



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

Report No: L022110807



**Report No:** L022110807

**Issue Date:** 2/16/2021

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

**Model Number:** LG-9023A-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**

<b>Manufacturer:</b>	Light and Green
<b>Model Number:</b>	LG-9023A-AC-30K
<b>Driver Model Number:</b>	L.T.F. DIMMABLE LED DRIVER DA10W250C2040-3001 (3 DRIVERS)

**Photometric & Electrical Test Results**

<b>Total Lumens:</b>	2577.51
<b>Efficacy:</b>	76.24
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.2826
<b>Input Power (W):</b>	33.81
<b>Input Power Factor:</b>	0.9969
<b>Current ATHD (%):</b>	6.3%

**Test Condition**

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:45
<b>Total Operating Time (Hours):</b>	1:15

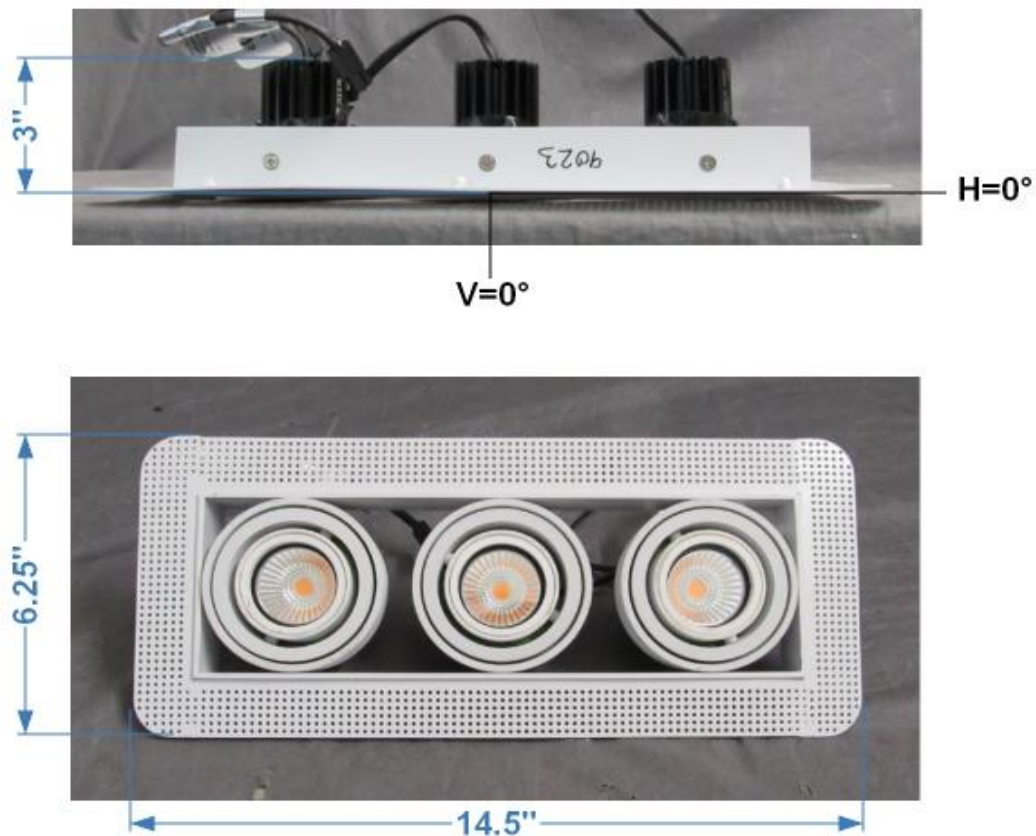


FIG. 1 LUMINAIRE

## 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 : L022110807.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L022110807  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 2/16/2021  
[MANUFAC] Light and Green  
[LUMCAT] LG-9023A-AC-30K  
[LUMINAIRE] LED Recessed Downlight  
[BALLASTCAT] L.T.F. DIMMABLE LED DRIVER DA10W250C2040-3001 (3 DRIVERS)  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120.0VAC, 33.81W  
[TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2578
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	33.81
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.62
Spacing Criterion (90-270)	0.64
Spacing Criterion (Diagonal)	0.70
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	39541	40028	39906
55	27598	28198	28798
65	23614	24021	24428
75	27921	28586	29251
85	49355	51329	53303

