



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

Report No: L022110805



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Issue Date: 2/16/2021

Report Prepared For: Light and Green
2340 E Olympic Blvd. Unit E., Los Angeles, CA 90021

Model Number: LG-9012A-AC-30K

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

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 2/8/21

Date of Tests: 2/11/21 - 2/16/21

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-S4	1/9/22
BK PRECISION	1747	PS-DC04	1/10/22
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/22
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

General Information

Manufacturer:	Light and Green
Model Number:	LG-9012A-AC-30K
Driver Model Number:	L.T.F. DIMMABLE LED DRIVER DA10W250C2040-3001 (2 DRIVERS)

Photometric & Electrical Test Results

Total Lumens:	1723.89
Efficacy:	76.53
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.1885
Input Power (W):	22.53
Input Power Factor:	0.9957
Current ATHD (%):	7.8%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	1:35

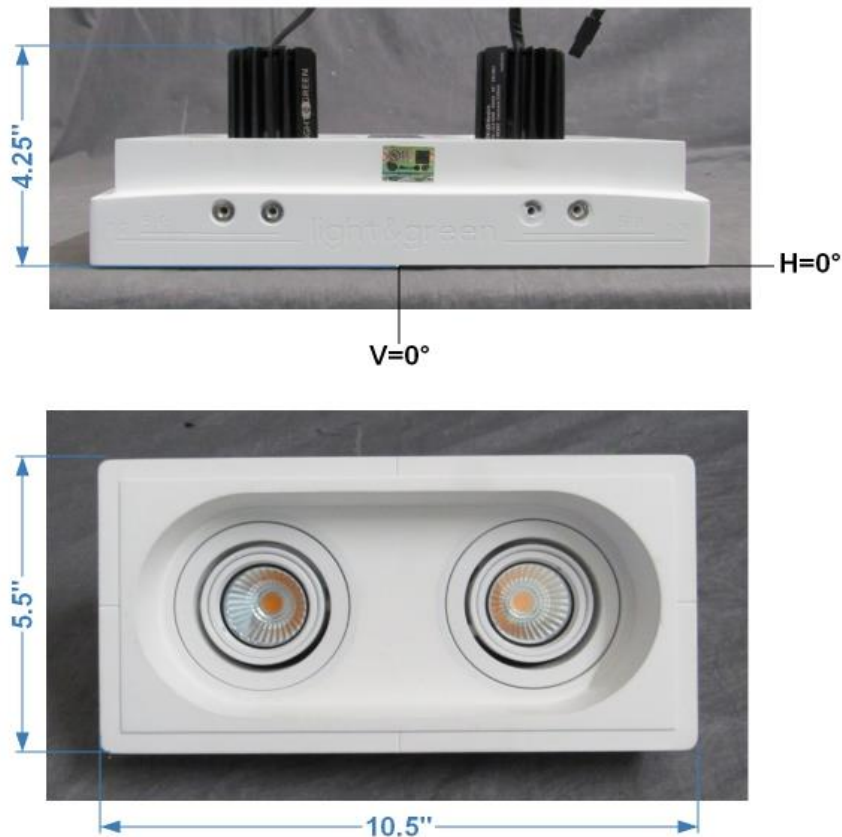


FIG. 1 LUMINAIRE

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 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 : L022110805.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L022110805
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 2/16/2021
 [MANUFAC] Light and Green
 [LUMCAT] LG-9012A-AC-30K
 [LUMINAIRE] LED Recessed Downlight
 [BALLASTCAT] L.T.F. DIMMABLE LED DRIVER DA10W250C2040-3001(2 DRIVERS)
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120.0VAC, 22.53W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1724
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	22.53
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.62
Spacing Criterion (90-270)	0.64
Spacing Criterion (Diagonal)	0.72
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.25 ft
Luminous Width (90-270)	0.25 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	35161	35891	34431
55	12899	13199	10499
65	7328	6921	4886
75	7313	5318	5318
85	11845	11845	11845

