



NVLAP Lab Code: 200952-0

Verification Services

Project No.: 10242598-1
Report No.: 10243598-1a
Report Issued Date: 2014-03-24



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:	15900659099	Fax/Email Address:	guillaume@gc-lighting.com

Manufacturer:	GREEN CREATIVE
Country of Origin:	China
Country of Export:	USA, Canada
Product Description:	Lamp type: PAR38 Total amount of light source: 1pcs The manufacturer of light source: CITIZEN The model number of light source: CL030
Brand Name:	GREEN CREATIVE
Model Number:	19PAR38G3/830NF25/277V
Electrical Specification:	Rated voltage: 120~277 Vac Frequency: 60 Hz Wattage: 19 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 :	2014-02-19	Test Period:	2014-02-19 ~ 2014-03-24
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Tested By	Approved By
 / Jackson Zeng	 / 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	1828142-S007	N/A	Evaluate by customer
2.	Goniophotometer Test		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:	25.1 °C
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Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE003	Integrating Sphere	Before Use	Before Use
GVS-LE-FS022	Measurement Standard Lamp	12/23/2013	12/22/2014

Test Sample

1828142-S007

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	Operate time (Min.)	Stabilization time (Min.)
Input	120.21	60	0.174	20.50	0.979	60	50

Test Type	CCT (K)	Luminous Flux (lm)	Color Rendering Index Ra	R9	Luminous Efficacy (lm/W)
Output	2964	1384.6	83.9	8	67.5



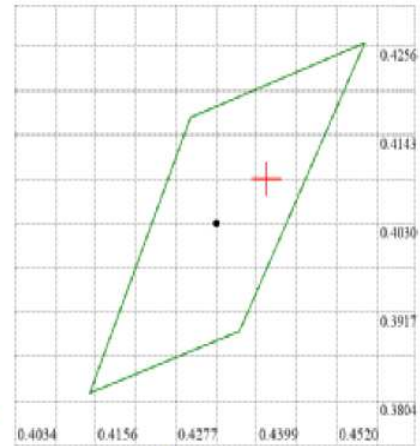
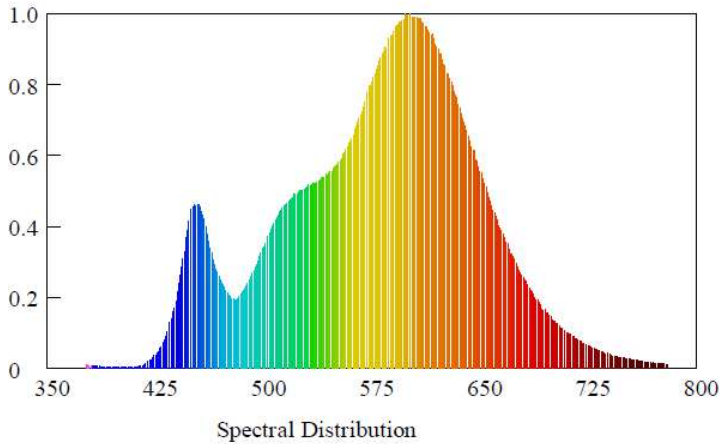
Test Report

Test Condition

Temperature: 25.1°C
 Spectrum Range: 380-780 nm

RH: ----%
 Scan Step: 1 nm

Spectroradiometric Parameters



Nominal CCT:LED_3000K
 $x_0=0.4414$ $y_0=0.4087$

Chromaticity Coordinates: $x=0.4414$ $y=0.4087$ $u'=0.2515$ $v'=0.5239$

Correlated Color Temperature: 2964 K

Dominant Wavelength: 581.0 nm(E)

Luminous Flux: 1384.583 lm

Purity: 0.5538

Chromaticity Difference: 0.0012Duv

Peak Wavelength: 601.2 nm

Color Ratio: $K_r=45.7\%$ $K_g=46.8\%$ $K_b=7.6\%$

Bandwidth: 127.1nm

Radiant Flux: 3.887 W

Rendering Index: $R_a=83.9$

$R_1=83$ $R_2=93$ $R_3=95$ $R_4=83$ $R_5=84$ $R_6=93$ $R_7=82$ $R_8=59$

$R_9=8$ $R_{10}=84$ $R_{11}=84$ $R_{12}=74$ $R_{13}=87$ $R_{14}=98$ $R_{15}=74$



Test Report

Test No.2: Goniophotometer Test

Environmental Conditions

Temperature: 25.3 °C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-GS002	Goniophotometer	Before Use	Before Use
GVS-LE-FS019	Measurement Standard Lamp	08/23/2013	08/22/2014
GVS-LE-CA008	Digital Calliper	08/09/2013	08/08/2014

Test Sample

1828142-S007

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 samples were 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