**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>
<b>0.0</b>	4043	4043	4043	4043	4043	4043	4043	4043	4043	4043
<b>1.0</b>	3964	3968	3980	3992	3997	4002	4008	4016	4028	4036
<b>3.0</b>	3909	3914	3924	3937	3943	3946	3953	3963	3975	3982
<b>5.0</b>	3806	3810	3823	3835	3840	3845	3851	3861	3871	3877
<b>7.0</b>	3584	3588	3598	3609	3614	3617	3623	3631	3641	3646
<b>9.0</b>	3339	3342	3348	3359	3364	3367	3373	3380	3389	3390
<b>11.0</b>	3076	3080	3086	3095	3098	3100	3105	3112	3120	3120
<b>13.0</b>	2797	2803	2809	2817	2820	2822	2824	2830	2838	2839
<b>15.0</b>	2572	2573	2581	2588	2589	2593	2596	2601	2609	2609
<b>17.0</b>	2329	2331	2337	2343	2346	2349	2351	2357	2366	2367
<b>19.5</b>	2056	2056	2064	2069	2072	2075	2077	2080	2088	2090
<b>22.5</b>	1721	1725	1730	1734	1737	1740	1741	1744	1753	1753
<b>25.5</b>	1414	1416	1422	1425	1427	1428	1428	1430	1437	1437
<b>29.0</b>	1127	1129	1133	1135	1137	1138	1139	1140	1144	1146
<b>33.0</b>	884	886	889	891	892	894	895	895	898	901
<b>37.5</b>	546	547	548	550	550	551	552	552	553	555
<b>42.5</b>	202	202	202	203	203	203	204	203	203	203
<b>47.5</b>	123	123	124	124	125	125	125	125	126	126
<b>55.0</b>	92	92	92	93	93	93	93	94	94	94
<b>65.0</b>	58	58	58	58	59	59	59	59	59	59
<b>75.0</b>	42	42	42	42	42	42	43	43	43	43
<b>85.0</b>	25	25	25	25	25	25	25	26	26	26
<b>90.0</b>	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>
<b>0.0</b>	4043	4043	4043	4043	4043	4043	4043	4043	4043
<b>1.0</b>	4044	4052	4062	4070	4077	4085	4090	4092	4091
<b>3.0</b>	3990	3997	4005	4015	4020	4029	4036	4037	4038
<b>5.0</b>	3883	3888	3896	3904	3910	3918	3924	3926	3927
<b>7.0</b>	3650	3654	3664	3671	3675	3684	3690	3692	3693
<b>9.0</b>	3396	3398	3406	3412	3416	3424	3430	3433	3433
<b>11.0</b>	3123	3124	3131	3137	3141	3148	3154	3154	3157
<b>13.0</b>	2841	2844	2851	2855	2858	2865	2871	2874	2876
<b>15.0</b>	2612	2616	2623	2629	2632	2638	2644	2648	2650
<b>17.0</b>	2372	2376	2382	2389	2393	2399	2407	2408	2408
<b>19.5</b>	2093	2098	2104	2111	2114	2120	2128	2131	2133
<b>22.5</b>	1758	1760	1767	1771	1774	1780	1784	1788	1788
<b>25.5</b>	1439	1441	1446	1448	1450	1454	1459	1460	1461
<b>29.0</b>	1147	1148	1151	1152	1153	1157	1159	1161	1161
<b>33.0</b>	903	903	907	907	909	911	914	916	917
<b>37.5</b>	557	558	559	559	560	562	563	564	564
<b>42.5</b>	203	203	205	204	204	203	203	202	200
<b>47.5</b>	126	127	127	128	128	128	128	128	128
<b>55.0</b>	94	95	95	95	95	95	96	96	96
<b>65.0</b>	60	60	60	60	60	60	60	60	60
<b>75.0</b>	43	43	43	43	43	44	44	44	44
<b>85.0</b>	26	26	26	26	27	27	27	27	27
<b>90.0</b>	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	1034.47	N.A.	40.10
0-30	1701.83	N.A.	66.00
0-40	2140.15	N.A.	83.00
0-60	2408.04	N.A.	93.40
0-80	2533.33	N.A.	98.30
0-90	2577.51	N.A.	100.00
10-90	2289.39	N.A.	88.80
20-40	1105.69	N.A.	42.90
20-50	1303.03	N.A.	50.60
40-70	340.60	N.A.	13.20
60-80	125.29	N.A.	4.90
70-80	52.57	N.A.	2.00
80-90	44.18	N.A.	1.70
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	2577.51	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	288.12
10-20	746.35
20-30	667.36
30-40	438.32
40-50	197.35
50-60	70.53
60-70	72.72
70-80	52.57
80-90	44.18
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	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91	
2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83	
3	100	93	87	83	98	91	86	82	89	84	81	86	83	80	84	81	78	77	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	76	73	71	
5	90	81	74	70	88	80	74	69	78	73	69	76	72	68	75	71	68	66	
6	85	76	69	65	84	75	69	65	73	68	64	72	67	64	71	66	63	62	
7	81	71	65	60	80	70	64	60	69	64	60	68	63	60	67	62	59	58	
8	77	67	61	57	76	67	61	56	65	60	56	64	59	56	63	59	56	54	
9	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	52	51	
10	70	60	54	50	69	60	54	50	59	54	50	58	53	50	57	53	50	48	

