



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

Report No: L121605928R02



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Issue Date: 2/17/2017

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

Model Number: 121031-232

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. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 12/21/16

Date of Tests: 1/3/17 - 1/9/17

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.

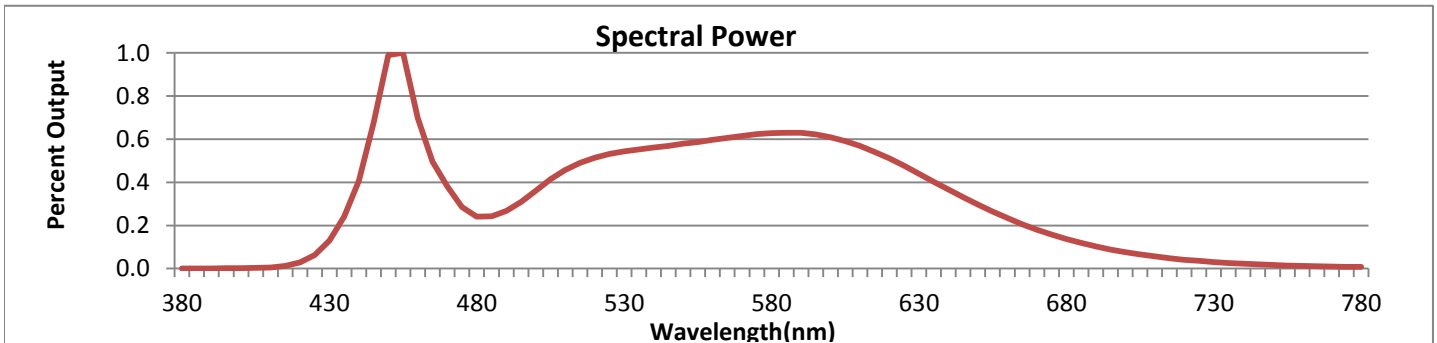
Test Summary

Manufacturer:	Revolution Lighting
Model Number:	121031-232
Driver Model Number:	MEAN WELL HBG-100-48B
Total Lumens:	13448.95
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.81
Input Power (W):	96.41
Input Power Factor:	1.00
Current ATHD @ 120V(%):	9%
Current ATHD @ 277V(%):	N/A
Efficacy:	139
Color Rendering Index (CRI):	83
Correlated Color Temperature (K):	4991
Chromaticity Coordinate x:	0.3456
Chromaticity Coordinate y:	0.3545
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	0:55
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.



