

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: SLFT4/9CCT5S/DUALDIM+SLFT4/MD/OPTIC

Report Type:	Electrical and Photometric tests including: Luminous Flux, Chromaticity, Luminous Intensity Distribution
Project Engineer:	Bay Wang
Report Number:	RKSB221207001-10-3
Test Date:	2022-12-08
Report Date:	2022-12-22
Reviewed By:	Seven Xia / EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan). No. 248 Chenghu Road, Kunshan, Jiangsu, People's Republic of China Tel: +86-0512-86175000 Fax: +86-0512-88934268
Accreditation:	The IAS Accreditation Number TL-1044.

1. Product Description#

General Information:

One sample was received on 2022-12-07 and used for testing.

Model Tested:	SLFT4/9CCT5S/DUALDIM+SLFT4/MD/OPTIC
Manufacturer:	GREEN CREATIVE LTD
Brand Name:	GREEN CREATIVE
Product Designation:	LED Recessed Downlight
Burning Time Before Test:	0hour(For New Products)
Color Tunable:	White-Tunable
CCT Range:	2700K, 3000K, 3500K, 4000K, 5000K
Least Efficient Setting:	2700K
Most Consumptive Setting:	2700K
Default Setting:	3500K

Rated Values:

Rated Voltage/Frequency:	120-277VAC 50/60Hz
Rated Power:	10W/8W/7W
Nominal CCT:	2700K/3000K/3500K/4000K/5000K
Nominal Lumen Output:	800lm/840lm/880lm/880lm/880lm @ 10W

2. Standards Used

- IES LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products
- ANSI C82.77-10-2014: Harmonic Emission Limits – Related Power Quality Requirements for Lighting Equipment
- IES TM-30-18*: IES Method for Evaluating Light Source Color Rendition

3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
AC Power Supply	INVENTFINE	CHP-5KVA	900511765	2022-06-21	2023-06-20
DC Power Supply	INVENTFINE	WL3010	JWDMP030001	2022-06-21	2023-06-20
Power Meter	INVENTFINE	WT500	GSDSQ200007	2022-11-03	2023-11-02
Goniophotometer	INVENTFINE	GPM-1900	YWGCF120001	2022-11-14	2023-11-13
Wireless Weather Station	ZHONGXING	KG218	N/A	2022-06-21	2023-06-20
Standard Light Source	INVENTFINE	N/A	JWBYR040008	2021-12-23	2023-12-22

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.

Note: The UUT was tested at 2700K, the Most Consumptive Setting.

5. Test Result

[Goniophotometer System]

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

Test orientation: **Downward**

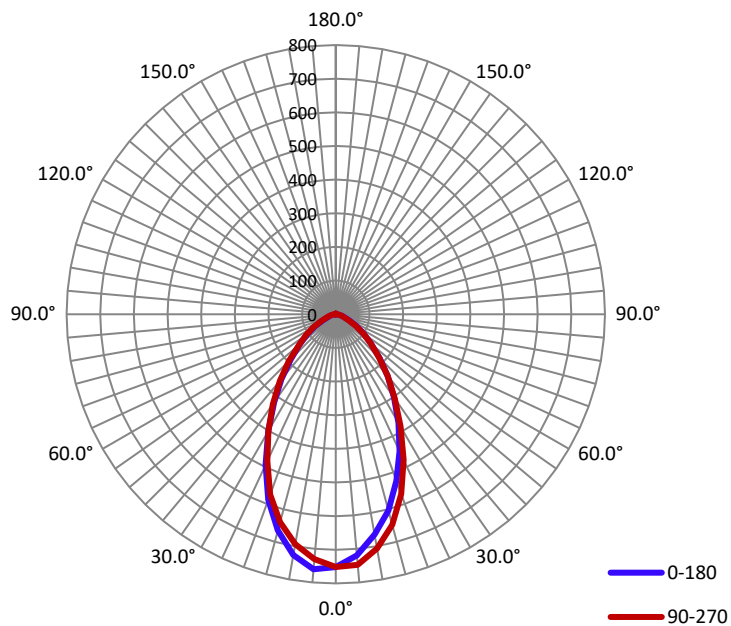
Electrical Measurement

Input Voltage(V)	Frequency(Hz)	Input Current(A)	Power (W)	Power Factor
120.0	60	0.0810	9.55	0.9820

