



Report No.: GZE160118-G

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

L-TECH CORPORTION (Brand Name: L-TECH CORP)

SHAOGANGTOU DISTRICT.QIAOTOU TOWN.DONGGUAN
CITY.GUANGDONG PROVINCE,CHINA

LED DOWNLIGHT

Model name(s): CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)

Representative (Tested) Model: CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(3000K)
CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(4000K)

Model Difference: All construction and rating are the same, except CCT

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date: Jan.13,2016

Review By:

Tommy Liang

Manager: Tommy Liang

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

Laboratory: Standard-Tech Co. Ltd Testing Center
NVLAP CODE: 201011-0

Report Format Number STD/QR4910-A/1

Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

U.S. Department of Energy

Lighting Facts™ Uniform LM-79 Reporting Template

Laboratory Information:

Name of Test Laboratory	Standard-Tech Co. Ltd
Date of Test Report	Jan.13, 2016
Test Report No.	GZE160118-G
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	L-TECH CORPORTION	
Brand Name	L-TECH CORP	
Model Number	CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(3000K)	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED DOWNLIGHT	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Integrating Sphere

Goniophotometer

Electrical Measurements:

Output

Output

Input Wattage	--	49.90	W
Input Current	--	0.4199	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9903	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	3561.9	lm
Initial Lumen Efficacy	--	71.38	lm/w
Correlated color temperature / CCT	3004	--	K
Color rendering index / CRI	84.4	--	
R9 Value	19	--	
Duv	0.0011	--	

Luminous Intensity Distribution

Center beam candlepower (if applicable)	-----	2139	cd
Beam angle (if applicable)		80.5	°
Zonal lumens in the 0°-60° zone		91.9	%
Zonal lumens in the 60°-90° zone		8.1	%
Zonal lumens in the 90°-120° zone		0	%
Zonal lumens in the 120°-180° zone		0	%

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Laboratory Information:

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Date of Test Report	Jan.13, 2016
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Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	L-TECH CORPORTION	
Brand Name	L-TECH CORP	
Model Number	CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(4000K)	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED DOWNLIGHT	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Integrating Sphere
Goniophotometer
Electrical Measurements:
Output
Output

Input Wattage	49.98	--	W
Input Current	0.4209	--	A
Input Voltage (ac)	120.0	--	V
Power Factor	0.9896	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	3642	--	lm
Initial Lumen Efficacy	72.87	--	lm/w
Correlated color temperature / CCT	4046	--	K
Color rendering index / CRI	83.6	--	
R9 Value	16	--	
Duv	0.0007	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)			cd
Beam angle (if applicable)			°
Zonal lumens in the 0°-60° zone	-----	-----	%
Zonal lumens in the 60°-90° zone			%
Zonal lumens in the 90°-120° zone			%
Zonal lumens in the 120°-180° zone			%

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Test Specifications:	
Date of Receipt	Jan.11,2016
Date of Test	Jan.12,2016
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
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 Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems UL1993 4 th Edition, Self-Ballasted Lamps and Lamp Adapters ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) – Version 2.0
Reference Work Instruction	QD25
Remark	Below test and data are not covered by NVLAP accreditation: - Operating Frequency

Test Methods

1. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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 ° horizontal intervals.

2. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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.

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1. Product Information:

Brand Name	L-TECH CORP
Model Number	GZE160118-G
Luminaire Type	LED DOWNLIGHT
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	50W
Rated Initial Lamp Lumen	--
Declared CCT	3000K,4000K
LED Manufacturer	Seoul Semiconductor Co.,Ltd
LED Model	STWxC2SB
Sample Receipt Date	Jan.11,2015
Sample Number	GZE160118-G1,G2,G3(3000K),G4(4000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2016-01-12	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE160118-G1	120.0	60	0.4199	49.90	0.9903
GZE160118-G2	120.0	60	0.4198	49.95	0.9916
GZE160118-G3	120.0	60	0.4199	49.93	0.9909
Average			0.4199	49.93	0.9909

Sphere-Spectroradiometer Method:

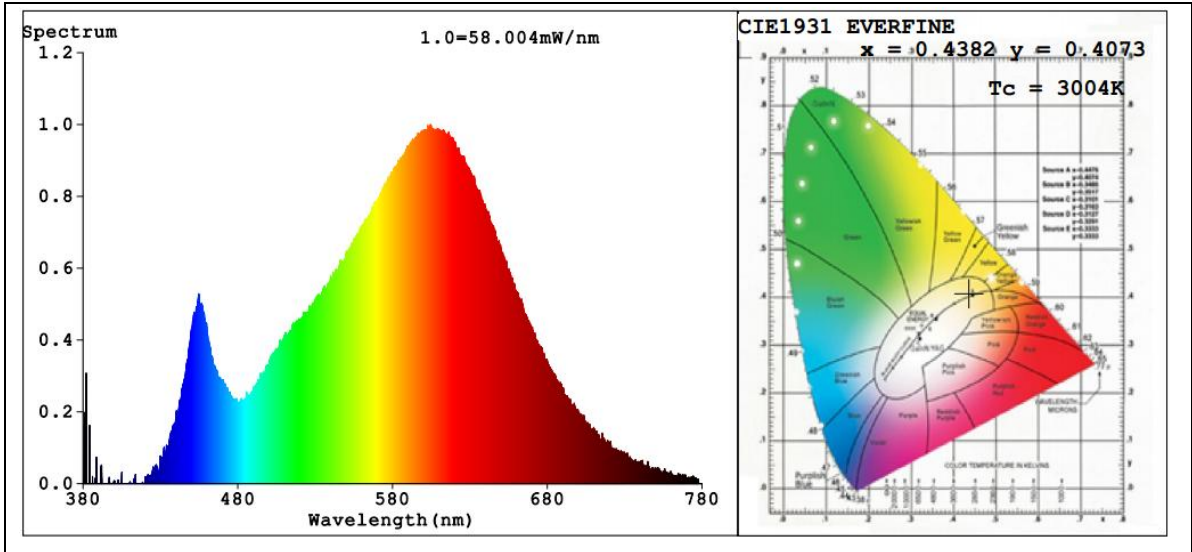
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	84.4
R9	19
CCT (K)	3004
Chromaticity (x, y)	x=0.4382 y=0.4073
Chromaticity (u', v')	u'=0.2500 v'=0.5228
Duv	0.0011

Special Color Rendering Indices			
R1	83	R9	19
R2	92	R10	81
R3	97	R11	80
R4	82	R12	71
R5	83	R13	85
R6	90	R14	99
R7	85	R15	77
R8	64	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	3561.9
Luminous Efficacy (lm/W)	71.38
Beam Angle °	80.5
Center Beam Candle Power (cd)	2139

Spectral Power Distribution and Chromaticity Diagram



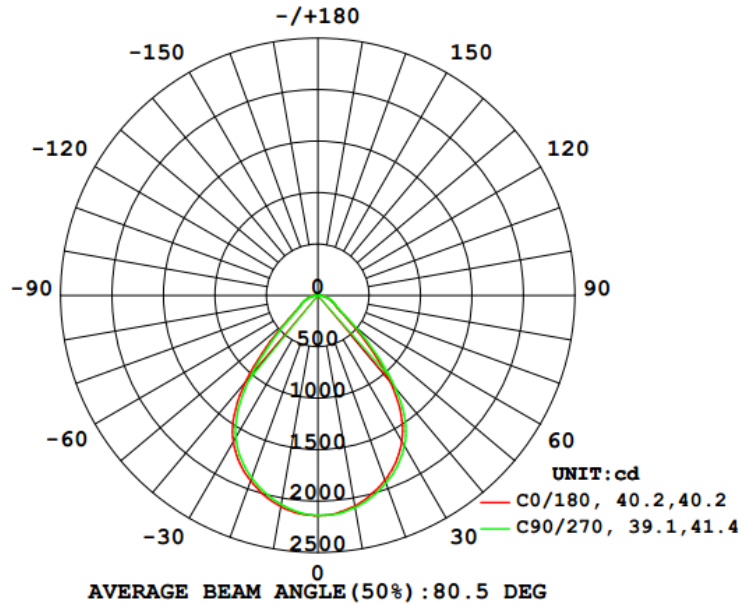
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Zonal Lumen Tabulation



