



NVLAP Lab Code: 200952-0

Verification Services

Project No: 10143348-4
 Report No: 10143348-4b
 Report Issued Date: 2014-10-24

IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Customer Company & Address:			
MaxLite			
ADD: 12 York Ave, West Caldwell, NJ 07006			
Contact Person:	Francisco Garza		
Telephone:	973-244-7300x142	Fax/Email address:	fgarza@maxlite.com

Manufacturer:	MaxLite
Country of Origin:	China
Country of Export:	N/A
Product Description:	Lamp Type: Stairwell and Passageway Luminaires Total Amount Of Light Source: 6 Manufacturer Of Light Source: Philips Lumileds Lighting Company Model Number Of Light Source: LXML-PWC2
Model Number:	MLVPW14LED50CP
Electrical Specification:	Rated voltage: 100~277 VAC Frequency: 50/60Hz Wattage: 14 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 :	2013-12-09	Test Period:	2013-12-09 ~ 2013-12-12
----------------------------------	------------	---------------------	-------------------------

Tested By	Approved By
<i>Xavier Xiong</i> / Xavier Xiong	<i>Sean Xiao</i> / 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.



IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Statement of Results

Test Flow	Test Method	Sample ID (Lab)	Sample Serial No.	Pass/Fail/NA
1.	Integrating Sphere Test	023178-S001	N/A	Evaluate by customer
2.	Goniophotometer Test	023178-S001	N/A	Evaluate by customer
3.	Total Harmonic Distortion Test	023178-S001	N/A	Evaluate by customer

Deviation from Test Method (if any)

N/A

Remark (if any)

<p>1. This report shall not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the US government.</p> <p>2. The difference between VPL-14W-CP, VPL-14W-WP and VPL-14W-SP is the mounting modes, VPL-14W-CP is intended for ceiling-mounted, VPL-14W-WP is intended for wall-mounted and VPL-14W-SP is for suspension-mounted.</p>



IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Test No. 1 : Integrating Sphere Test

Environmental Conditions

Temperature: 25.1 °C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
GVS-LE-PE001	Integrating Sphere	Before Use	Before Use
GVS-LE-FS008	Measurement Standard Lamp	3/12/2013	3/11/2014

Test Sample

023178-S001

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	Orientation	Operate time (Min.)	Stabilization time (Min.)
Input	119.94	60	0.115	13.43	0.978	Base up	58	50

Test Type	CCT (K)	Luminous Flux (lm)	Color Rendering Index Ra	Luminous Efficacy (lm/W)
Output	5234	1123.1	65.5	83.63



IES LM-79-08 MEASUREMENT AND TEST REPORT

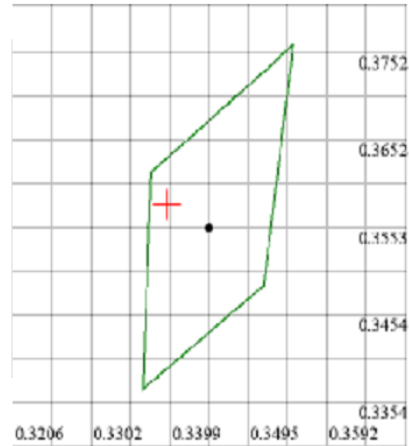
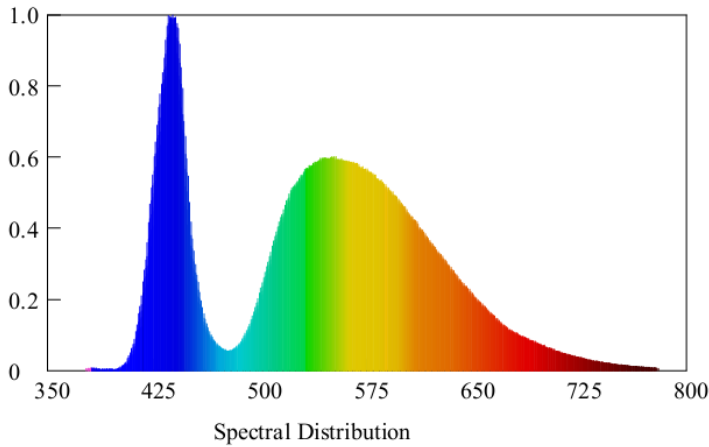
Test Report

Test Condition

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

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

Spectroradiometric Parameters



Nominal CCT:LED_5000K
 $x_0=0.3395$ $y_0=0.3579$

Chromaticity Coordinates: $x=0.3395$ $y=0.3579$ $u'=0.2052$ $v'=0.4869$

Correlated Color Temperature: 5234 K

Dominant Wavelength: 562.0 nm(E)