Photometric Measurement

Luminous Flux(lm)	Efficacy(lm/W)	$I_{max}(cd)$	S/MH(C0/180)	S/MH(C90/270)
965.3	101.13	763.3	0.89	0.90

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle(50% I_{max}):	60.5	62.4	61.9	58.7	60.9
Field Angle(10% I_{max}):	118.2	118.8	119.0	117.3	118.3

Luminous Intensity (cd) Distribution Data

C y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	751	751	751	751	751	751	751	751
5.0°	719	721	734	742	747	754	760	760
10.0°	665	678	693	700	707	715	719	728
15.0°	604	620	637	644	648	658	658	668
20.0°	527	545	563	567	569	576	583	588
25.0°	449	463	478	477	477	482	490	496
30.0°	373	382	389	388	385	384	395	404
35.0°	302	308	313	311	306	307	313	322
40.0°	240	243	243	241	241	240	246	251
45.0°	184	186	187	183	181	183	186	190
50.0°	137	138	139	137	136	136	139	142
55.0°	102	102	102	100	100	100	102	104
60.0°	72	72	70	70	69	69	71	73
65.0°	44	43	42	41	41	41	41	43
70.0°	28	28	28	27	26	26	26	27
75.0°	19	20	19	19	18	18	18	19
80.0°	12	11	11	11	10	10	10	10
85.0°	3	3	2	2	2	1	1	1
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	0	0	0
155.0°	0	0	0	0	0	0	0	0
160.0°	0	0	1	0	1	0	0	0
165.0°	0	1	1	1	2	1	1	1
170.0°	1	1	1	1	2	1	1	1
175.0°	1	1	2	2	2	2	2	1
180.0°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data (cont.)

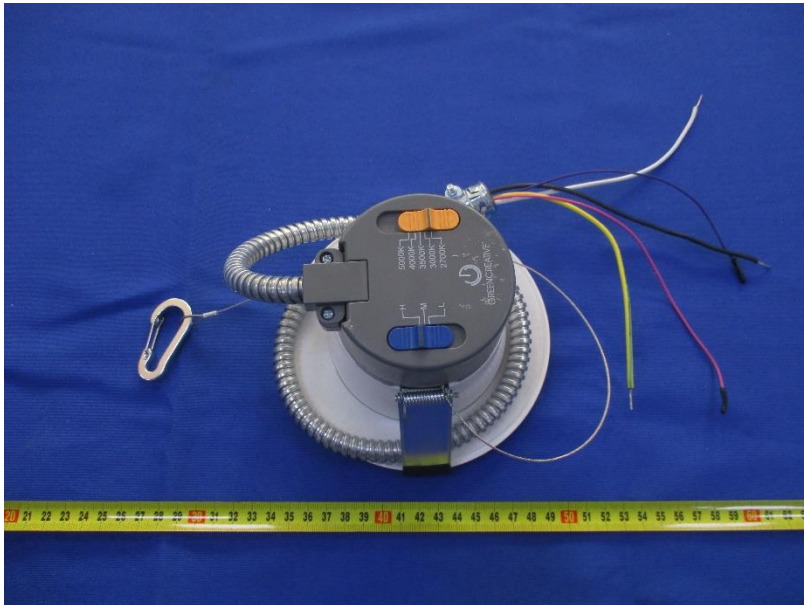
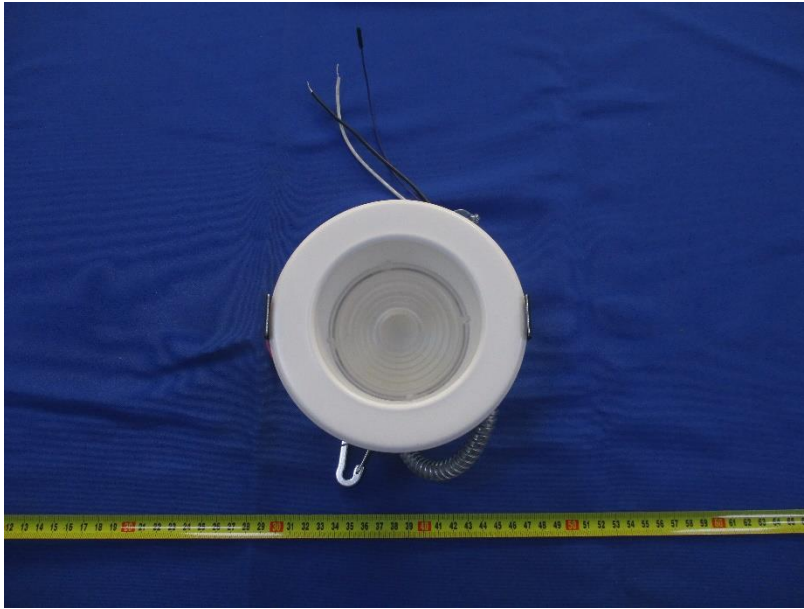
C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	751	751	751	751	751	751	751	751
5.0°	761	760	758	745	730	722	715	714
10.0°	727	731	725	716	694	671	654	653
15.0°	665	668	670	662	639	602	574	574
20.0°	587	588	591	588	571	531	495	500
25.0°	494	499	503	497	481	453	424	425
30.0°	402	408	415	412	400	377	351	351
35.0°	319	325	333	333	326	307	282	284
40.0°	251	255	260	263	259	245	222	224
45.0°	189	191	197	199	198	188	167	172
50.0°	141	142	146	147	144	139	122	127
55.0°	103	104	108	109	108	105	93	97
60.0°	71	72	74	76	76	76	67	70
65.0°	41	43	44	46	47	47	45	44
70.0°	25	27	28	29	29	29	29	29
75.0°	17	18	19	20	21	20	20	20
80.0°	9	11	12	12	13	13	12	12
85.0°	1	3	3	4	5	4	4	3
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	0	0	0
155.0°	0	0	0	0	0	0	0	0
160.0°	0	0	0	1	0	1	0	0
165.0°	0	1	1	1	1	1	1	1
170.0°	0	0	1	2	1	1	2	1
175.0°	0	1	2	2	2	2	2	2
180.0°	0	0	0	0	0	0	0	0