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,591.6	44.7%
0-40	2,463.0	69.2%
0-60	3,272.3	91.9%
60-90	288.8	8.1%
70-100	126.5	3.6%
90-120	0.1	0%
0-90	3,561.2	100%
90-180	0.2	0%
0-180	3,561.4	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	201.4	5.7%	90-100	0.1	0%
10-20	565.5	15.9%	100-110	0.0	0%
20-30	824.7	23.2%	110-120	0.0	0%
30-40	871.4	24.5%	120-130	0.0	0%
40-50	558.6	15.7%	130-140	0.0	0%
50-60	250.7	7.0%	140-150	0.0	0%
60-70	162.4	4.6%	150-160	0.0	0%
70-80	98.8	2.8%	160-170	0.0	0%
80-90	27.6	0.8%	170-180	0.0	0%

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2.2 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2016-01-12	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(4000K)		

Electrical Measurement:

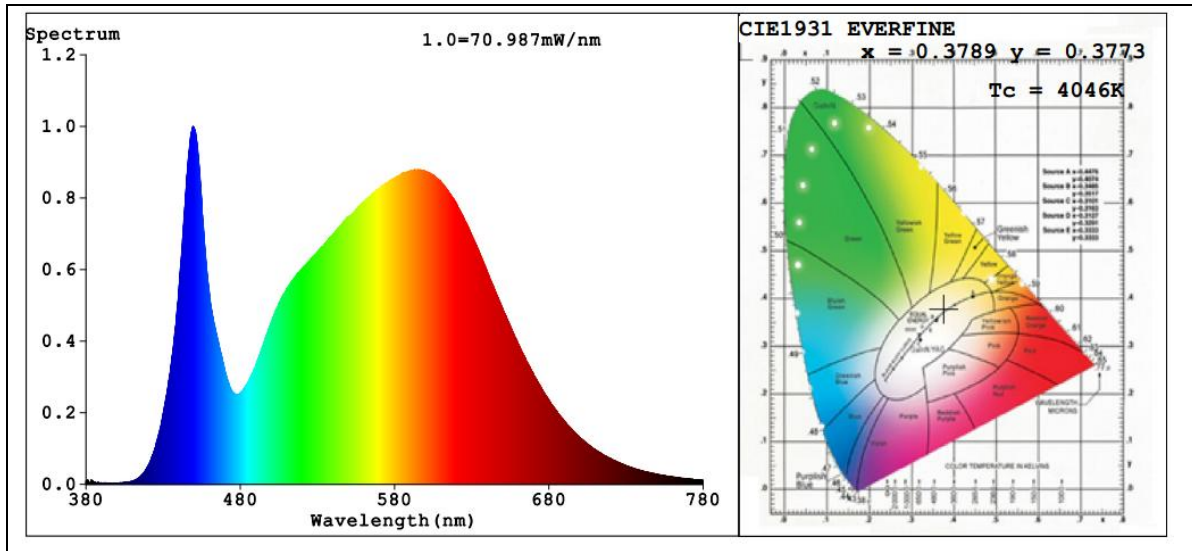
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE160118-G4	120.0	60	0.4209	49.98	0.9896

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	83.6
R9	16
CCT (K)	4046
Chromaticity (x, y)	x=0.3789 y=0.3773
Chromaticity (u', v')	u'=0.2238 v'=0.5016
Duv	0.0007
Total Luminous (lm)	3642
Luminous Efficacy (lm/W)	72.87

Special Color Rendering Indices			
R1	82	R9	16
R2	89	R10	73
R3	94	R11	82
R4	83	R12	64
R5	82	R13	83
R6	84	R14	96
R7	88	R15	77
R8	68	--	--

Spectral Power Distribution and Chromaticity Diagram



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2.2 Color Spatial Uniformity	IES LM-79 2008 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.0
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Test Data (Model CLED8A/P/R-48 WITH TCLD848HZ(CLKT848)(3000K)):

Test date	2016-01-12	Test Ambient	25.1°C
Sample No.		Maximum $\Delta u'v'$	
GZE160118-G1		0.0028	

