



8165 E Kaiser Blvd.
 Anaheim, CA 92808
 www.lightlaboratory.com

Report No: L011701901



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Issue Date: 1/13/2017

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

Model Number: 128016-123

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 128016-123. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 1/10/17

Date of Tests: 1/12/17 - 1/13/17

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	11/28/17
ITECH	IT6122	PS-DC03-S1	11/28/17
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/28/17
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:	128016-123
Driver Model Number:	LETRON LP0240-1150(2 DRIVERS)
Total Lumens:	15069.85
Input Voltage (VAC/60Hz):	277.00
Input Current (Amp):	0.40
Input Power (W):	99.94
Input Power Factor:	0.90
Current ATHD @ 120V(%):	N/A
Current ATHD @ 277V(%):	15%
Efficacy:	151
Color Rendering Index (CRI):	84
Correlated Color Temperature (K):	4048
Chromaticity Coordinate x:	0.3810
Chromaticity Coordinate y:	0.3857
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:05
Off State Power(W):	0.00

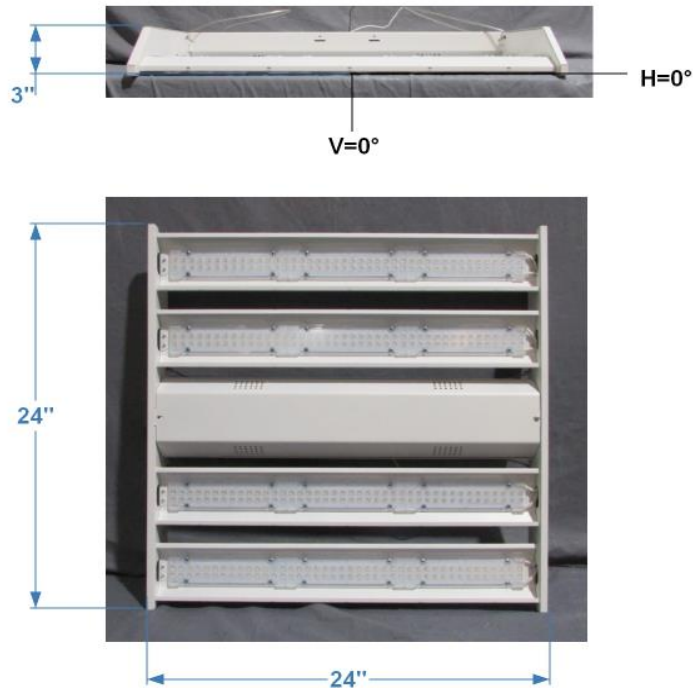
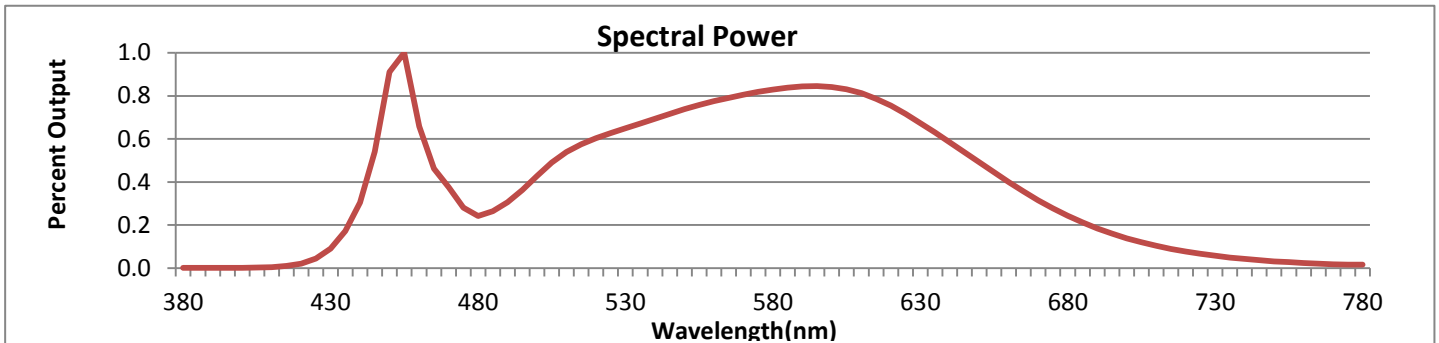


