



8165 E Kaiser Blvd. Anaheim, CA 92808  
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Report No: L111602304R01

Date: 11/15/2016



NVLAP LAB CODE 200927-0

**Report No:** L111602304R01

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

**Model Number:** 128011-125

**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 128011-125 . 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>	128011-125
<b>Driver Model Number:</b>	LETRON LP0237-1850
<b>Total Lumens:</b>	11373.13
<b>Input Voltage (VAC/60Hz):</b>	277.00
<b>Input Current (Amp):</b>	0.32
<b>Input Power (W):</b>	79.78
<b>Input Power Factor:</b>	0.91
<b>Current ATHD @ 120V(%):</b>	N/A
<b>Current ATHD @ 277V(%):</b>	15%
<b>Efficacy:</b>	143
<b>Color Rendering Index (CRI):</b>	84
<b>Correlated Color Temperature (K):</b>	4983
<b>Chromaticity Coordinate x:</b>	0.3456
<b>Chromaticity Coordinate y:</b>	0.3522
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:25
<b>Off State Power(W):</b>	0.00

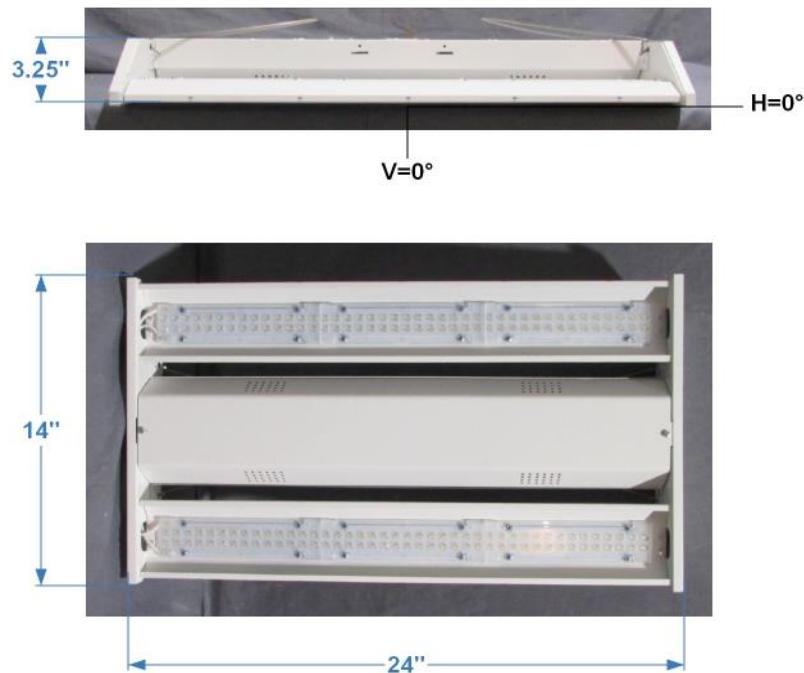
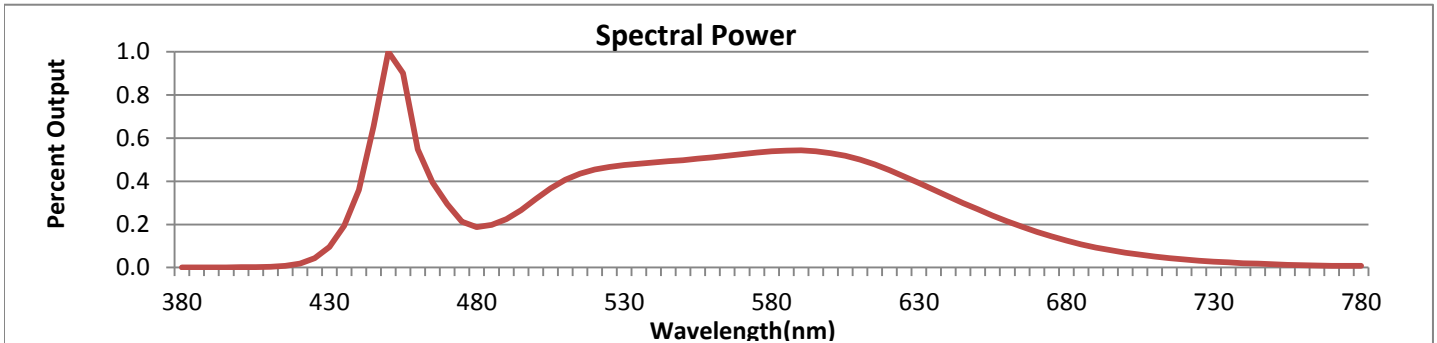