Gamma\C	CIE u'	CIE v'	du'v'	CIE u'	CIE v'	du'v'
-60	0.2475	0.522	0.0022	0.2473	0.5218	0.0024
-59	0.2477	0.5221	0.0019	0.2473	0.5219	0.0024
-58	0.2478	0.5222	0.0019	0.2473	0.5219	0.0023
-57	0.2478	0.5222	0.0018	0.2475	0.522	0.0022
-56	0.2478	0.5222	0.0019	0.2475	0.5221	0.0021
-55	0.2477	0.5222	0.0019	0.2475	0.5221	0.0021
-54	0.2478	0.5222	0.0018	0.2476	0.5221	0.002
-53	0.2477	0.522	0.002	0.2475	0.522	0.0021
-52	0.2475	0.5218	0.0022	0.2475	0.5219	0.0022
-51	0.2476	0.5216	0.0021	0.2473	0.5217	0.0024
-50	0.2475	0.5215	0.0022	0.2473	0.5215	0.0025
-49	0.2475	0.5213	0.0023	0.2472	0.5213	0.0026

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-48	0.2478	0.5214	0.002	0.2473	0.5212	0.0026
-47	0.2479	0.5213	0.0019	0.2473	0.5211	0.0026
-46	0.2482	0.5214	0.0017	0.2475	0.5211	0.0024
-45	0.2484	0.5215	0.0014	0.2476	0.5211	0.0023
-44	0.2487	0.5216	0.0011	0.2479	0.5212	0.002
-43	0.2489	0.5217	0.0009	0.2482	0.5213	0.0017
-42	0.2494	0.5219	0.0004	0.2484	0.5214	0.0014
-41	0.2495	0.522	0.0002	0.2488	0.5215	0.0011
-40	0.2497	0.5221	0.0001	0.249	0.5216	0.0009
-39	0.2501	0.5223	0.0005	0.2491	0.5217	0.0007
-38	0.2503	0.5224	0.0007	0.2495	0.5219	0.0003
-37	0.2504	0.5225	0.0008	0.2497	0.522	0.0002
-36	0.2504	0.5225	0.0009	0.25	0.5222	0.0003
-35	0.2505	0.5226	0.001	0.2501	0.5223	0.0004
-34	0.2505	0.5226	0.0009	0.2501	0.5223	0.0005
-33	0.2506	0.5226	0.0011	0.2501	0.5224	0.0005
-32	0.2506	0.5227	0.0011	0.2501	0.5224	0.0005
-31	0.2506	0.5227	0.001	0.2503	0.5225	0.0008
-30	0.2505	0.5226	0.001	0.2503	0.5225	0.0007
-29	0.2506	0.5227	0.0011	0.2502	0.5225	0.0007

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-28	0.2506	0.5227	0.0011	0.2502	0.5225	0.0006
-27	0.2506	0.5227	0.001	0.2502	0.5225	0.0006
-26	0.2505	0.5226	0.001	0.2501	0.5225	0.0006
-25	0.2505	0.5226	0.001	0.2501	0.5224	0.0005
-24	0.2505	0.5226	0.001	0.2501	0.5224	0.0005
-23	0.2504	0.5226	0.0009	0.2502	0.5225	0.0007
-22	0.2506	0.5227	0.0011	0.2502	0.5225	0.0007
-21	0.2505	0.5226	0.001	0.2502	0.5225	0.0007
-20	0.2505	0.5226	0.0009	0.2502	0.5225	0.0006
-19	0.2505	0.5226	0.0009	0.2501	0.5224	0.0006
-18	0.2505	0.5226	0.0009	0.2501	0.5224	0.0006
-17	0.2505	0.5226	0.0009	0.2502	0.5225	0.0006
-16	0.2504	0.5226	0.0009	0.2501	0.5224	0.0006
-15	0.2504	0.5226	0.0008	0.2502	0.5224	0.0006
-14	0.2504	0.5226	0.0009	0.2501	0.5224	0.0005
-13	0.2504	0.5225	0.0008	0.2501	0.5224	0.0005
-12	0.2503	0.5225	0.0008	0.2501	0.5224	0.0005
-11	0.2505	0.5226	0.001	0.25	0.5224	0.0004
-10	0.2504	0.5225	0.0009	0.2501	0.5224	0.0005
-9	0.2505	0.5226	0.0009	0.2501	0.5224	0.0005

