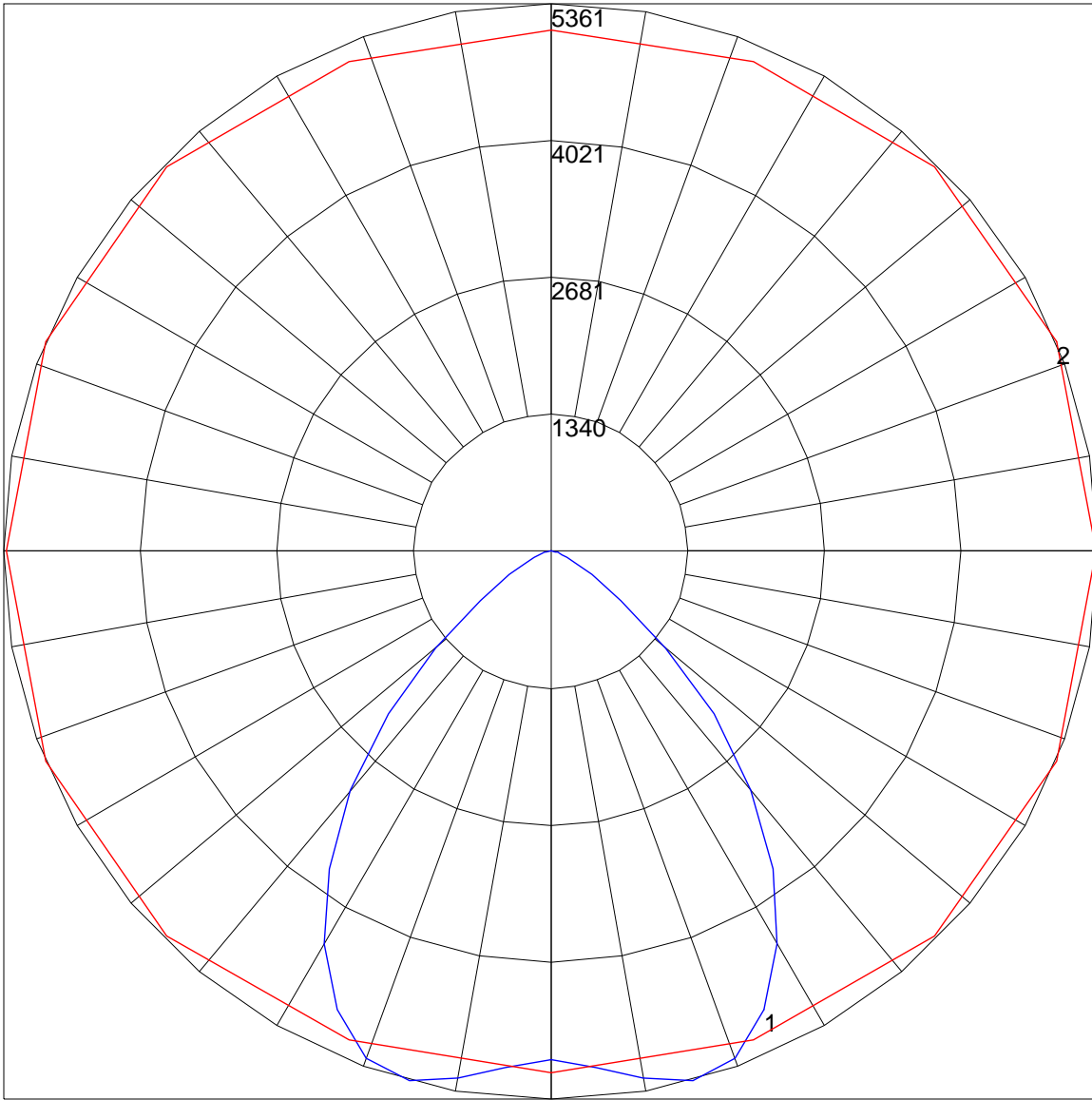
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	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	54	52
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	61	50	43	38	60	49	42	38	48	42	38	47	42	38	46	41	37	36



POLAR GRAPH



Maximum Candela = 5361 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.)