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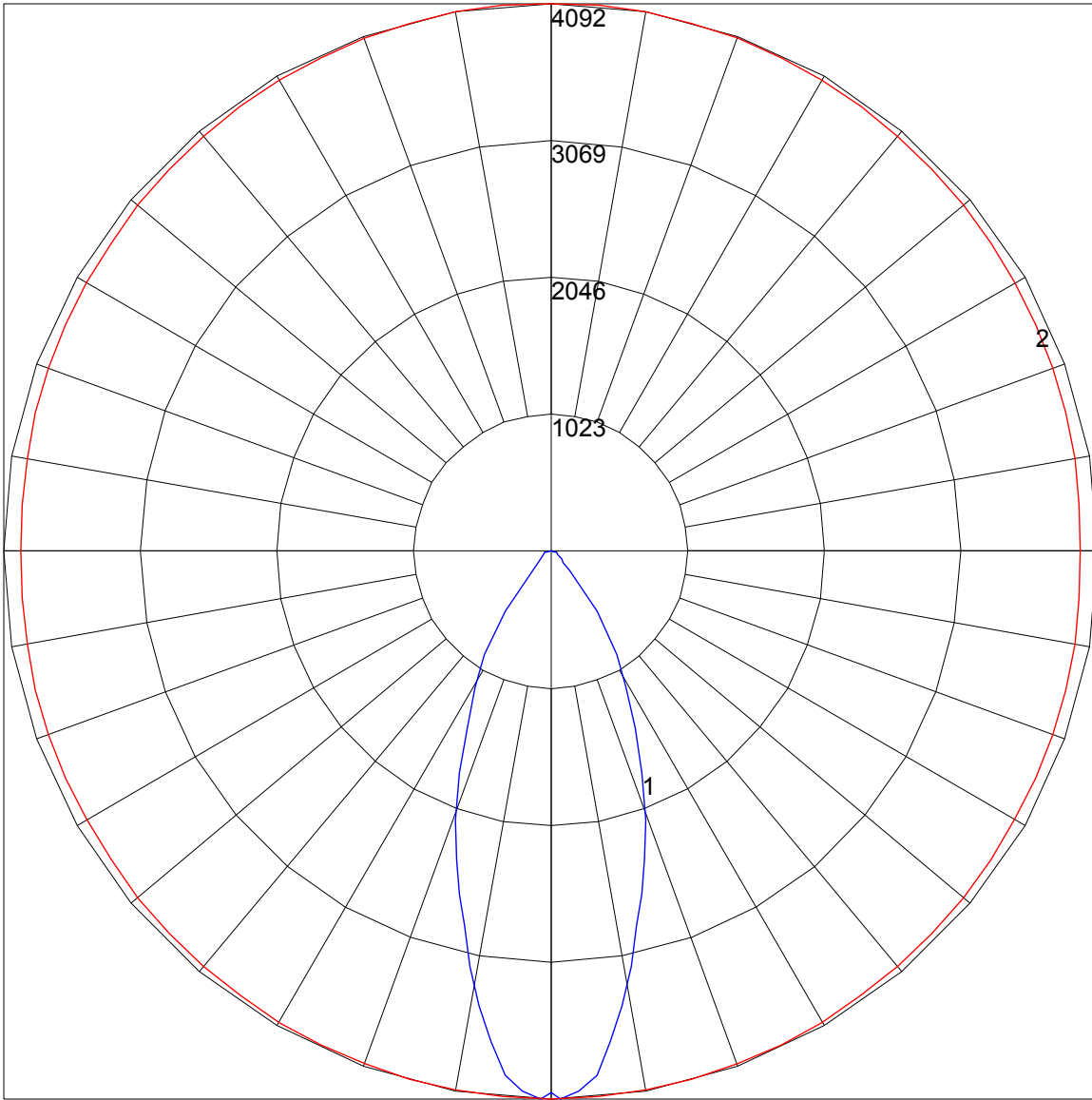
**UGR TABLE - CORRECTED**