FIG. 1 LUMINAIRE

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



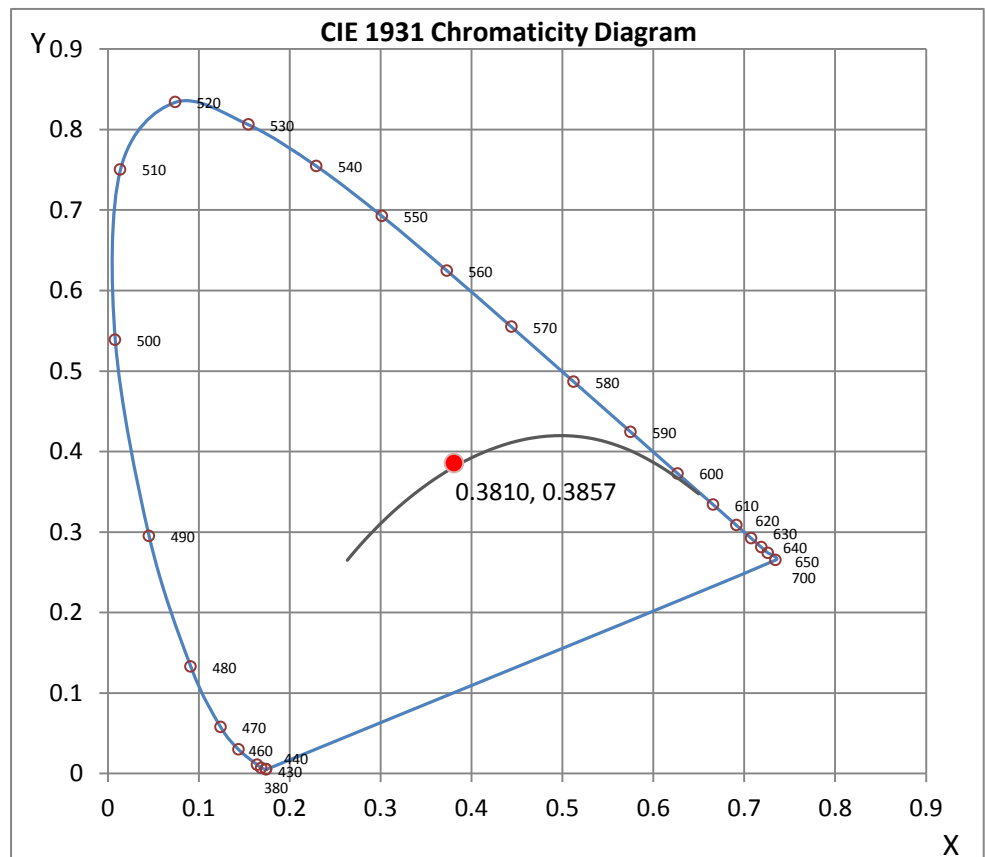
Wavelength	W/m ² nm	440	0.3046	510	0.5389	580	0.8294	650	0.4911	720	0.0769
380	0.0009	450	0.9110	520	0.6027	590	0.8446	660	0.4003	730	0.0569
390	0.0010	460	0.6588	530	0.6488	600	0.8417	670	0.3150	740	0.0421
400	0.0015	470	0.3763	540	0.6942	610	0.8128	680	0.2433	750	0.0315
410	0.0043	480	0.2421	550	0.7390	620	0.7552	690	0.1845	760	0.0236
420	0.0211	490	0.3060	560	0.7754	630	0.6739	700	0.1385	770	0.0177
430	0.0897	500	0.4285	570	0.8052	640	0.5842	710	0.1036	780	0.0153

CRI & CCT

x	0.3810
y	0.3857
u'	0.2220
v'	0.5055
CRI	83.50
CCT	4048
Duv	0.00398

R Values

R1	81.53
R2	88.73
R3	94.33
R4	82.15
R5	80.76
R6	83.78
R7	88.52
R8	68.07
R9	16.16
R10	72.99
R11	80.55
R12	56.50
R13	83.20
R14	96.62



*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 : L011701901.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L011901901
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 1/13/2017
[MANUFAC] REVOLUTION LIGHTING TECHNOLOGIES
[LUMCAT] 128016-123
[LUMINAIRE] 100W 2X2 LINEAR HIGH BAY 4000K
[BALLASTCAT] LETRON LP0240-1150(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, 99.94W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	15070
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	151
Total Luminaire Watts	99.94
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.06
Spacing Criterion (Diagonal)	1.18
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.85 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	12601	16296	13089
55	5563	8218	5822
65	3095	3811	2600
75	2340	1860	1287
85	2814	2571	2571

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011701901.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	9246	9246	9246	9246	9246
5	9387	9370	9342	9315	9307
10	9503	9495	9422	9314	9264
15	9321	9327	9233	9010	8899
20	8598	8723	8693	8339	8142
25	7588	7812	7924	7461	7200
30	6464	6796	7055	6550	6247
35	5334	5693	6079	5578	5285
40	4169	4545	5001	4534	4239
45	2943	3317	3806	3376	3057
50	1829	2137	2583	2215	1914
55	1054	1244	1557	1301	1103
60	684	755	948	778	676
65	432	459	532	429	363
70	288	311	311	225	193
75	200	208	159	117	110
80	131	119	92	89	88
85	81	72	74	74	74
90	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L011701901.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	3453.48	N.A.	22.90
0-30	6964.7	N.A.	46.20
0-40	10491.7	N.A.	69.60
0-60	14332.04	N.A.	95.10
0-80	15001.46	N.A.	99.50
0-90	15069.85	N.A.	100.00
10-90	14176.98	N.A.	94.10
20-40	7038.21	N.A.	46.70
20-50	9636.22	N.A.	63.90
40-70	4326.81	N.A.	28.70
60-80	669.42	N.A.	4.40
70-80	182.96	N.A.	1.20
80-90	68.39	N.A.	0.50
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	15069.85	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	892.88
10-20	2560.61
20-30	3511.22
30-40	3526.99
40-50	2598.01
50-60	1242.34
60-70	486.46
70-80	182.96
80-90	68.39
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