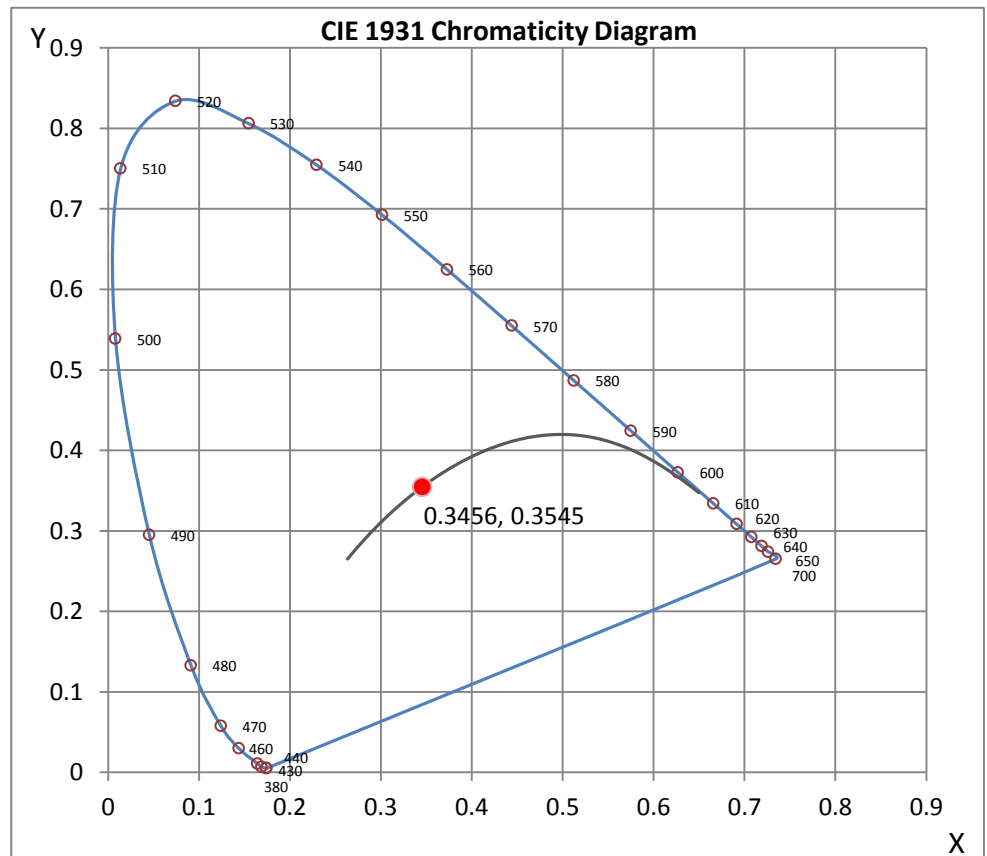
Wavelength	W/m ² nm	440	0.4075	510	0.4583	580	0.6284	650	0.2968	720	0.0413
380	0.0009	450	0.9910	520	0.5146	590	0.6291	660	0.2346	730	0.0305
390	0.0011	460	0.6978	530	0.5432	600	0.6091	670	0.1804	740	0.0224
400	0.0016	470	0.3814	540	0.5614	610	0.5692	680	0.1368	750	0.0166
410	0.0053	480	0.2410	550	0.5785	620	0.5105	690	0.1025	760	0.0124
420	0.0285	490	0.2675	560	0.5971	630	0.4399	700	0.0763	770	0.0092
430	0.1300	500	0.3607	570	0.6154	640	0.3668	710	0.0563	780	0.0080

CRI & CCT

x	0.3456
y	0.3545
u'	0.2106
v'	0.4861
CRI	83.30
CCT	4991
Duv	0.00126

R Values

R1	81.81
R2	88.84
R3	92.91
R4	82.20
R5	81.35
R6	83.10
R7	87.92
R8	68.38
R9	11.31
R10	72.47
R11	81.01
R12	55.35
R13	83.86
R14	95.87



*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 : L121605928R02.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L121605928R02
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 2/17/2017
[MANUFAC] Revolution Lighting
[LUMCAT] 121031-232
[LUMINAIRE] 100W Low-Pro Round Dimmable High Bay 5000K
[BALLASTCAT] MEANWELL HBG-100-48B
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 96.41W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	13449
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	96.41
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	258234	258234	258234
55	246069	246069	246069
65	206184	206184	206184
75	124850	124850	124850
85	31420	31420	31420

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121605928R02.IES

CANDELA TABULATION

	<u>0</u>
0	4830
5	4808
10	4758
15	4671
20	4548
25	4386
30	4191
35	3955
40	3667
45	3334
50	2983
55	2577
60	2113
65	1591
70	1069
75	590
80	223
85	50
90	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L121605928R02.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1776.52	N.A.	13.20
0-30	3798.96	N.A.	28.20
0-40	6270.19	N.A.	46.60
0-60	11135.93	N.A.	82.80
0-80	13361.08	N.A.	99.30
0-90	13448.95	N.A.	100.00
10-90	12991.53	N.A.	96.60
20-40	4493.67	N.A.	33.40
20-50	7066.4	N.A.	52.50
40-70	6439.72	N.A.	47.90
60-80	2225.15	N.A.	16.50
70-80	651.17	N.A.	4.80
80-90	87.87	N.A.	0.70
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	13448.95	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	457.43
10-20	1319.1
20-30	2022.44
30-40	2471.23
40-50	2572.73
50-60	2293.01
60-70	1573.98
70-80	651.17
80-90	87.87
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