IES INDOOR REPORT
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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>
0.0	2651	2651	2651	2651	2651	2651	2651	2651	2651	2651
1.0	2595	2597	2600	2608	2615	2620	2627	2636	2640	2647
3.0	2561	2563	2568	2574	2582	2587	2595	2603	2608	2614
5.0	2484	2487	2490	2496	2504	2507	2514	2522	2526	2533
7.0	2366	2368	2370	2376	2384	2388	2395	2403	2407	2414
9.0	2171	2175	2177	2183	2191	2196	2202	2209	2214	2221
11.0	1988	1992	1993	1999	2007	2010	2017	2023	2029	2035
13.0	1828	1832	1834	1839	1847	1851	1858	1864	1869	1875
15.0	1668	1673	1675	1680	1688	1692	1697	1702	1707	1712
17.0	1512	1518	1519	1522	1531	1534	1538	1545	1549	1555
19.5	1346	1349	1352	1355	1362	1365	1369	1374	1378	1382
22.5	1149	1153	1156	1158	1164	1167	1170	1173	1177	1182
25.5	973	975	977	980	984	987	987	991	995	1000
29.0	786	788	791	793	796	798	798	799	803	807
33.0	633	636	638	640	643	644	644	646	650	652
37.5	465	467	469	471	473	474	473	474	476	479
42.5	214	214	215	216	218	218	217	217	217	218
47.5	75	75	75	75	76	76	76	77	77	77
55.0	43	43	43	43	44	44	44	44	44	44
65.0	18	18	18	18	19	19	19	18	17	17
75.0	11	11	11	11	11	10	10	9	8	8
85.0	6	6	6	6	6	6	6	6	6	6
90.0	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>
0.0	2651	2651	2651	2651	2651	2651	2651	2651	2651
1.0	2653	2659	2668	2675	2682	2687	2690	2692	2694
3.0	2620	2627	2635	2643	2650	2655	2658	2661	2662
5.0	2539	2545	2553	2562	2567	2572	2576	2579	2580
7.0	2421	2427	2435	2443	2448	2453	2457	2460	2461
9.0	2226	2231	2240	2247	2254	2258	2262	2265	2265
11.0	2041	2047	2053	2059	2065	2068	2072	2074	2075
13.0	1881	1885	1890	1897	1901	1904	1907	1909	1911
15.0	1718	1722	1727	1734	1738	1741	1742	1743	1745
17.0	1559	1564	1569	1573	1576	1578	1579	1581	1582
19.5	1387	1391	1394	1399	1401	1403	1405	1405	1405
22.5	1186	1190	1192	1195	1196	1198	1198	1199	1199
25.5	1004	1007	1010	1011	1011	1013	1012	1012	1012
29.0	810	813	815	815	815	816	815	815	814
33.0	656	657	658	657	657	656	655	654	654
37.5	480	481	480	479	478	477	476	475	475
42.5	219	219	218	217	216	215	214	214	211
47.5	78	78	78	77	75	74	73	73	72
55.0	43	41	40	39	38	36	36	35	35
65.0	16	15	14	14	13	13	13	13	12
75.0	8	8	8	8	8	8	8	8	8
85.0	6	6	6	6	6	6	6	6	6
90.0	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	679.17	N.A.	39.40
0-30	1133.96	N.A.	65.80
0-40	1458.25	N.A.	84.60
0-60	1674.13	N.A.	97.10
0-80	1714.15	N.A.	99.40
0-90	1723.89	N.A.	100.00
10-90	1534.4	N.A.	89.00
20-40	779.08	N.A.	45.20
20-50	957.51	N.A.	55.50
40-70	242.99	N.A.	14.10
60-80	40.02	N.A.	2.30
70-80	12.91	N.A.	0.70
80-90	9.75	N.A.	0.60
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	1723.89	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	189.50
10-20	489.67
20-30	454.79
30-40	324.29
40-50	178.43
50-60	37.45
60-70	27.11
70-80	12.91
80-90	9.75
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	0
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	0
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87	85	0
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	86	83	80	79	0
4	96	88	82	78	94	87	81	77	84	80	76	82	78	75	81	77	74	73	0
5	91	82	76	71	89	81	75	71	79	74	70	78	73	70	76	72	69	68	0
6	86	77	71	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63	0
7	82	72	66	61	80	71	65	61	70	65	61	69	64	61	68	63	60	59	0
8	78	68	62	57	76	67	61	57	66	61	57	65	60	57	64	60	57	55	0
9	74	64	58	54	73	64	58	54	63	57	54	62	57	53	61	56	53	52	0
10	71	61	55	51	69	60	54	51	59	54	50	58	54	50	58	53	50	49	0

