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Report No: L031601806R02

Date: 5/6/2016



NVLAP LAB CODE 200927-0

Report No: L031601806R02

Prepared For: Suxess Inc., dba LUX Dynamics
 1350 Capital Blvd, Reno, NV 89502

Model Number: LED-GYM-4-UNV - 850 HO LADC

Test: Photometric/Electrical Test

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 LED-GYM-4-UNV - 850 HO LADC. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 2/16/16

Date of Tests: 3/16/16 - 3/17/16

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:	Suxess Inc., dba LUX Dynamics
Model Number:	LED-GYM-4-UNV - 850 HO LADC
Driver Model Number:	OSRAM OPTOTRONIC OTi 85/120-277/2A6 DIMLT2 L (4 DRIVERS)
Total Lumens:	37871.51
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	2.96
Input Power (W):	354.50
Input Power Factor:	1.00
Current ATHD @ 120V(%):	3%
Current ATHD @ 277V(%):	N/A
Efficacy:	107
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	3:20
Off State Power(W):	0.00

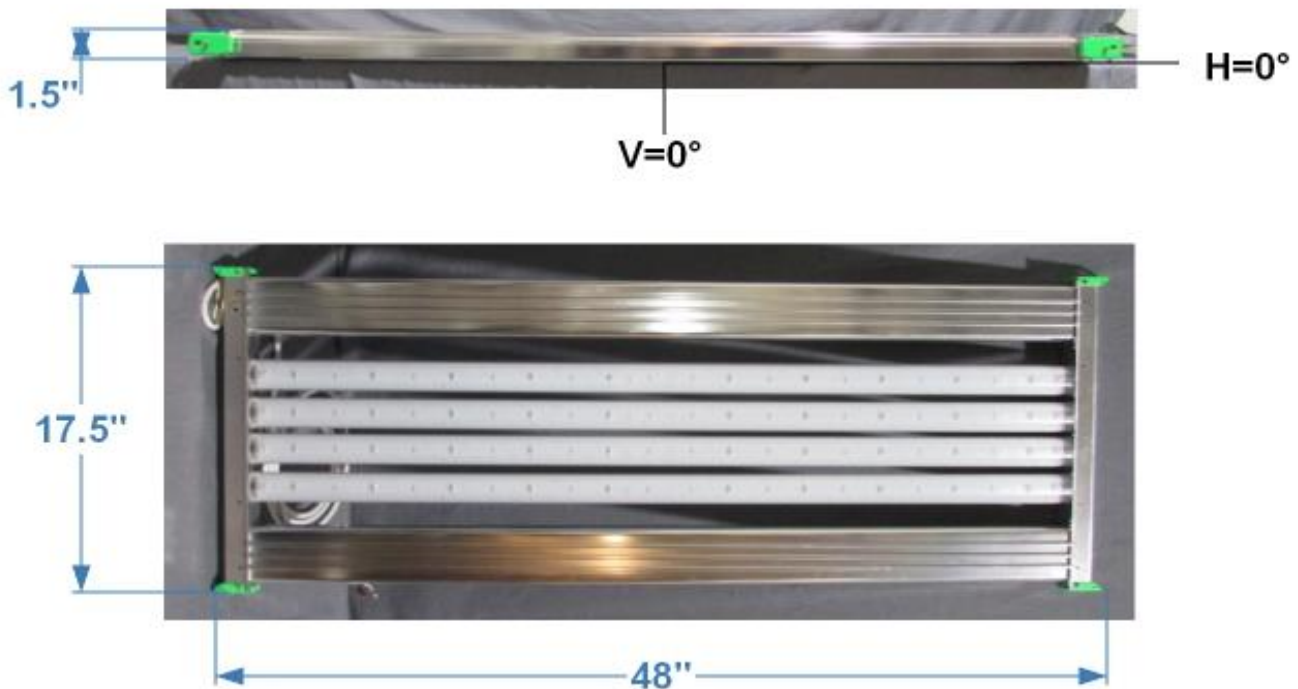


FIG.1 LUMINAIRE

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

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 : L031601806R02.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L031601806R02
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 5/6/2016
 [MANUFAC] Suxess Inc., dba LUX Dynamics
 [LUMCAT] LED-GYM-4-UNV - 850 HO LADC
 [LUMINAIRE] 48"L. X 17.5"W. X 1.5"H. LED HIGH BAY
 [BALLASTCAT] OSRAM OPTOTRONIC OTi 85/120-277/2A6 DIMLT2 L (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] 120VAC, 354.50W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	37872
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	354.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.34
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.83 ft
Luminous Width (90-270)	0.67 ft
Luminous Height	0.06 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	43956	49899	50157
55	37126	46833	45429
65	28638	43443	46933
75	18097	40503	40861
85	10807	23569	23144