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	18.6	19.7	19.0	20.0	20.4	18.7	19.9	19.1	20.2	20.5
	3H	20.4	21.4	20.7	21.7	22.1	20.6	21.6	20.9	21.9	22.3
	4H	21.3	22.2	21.7	22.6	23.0	21.5	22.5	21.9	22.8	23.2
	6H	22.2	23.1	22.6	23.5	23.9	22.5	23.4	22.9	23.7	24.1
	8H	22.7	23.5	23.1	23.9	24.3	23.0	23.8	23.4	24.2	24.6
	12H	23.2	24.0	23.7	24.4	24.8	23.6	24.3	24.0	24.7	25.2
4H	2H	19.1	20.0	19.5	20.4	20.7	19.2	20.1	19.6	20.5	20.9
	3H	21.2	21.9	21.6	22.3	22.7	21.3	22.1	21.7	22.5	22.9
	4H	22.3	23.0	22.7	23.4	23.8	22.5	23.2	22.9	23.6	24.0
	6H	23.4	24.0	23.9	24.5	25.0	23.7	24.3	24.1	24.7	25.2
	8H	24.0	24.6	24.5	25.0	25.5	24.3	24.8	24.7	25.3	25.8
	12H	24.6	25.1	25.1	25.6	26.1	24.9	25.4	25.4	25.9	26.4
8H	4H	22.7	23.3	23.2	23.7	24.2	22.9	23.4	23.3	23.9	24.4
	6H	24.1	24.6	24.6	25.1	25.5	24.3	24.8	24.8	25.3	25.7
	8H	24.8	25.2	25.4	25.8	26.3	25.1	25.5	25.6	26.0	26.5
	12H	25.6	26.0	26.2	26.5	27.1	25.9	26.3	26.5	26.8	27.4
12H	4H	22.8	23.3	23.3	23.8	24.3	22.9	23.4	23.4	23.9	24.4
	6H	24.3	24.7	24.8	25.2	25.7	24.5	24.9	25.0	25.3	25.9
	8H	25.1	25.5	25.6	26.0	26.5	25.3	25.7	25.8	26.2	26.8

Maximum UGR = 27.4



POLAR GRAPH



Maximum Candela = 4092 Located At Horizontal Angle = 85, Vertical Angle = 1  
# 1 - Vertical Plane Through Horizontal Angles (85 - 265) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)