Luminous Flux: 1123.065 lm

Purity: 0.0915

Chromaticity Difference: +0.00542Duv

Peak Wavelength: 438.3 nm

Color Ratio: $K_r=30.6\%$ $K_g=61.7\%$ $K_b=7.7\%$

Bandwidth: 24.1nm

Radiant Flux: 3.278 W

Rendering Index: $R_a=65.5$

$R_1=65$ $R_2=68$ $R_3=71$ $R_4=68$ $R_5=66$ $R_6=59$ $R_7=72$ $R_8=55$

$R_9=-37$ $R_{10}=26$ $R_{11}=68$ $R_{12}=38$ $R_{13}=64$ $R_{14}=83$ $R_{15}=59$



IES LM-79-08 MEASUREMENT AND TEST REPORT

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

023178-S001

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 sample was 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	120.15	60	0.113	13.25	0.979	120	60

Test Type	Flux (lm)	Field angle (10%)		Beam angle (50%)		Zonal Lumen Result		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	0°-90°	80°-90°	
Output	1138.9	160.2	154.9	120.2	117.8	96.7%	2.0%	85.96



NVLAP Lab Code: 200952-0

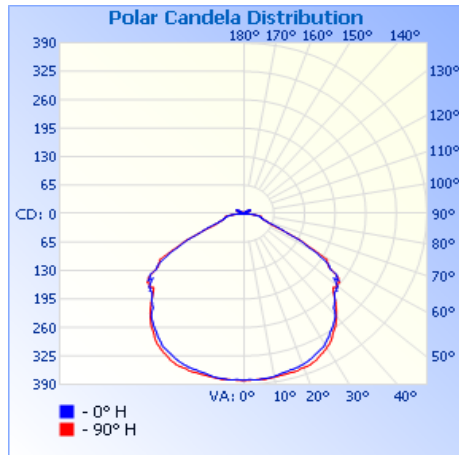
Verification Services

Project No: 10143348-4
Report No: 10143348-4b
Report Issued Date: 2014-10-24

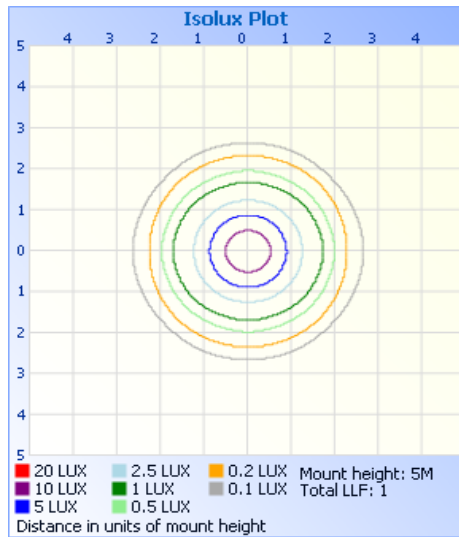
IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Light Distribution Curve



Isolux Plot





NVLAP Lab Code: 200952-0

Verification Services

Project No: 10143348-4
Report No: 10143348-4b
Report Issued Date: 2014-10-24

IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	307.4	27%
0-40	512.7	45%
0-60	929.6	81.6%
60-90	171.2	15%
70-100	71.6	6.3%
90-120	23.5	2.1%
0-90	1,100.9	96.7%
90-180	38.1	3.3%
0-180	1,138.9	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	9.1	0.8%	90-95	3.0	0.3%
5-10	27.0	2.4%	95-100	2.3	0.2%
10-15	44.4	3.9%	100-105	2.5	0.2%
15-20	61.0	5.4%	105-110	3.4	0.3%
20-25	76.4	6.7%	110-115	5.0	0.4%
25-30	89.6	7.9%	115-120	7.3	0.6%
30-35	99.8	8.8%	120-125	7.4	0.6%
35-40	105.5	9.3%	125-130	4.0	0.4%
40-45	106.8	9.4%	130-135	1.6	0.1%
45-50	105.6	9.3%	135-140	0.6	0%
50-55	107.5	9.4%	140-145	0.2	0%
55-60	97.0	8.5%	145-150	0.2	0%
60-65	69.0	6.1%	150-155	0.2	0%
65-70	35.9	3.2%	155-160	0.2	0%
70-75	23.0	2.0%	160-165	0.1	0%
75-80	20.1	1.8%	165-170	0.1	0%
80-85	16.5	1.4%	170-175	0.0	0%
85-90	6.7	0.6%	175-180	0.0	0%



