



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

Report No: L032113404



Report No: L032113404

Issue Date: 4/20/2021

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

Model Number: 9022 - 60 deg

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: 4/15/21

Date of Tests: 4/16/21 - 4/20/21

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	4/7/23
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	3/17/23
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:	9022 - 60 deg
Driver Model Number:	L.T.F. DIMMABLE LED DRIER DA10W250C2040-3001

Photometric & Electrical Test Results

Total Lumens:	1680.85
Efficacy:	74.28
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.1897
Input Power (W):	22.63
Input Power Factor:	0.9940
Current ATHD (%):	6.3%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:55
Total Operating Time (Hours):	1:25

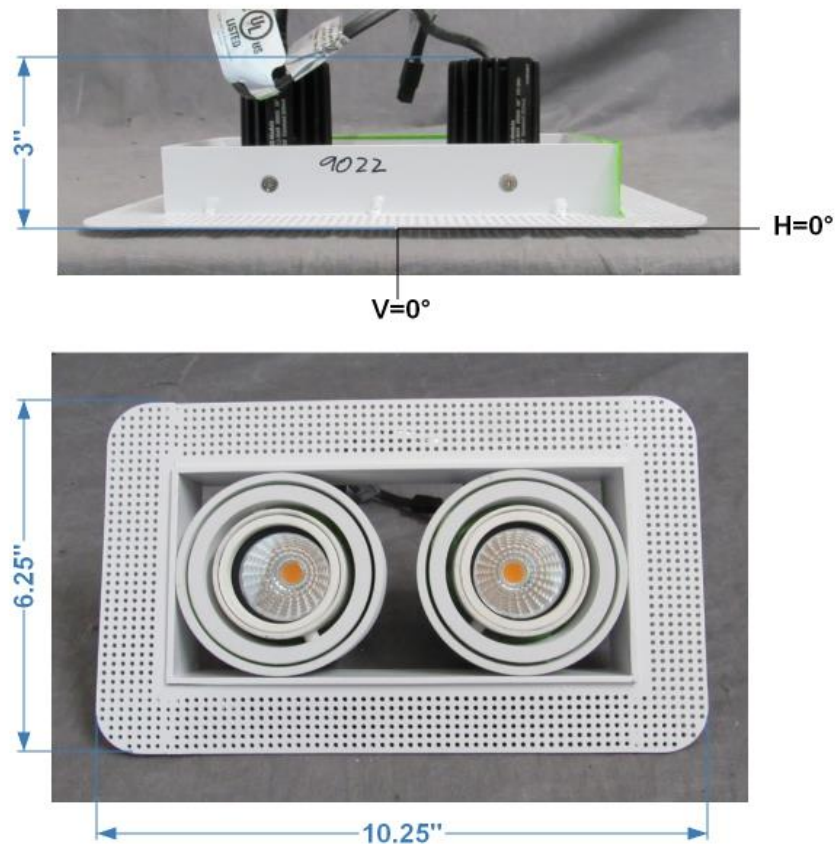


FIG. 1 LUMINAIRE



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

Report No: L032113404



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*



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

Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L032113404.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L032113404
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 4/20/2021
[MANUFAC] Light and Green
[LUMCAT] 9022 - 60 deg
[LUMINAIRE] LED LUMINAIRE
[BALLASTCAT] L.T.F. DIMMABLE LED DRIER DA10W250C2040-3001
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120.03VAC, 22.63W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1681
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	74
Total Luminaire Watts	22.63
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.92
Spacing Criterion (90-270)	0.94
Spacing Criterion (Diagonal)	0.92
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.48 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	22073	22179	22179
55	15103	15103	15364
65	15197	15550	15550
75	16735	16735	16735
85	27419	27419	27419