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-8	0.2505	0.5226	0.0009	0.2501	0.5224	0.0005
-7	0.2504	0.5225	0.0009	0.25	0.5223	0.0004
-6	0.2504	0.5225	0.0009	0.25	0.5223	0.0004
-5	0.2504	0.5225	0.0008	0.25	0.5223	0.0004
-4	0.2503	0.5225	0.0008	0.25	0.5223	0.0004
-3	0.2504	0.5225	0.0008	0.25	0.5223	0.0004
-2	0.2504	0.5225	0.0008	0.25	0.5223	0.0003
-1	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
0	0.2505	0.5226	0.0009	0.2505	0.5226	0.0009
1	0.2504	0.5225	0.0008	0.2499	0.5223	0.0003
2	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
3	0.2503	0.5224	0.0007	0.2499	0.5223	0.0003
4	0.2503	0.5225	0.0008	0.2499	0.5223	0.0003
5	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
6	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
7	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
8	0.2503	0.5224	0.0007	0.2499	0.5223	0.0003
9	0.2503	0.5225	0.0008	0.2499	0.5223	0.0003
10	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
11	0.2503	0.5225	0.0007	0.2498	0.5222	0.0002

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12	0.2503	0.5224	0.0007	0.2498	0.5222	0.0001
13	0.2503	0.5225	0.0007	0.2497	0.5222	0.0001
14	0.2502	0.5224	0.0006	0.2497	0.5222	0.0001
15	0.2502	0.5224	0.0006	0.2498	0.5222	0.0002
16	0.2503	0.5225	0.0007	0.2498	0.5222	0.0002
17	0.2503	0.5225	0.0007	0.2498	0.5222	0.0002
18	0.2502	0.5224	0.0006	0.2498	0.5222	0.0001
19	0.2503	0.5224	0.0007	0.2498	0.5222	0.0001
20	0.2502	0.5225	0.0007	0.2498	0.5222	0.0001
21	0.2503	0.5225	0.0007	0.2498	0.5222	0.0002
22	0.2503	0.5225	0.0007	0.2498	0.5223	0.0002
23	0.2503	0.5225	0.0007	0.2498	0.5223	0.0002
24	0.2503	0.5225	0.0007	0.2498	0.5223	0.0002
25	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
26	0.2503	0.5225	0.0007	0.2499	0.5223	0.0003
27	0.2501	0.5224	0.0005	0.2499	0.5223	0.0003
28	0.2502	0.5224	0.0006	0.2499	0.5223	0.0003
29	0.2501	0.5224	0.0005	0.2499	0.5223	0.0003
30	0.2502	0.5224	0.0006	0.2499	0.5223	0.0003
31	0.2502	0.5224	0.0006	0.25	0.5223	0.0004

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32	0.2503	0.5224	0.0007	0.25	0.5223	0.0003
33	0.2503	0.5224	0.0006	0.2497	0.5222	0.0001
34	0.2503	0.5224	0.0007	0.2497	0.5222	0.0001
35	0.2501	0.5223	0.0005	0.2498	0.5222	0.0001
36	0.2501	0.5222	0.0004	0.2498	0.5222	0.0001
37	0.25	0.5222	0.0003	0.2496	0.5221	0.0001
38	0.2497	0.522	0.0002	0.2496	0.522	0.0002
39	0.2496	0.5219	0.0003	0.2494	0.5219	0.0004
40	0.2494	0.5218	0.0004	0.2493	0.5219	0.0005
41	0.2491	0.5217	0.0008	0.2491	0.5218	0.0007
42	0.2489	0.5216	0.0009	0.2489	0.5217	0.0009
43	0.2486	0.5215	0.0012	0.2488	0.5216	0.001
44	0.2484	0.5214	0.0015	0.2483	0.5214	0.0015
45	0.2481	0.5213	0.0018	0.2482	0.5213	0.0017
46	0.248	0.5213	0.0019	0.2479	0.5212	0.002
47	0.2477	0.5212	0.0022	0.2477	0.5212	0.0022
48	0.2476	0.5213	0.0023	0.2474	0.5211	0.0024
49	0.2474	0.5213	0.0024	0.2472	0.5211	0.0026
50	0.2473	0.5214	0.0024	0.2471	0.5212	0.0027
51	0.2474	0.5216	0.0023	0.247	0.5213	0.0028