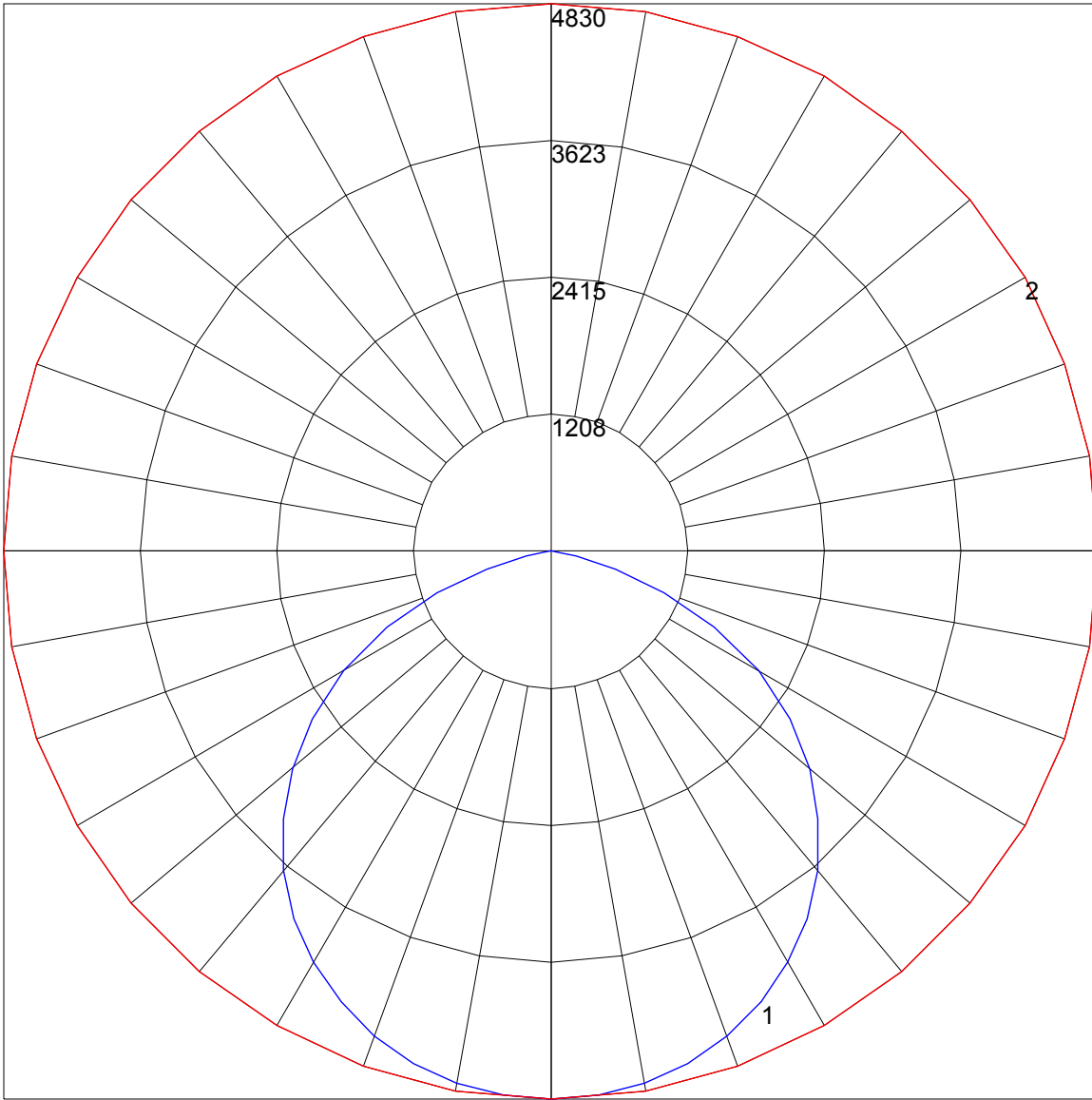
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	83	79	76	80	77	74	72
3	91	81	73	67	89	80	72	66	77	70	65	74	68	64	71	67	63	61
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	64	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

POLAR GRAPH



Maximum Candela = 4830 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)