



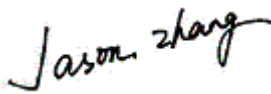
Test Report

Customer Company & Address:			
GREEN CREATIVE			
ADD: Room 1206-7 New Victory House, 93-103 Wing Lok Street, Central, HONG KONG			
Contact Person:	Guillaume Vidal		
Telephone:	021-62320308	Fax/Email address:	guillaume@gc-lighting.com

Manufacturer:	N/A
Country of Origin:	China
Country of Export:	USA, Canada
Product Description:	Lamp type: LED lamp Total amount of light source: 7 The manufacturer of light source: OSRAM The model number of light source: SQUARE
Brand Name:	GREEN CREATIVE
Model Number:	7MR16G3DIM/927NF25
Electrical Specification:	Rated Voltage: 12 V AC Frequency: 60 Hz Wattage: 7 W

Test Laboratory & Address:			
UL Verification Services (Guangzhou) Co., Ltd.			
ADD: Building A1, 1F & 2F, Nansha Science and Technology Innovation Center, No. 25, South Huanshi Avenue, Nansha District, Guangzhou 511458, China			
Telephone:	+86 20 28667188	Fax:	+86 20 83486605

Receipt of Test Samples :	2013-08-17	Test Period:	2013-08-22 ~ 2013-08-28
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Tested By	Approved By
 / Jason Zhang	 / Johnson Zhao
Test Personnel Name & Signatory	Approval Name & Signatory

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.



Test Report

Statement of Results

Test Flow	Test Method	Sample ID (Lab)	Sample Serial No	Pass/Fail/NA
1.	Integrating Sphere Test	017729-S001	N/A	Evaluate by customer
2.	Goniophotometer Test	017729-S001	N/A	Evaluate by customer

Deviation from Test Method (if any)

N/A

Remark (if any)

This report shall not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the US government



Test Report

Test No. 1 : Integrating Sphere Test

Environmental Conditions

Temperature: 25.2° C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE001	Integrating Sphere	Before Use	Before Use
GVS-LE-FS007	Measurement Standard Lamp	2013-08-15	2014-08-14

Test Sample

017729-S001

Test Method

The sample was tested according to the IES LM-79-2008.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25° C ± 1° C.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation	Operate time (Min.)	Stabilization time (Min.)
Input	12.00	60	0.653	7.18	0.917	Base up	60	50

Test Type	CCT (K)	CRI (Ra)	R9	Luminous Flux (lm)	Luminous Efficacy (lm/W)
Output	2761	96.0	95	451.3	62.8



Test Report

Test Condition

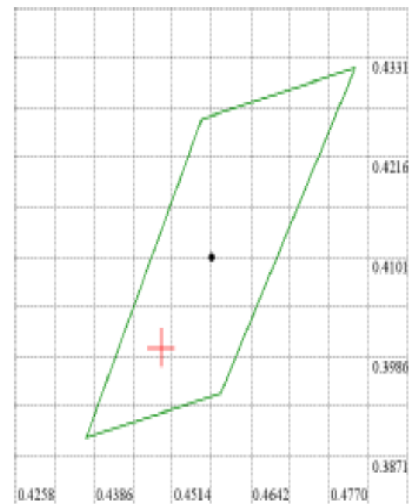
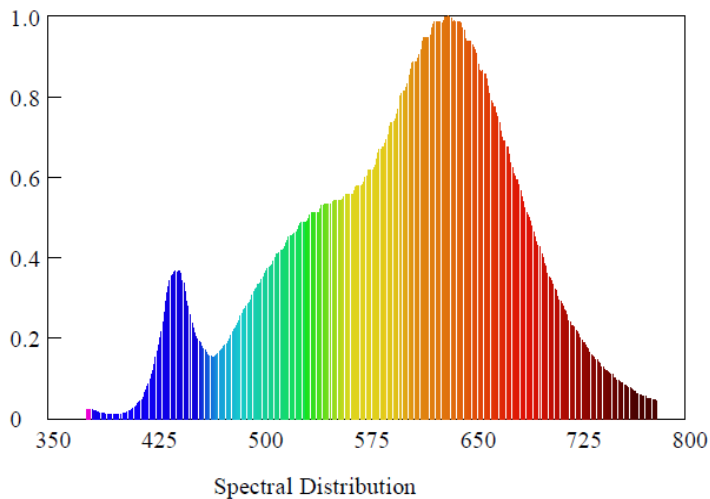
Temperature: 25.2°C