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L032113404.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>
0.0	1692	1692	1692	1692	1692	1692	1692	1692	1692	1692
1.0	1663	1663	1665	1667	1671	1676	1678	1681	1685	1689
3.0	1651	1652	1654	1656	1660	1664	1666	1669	1673	1677
5.0	1636	1638	1640	1642	1647	1651	1653	1657	1662	1666
7.0	1619	1621	1623	1625	1629	1635	1637	1641	1646	1650
9.0	1599	1600	1603	1605	1608	1613	1614	1618	1622	1626
11.0	1568	1570	1573	1576	1579	1582	1584	1587	1591	1594
13.0	1529	1530	1533	1534	1538	1542	1544	1548	1552	1554
15.0	1486	1488	1492	1493	1496	1501	1503	1507	1511	1514
17.0	1432	1434	1437	1438	1443	1447	1449	1452	1456	1458
19.5	1345	1349	1351	1352	1355	1359	1360	1363	1367	1369
22.5	1214	1216	1219	1219	1223	1226	1227	1230	1232	1234
25.5	1076	1078	1080	1081	1085	1089	1089	1091	1094	1096
29.0	919	920	922	923	926	929	930	932	935	936
33.0	708	708	710	711	713	713	715	715	715	717
37.5	399	400	400	401	402	402	403	402	401	402
42.5	133	133	133	133	133	133	133	133	133	133
47.5	76	76	76	76	76	76	77	77	77	77
55.0	58	58	58	58	58	58	58	58	58	58
65.0	43	43	43	43	43	43	43	43	44	44
75.0	29	29	29	29	29	29	29	29	29	29
85.0	16	16	16	16	16	16	16	16	16	16
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	1692	1692	1692	1692	1692	1692	1692	1692	1692
1.0	1693	1698	1701	1704	1707	1710	1712	1713	1714
3.0	1681	1685	1688	1691	1694	1697	1699	1700	1701
5.0	1670	1675	1678	1681	1684	1687	1689	1690	1690
7.0	1654	1659	1663	1666	1670	1672	1674	1675	1675
9.0	1630	1634	1638	1642	1645	1649	1650	1651	1652
11.0	1597	1602	1607	1610	1612	1615	1618	1619	1619
13.0	1558	1564	1568	1571	1573	1576	1578	1579	1579
15.0	1516	1523	1527	1528	1532	1535	1536	1536	1536
17.0	1461	1466	1470	1473	1475	1477	1479	1480	1481
19.5	1373	1378	1382	1384	1385	1387	1389	1390	1391
22.5	1238	1242	1245	1247	1248	1249	1251	1252	1253
25.5	1100	1104	1107	1107	1108	1109	1111	1111	1111
29.0	939	942	945	946	946	947	948	949	948
33.0	719	721	724	725	725	726	726	727	728
37.5	403	404	404	404	404	403	402	402	402
42.5	132	132	133	133	132	132	132	133	132
47.5	77	78	78	78	78	78	78	78	78
55.0	58	58	58	58	59	59	59	59	59
65.0	44	44	44	44	44	44	44	44	44
75.0	29	29	29	29	29	29	29	29	29
85.0	16	16	16	16	16	16	16	16	16
90.0	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L032113404.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	553.87	N.A.	33.00
0-30	1041.94	N.A.	62.00
0-40	1388.28	N.A.	82.60
0-60	1566.55	N.A.	93.20
0-80	1652.2	N.A.	98.30
0-90	1680.85	N.A.	100.00
10-90	1552.81	N.A.	92.40
20-40	834.41	N.A.	49.60
20-50	969.30	N.A.	57.70
40-70	226.57	N.A.	13.50
60-80	85.65	N.A.	5.10
70-80	37.35	N.A.	2.20
80-90	28.65	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	1680.85	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	128.04
10-20	425.83
20-30	488.07
30-40	346.34
40-50	134.89
50-60	43.38
60-70	48.29
70-80	37.35
80-90	28.65
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

IES INDOOR REPORT
 PHOTOMETRIC FILENAME : L032113404.IES

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	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	89	86	84	82
3	99	92	86	81	97	90	85	81	88	83	79	85	81	78	83	80	77	75
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	78	74	71	69
5	88	79	72	68	87	78	72	67	76	71	67	74	70	66	73	69	65	64
6	84	74	67	62	82	73	67	62	71	66	61	70	65	61	68	64	61	59
7	79	69	62	58	78	68	62	57	67	61	57	66	60	57	64	60	56	55
8	75	65	58	53	74	64	58	53	63	57	53	62	57	53	61	56	53	51
9	71	61	54	50	70	60	54	50	59	53	50	58	53	49	57	53	49	48
10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	49	46	45