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	17.9	1.84
5-10	51.6	5.33
10-15	79.2	8.20
15-20	98.7	10.22
20-25	108.4	11.23
25-30	108.7	11.27
30-35	102.7	10.62
35-40	92.4	9.59
40-45	79.7	8.24
45-50	64.7	6.71
50-55	52.2	5.40
55-60	40.0	4.15
60-65	27.4	2.84
65-70	17.5	1.82
70-75	12.2	1.26
75-80	8.0	0.83
80-85	3.7	0.39
85-90	0.3	0.03
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	0.0	0.00
150-155	0.0	0.00
155-160	0.0	0.00
160-165	0.0	0.00
165-170	0.0	0.00
170-175	0.0	0.00
175-180	0.0	0.00

Deg	Flux (lm)	%
0-5	17.8	1.85
0-10	69.3	7.18
0-15	148.4	15.38
0-20	247.1	25.59
0-25	355.4	36.82
0-30	464.2	48.09
0-35	566.9	58.73
0-40	659.3	68.31
0-45	739.0	76.56
0-50	803.7	83.27
0-55	855.9	88.67
0-60	895.8	92.81
0-65	923.3	95.65
0-70	940.7	97.46
0-75	952.8	98.71
0-80	960.9	99.55
0-85	964.6	99.93
0-90	964.9	99.96
0-95	964.9	99.96
0-100	964.9	99.96
0-105	964.9	99.96
0-110	964.9	99.96
0-115	964.9	99.96
0-120	964.9	99.96
0-125	964.9	99.96
0-130	964.9	99.96
0-135	964.9	99.96
0-140	964.9	99.96
0-145	964.9	99.96
0-150	964.9	99.96
0-155	964.9	99.96
0-160	965.0	99.97
0-165	965.1	99.98
0-170	965.2	99.99
0-175	965.2	100.00
0-180	965.3	100.00

6. Product Photo



Directions

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