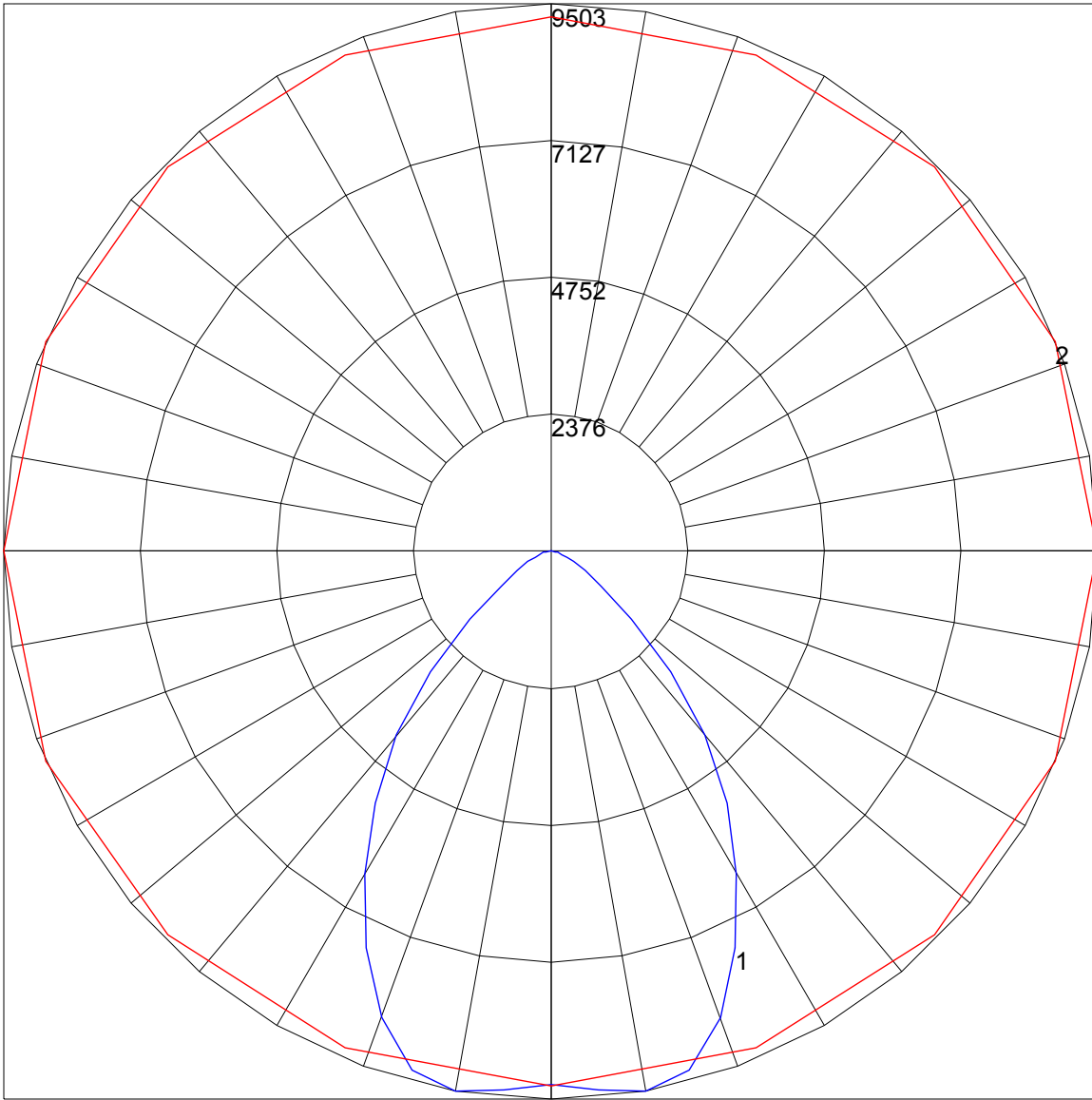
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	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	85	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	74	67	62	83	73	67	62	72	66	61	70	64	60	68	63	60	58
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	49	48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

POLAR GRAPH



Maximum Candela = 9503 Located At Horizontal Angle = 0, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)