

IES LM-79-08

MEASUREMENT AND TEST REPORT

For

GREEN CREATIVE LTD

Room 3603, Level 36, Tower 1, Enterprise Square Five, 38 Wang Chiu Road, Kowloon Bay, KL, Hong Kong

Test Model: LES9027KDIM120VWD/ADR4BL

Report Type:	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution
Test Engineer:	Joker Gu
Report Number:	RKSB200812010-10-3
Test Date:	2020-08-27
Report Date:	2020-09-07
Reviewed By:	Seven Xia/EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan). No.248 Chenghu Road, Kunshan, Jiangsu province, China. Tel: +86-0512-86175000 Fax: +86-0512-88934268
Accreditation:	The IAS Accreditation Number TL-749.

1. Product Description

General Information:

One sample was received on 2020-08-12 and used for testing.

Model Tested: LES9027KDIM120VWD/ADR4BL
 Manufacturer: GREEN CREATIVE LTD
 Brand Name: GREEN CREATIVE
 Product Designation: LED Recessed Downlight
 Burning Time Before Test: 0hour(For New Products)

Rated Values:

Rated Voltage/Frequency: 120VAC 60Hz
 Rated Power: 31.5W
 Nominal CCT: 2700K
 Nominal Lumen Output: 2060lm

2. Standards Used

- IES LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products

3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
AC Power Supply	INVENTFINE	CHP-5KVA	900511765	2020-04-02	2021-04-01
DC Power Supply	INVENTFINE	WL3010	JWDMP030001	2019-12-20	2020-12-19
Power Meter	INVENTFINE	WT500	GSDSQ200007	2020-04-02	2021-04-01
Goniophotometer	INVENTFINE	GPM-1900	YWGCF120001	2020-01-22	2021-01-21
Wireless Weather Station	ZHONGXING	KG218	N/A	2019-12-02	2020-12-01
Standard Light Source	INVENTFINE	N/A	JWBYR040008	2020-03-19	2021-03-18

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

4. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-08. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ during measurement. And relative humidity is less than 65%.

Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

The uncertainty of the luminous flux is $U_{rel}=2.6\%$ ($k=2$), at the 95% confidence level.

5. Test Result

[Goniophotometer System]

Total operating time for luminous intensity distribution: **1.0hour**

Test orientation: **Downward**

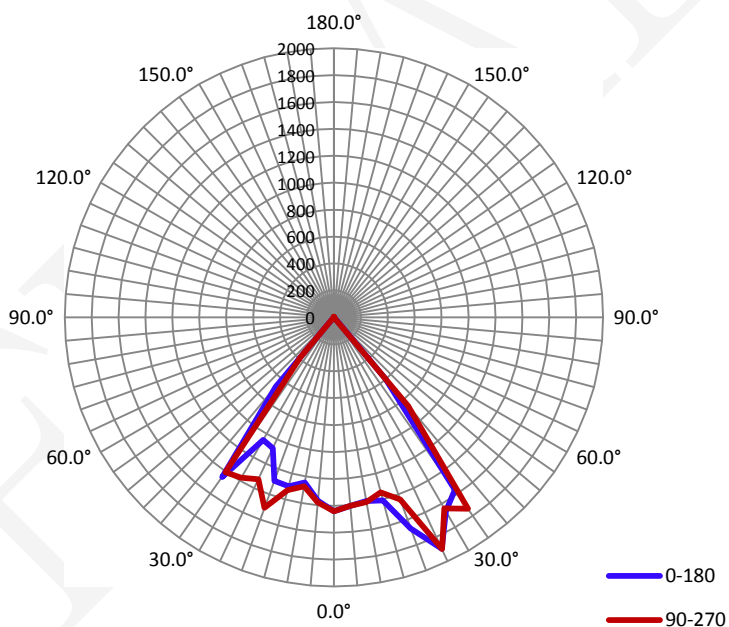
Electrical Measurement

Input Voltage(V)	Frequency(Hz)	Input Current(A)	Power (W)	Power Factor
120.0	60	0.2650	31.55	0.9920

