

LM-79-08 Test Report

For

ELEC-TECH INTERNATIONAL CO LTD

No.1 Jinfeng Road, Tangjiawan Town, Xiangzhou District, Zhuhai City, Guangdong
Province, P.R. China 519085

Wall Pack

Model name(s):

533043xx

Representative (Tested) Model:

53304361

Model Difference: XX=61-70 intends CCT is 5000K

Prepare By:



Engineer: Leo Liu

Date: 2017-06-22

Review By:



Technical Lead: Vincent Yuan

Date: 2017-06-22

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Product Information:

Client Name:	ELEC-TECH INTERNATIONAL CO LTD
Brand Name:	ETI
Model Number:	53304361
Product type:	Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires
Rating Input:	AC120-277V, 50/ 60Hz, 74W
Declared CCT:	5000K
Declared Light Output:	8000lm
LED Manufacturer:	Samsung
LED Model:	2835 Series
LED Quantity:	156 pcs
Forward current of LED Chip:	200mA
Date of Receipt Samples:	2017-06-14
Quantity of Receipt Samples:	1
Sample Number:	170614007-S1

Laboratory Information:

Test Laboratory:	Dongguan New Testing Centre Co., Ltd
Laboratory Address:	3F, No. 1 the 1 st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China
Laboratory Contact Name:	Neil Zhong
Laboratory Contact E-mail:	Neil_ntc@163.com

Report Information

Issued Date of Test Report:	2017-06-22
Revised Date of Test Report:	N/A
Test Report No.:	NTCR17060041
Remark (If applicable)	N/A

Test Specifications:	
Date of Test	2017-06-19
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. THD and PF
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Color Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry

Test Methods
<p>1. Photometric and Electrical measurements – Light Distribution Method:</p> <p>Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 120 Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° Vertical intervals.</p>
<p>2. Photometric and Electrical Measurements – Integrating Sphere Method:</p> <p>Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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 120 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.</p>
<p>3. THD and PF measurements</p> <p>The sample was tested according to the ANSI C82.77-2002, the sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated from the digital power meter.</p>

Integrating Sphere Test Results

Test Condition:

Test Ambient	Test Humidity	Orientation	Stabilization Time	Test Time
25.4	53	Face Down	90	25

Electrical Data:

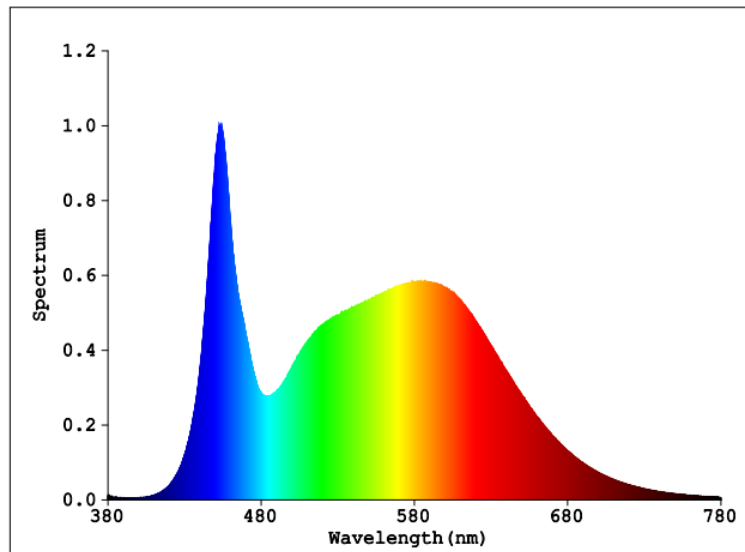
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
119.9	60	0.6195	73.95	0.9953

Color Data:

Parameter	Result
CCT (K)	5137
Color Rendering Index (CRI)	85.4
R9	18
Chromaticity, x	0.3413
Chromaticity, y	0.3479
Chromaticity u'	0.2103
Chromaticity v'	0.4823
Duv	-0.00034

Special Color Rendering			
R1	84	R9	18
R2	92	R10	79
R3	94	R11	83
R4	84	R12	65
R5	85	R13	87
R6	87	R14	97
R7	87	R15	80
R8	70	-	-

Spectrum Diagram:



Goniophotometer Test Results:

Test Condition:

Test Ambient	Test Humidity	Orientation	Stabilization Time	Test Time
25.4	53	Face Down	90	25

Electrical Data:

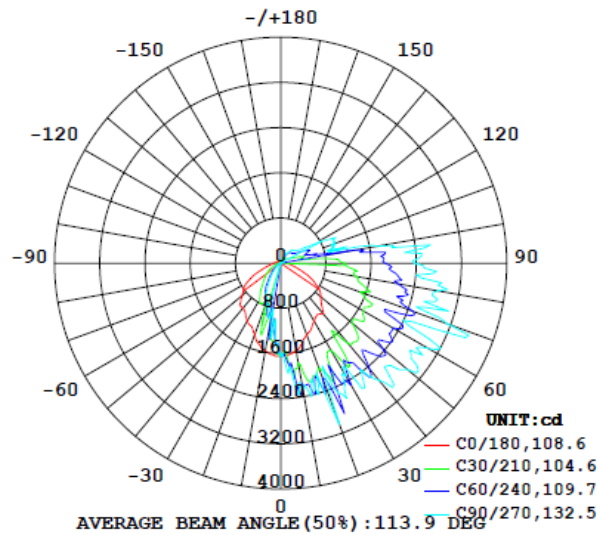
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
119.9	60	0.6195	73.95	0.9953