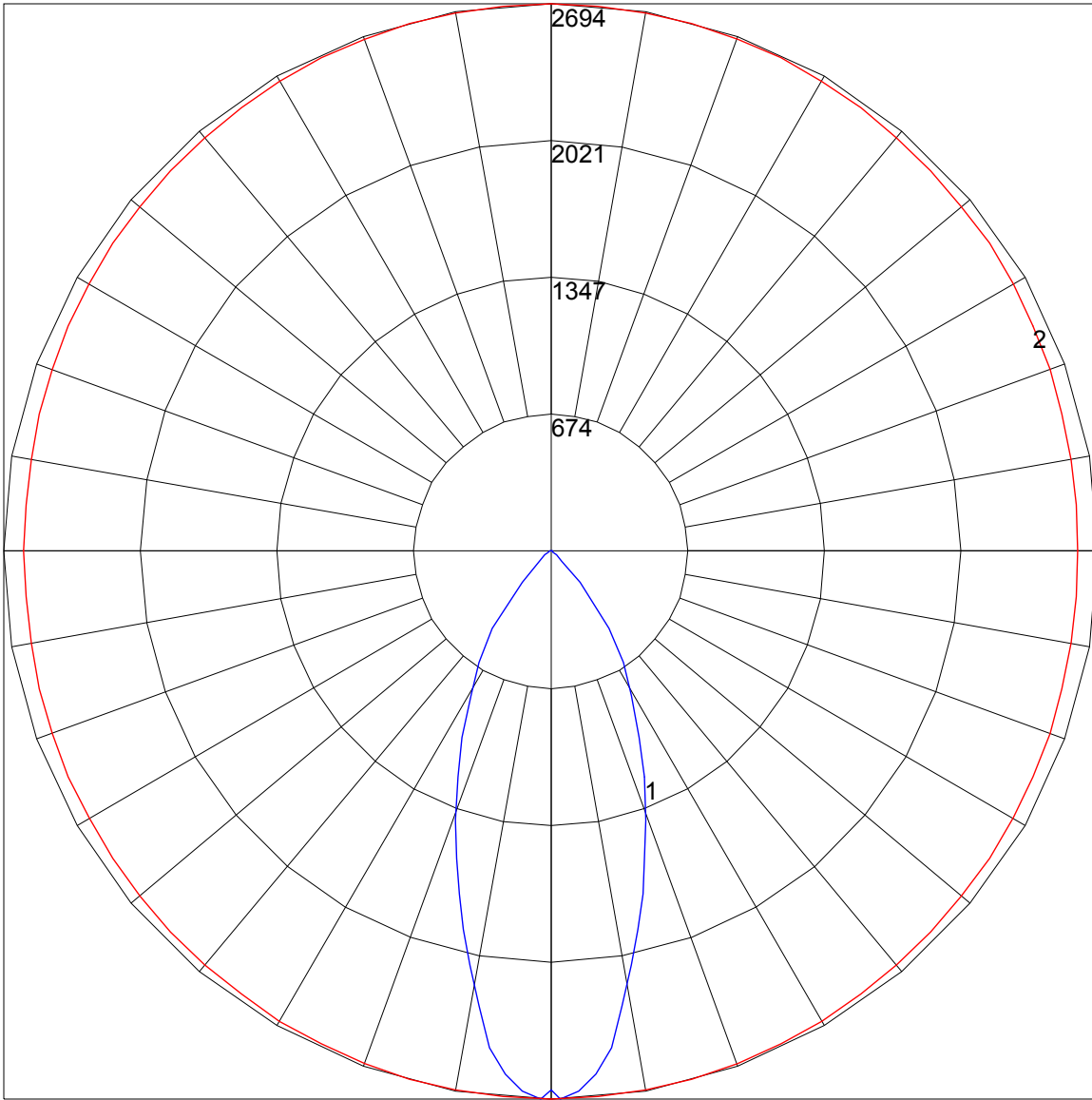
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UGR TABLE - CORRECTED

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	14.4	15.5	14.7	15.8	16.1	13.1	14.2	13.5	14.5	14.8
	3H	15.2	16.2	15.6	16.5	16.9	13.7	14.7	14.1	15.0	15.4
	4H	15.6	16.5	16.0	16.9	17.3	14.1	14.9	14.5	15.3	15.7
	6H	16.1	16.9	16.5	17.3	17.7	14.5	15.3	15.0	15.7	16.1
	8H	16.4	17.1	16.8	17.5	17.9	14.8	15.6	15.3	16.0	16.4
	12H	16.6	17.4	17.1	17.8	18.2	15.2	16.0	15.7	16.4	16.8
4H	2H	14.4	15.3	14.9	15.7	16.1	13.3	14.2	13.7	14.6	15.0
	3H	15.5	16.3	15.9	16.7	17.1	14.1	14.9	14.6	15.3	15.7
	4H	16.1	16.8	16.5	17.2	17.6	14.6	15.3	15.0	15.7	16.1
	6H	16.8	17.4	17.3	17.8	18.3	15.3	15.8	15.7	16.3	16.8
	8H	17.1	17.7	17.6	18.1	18.6	15.7	16.2	16.2	16.7	17.2
	12H	17.5	18.0	18.0	18.5	19.0	16.3	16.7	16.8	17.2	17.7
8H	4H	16.2	16.7	16.6	17.1	17.6	14.8	15.3	15.3	15.8	16.3
	6H	17.0	17.5	17.5	18.0	18.5	15.7	16.1	16.2	16.6	17.1
	8H	17.6	17.9	18.1	18.5	19.0	16.3	16.7	16.8	17.2	17.7
	12H	18.2	18.5	18.7	19.0	19.6	17.1	17.4	17.6	17.9	18.5
12H	4H	16.2	16.6	16.6	17.1	17.6	14.9	15.3	15.3	15.8	16.3
	6H	17.1	17.5	17.6	18.0	18.5	15.8	16.2	16.4	16.7	17.2
	8H	17.7	18.0	18.2	18.5	19.1	16.5	16.9	17.1	17.4	17.9

Maximum UGR = 19.6

POLAR GRAPH



Maximum Candela = 2694 Located At Horizontal Angle = 90, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)