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52	0.2474	0.5218	0.0022	0.247	0.5214	0.0027
53	0.2476	0.522	0.002	0.2472	0.5217	0.0025
54	0.2477	0.5221	0.002	0.2472	0.5218	0.0025
55	0.2478	0.5223	0.0019	0.2474	0.522	0.0023
56	0.2477	0.5223	0.0019	0.2476	0.5222	0.0021
57	0.2477	0.5222	0.0019	0.2476	0.5223	0.002
58	0.2477	0.5222	0.002	0.2475	0.5222	0.0022
59	0.2477	0.5221	0.002	0.2475	0.5221	0.0022
60	0.2475	0.522	0.0022	0.2473	0.522	0.0023

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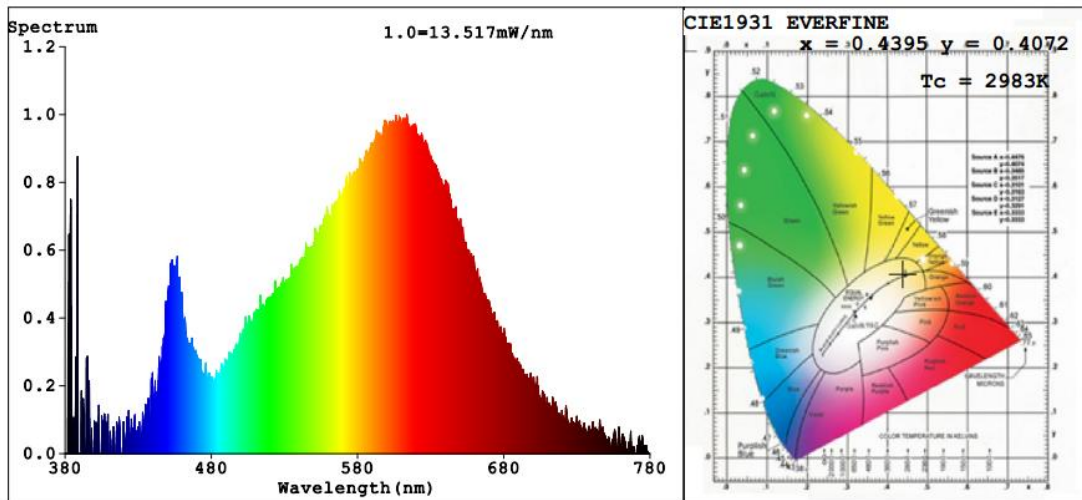
Report Format Number STD/QR4910-A/1

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<p>3. Electrical and Photometric Measurements, with dimming</p>	<p>IES LM-79 2008</p> <p>ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.0</p>
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Test date	2015-11-11	Test Ambient:	25.1°C		
Dimmer Model		LEVITON MFG CO INC (E31373), Cat. No. 6681			
Sample No.	Input	Luminous flux (lm)	CCT (K)	CRI	P.F.
GZE160118-G1	120.0 V / 60 Hz	709.5	2983	85.6	0.3487
GZE160118-G2	120.0 V / 60 Hz	698.1	2944	84.9	0.3459
GZE160118-G3	120.0 V / 60 Hz	685.4	2959	85.1	0.3402
Average		697.7	5962	85.2	0.3449



Color Parameters:

Chromaticity Coordinate: $x=0.4395$ $y=0.4072$ / $u'=0.2509$ $v'=0.5230$

$T_c=2983K$ (Duv=0.0009) Dominant WL: $\lambda_d = 582.6nm$ Purity=54.1%

Peak WL: $\lambda_p=613.7nm$ HWL: $\lambda_{hd}=132.8nm$

Render Index: $R_a=85.6$ CRI=80.8

R1 =84 R2 =93 R3 =97 R4 =83 R5 =84 R6 =91 R7 =86

R8 =66 R9 =24 R10=83 R11=82 R12=72 R13=86 R14=99 R15=78

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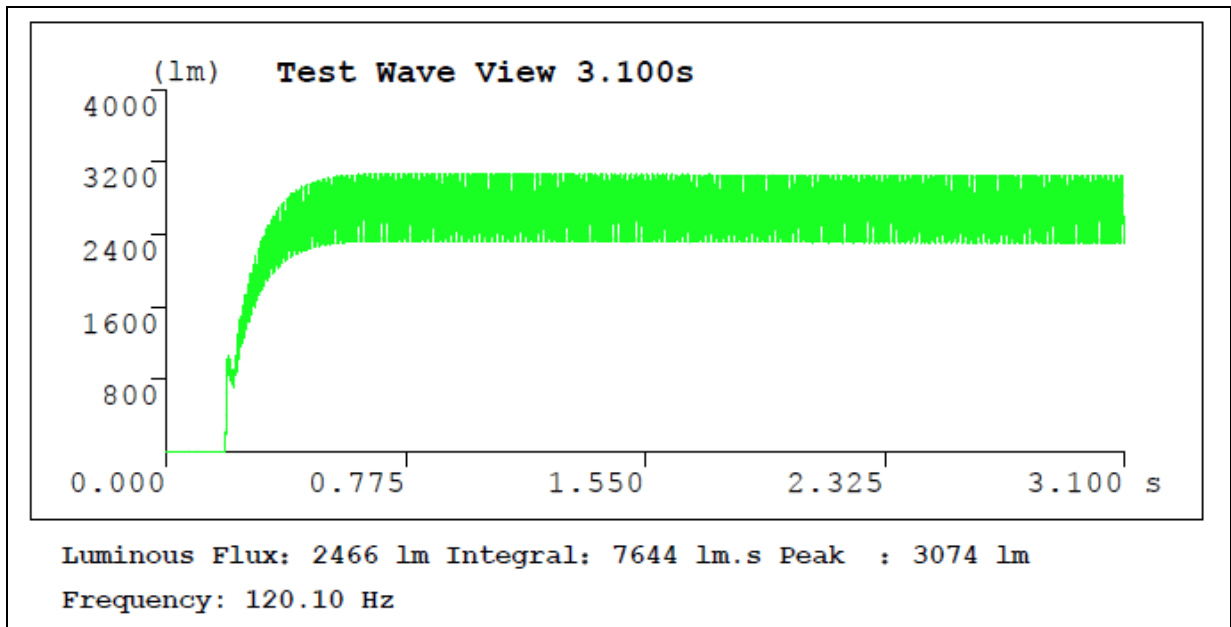
The luminaires [can] ~~lean not~~ provide less than 20% of total light output with continuous dimmer.

Dimmer	Peak Noise Reading (dBA)	Test Condition	Distance between the microphone and the UUT
LEVITON MFG CO INC (E31373), Cat. No. 6681	20.1	Dimmer adjusted to lowest light output	< 1 m

4 Operating Frequency	<p>ENERGY STAR® Program Requirements</p> <p>Product Specification for Luminaires (Light Fixtures) - Version 2.0</p>
<p>Noted: This test and data are not covered by NVLAP accreditation</p>	

Test date	2016-01-12	Test Ambient:	25.1°C
Sample No.		Operating Frequency (Hz)	
GZE160118-G1		120.10	
GZE160118-G2		120.21	
GZE160118-G3		120.11	
Average		120.14	

Graph:



<p>5 Starting Time (Refer to Work Instruction QD28)</p>	<p>ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.0</p>
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Test date	2016-01-12	Test Ambient:	25.1°C
Sample No.	Start Time (ms)		
GZE160118-G1	330		
GZE160118-G2	358		
GZE160118-G3	341		
Average	343		

Graph (Start Time):



