



NVLAP Lab Code: 200952-0

Verification Services

Project No: 4786842793-1
Report No: 4786842793-1a
Report Issued Date: 2015-05-07


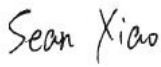
Test Report

Customer Company & Address:			
Company Name: Premium Quality Lighting, Inc.			
ADD: 2285 Ward Avenue / Simi Valley, CA 93065			
Telephone:	18003238107		

Manufacturer:	Premium Quality Lighting, Inc.
Country of Origin:	CHINA
Country of Export:	N/A
Product Description:	Lamp Type: LED Lamp Total Amount Of Light Source: 120 Manufacturer Of Light Source: Everlight Electronics Co.,Ltd Model Number Of Light Source: 67-21S Series
Model Number:	Model Name: 90535
Electrical Specification:	Rated voltage: 120-277V Frequency: 50/60Hz Wattage: 18 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 :	2015-03-09	Test Period:	2015-03-29~2015-04-02
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Tested By	Approved By
 / Jackson Zeng	 / Sean Xiao
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.



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Test Report

Statement of Results

Test Flow	Test Method	Sample ID (Lab)	Sample Serial No.	Pass/Fail/NA
1.	Integrating Sphere Test	2079478-S001 2079478-S002	N/A	Evaluate by customer
2.	Goniophotometer Test	2079478-S002 2079478-S003	N/A	Evaluate by customer
3.	Total Harmonic Distortion Test	2079478-S2	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.



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Test Report

Test No.1: Integrating Sphere Test

Environmental Conditions

Temperature: 25.1°C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE001	Integrating Sphere	Before Use	Before Use
GVS-LE-FS019	Measurement Standard Lamp	8/19/2014	8/18/2015

Test Sample

2079478-S002

Test Method

The samples were 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	120.00	60	0.3307	38.445	0.969	Base up	58	50

Test type	CCT (K)	Luminous Flux (lm)	Color Rendering Index Ra	Luminous Efficacy (lm/W)
Output	3079	3222.601	81.2	83.824



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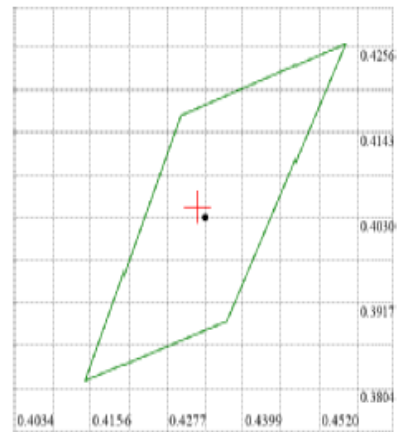
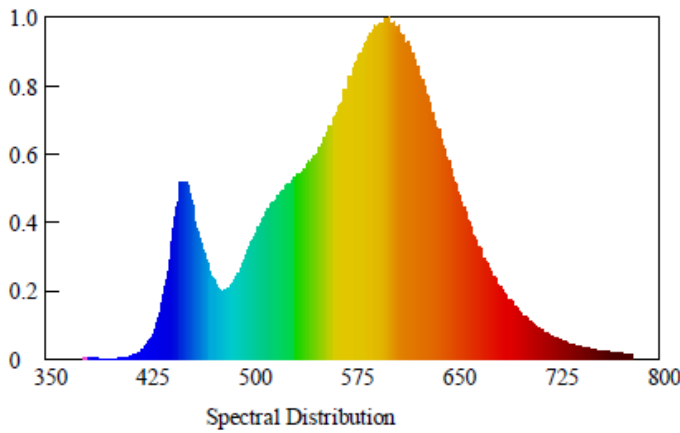
Test Report

Test Condition

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

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

Spectroradiometric Parameters



Nominal CCT:LED_3000K
x0=0.4325 y0=0.4044

Chromaticity Coordinates: $x=0.4325$ $y=0.4044$ $u'=0.2476$ $v'=0.5208$

Correlated Color Temperature: 3079 K

Dominant Wavelength: 581.0 nm(E)

Luminous Flux: 3222.601 lm

Purity: 0.5128

Chromaticity Difference: +0.00077Duv

Peak Wavelength: 601.2 nm

Color Ratio: $K_r=44.4\%$ $K_g=48.2\%$ $K_b=7.4\%$

Bandwidth: 122.5nm

Radiant Flux: 7.143 W

Rendering Index: $R_a=81.2$

R1=79 R2=90 R3=96 R4=79 R5=80 R6=88 R7=82 R8=56

R9=-1 R10=78 R11=78 R12=68 R13=83 R14=98 R15=71



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Test Report

Test No. 2: Goniophotometer Test

Environmental Conditions

Temperature: 25.1°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	8/19/2014	8/18/2015
GVS-LE-CA008	Digital Caliper	04/03/2014	04/02/2015

Test Sample

2079478-S002
2079478-S003

Test Method

The samples (two lamps in fixture) were 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 50 vertical intervals and 10 horizontal interval

