NVLAP Lab Code: 200952-0

Verification Services

Project No.: 4787063025-1
Report No.: 4787063025-1a
Report Issued Date:2015-09-11

Test Report

Customer Company & Address:			
Elec-Tech International Co., Ltd ADD: 1 JINFENG RD TANGJIAWAN TOWN XIANGZHOU DISTRICT ZHUHAIGUANGDONG P.R. CHINA 519085			
Contact Person:	Sean.Luo		
Telephone:	0756-3639678	**Fax/Email Address:**	luolixue@electech.com.cn

Manufacturer:	Elec-Tech International Co., Ltd
Country of Origin:	China
Country of Export:	United State& Canada
Product Description:	Lamp Type: Inseparable SSL Luminaire(Ceiling Mount) Brand: ETI & Commercial Electric Total Amount Of Light Source: 45 pcs Manufacturer Of Light Source: Everlight Electronics Co.,Ltd Model Number Of Light Source: 67-21S
Model Number:	546631XX(where “xx” denotes color temperature, XX=41～50 identifies 4000K)
Electrical Specification:	120AC, 60 Hz, 11.5W

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 :	2015-9-01	**Test Period:**	2015-9-02~ 2015-9-11

Tested By	**Approved By**
Candy Zhang / Candy Zhang	Chuck Lin / Chuck Lin
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	2198506-S001	N/A	Evaluate by customer
2.	Goniophotometer Test	2198506-S001	N/A	Evaluate by customer

Deviation from Test Method (*if any*)

N/A

Remark *(if any)*

1. 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:	25.1º C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE002	Integrating Sphere	Before Use	Before Use
GVS-LE-FS009	Measurement Standard Lamp	08/20/2015	08/19/2016

Test Sample

2198506-S001

Test Method

The sample was tested according to the IES LM-79-2008.
Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º 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	119.96	60	0.096	11.30	0.986	Base Up	65	60

Test Type	CCT (K)	Luminous Flux (lm)	Color Rendering Index Ra	Luminous Efficacy (lm/W)
Output	4067	930.73	85.7	82.4

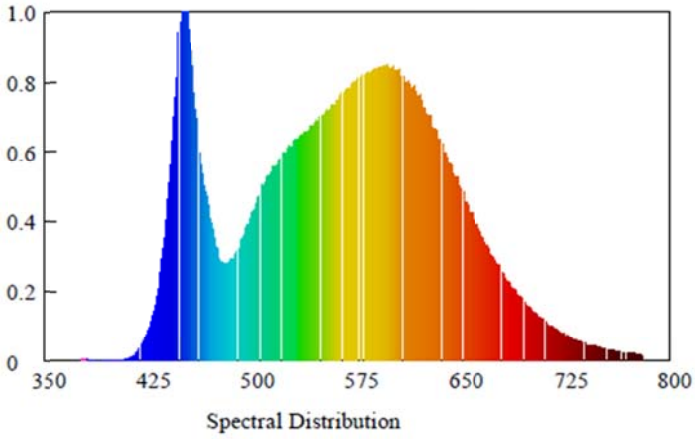
Test Report

Test Condition

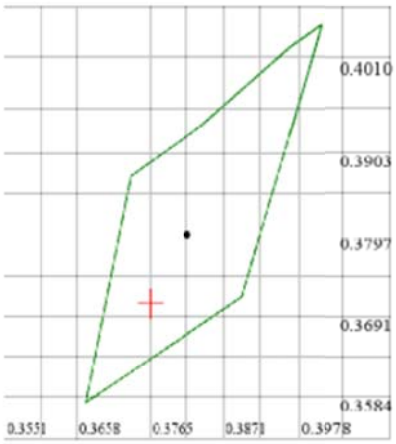
Temperature: 25.1°C RH: ----%

Spectrum Range: 380-780 nm Scan Step: 1 nm

Spectroradiometric Parameters



Spectral Distribution



Nominal CCT:LED_4000K
x0=0.3764 y0=0.3707

Chromaticity Coordinates: x=0.3764 y=0.3707 u'=0.2249 v'=0.4983

Correlated Color Temperature: 4067 K Dominant Wavelength: 578.0 nm(E)

Luminous Flux: 930.731 lm Purity: 0.2426

Chromaticity Difference: -0.0017Duv Peak Wavelength: 452.5 nm

Color Ratio: Kr=37.8% Kg=52.5% Kb=9.7%

Bandwidth: 23.9nm Radiant Flux: 2.863 W

Rendering Index: Ra=85.7

R1=85	R2=91	R3=95	R4=84	R5=84	R6=87	R7=88	R8=71
R9=26	R10=78	R11=83	R12=63	R13=87	R14=97	R15=81	

Test Report

Test No.2: Goniophotometer Test

Environmental Conditions

Temperature: 25.1 º C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-GS001	Goniophotometer	Before Use	Before Use
GVS-LE-CA015	Digital Calliper	12/18/2014	12/17/2015

Test Sample

2198506-S001

Test Method

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

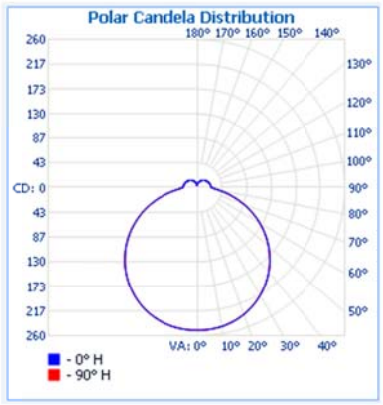
Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation	Opreate time (Min.)	Stabilization time (Min.)
Input	120.02	60	0.096	11.37	0.986	Base Up	70	65

