NVLAP LAB CODE 200707-0

IES LM-79-08

MEASUREMENT AND TEST REPORT

For

ShenZhen Ruizi Light Electricity Technology Co.,Ltd

Buiding 5, Yasen Innovative Industrial Park, No.8, Chengxin Rd, Baolong Industrial Town, Longgang District, 518116 Shenzhen, People's Perpublic of China.

Test Model: L07G 600MM

Report Type:	Electrical and Photometric tests including: Luminous Intensity Distribution
Test Engineer:	Daniel Duan
Report Number:	R2DG150509057-10
Test Date:	2015-05-14
Report Date:	2015-05-18
Reviewed By:	Jeanne Han/Safety Manager
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008
Test Facility:	Test facility was located at Pu Long Cun 69, Puxinghu Industrial Area, Tangxia Town, Dongguan, Guangdong, P.R.China.
Accreditation:	The NVLAP Lab Code is 200707-0.

1. Product Description

General Information:

One sample was received on 2015-05-09and used for testing. Sample No.: R2DG150509057-S01 Model：L07G 600MM

Model Tested:	L07G 600MM
Manufacturer:	ShenZhen Ruizi Light Electricity Technology Co.,Ltd
Brand Name:	ERVAN
Product Designation:	LED Tri-proof Light
Burning Time Before Test:	0hour(For New Products)

Rated Values:

Rated Voltage/Frequency:	AC100-240V 50/60Hz
Rated Power:	20W
Nominal CCT:	4000K
Lamp Cover	Frosted

2. Standards Used

- IESNA LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products
- ANSI C82.77-2002: Harmonic Emission Limits – Related Power Quality Requirements for Lighting

3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Test Range	Calibration date	Calibration due date
AC Power Supply	EVERFINE	VPS1060 PWM	1101006	0-150V， 0-300V	2015-03-12	2016-03-12
DC Power Supply	EVERFINE	WY12010	1009009	30V/5A	2015-03-05	2016-03-05
Power Meter	YOKOGAWA	WT-210	91KB35700	15/30/60/150/300/600 V	2015-03-05	2016-03-05
Goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	1600mm,3000W/10A	2015-03-04	2016-03-04
Thermal Meter	Victor	VC230	EE091	0~40℃0~90%	2013-04-01	2016-03-31
Standard Light Source	EVERFINE	D908	1012004	N/A	2014-07-31	2015-07-31

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) 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°C±1°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 uncertainty of the luminous intensity is U=2.82% (K=2) , at the 95% confidence level.

5. Test Result

[Goniophotometer System]

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

Test orientation: **Downward**

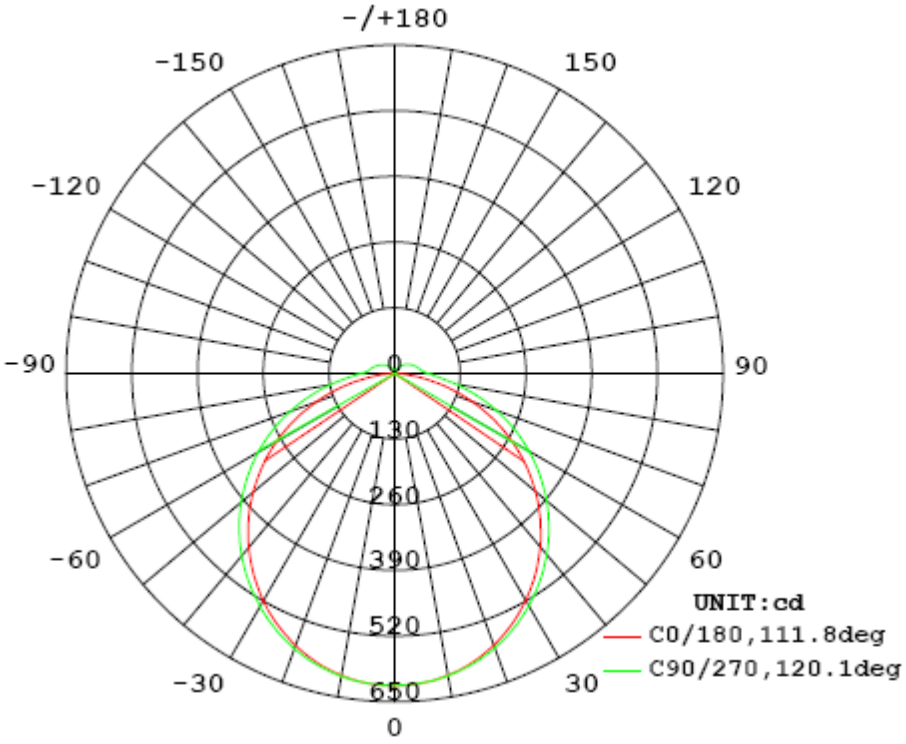
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
230.1	50.0	0.0833	18.49	0.9648