Test Result

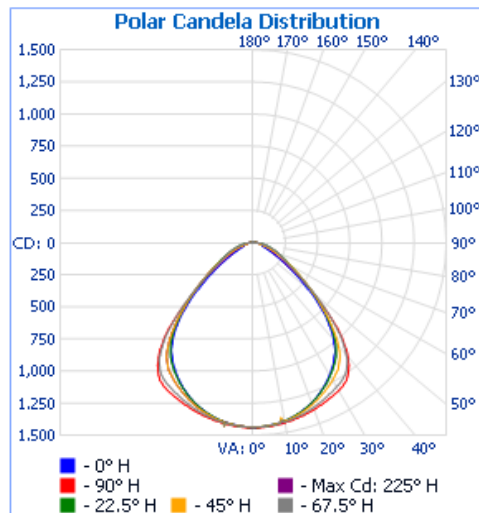
Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation	Operate time (Min.)	Stabilization time (Min.)
Input	120.00	60	0.3307	38.132	0.969	Base up	58	50

Test Type	Flux (lm)	Field angle (10%)		Beam angle (50%)		Zonal Lumen Result	Zonal Lumen Result	Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	60°-80°	70°-80°	
Output	3214.919	132	132.5	95.2	92	9.5%	3.3%	84.31

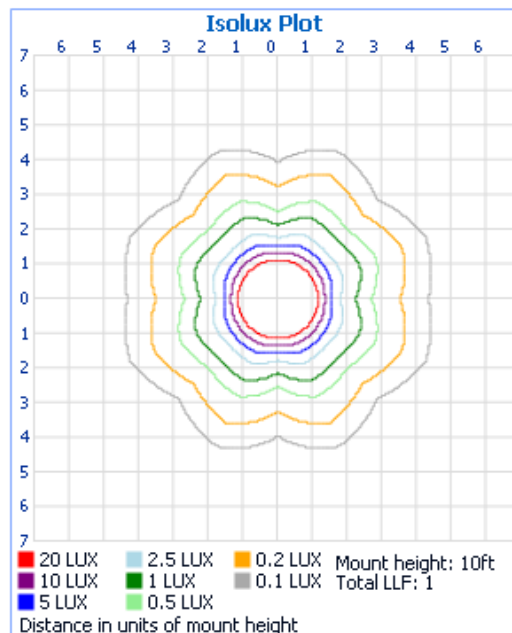


Test Report

Light Distribution Curve



Isolux Plot





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Test Report

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	1,127.2	35.1%
0-40	1,857.9	57.8%
0-60	2,868.6	89.2%
60-90	344.7	10.7%
70-100	145.2	4.5%
90-120	1.0	0%
0-90	3,213.3	100%
90-180	1.6	0%
0-180	3,214.9	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	136.0	4.2%	90-100	1.0	0%
10-20	391.2	12.2%	100-110	0	0%
20-30	599.9	18.7%	110-120	0.0	0%
30-40	730.7	22.7%	120-130	0.1	0%
40-50	639.1	19.9%	130-140	0.1	0%
50-60	371.7	11.6%	140-150	0.2	0%
60-70	200.5	6.2%	150-160	0.1	0%
70-80	106.6	3.3%	160-170	0.1	0%
80-90	37.7	1.2%	170-180	0.0	0%