Photometric Measurement

Luminous Flux(lm)	Efficacy(lm/W)	$I_{max}(cd)$	S/MH(C0/180)	S/MH(C90/270)
2150.2	68.20	1950.1	1.45	1.46

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle(50% I_{max}):	76.4	76.2	76.7	76.5	76.5
Field Angle(10% I_{max}):	87.2	86.9	86.6	86.4	86.8

Luminous Intensity (cd) Distribution Data

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	1440	1440	1440	1440	1440	1440	1440	1440
5.0°	1407	1400	1406	1404	1405	1396	1400	1401
10.0°	1385	1379	1399	1398	1392	1379	1386	1380
15.0°	1409	1383	1389	1365	1346	1336	1333	1318
20.0°	1671	1644	1571	1495	1439	1389	1324	1279
25.0°	1898	1935	1950	1907	1900	1869	1688	1393
30.0°	1664	1653	1669	1634	1639	1655	1481	1224
35.0°	1566	1599	1691	1722	1736	1688	1587	1484
40.0°	595	724	773	825	860	848	784	771
45.0°	16	18	18	18	19	17	17	16
50.0°	8	9	10	10	10	8	8	8
55.0°	4	4	5	5	5	4	4	3
60.0°	0	1	1	2	1	1	0	0
65.0°	0	0	0	0	0	0	0	0
70.0°	0	0	0	0	0	0	0	0
75.0°	0	0	0	0	0	0	0	0
80.0°	0	0	0	0	0	0	0	0
85.0°	0	0	0	0	0	0	0	0
90.0°	0	0	0	0	0	0	0	0
95.0°	0	0	0	0	0	0	0	0
100.0°	0	0	0	0	0	0	0	0
105.0°	0	0	0	0	0	0	0	0
110.0°	0	0	0	0	0	0	0	0
115.0°	0	0	0	0	0	0	0	0
120.0°	0	0	0	0	0	0	0	0
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	1	1	1
155.0°	0	0	1	2	2	2	2	2
160.0°	2	2	2	2	3	3	3	3
165.0°	1	3	2	3	3	3	3	3
170.0°	2	3	3	3	4	3	3	4
175.0°	3	3	3	4	4	4	4	5
180.0°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data (cont.)

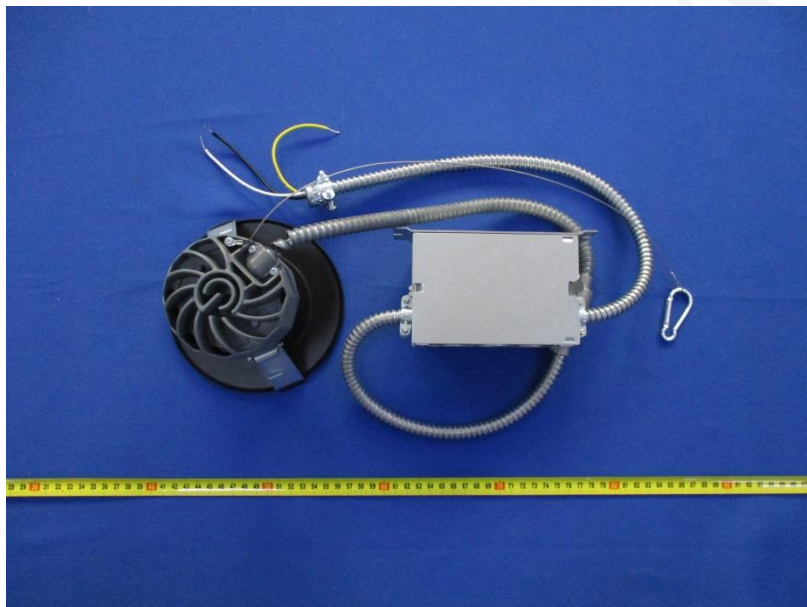
C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	1440	1440	1440	1440	1440	1440	1440	1440
5.0°	1368	1367	1381	1377	1380	1374	1379	1380
10.0°	1245	1220	1247	1255	1274	1296	1304	1318
15.0°	1299	1286	1298	1294	1329	1378	1399	1407
20.0°	1292	1256	1266	1310	1505	1752	1813	1775
25.0°	1072	916	904	999	1329	1706	1831	1862
30.0°	1053	957	958	1110	1376	1632	1782	1784
35.0°	1448	1393	1401	1407	1404	1367	1401	1516
40.0°	673	593	487	410	388	354	346	397
45.0°	13	13	13	14	15	15	16	17
50.0°	6	6	7	8	8	8	9	9
55.0°	2	3	3	3	4	3	4	4
60.0°	0	0	0	1	1	0	1	1
65.0°	0	0	0	0	0	0	0	0
70.0°	0	0	0	0	0	0	0	0
75.0°	0	0	0	0	0	0	0	0
80.0°	0	0	0	0	0	0	0	0
85.0°	0	0	0	0	0	0	0	0
90.0°	0	0	0	0	0	0	0	0
95.0°	0	0	0	0	0	0	0	0
100.0°	0	0	0	0	0	0	0	0
105.0°	0	0	0	0	0	0	0	0
110.0°	0	0	0	0	0	0	0	0
115.0°	0	0	0	0	0	0	0	0
120.0°	0	0	0	0	0	0	0	0
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	1	0	0
145.0°	0	0	0	0	0	0	0	0
150.0°	0	0	1	1	2	1	1	0
155.0°	0	2	2	2	2	2	2	1
160.0°	1	2	3	3	3	3	3	2
165.0°	2	3	4	3	3	3	3	3
170.0°	3	3	4	4	3	4	3	3
175.0°	2	3	4	4	4	4	4	4
180.0°	0	0	0	0	0	0	0	0