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	CBCP (cd)	S/MH (C0/180)	S/MH (C90/270)
1996.41	108.00	619	1.25	1.28

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% Imax):	111.8	116.6	120.1	116.6	116.3
Field Angle (10% Imax):	159.6	170.5	183.1	170.4	170.90

Luminous Intensity (cd) Distribution Data

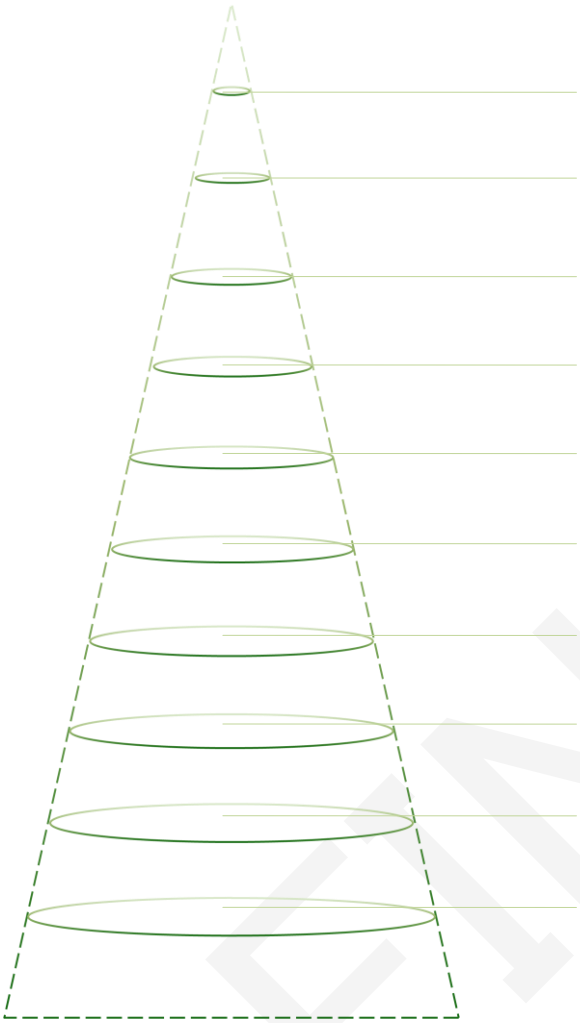
C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	619	618	618	618	618	618	617	617
5.0°	615	615	616	616	616	615	615	615
10.0°	607	607	608	608	609	608	608	606
15.0°	593	593	595	596	596	596	595	594
20.0°	573	574	577	579	580	579	577	575
25.0°	549	551	555	557	558	558	555	551
30.0°	520	523	528	532	533	532	528	523
35.0°	487	490	496	501	504	502	497	491
40.0°	450	454	462	469	471	469	463	455
45.0°	410	415	424	432	435	433	425	416
50.0°	366	373	384	393	397	393	384	374
55.0°	319	328	340	351	356	352	341	329
60.0°	270	280	295	307	312	308	296	281
65.0°	219	231	248	262	267	262	249	232
70.0°	166	180	199	215	221	215	200	181
75.0°	113	129	151	167	174	168	151	130
80.0°	62	80	104	122	129	123	105	81
85.0°	20	39	65	85	92	85	66	40
90.0°	0	17	41	59	66	60	41	17
95.0°	0	13	33	48	54	48	33	13
100.0°	0	11	30	44	50	44	30	11
105.0°	0	10	27	41	46	41	27	10
110.0°	0	9	24	37	42	37	25	9
115.0°	0	8	22	34	38	34	22	8
120.0°	0	7	20	30	34	30	20	7
125.0°	0	6	17	27	30	27	18	6
130.0°	0	5	15	24	27	24	15	5
135.0°	0	5	13	20	23	20	13	5
140.0°	0	4	11	17	20	17	11	4
145.0°	0	3	9	14	16	14	9	3
150.0°	0	2	7	11	13	12	7	3
155.0°	0	2	6	9	10	9	6	2
160.0°	0	1	4	6	7	6	4	1
165.0°	0	1	2	4	4	4	2	1
170.0°	0	1	1	2	2	2	1	1
175.0°	0	0	1	1	1	1	0	0
180.0°	0	0	0	0	0	0	0	0