RH: ----%

Spectrum Range: 380-780 nm

Scan Step: 1 nm

Spectroradiometric Parameters



Nominal CCT:LED_2700K
x0=0.4496 y0=0.3997

Chromaticity Coordinates: x=0.4496 y=0.3997 u'=0.2608 v'=0.5216

Correlated Color Temperature: 2761 K

Dominant Wavelength: 584.0 nm(E)

Luminous Flux: 451.280 lm

Purity: 0.5495

Chromaticity Difference: -0.0032Duv

Peak Wavelength: 633.4 nm

Color Ratio: Kr=45.6% Kg=46.5% Kb=7.9%

Bandwidth: 152.5nm

Radiant Flux: 1.554 W

Rendering Index: Ra=96.0

R1=97 R2=99 R3=95 R4=92 R5=96 R6=97 R7=96 R8=97

R9=95 R10=98 R11=89 R12=95 R13=97 R14=96 R15=98



Test Report

Test No.2: Goniophotometer Test

Environmental Conditions

Temperature: 25.2 °C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-GS003	Goniophotometer	Before Use	Before Use
GVS-LE-FS019	Measurement Standard Lamp	2012-09-28	2013-09-27
GVS-LE-CA006	Digital Calliper	2013-08-16	2014-08-15

Test Sample

017729-S001

Test Method

The sample was tested according to the IES LM-79-2008.
Photometric parameters were measured using a type C goniophotometer and software.
The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample.
The sample was operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 0.5° vertical intervals and 22.5° horizontal intervals.

Test Results

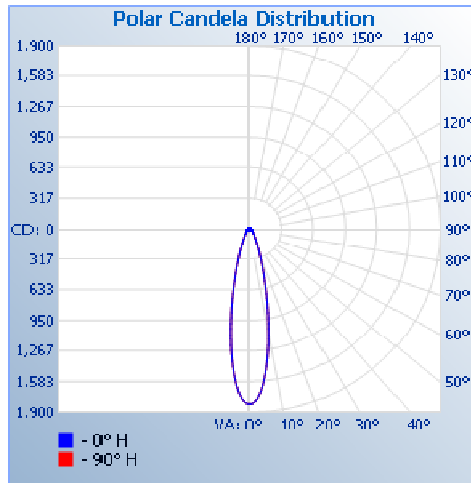
Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation	Operate time (Min.)	Stabilization time (Min.)
Input	12.01	60	0.652	7.18	0.917	Base up	100	50

Test Type	Flux (lm)	Field angle (10%)		Beam angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
output	441.2	45.0	45.0	22.8	22.8	61.4