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	33.8	1.57
5-10	97.2	4.52
10-15	158.8	7.38
15-20	233.6	10.86
20-25	320.8	14.92
25-30	383.0	17.81
30-35	438.8	20.41
35-40	357.0	16.60
40-45	116.7	5.43
45-50	4.9	0.23
50-55	2.6	0.12
55-60	1.0	0.05
60-65	0.2	0.01
65-70	0.0	0.00
70-75	0.0	0.00
75-80	0.0	0.00
80-85	0.0	0.00
85-90	0.0	0.00
90-95	0.0	0.00
95-100	0.0	0.00
100-105	0.0	0.00
105-110	0.0	0.00
110-115	0.0	0.00
115-120	0.0	0.00
120-125	0.0	0.00
125-130	0.0	0.00
130-135	0.0	0.00
135-140	0.0	0.00
140-145	0.0	0.00
145-150	0.1	0.00
150-155	0.3	0.01
155-160	0.4	0.02
160-165	0.4	0.02
165-170	0.4	0.02
170-175	0.2	0.01
175-180	0.0	0.00

Deg	Flux (lm)	%
0-5	33.8	1.57
0-10	131.0	6.09
0-15	289.8	13.48
0-20	523.4	24.34
0-25	844.2	39.26
0-30	1227.2	57.07
0-35	1666.1	77.48
0-40	2023.1	94.09
0-45	2139.8	99.51
0-50	2144.6	99.74
0-55	2147.2	99.86
0-60	2148.2	99.91
0-65	2148.4	99.91
0-70	2148.4	99.91
0-75	2148.4	99.91
0-80	2148.4	99.91
0-85	2148.4	99.91
0-90	2148.4	99.91
0-95	2148.4	99.91
0-100	2148.4	99.91
0-105	2148.4	99.91
0-110	2148.4	99.91
0-115	2148.4	99.91
0-120	2148.4	99.91
0-125	2148.4	99.91
0-130	2148.4	99.91
0-135	2148.4	99.91
0-140	2148.4	99.91
0-145	2148.4	99.91
0-150	2148.5	99.92
0-155	2148.8	99.93
0-160	2149.2	99.95
0-165	2149.6	99.97
0-170	2150.0	99.99
0-175	2150.2	100.00
0-180	2150.2	100.00

6. Product Photo



Directions

1. The information marked "superscript #" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
2. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
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