Goniophotometer Data:

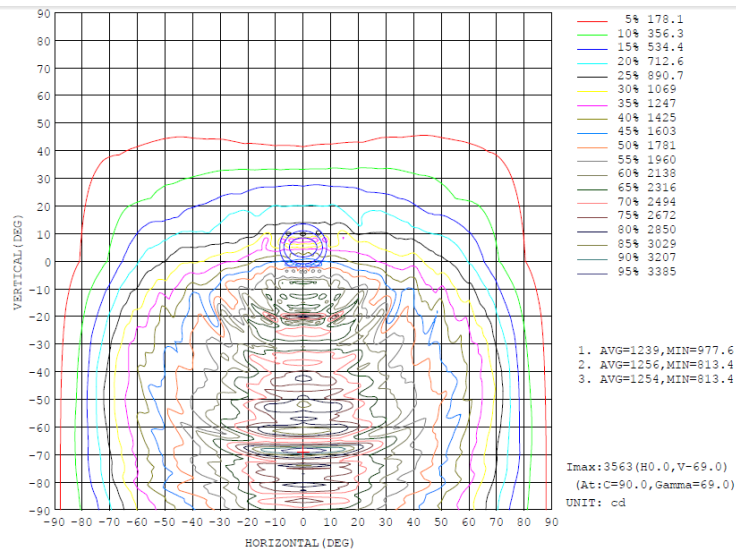
Parameter	Result
Total Luminous (lm)	8350.6
Total Luminous per foot (lm/ft)	N/A
Luminous Efficacy (lm/w)	112.9
Zonal Lumens (0-90°) (lm)	6933.7
Zonal Luminous Efficacy(0-90°) (lm/w)	93.8
Zonal Lumens Distribution (80-90°)	10.6%
Beam Angle (°)	113.9

Luminous Intensity Distribution Diagram:

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Isocandela Diagram:



Zonal Flux Diagram:

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	%lum,lamp
10	1576	2261	2269	2265	1576	1375	813.4	1191	0- 10	152.4	152.4	1.83,1.83
20	1347	2063	3036	2070	1342	822.9	711.4	853.5	10- 20	439.9	592.3	7.09,7.09
30	1191	2050	2315	2071	1178	609.7	450.8	628.0	20- 30	664.1	1256	15,15
40	1170	2004	2707	1923	1043	402.6	206.5	407.3	30- 40	805.5	2062	24.7,24.7
50	932.2	2090	2820	1994	882.5	239.9	86.01	253.4	40- 50	937.9	3000	35.9,35.9
60	693.9	2064	3020	2046	690.8	103.5	34.60	112.1	50- 60	1009	4009	48,48
70	384.9	1980	3134	1941	379.4	24.59	0.4567	29.86	60- 70	1043	5052	60.5,60.5
80	183.3	1737	2828	1794	189.7	10.54	0.6548	14.38	70- 80	993.0	6045	72.4,72.4
90	122.8	1549	2358	1454	125.3	3.777	0.4241	5.971	80- 90	888.6	6934	83,83
100	63.64	797.1	1716	658.6	61.34	1.681	4.569	2.556	90-100	685.0	7619	91.2,91.2
110	73.61	426.3	951.8	491.7	74.50	1.177	5.469	1.364	100-110	286.0	7905	94.7,94.7
120	50.80	234.8	654.8	239.2	51.46	0.9621	4.712	0.9421	110-120	212.7	8117	97.2,97.2
130	12.77	204.8	343.9	206.9	12.04	0.2066	3.070	0.4387	120-130	107.8	8225	98.5,98.5
140	8.858	176.4	298.6	179.3	1.579	0.1697	0.9350	0.2596	130-140	70.34	8285	99.3,99.3
150	0.1246	90.39	168.9	92.96	0.1122	0.1348	0.1874	0.1727	140-150	40.16	8336	99.8,99.8
160	0.1128	0.4249	90.29	4.636	0.1123	0.1343	0.1472	0.1564	150-160	13.51	8349	100,100
170	0.0774	0.4434	6.635	0.7808	0.1327	0.1049	0.1212	0.1233	160-170	1.471	8351	100,100
180	0.0857	0.0790	0.0828	0.1380	0.0840	0.0780	0.0809	0.1352	170-180	0.0273	8351	100,100
DEG	LUMINOUS INTENSITY:cd Less than 25% Percent = 10.5 %										UNIT:lm	



Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2016-12-03	2017-12-02
NTC-F01-006	2.0 meter Integrating Sphere	2016-12-03	2017-12-02
NTC-F01-013	Standard Lamp	2016-12-27	2017-12-26
NTC-F01-031	Digital Power Meter	2016-12-05	2017-12-04
NTC-F01-019	Temperature & Humidity Meter	2016-11-28	2017-11-27



NVLAP LAB CODE 600150-0

Report No: NTCR17060041
Report Version: V1.1

*******END OF DATASHEET*******