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Report No.: GZE160118-G

Laboratory: Standard-Tech Co. Ltd Testing Center
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6. Transient Protection Test <i>(Refer to Work Instruction QD34)</i>	ANSI/IEEE C62.41 ENERGY STAR® Program Requirements for Luminaires – Version 2.0
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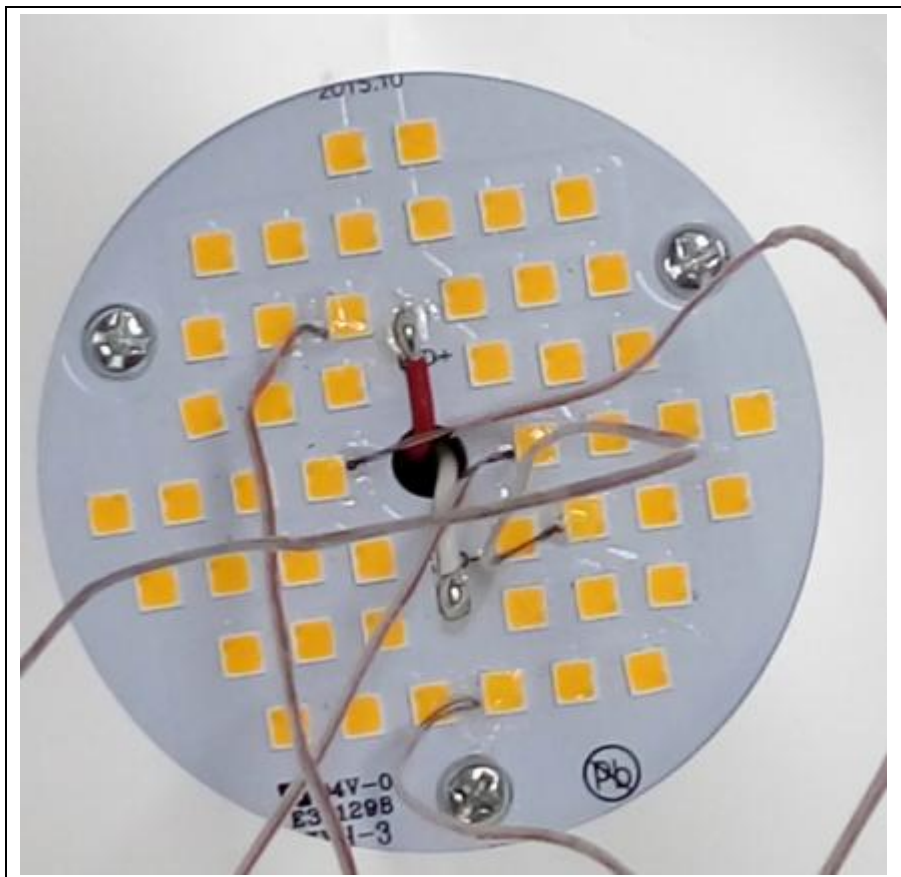
Test voltage: 120V,60Hz

Test date	2016-01-16	Test Ambient	25.1°C
Sample No.		Transient Protection Test - Seven Strikes	
GZE160118-G1		Pass	
GZE160118-G2		Pass	
GZE160118-G3		Pass	

7.1 In-Situ Temperature Measurement Test (ISTMT)	UL1993-2012, 4th Edition
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Test date	2016-01-12	Test Ambient	25.1°C
Input Vol./Frequency	120 V / 60 Hz	Output Current of Driver(mA)	149
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
GZE160118-G1	STWxC2SB	65.6	105

In-Situ Picture - Ts:



Laboratory: Standard-Tech Co. Ltd Testing Center
 NVLAP CODE: 201011-0

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7.2 Maximum Measured Ballast or Driver Case Temperature	UL1598-2008, 3 rd Edition UL1993-2012, 4 th Edition
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Test date	2016-01-12	Test Ambient	25.1°C
Sample No.	Maximum Measured Driver Case Temperature (°C)	Maximum Driver Case Temperature Limited (°C)	
GZE160118-G1	71.7	105	

In-Situ Picture - Ts:



8. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2015-07-01	2016-06-30
ST-R-331	Spectral analysis system HAAS-2000	2015-07-01	2016-06-30
EE-09	Goniophotometer system	2015-07-01	2016-06-30
D908S	Standard Lamp	2015-07-01	2016-06-30
D204	Standard Lamp	2015-07-01	2016-06-30
PF2010	Power Meter for Integrating Sphere	2015-07-01	2016-06-30
PF210	Power Meter for Goniophotometer	2015-07-01	2016-06-30
EE-015	Flux Meter	2015-07-01	2016-06-30
ST-R-277	Oscillograph	2015-07-01	2016-06-30
ST-R-EM01	Surge Generator	2015-07-01	2016-06-30
ST-R-EM02	EMC Coupler/Decoupler Module	2015-07-01	2016-06-30
Uncertainty Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

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