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L031601806R02.IES

CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	12650	12650	12650	12650	12650	12650	12650	12650	12650	12650
5	12575	12557	12570	12596	12606	12629	12663	12679	12695	12712
10	12374	12380	12410	12445	12487	12515	12545	12562	12563	12533
15	12075	12086	12137	12183	12211	12204	12195	12155	12178	12217
20	11662	11660	11718	11758	11726	11689	11754	11852	11886	11853
25	11107	11111	11157	11122	11110	11266	11332	11250	11147	11149
30	10438	10412	10416	10390	10557	10651	10534	10537	10713	10859
35	9610	9585	9557	9667	9854	9787	9860	10033	10182	10235
40	8634	8630	8663	8856	8927	9028	9208	9369	9522	9690
45	7533	7555	7682	7841	8057	8189	8418	8637	8750	9046
50	6370	6416	6591	6848	7052	7286	7500	7747	8041	8163
55	5195	5219	5486	5722	5972	6222	6544	6805	7036	7091
60	4133	4173	4406	4660	4928	5311	5565	5841	6000	6015
65	2985	3033	3214	3474	3817	4155	4475	4771	4932	5080
70	1948	1999	2134	2412	2776	3133	3507	3742	3972	4112
75	1183	1221	1345	1569	1909	2268	2594	2855	3031	3196
80	640	674	794	988	1274	1575	1770	1963	2052	1990
85	265	308	391	526	729	828	768	738	782	907
90	112	113	114	116	118	119	121	125	130	136
95	114	118	122	127	125	120	117	116	116	116
100	120	122	132	136	142	156	165	165	154	141
105	0	130	138	154	157	157	157	168	179	185
110	0	0	0	0	0	0	0	167	163	166
115	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0

Vert. Angles Horizontal Angles

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
0	12650	12650	12650	12650	12650	12650	12650	12650	12650
5	12721	12724	12724	12733	12738	12740	12750	12738	12748
10	12521	12512	12504	12492	12490	12486	12493	12497	12496
15	12246	12286	12310	12312	12301	12278	12259	12246	12223
20	11752	11685	11645	11678	11718	11769	11798	11832	11833
25	11278	11422	11498	11532	11535	11546	11548	11548	11545
30	10922	10941	10976	11051	11115	11201	11256	11287	11287
35	10353	10518	10629	10728	10782	10834	10862	10885	10879
40	9818	10011	10150	10171	10154	10132	10133	10124	10115
45	9231	9208	9210	9250	9278	9261	9241	9220	9221
50	8237	8234	8192	8169	8158	8137	8127	8126	8137
55	7051	7086	7115	7089	7072	7047	7035	7016	7013
60	6131	6167	6151	6144	6146	6185	6233	6259	6264

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CANDELA TABULATION - (Cont.)

65	5135	5187	5251	5340	5432	5517	5583	5627	5642
70	4186	4307	4419	4562	4682	4769	4817	4844	4850
75	3348	3480	3564	3590	3554	3467	3404	3375	3367
80	1998	2106	2210	2302	2353	2376	2381	2382	2383
85	1074	1212	1277	1263	1189	1104	1032	989	974
90	137	133	130	128	128	127	127	126	126
95	116	116	116	116	116	117	117	117	117
100	132	127	125	123	122	121	121	121	121
105	186	184	179	174	170	167	165	163	163
110	174	182	188	193	197	201	204	205	206
115	172	172	174	179	185	190	193	196	197
120	0	0	0	0	179	180	181	182	183
125	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	4644.76	N.A.	12.30
0-30	9867.28	N.A.	26.10
0-40	16275.04	N.A.	43.00
0-60	28894.2	N.A.	76.30
0-80	36484.81	N.A.	96.30
0-90	37489.54	N.A.	99.00
10-90	36286.24	N.A.	95.80
20-40	11630.28	N.A.	30.70
20-50	18317.07	N.A.	48.40
40-70	17268.9	N.A.	45.60
60-80	7590.61	N.A.	20.00
70-80	2940.87	N.A.	7.80
80-90	1004.74	N.A.	2.70
90-110	287.39	N.A.	0.80
90-120	371.52	N.A.	1.00
90-130	381.97	N.A.	1.00
90-150	381.97	N.A.	1.00
90-180	381.97	N.A.	1.00
110-180	94.58	N.A.	0.20
0-180	37871.51	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1203.31
10-20	3441.45
20-30	5222.52
30-40	6407.76
40-50	6686.79
50-60	5932.37
60-70	4649.74
70-80	2940.87
80-90	1004.74
90-100	135.15
100-110	152.23
110-120	84.13
120-130	10.45
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