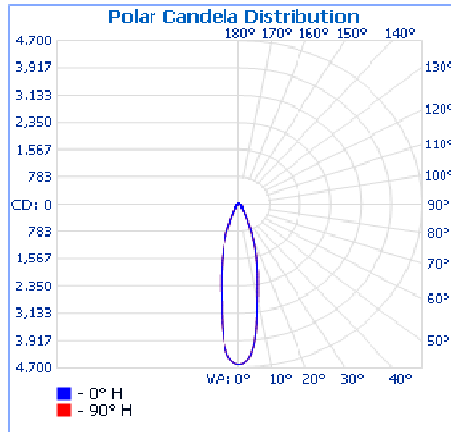
Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Operate time (Min.)	Stabilization time (Min.)
Input	120.11	60	0.175	20.46	0.973	120	60

Test Type	Flux (lm)	Field angle (10%)		Beam angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
Output	1363.4	51.1	51.1	23.7	23.7	66.63

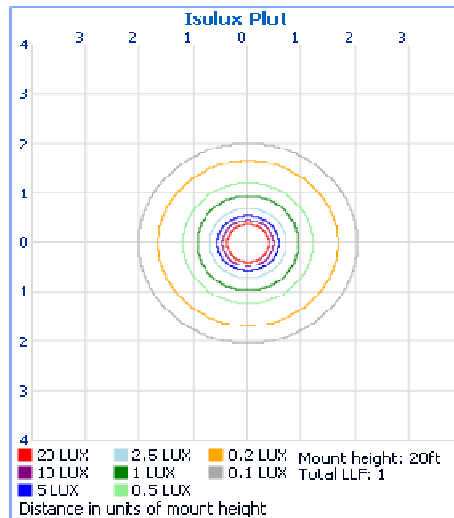


Test Report

Light Distribution Curve



Isolux Plot





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Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,065.9	78.2%
0-40	1,175.2	86.2%
0-60	1,303.2	95.6%
60-90	59.5	4.4%
70-100	21.6	1.6%
90-120	0.1	0%
0-90	1,362.7	99.9%
90-180	0.7	0.1%
0-180	1,363.4	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	104.8	7.7%	90-95	0.0	0%
5-10	239.5	17.6%	95-100	0.0	0%
10-15	256.5	18.8%	100-105	0.0	0%
15-20	224.9	16.5%	105-110	0.0	0%
20-25	151.6	11.1%	110-115	0.0	0%
25-30	88.7	6.5%	115-120	0.0	0%
30-35	61.5	4.5%	120-125	0.0	0%
35-40	47.8	3.5%	125-130	0.0	0%
40-45	38.8	2.8%	130-135	0.0	0%
45-50	33.2	2.4%	135-140	0.0	0%
50-55	29.4	2.2%	140-145	0.0	0%
55-60	26.5	1.9%	145-150	0.1	0%
60-65	22.5	1.7%	150-155	0.1	0%
65-70	15.5	1.1%	155-160	0.1	0%
70-75	10.5	0.8%	160-165	0.1	0%
75-80	6.7	0.5%	165-170	0.1	0%
80-85	3.5	0.3%	170-175	0.1	0%
85-90	0.9	0.1%	175-180	0.0	0%



Test Report

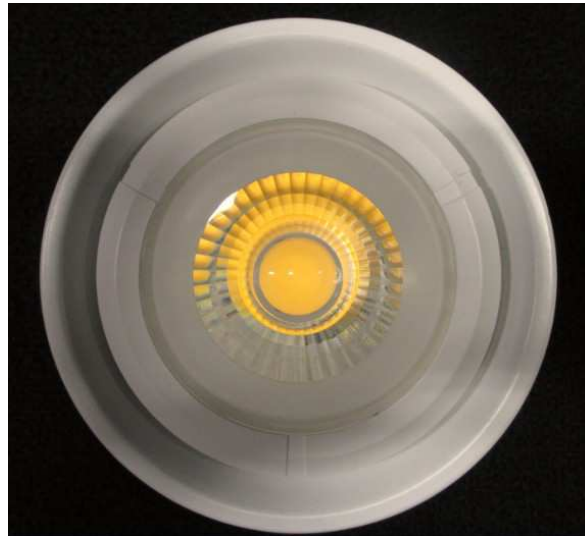
Intensity Data(cd)

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	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612	4612
1	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598	4598
2	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548	4548
3	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460
4	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317	4317
5	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136	4136
6	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887	3887
7	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596	3596
8	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293	3293
9	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947	2947
10	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696	2696
11	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466	2466
12	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261	2261
13	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088	2088
14	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915	1915
15	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758	1758
16	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607	1607
17	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
18	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302
19	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155
20	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024	1024
25	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494
30	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260
35	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171
40	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
45	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
50	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
55	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
60	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
65	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
70	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
75	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
80	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
85	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
155	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



Test Report

Photos of sample



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