FIG. 1 LUMINAIRE

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



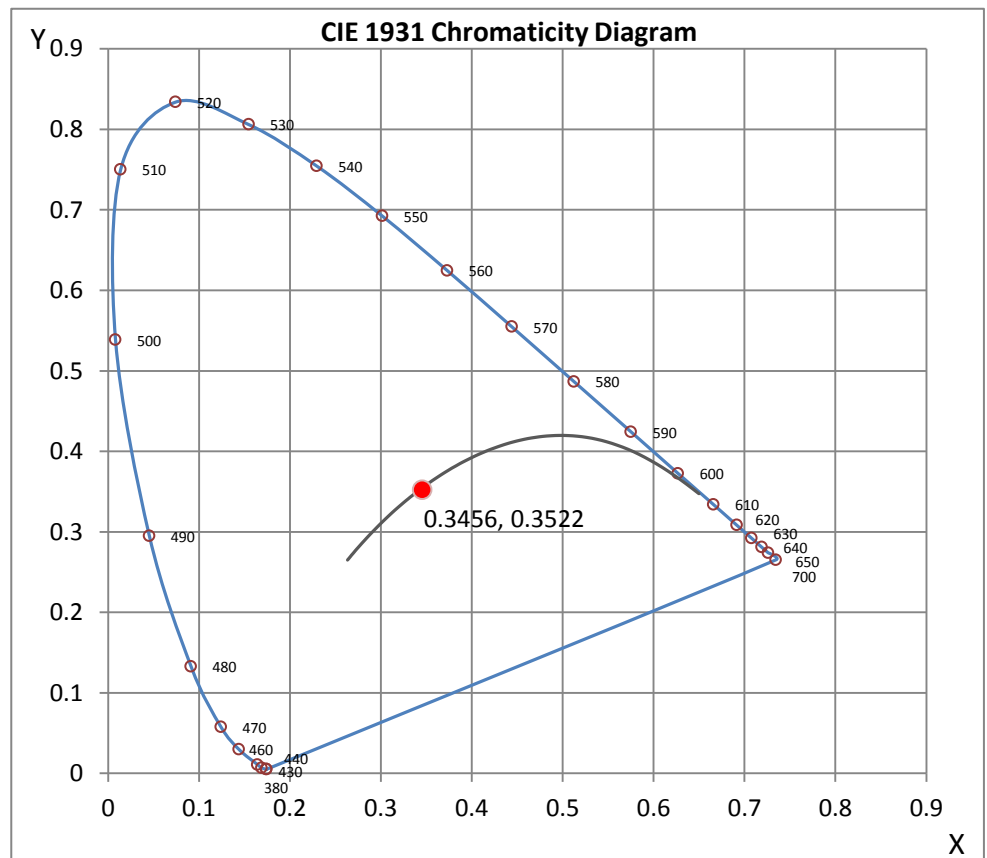
Wavelength	W/m <sup>2</sup> nm	440	0.3590	510	0.4069	580	0.5392	650	0.2699	720	0.0375
380	0.0008	450	1.0000	520	0.4542	590	0.5431	660	0.2139	730	0.0276
390	0.0009	460	0.5486	530	0.4754	600	0.5310	670	0.1649	740	0.0204
400	0.0014	470	0.2949	540	0.4875	610	0.5000	680	0.1250	750	0.0152
410	0.0036	480	0.1877	550	0.4983	620	0.4520	690	0.0930	760	0.0114
420	0.0188	490	0.2241	560	0.5110	630	0.3920	700	0.0690	770	0.0086
430	0.0956	500	0.3179	570	0.5259	640	0.3296	710	0.0508	780	0.0074

**CRI & CCT**

x	0.3456
y	0.3522
u'	0.2115
v'	0.4850
CRI	84.40
CCT	4983
Duv	0.00011

**R Values**

R1	83.49
R2	89.08
R3	92.11
R4	84.33
R5	82.99
R6	83.33
R7	88.67
R8	70.98
R9	18.14
R10	73.06
R11	83.65
R12	55.41
R13	85.16
R14	95.38



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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*

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# Photometric Test Report

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L111602304R01.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L111602304R01  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUE DATE] 11/15/2016  
 [MANUFAC] REVOLUTION LIGHTING TECHNOLOGIES  
 [LUMCAT] 128011-125  
 [LUMINAIRE] 83W ECO LINEAR HIGH BAY 5000K MEDIUM OPTIC  
 [BALLASTCAT] LETRON LP0237-1850  
 [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, 79.78W  
 [TEST PROCEDURE] IESNA:LM-79-08

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11373
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	79.78
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)	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	18076	23150	18016
55	7582	11451	6992
65	3688	4363	2651
75	2756	2001	1327
85	3516	3092	3092

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L111602304R01.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>	6087	6087	6087	6087	6087
<b>5</b>	6217	6208	6181	6163	6134
<b>10</b>	6414	6416	6355	6277	6217
<b>15</b>	6512	6536	6470	6289	6180
<b>20</b>	6277	6395	6384	6078	5900
<b>25</b>	5759	5972	6057	5651	5415
<b>30</b>	5043	5326	5542	5086	4798
<b>35</b>	4240	4529	4833	4384	4119
<b>40</b>	3371	3667	4009	3611	3375
<b>45</b>	2419	2711	3098	2703	2411
<b>50</b>	1486	1759	2112	1729	1428
<b>55</b>	823	1003	1243	934	759
<b>60</b>	471	554	677	510	424
<b>65</b>	295	312	349	261	212
<b>70</b>	194	203	194	125	110
<b>75</b>	135	133	98	69	65
<b>80</b>	90	81	58	58	58
<b>85</b>	58	51	51	51	51
<b>90</b>	0	0	0	0	0