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	619	618	618	618	618	618	617	617
5.0°	615	615	615	615	615	614	615	614
10.0°	607	606	607	608	608	607	606	605
15.0°	593	593	594	595	595	594	593	591
20.0°	573	573	576	578	579	577	575	571
25.0°	548	549	553	556	557	555	551	547
30.0°	519	521	526	530	531	529	524	518
35.0°	485	488	495	500	501	499	493	486
40.0°	448	452	460	466	468	465	458	450
45.0°	407	413	422	429	431	428	420	410
50.0°	364	370	381	389	392	388	379	367
55.0°	317	324	337	347	351	346	335	322
60.0°	267	277	291	302	307	302	290	275
65.0°	216	227	244	256	261	255	242	225
70.0°	163	176	195	209	214	208	193	174
75.0°	109	125	146	162	167	161	145	123
80.0°	59	76	99	116	123	116	98	75
85.0°	18	37	62	81	87	80	61	36
90.0°	0	18	42	60	66	59	41	17
95.0°	0	14	34	50	56	49	34	13
100.0°	0	12	31	45	51	45	30	11
105.0°	0	10	28	42	47	41	28	10
110.0°	0	9	26	38	43	38	25	9
115.0°	0	8	23	35	39	35	23	8
120.0°	0	8	21	32	35	31	21	7
125.0°	0	7	19	28	32	28	18	7
130.0°	0	6	16	25	28	25	16	6
135.0°	0	5	14	22	24	21	14	5
140.0°	0	4	12	18	21	18	12	5
145.0°	0	3	9	15	17	16	11	4
150.0°	0	2	7	12	14	13	9	4
155.0°	0	1	4	8	10	10	8	4
160.0°	0	0	2	5	7	7	6	3
165.0°	0	0	1	3	4	5	4	2
170.0°	0	0	1	1	2	2	2	1
175.0°	0	0	0	0	1	1	1	0
180.0°	0	0	0	0	0	0	0	0

Average Area Illumination Figure

Angle: 116.30°. Flux out: 1390.0 lm.