NVLAP Lab Code: 200952-0

Verification Services

Project No: 10143348-4
Report No: 10143348-4b
Report Issued Date: 2014-10-24

IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

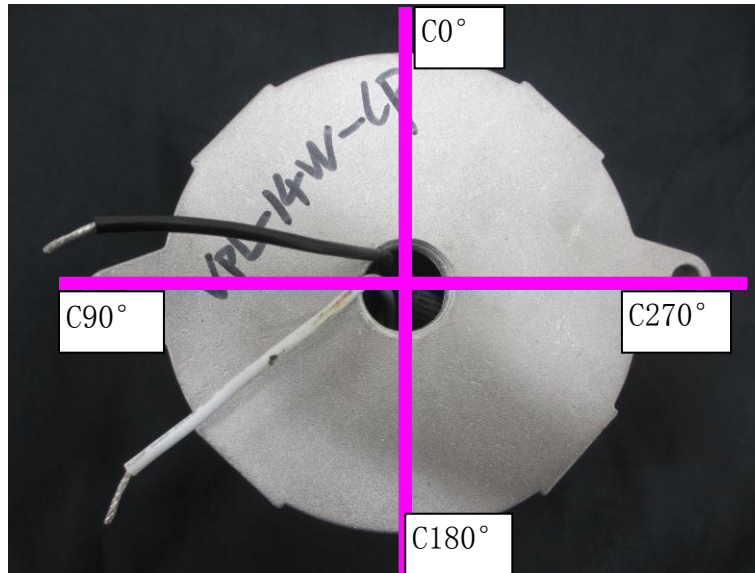
Intensity Data(cd)

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	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380
1	379	379	379	379	380	379	379	379	379	379	379	379	380	379	379	379	379
2	379	379	379	379	381	379	379	379	379	379	379	379	381	379	379	379	379
3	380	378	378	378	380	378	378	378	380	378	378	378	380	378	378	378	380
4	380	378	378	377	380	377	378	378	380	378	378	377	380	377	378	378	380
5	380	379	378	377	380	377	378	379	380	379	378	377	380	377	378	379	380
6	379	377	378	376	380	376	378	377	379	377	378	376	380	376	378	377	379
7	379	377	377	376	381	376	377	377	379	377	377	376	381	376	377	377	379
8	379	376	377	376	380	376	377	376	379	376	377	376	380	376	377	376	379
9	378	375	374	373	380	375	378	376	378	377	379	380	380	375	378	376	378
10	378	374	377	375	379	375	377	374	378	374	377	375	379	375	377	374	378
11	376	374	375	375	378	375	375	374	376	374	375	375	378	375	375	374	376
12	374	373	375	374	377	374	375	373	374	373	375	374	377	374	375	373	374
13	373	372	374	373	377	373	374	372	373	372	374	373	377	373	374	372	373
14	372	372	374	373	377	373	374	372	372	372	374	373	377	373	374	372	372
15	372	371	373	372	377	372	373	371	372	371	373	372	377	372	373	371	372
16	371	370	372	371	377	371	372	370	371	370	372	371	377	371	372	370	371
17	370	369	370	370	377	370	370	369	370	369	370	370	377	370	370	369	370
18	369	368	370	369	377	369	370	368	369	368	370	369	377	369	370	368	369
19	368	367	368	369	374	369	368	367	368	367	368	369	374	369	368	367	368
20	367	366	368	367	375	367	368	366	367	366	368	367	375	367	368	366	367
25	357	357	361	360	368	360	361	357	357	357	361	360	368	360	361	357	357
30	346	347	347	347	354	347	347	347	346	347	347	347	354	347	347	347	346
35	325	329	330	328	332	328	330	329	325	329	330	328	332	328	330	329	325
40	304	304	303	302	308	302	303	304	304	304	303	302	308	302	303	304	304
50	262	257	257	253	260	253	257	257	262	257	257	253	260	253	257	257	262
55	241	226	227	228	236	228	227	226	241	226	227	228	236	228	227	226	241
60	181	176	182	188	192	188	182	176	181	176	182	188	192	188	182	176	181
65	98	103	102	95	99	95	102	103	98	103	102	95	99	95	102	103	98
70	54	54	52	52	53	52	52	54	54	54	52	52	53	52	52	54	54
75	41	39	38	38	42	38	38	39	41	39	38	38	42	38	38	39	41
80	34	36	39	36	38	36	39	36	34	36	39	36	38	36	39	36	34
85	19	21	22	20	17	20	22	21	19	21	22	20	17	20	22	21	19
90	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
95	4	4	4	4	5	4	4	4	4	4	4	4	5	4	4	4	4
100	4	4	4	4	5	4	4	4	4	4	4	4	5	4	4	4	4
105	5	5	5	5	6	5	5	5	5	5	5	5	6	5	5	5	5
110	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
115	12	12	13	12	12	12	13	12	12	12	12	12	12	12	13	12	12
120	16	18	19	16	15	16	19	18	16	18	19	16	15	16	19	18	16
125	12	14	13	13	11	13	13	14	12	14	13	13	11	13	13	14	12
130	7	7	3	7	6	7	3	7	7	7	3	7	6	7	3	7	7
135	3	2	0	3	4	3	0	2	3	2	0	3	4	3	0	2	3
140	1	1	0	0	1	0	0	1	1	1	0	0	1	0	0	1	1
145	0	0	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0
150	0	0	1	1	2	1	1	0	0	0	1	1	2	1	1	0	0
155	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
165	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170	0	0	0	0	1	0	0	0	0	0	0	0	1	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



IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report





IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Test No. 3 : Total Harmonic Distortion Test

Environmental Conditions

Temperature: 25.3 °C

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PM012	Digital Power Meter	05/04/2013	05/03/2014
GVS-LE-PS047	Power Supply	----	----

Test Sample

023178-S001

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

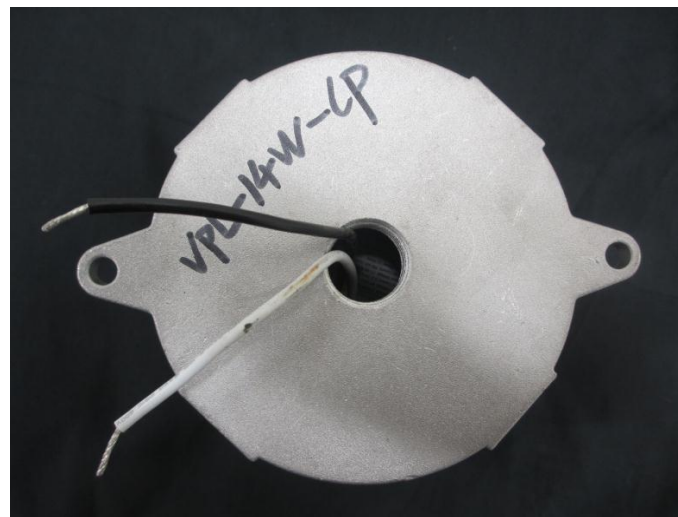
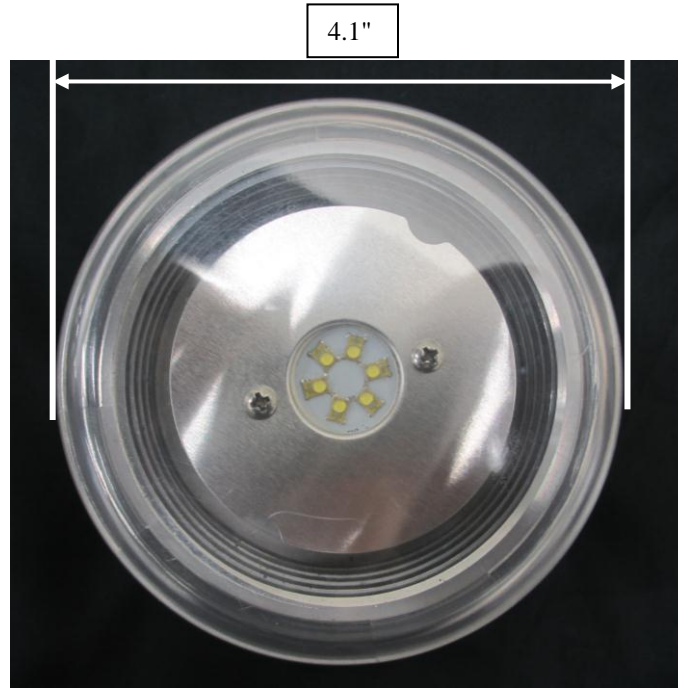
Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD (%)	Operate time (Min.)	Stabilization time (Min.)
Input	119.94	60	0.115	13.43	0.978	15.19	80	60
Input	277.11	60	0.056	14.09	0.901	17.89	80	60



IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Photos of sample





NVLAP Lab Code: 200952-0

Verification Services

Project No: 10143348-4
Report No: 10143348-4b
Report Issued Date: 2014-10-24

IES LM-79-08 MEASUREMENT AND TEST REPORT

Test Report

Photos of MLVPW14LED50CP



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