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2393.3	N.A.	21.00
0-30	5053.98	N.A.	44.40
0-40	7841.54	N.A.	68.90
0-60	10889.83	N.A.	95.80
0-80	11326.42	N.A.	99.60
0-90	11373.13	N.A.	100.00
10-90	10778.48	N.A.	94.80
20-40	5448.24	N.A.	47.90
20-50	7541.13	N.A.	66.30
40-70	3369.82	N.A.	29.60
60-80	436.59	N.A.	3.80
70-80	115.07	N.A.	1.00
80-90	46.71	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	11373.13	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	594.65
10-20	1798.65
20-30	2660.69
30-40	2787.55
40-50	2092.89
50-60	955.40
60-70	321.53
70-80	115.07
80-90	46.71
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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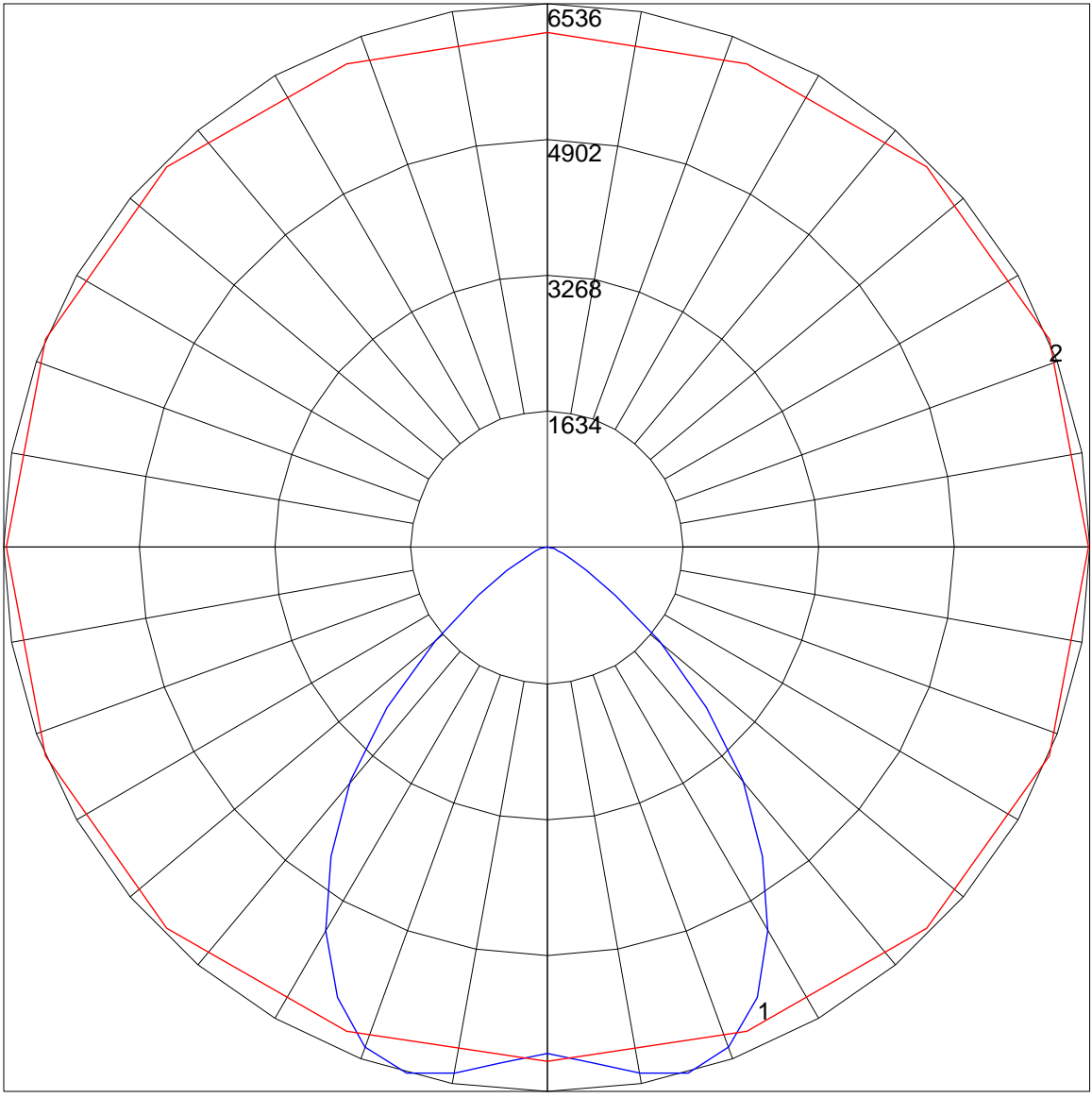
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	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	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	58
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	54	48	45	43
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39
10	61	50	43	38	60	49	42	38	48	42	38	47	42	38	47	41	38	36



POLAR GRAPH



Maximum Candela = 6536 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.)