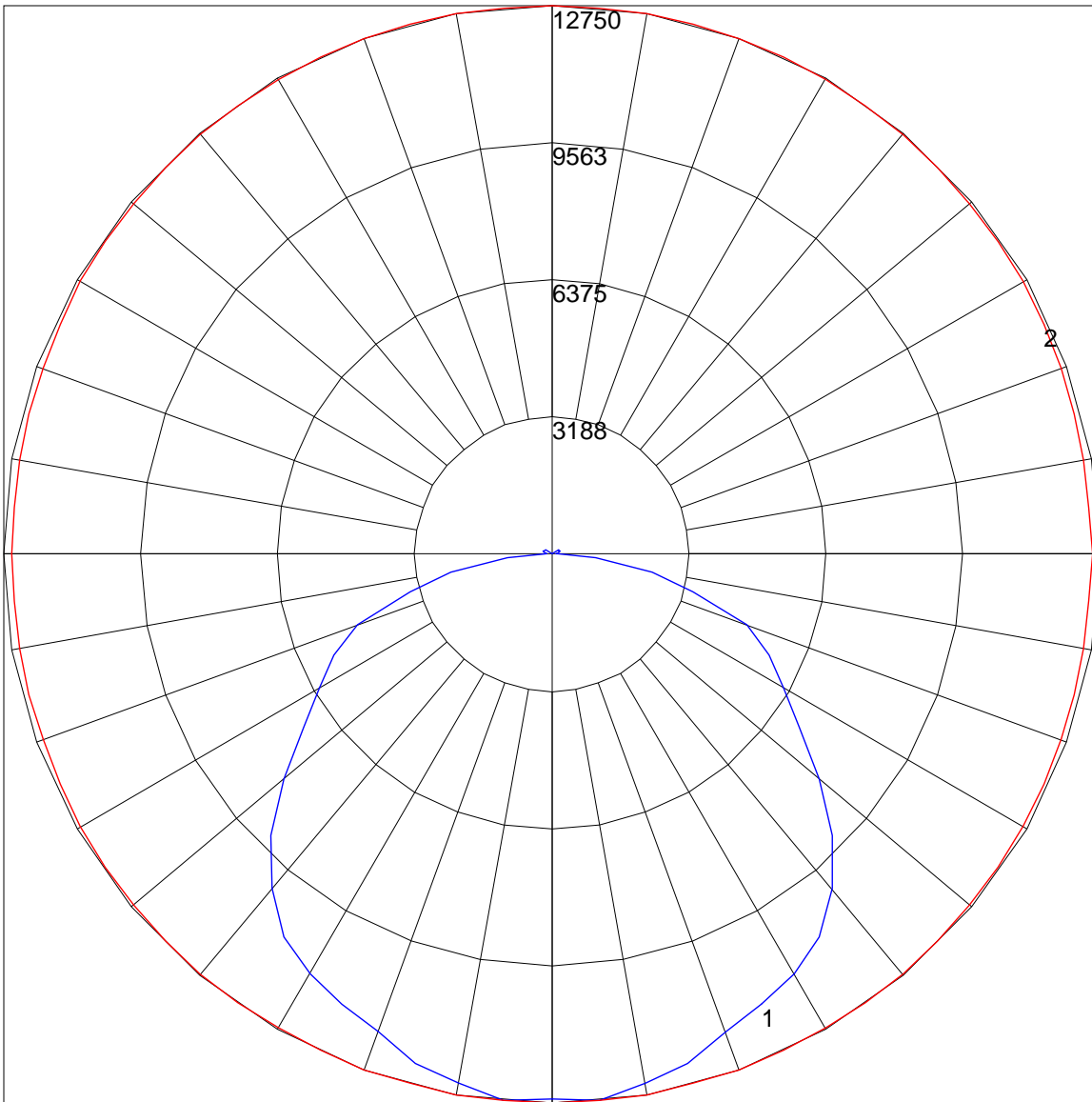
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	116	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	99	94	94	105	101	97	93	93	96	93	90	92	89	87	88	86	84	82
2	98	89	82	76	76	95	87	81	75	75	84	78	74	80	76	72	77	73	70	68
3	89	78	70	63	63	87	77	69	63	63	74	67	61	71	65	60	68	63	59	57
4	82	69	60	53	53	79	68	59	53	53	65	58	52	63	56	51	60	55	51	48
5	75	62	53	46	46	73	61	52	46	46	58	51	45	56	50	44	54	48	44	42
6	69	56	47	40	40	67	55	46	40	40	53	45	39	51	44	39	49	43	38	36
7	64	50	41	35	35	62	49	41	35	35	48	40	35	46	39	34	45	39	34	32
8	60	46	37	31	31	58	45	37	31	31	44	36	31	42	36	31	41	35	30	29
9	56	42	34	28	28	54	41	34	28	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	26	51	38	31	25	25	37	30	25	36	30	25	35	29	25	23

POLAR GRAPH



Maximum Candela = 12750 Located At Horizontal Angle = 80, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (80 - 260) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)