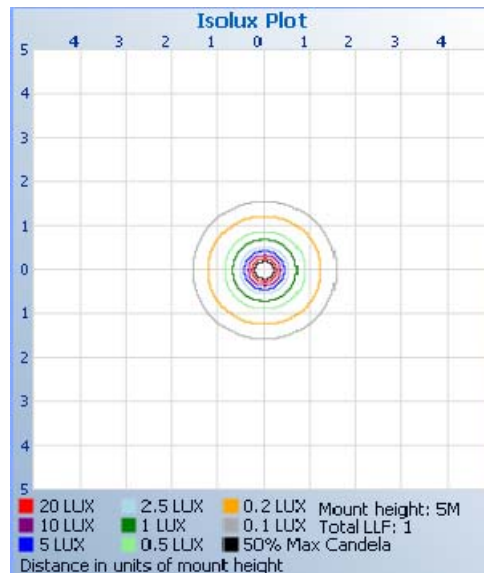


Test Report

Light Distribution Curve



Isolux Plot





Test Report

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	352.9	80%
0-40	382.5	86.7%
0-60	417.5	94.6%
60-90	23.6	5.4%
70-100	11.2	2.5%
90-120	0.1	0%
0-90	441.1	100%
90-180	0.1	0%
0-180	441.2	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	40.4	9.2%	90-95	0.1	0%
5-10	92.8	21.0%	95-100	0	0%
10-15	92.3	20.9%	100-105	0	0%
15-20	64.0	14.5%	105-110	0	0%
20-25	38.7	8.8%	110-115	0	0%
25-30	24.6	5.6%	115-120	0	0%
30-35	17.0	3.8%	120-125	0	0%
35-40	12.6	2.9%	125-130	0	0%
40-45	10.3	2.3%	130-135	0	0%
45-50	9.1	2.1%	135-140	0	0%
50-55	8.2	1.9%	140-145	0	0%
55-60	7.4	1.7%	145-150	0	0%
60-65	6.7	1.5%	150-155	0	0%
65-70	5.8	1.3%	155-160	0.0	0%
70-75	4.8	1.1%	160-165	0.0	0%
75-80	3.5	0.8%	165-170	0.0	0%
80-85	2.0	0.5%	170-175	0.0	0%
85-90	0.7	0.2%	175-180	0.0	0%



Test Report

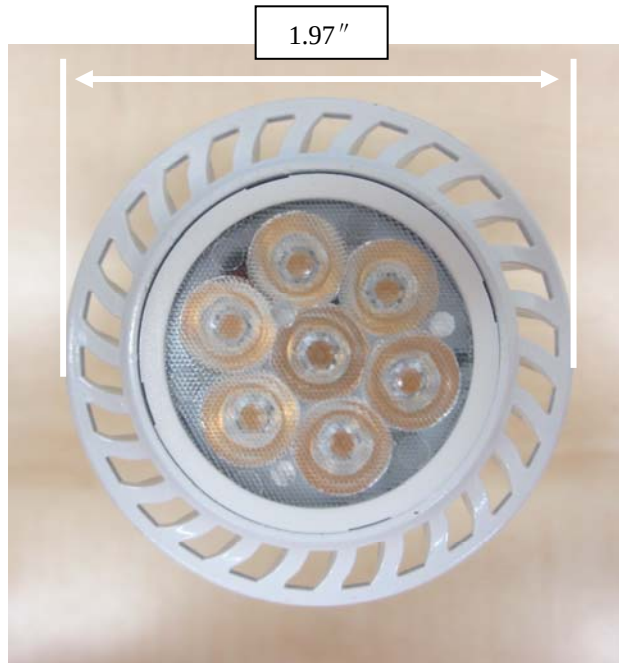
Intensity Data(cd)

Candela Table - Type C																	
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815	1815
1	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802	1802
2	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
3	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
4	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658	1658
5	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578	1578
6	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486
7	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384	1384
8	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278	1278
9	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166	1166
10	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055	1055
11	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944	944
12	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838	838
13	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739
14	646	646	646	646	646	646	646	646	646	646	646	646	646	646	646	646	646
15	561	561	561	561	561	561	561	561	561	561	561	561	561	561	561	561	561
16	485	485	485	485	485	485	485	485	485	485	485	485	485	485	485	485	485
17	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417
18	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358
19	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306
20	262	262	262	262	262	262	262	262	262	262	262	262	262	262	262	262	262
25	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131
30	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
35	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
40	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
45	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
50	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
55	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
60	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
65	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
70	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
75	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
80	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Test Report

Photos of sample



*******END OF TEST REPORT*******