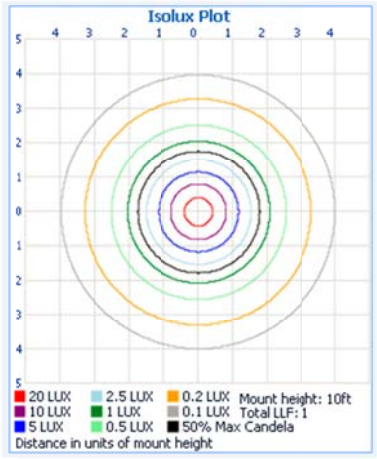
Test Type	Flux (lm)	Field angle (10%)		Beam angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
Output	936.7	181.6	181.6	121.1	121.1	82.4

Test Report

Light Distribution Curve



Isolux Plot



Test Report

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	198.0	21.1%
0-40	327.7	35%
0-60	596.3	63.7%
60-90	216.8	23.1%
70-100	136.5	14.6%
90-120	72.7	7.8%
0-90	813.1	86.8%
90-180	123.6	13.2%
0-180	936.7	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	6.0	0.6%	90-95	13.4	1.4%
5-10	17.8	1.9%	95-100	13.0	1.4%
10-15	29.1	3.1%	100-105	12.6	1.3%
15-20	39.6	4.2%	105-110	12.0	1.3%
20-25	48.9	5.2%	110-115	11.3	1.2%
25-30	56.7	6.1%	115-120	10.5	1.1%
30-35	62.8	6.7%	120-125	9.6	1%
35-40	67.0	7.2%	125-130	8.5	0.9%
40-45	69.1	7.4%	130-135	7.5	0.8%
45-50	69.2	7.4%	135-140	6.4	0.7%
50-55	67.2	7.2%	140-145	5.4	0.6%
55-60	63.1	6.7%	145-150	4.3	0.5%
60-65	57.2	6.1%	150-155	3.4	0.4%
65-70	49.6	5.3%	155-160	2.5	0.3%
70-75	40.7	4.3%	160-165	1.7	0.2%
75-80	31.3	3.3%	165-170	1.0	0.1%
80-85	22.4	2.4%	170-175	0.5	0%
85-90	15.9	1.7%	175-180	0.1	0%

Test Report

Intensity Data(cd)

	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	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
1	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
2	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
3	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
4	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
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7	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249
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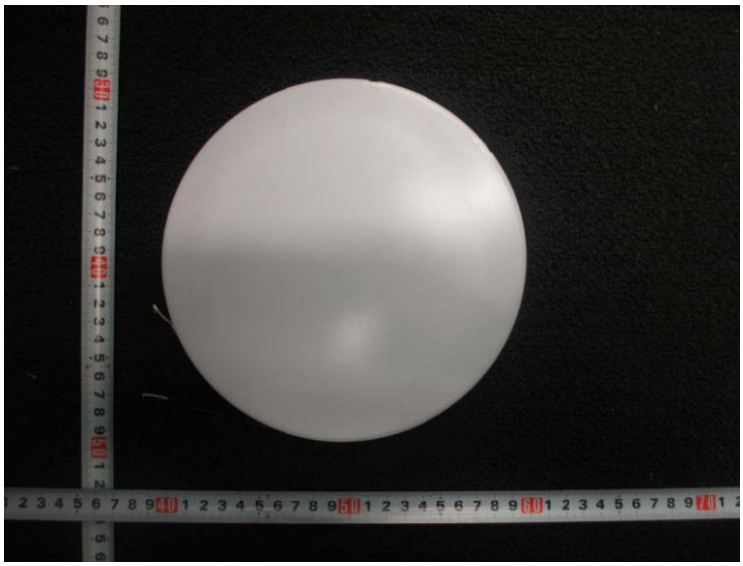
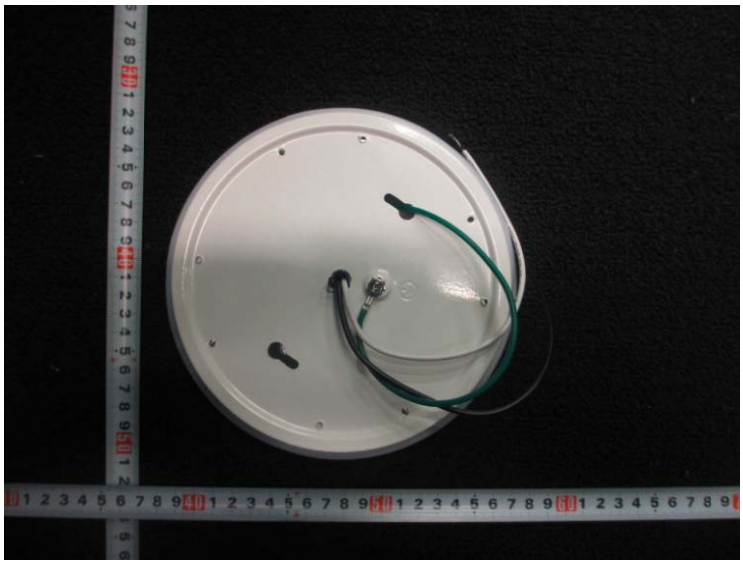
Test Report

Photos of sample





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