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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	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438	1438
1	1436	1436	1435	1435	1443	1435	1435	1436	1436	1435	1435	1443	1435	1435	1436	1435	1436
2	1435	1437	1435	1438	1442	1438	1435	1437	1435	1438	1442	1438	1435	1437	1435	1437	1435
3	1436	1433	1433	1436	1439	1436	1433	1433	1436	1433	1433	1436	1439	1436	1433	1433	1436
4	1432	1434	1432	1434	1438	1434	1432	1434	1432	1434	1432	1434	1438	1434	1432	1434	1432
5	1429	1430	1430	1431	1437	1431	1430	1430	1429	1430	1430	1431	1437	1431	1430	1430	1429
6	1425	1426	1427	1429	1436	1429	1427	1426	1425	1426	1427	1429	1436	1429	1427	1426	1425
7	1424	1423	1424	1427	1432	1427	1424	1423	1424	1423	1424	1427	1432	1427	1424	1423	1424
8	1418	1421	1419	1424	1429	1424	1419	1421	1418	1421	1419	1424	1429	1424	1419	1421	1418
9	1416	1394	1380	1401	1428	1418	1417	1414	1416	1436	1452	1448	1428	1418	1417	1414	1416
10	1407	1408	1410	1415	1425	1415	1410	1408	1407	1408	1410	1415	1425	1415	1410	1408	1407
11	1405	1404	1408	1414	1417	1414	1408	1404	1405	1404	1408	1414	1417	1414	1408	1404	1405
12	1396	1397	1400	1409	1418	1409	1400	1397	1396	1397	1400	1409	1418	1409	1400	1397	1396
13	1390	1390	1395	1406	1414	1406	1395	1390	1390	1390	1395	1406	1414	1406	1395	1390	1390
14	1383	1382	1388	1400	1409	1400	1388	1382	1383	1382	1388	1400	1409	1400	1388	1382	1383
15	1374	1375	1381	1395	1403	1395	1381	1375	1374	1375	1381	1395	1403	1395	1381	1375	1374
16	1366	1367	1375	1391	1403	1391	1375	1367	1366	1367	1375	1391	1403	1391	1375	1367	1366
17	1355	1359	1367	1385	1396	1385	1367	1359	1355	1359	1367	1385	1396	1385	1367	1359	1355
18	1349	1347	1359	1380	1392	1380	1359	1347	1349	1347	1359	1380	1392	1380	1359	1347	1349
19	1335	1338	1350	1373	1388	1373	1350	1338	1335	1338	1350	1373	1388	1373	1350	1338	1335
20	1328	1328	1342	1367	1384	1367	1342	1328	1328	1328	1342	1367	1384	1367	1342	1328	1328
25	1264	1267	1292	1332	1358	1332	1292	1267	1264	1267	1292	1332	1358	1332	1292	1267	1264
30	1187	1196	1236	1296	1330	1296	1236	1196	1187	1196	1236	1296	1330	1296	1236	1196	1187
35	1094	1113	1160	1249	1276	1249	1160	1113	1094	1113	1160	1249	1276	1249	1160	1113	1094
40	969	987	1022	1120	1140	1120	1022	987	969	987	1022	1120	1140	1120	1022	987	969
50	534	602	604	627	602	627	604	602	534	602	604	627	602	627	604	602	534
55	341	424	436	411	371	411	436	424	341	424	436	411	371	411	436	424	341
60	203	312	298	292	216	292	298	312	203	312	298	292	216	292	298	312	203
65	119	235	199	232	145	232	199	235	119	235	199	232	145	232	199	235	119
70	82	168	130	176	107	176	130	168	82	168	130	176	107	176	130	168	82
75	65	124	75	123	89	123	75	124	65	124	75	123	89	123	75	124	65
80	52	80	45	82	64	82	45	80	52	80	45	82	64	82	45	80	52
85	29	39	25	39	32	39	25	39	29	39	25	39	32	39	25	39	29
90	4	5	5	8	13	8	5	5	4	5	5	8	13	8	5	5	4
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	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



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Test Report

Test No. 3: Total Harmonic Distortion Test

Environmental Conditions

Temperature: 25.1°C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PM012	Digital Power Meter	05/04/2014	05/03/2015
GVS-LE-PS047	Power Supply	---	---

Test Sample

2079478-S002

Test Method

The sample was tested according to the ANSI C82.77-2002. The ambient temperature condition was maintained at 25° C ± 1° C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated from the digital power meter.

Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD (%)	Operate time (Min.)	Stabilization time (Min.)
Input	277.06	60	0.7582	19.131	0.9107	16.39	58	50



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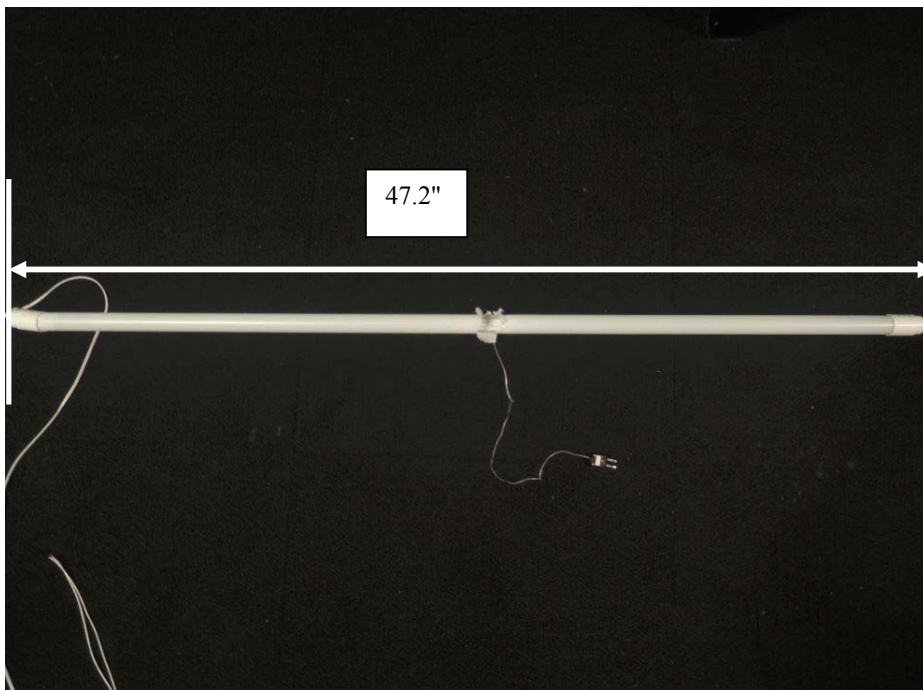
Photos of Ballast





Test Report

Photos of sample





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Test Report

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