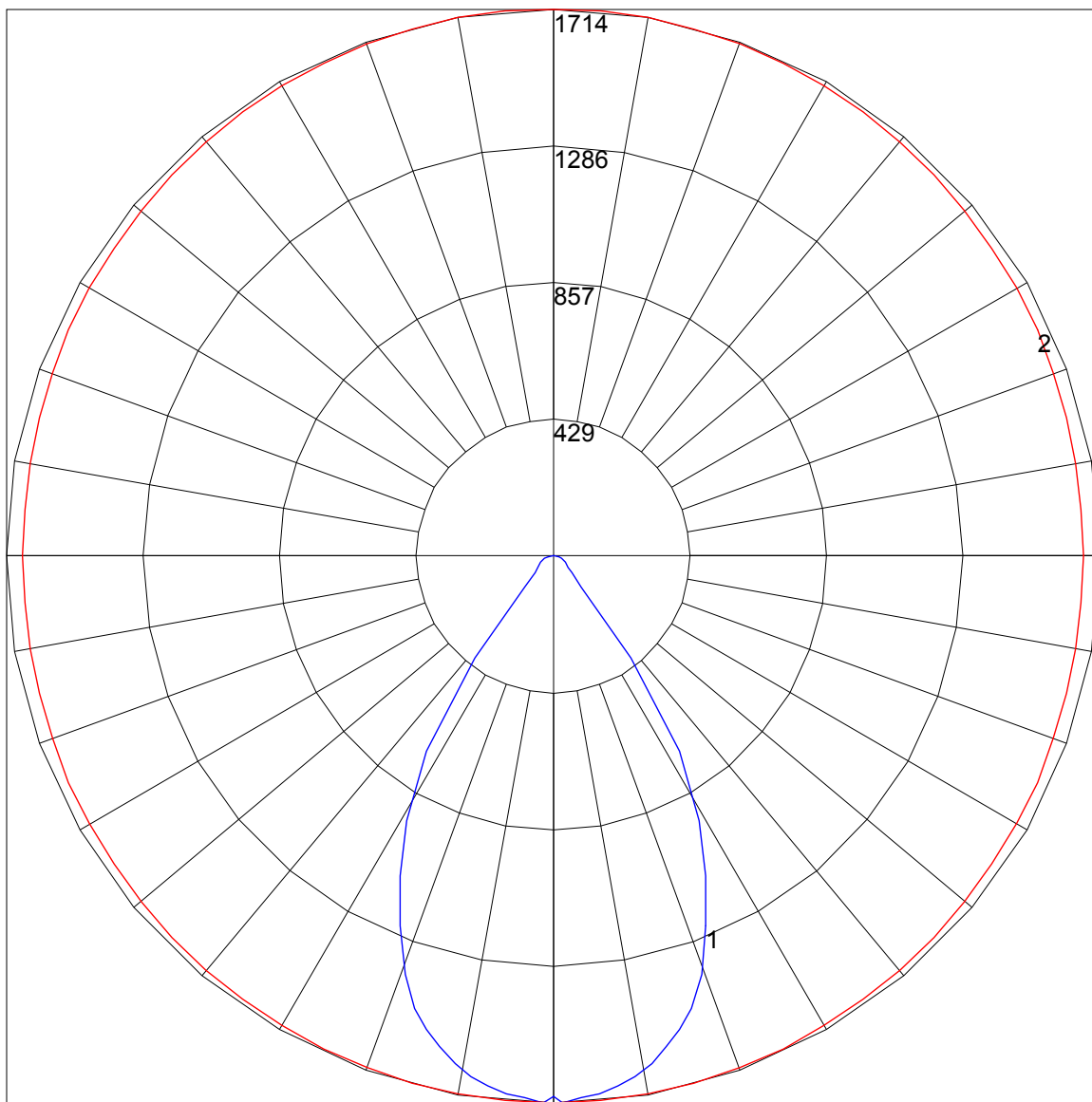
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L032113404.IES

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	16.5	17.7	16.9	18.0	18.3	16.7	17.8	17.0	18.1	18.4
	3H	18.7	19.7	19.1	20.0	20.4	18.8	19.8	19.2	20.2	20.5
	4H	19.7	20.6	20.1	21.0	21.3	19.8	20.7	20.2	21.0	21.4
	6H	20.6	21.5	21.0	21.8	22.2	20.7	21.5	21.1	21.9	22.3
	8H	21.0	21.9	21.5	22.3	22.7	21.1	21.9	21.5	22.3	22.7
	12H	21.5	22.3	21.9	22.7	23.1	21.6	22.3	22.0	22.7	23.2
4H	2H	17.2	18.2	17.6	18.5	18.9	17.3	18.3	17.7	18.6	19.0
	3H	19.6	20.4	20.0	20.8	21.2	19.7	20.5	20.1	20.9	21.3
	4H	20.7	21.4	21.1	21.8	22.3	20.8	21.5	21.2	21.9	22.4
	6H	21.8	22.4	22.3	22.9	23.3	21.9	22.5	22.3	22.9	23.4
	8H	22.3	22.9	22.8	23.4	23.8	22.4	23.0	22.9	23.4	23.9
	12H	22.9	23.4	23.4	23.9	24.4	22.9	23.5	23.4	23.9	24.4
8H	4H	21.1	21.7	21.6	22.1	22.6	21.2	21.8	21.6	22.2	22.7
	6H	22.5	22.9	23.0	23.4	23.9	22.5	23.0	23.0	23.5	23.9
	8H	23.1	23.6	23.7	24.1	24.6	23.2	23.6	23.7	24.1	24.6
	12H	23.9	24.3	24.4	24.8	25.3	23.9	24.3	24.4	24.8	25.4
12H	4H	21.2	21.7	21.7	22.2	22.7	21.2	21.7	21.7	22.2	22.7
	6H	22.6	23.0	23.1	23.5	24.0	22.6	23.1	23.2	23.5	24.1
	8H	23.4	23.8	23.9	24.2	24.8	23.4	23.8	23.9	24.3	24.9

Maximum UGR = 25.4

POLAR GRAPH



Maximum Candela = 1714 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.)