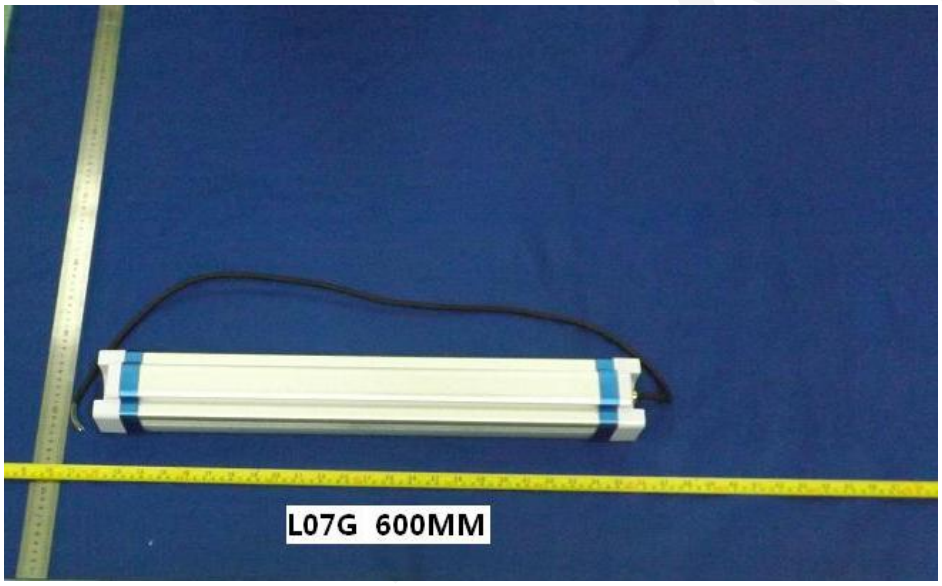
Height (m)	Diameter (cm)	E_{avg}(lx)	E_{max}(lx)
0.5	161.0	638.7	2474.0
1.0	321.9	159.7	618.5
1.5	482.9	71.0	274.9
2.0	643.9	39.9	154.6
2.5	804.8	25.6	99.0
3.0	965.8	17.7	68.7
3.5	1126.8	13.0	50.5
4.0	1287.8	10.0	38.7
4.5	1448.7	7.9	30.5
5.0	1609.7	6.4	24.7

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	14.7	0.74
5-10	43.7	2.19
10-15	71.3	3.57
15-20	96.4	4.83
20-25	118.4	5.93
25-30	136.6	6.84
30-35	150.3	7.53
35-40	159.3	7.97
40-45	163.3	8.18
45-50	162.2	8.12
50-55	156.1	7.83
55-60	145.3	7.27
60-65	130.0	6.51
65-70	110.8	5.55
70-75	88.6	4.43
75-80	64.8	3.25
80-85	42.3	2.12
85-90	25.8	1.29
90-95	18.4	0.93
95-100	15.9	0.79
100-105	14.3	0.72
105-110	12.7	0.64
110-115	11.2	0.56
115-120	9.7	0.49
120-125	8.3	0.41
125-130	6.9	0.35
130-135	5.6	0.28
135-140	4.4	0.22
140-145	3.3	0.17
145-150	2.4	0.12
150-155	1.6	0.08
155-160	1.0	0.05
160-165	0.5	0.03
165-170	0.2	0.01
170-175	0.1	0.00
175-180	0.0	0.00

Deg	Flux (lm)	%
0-5	14.7	0.74
0-10	58.5	2.93
0-15	129.7	6.50
0-20	226.2	11.33
0-25	344.6	17.26
0-30	481.1	24.10
0-35	631.4	31.63
0-40	790.6	39.60
0-45	953.9	47.78
0-50	1116.1	55.90
0-55	1272.2	63.73
0-60	1417.5	71.00
0-65	1547.4	77.51
0-70	1658.2	83.06
0-75	1746.8	87.49
0-80	1811.6	90.74
0-85	1853.9	92.86
0-90	1879.7	94.15
0-95	1898.1	95.08
0-100	1914.0	95.87
0-105	1928.3	96.59
0-110	1941.0	97.23
0-115	1952.3	97.79
0-120	1962.0	98.28
0-125	1970.3	98.69
0-130	1977.2	99.04
0-135	1982.8	99.32
0-140	1987.2	99.54
0-145	1990.6	99.71
0-150	1993.0	99.83
0-155	1994.6	99.91
0-160	1995.6	99.96
0-165	1996.1	99.99
0-170	1996.3	100.00
0-175	1996.4	100.00
0-180	1996.4	100.00

6. Product Photo



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