



Report No.: GZE160118-D

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): CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)

Representative (Tested) Model: CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(3000K)
CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(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-D
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	L-TECH CORPORTION	
Brand Name	L-TECH CORP	
Model Number	CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(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	--	41.33	W
Input Current	--	0.3480	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9897	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	2924.7	lm
Initial Lumen Efficacy	--	70.76	lm/w
Correlated color temperature / CCT	3016	--	K
Color rendering index / CRI	85.1	--	
R9 Value	22	--	
Duv	0.0014	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)	-----	1771	cd
Beam angle (if applicable)		78.1	°
Zonal lumens in the 0°-60° zone		91.6	%
Zonal lumens in the 60°-90° zone		8.4	%
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
Test Report No.	GZE160118-D
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	L-TECH CORPORTION	
Brand Name	L-TECH CORP	
Model Number	CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(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	41.06	--	W
Input Current	0.3456	--	A
Input Voltage (ac)	120.0	--	V
Power Factor	0.9902	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	2982	--	lm
Initial Lumen Efficacy	72.63	--	lm/w
Correlated color temperature / CCT	4046	--	K
Color rendering index / CRI	83.3	--	
R9 Value	15	--	
Duv	0.0013	--	
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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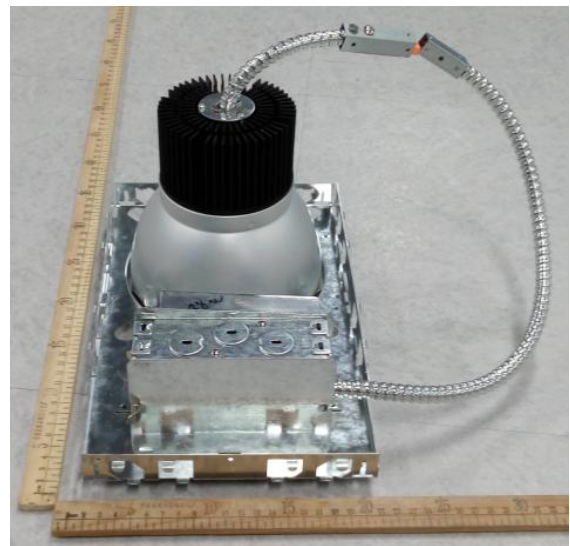
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1. Product Information:

Brand Name	L-TECH CORP
Model Number	GZE160118-D
Luminaire Type	LED DOWNLIGHT
Rated Voltage / Frequency	120Vac, 60 Hz
Nominal Power	42W
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-D1,D2,D3(3000K),D4(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	CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE160118-D1	120.0	60	0.3480	41.33	0.9897
GZE160118-D2	120.0	60	0.3492	41.42	0.9885
GZE160118-D3	120.0	60	0.3485	41.36	0.9891
Average			0.3486	41.37	0.9891

Sphere-Spectroradiometer Method:

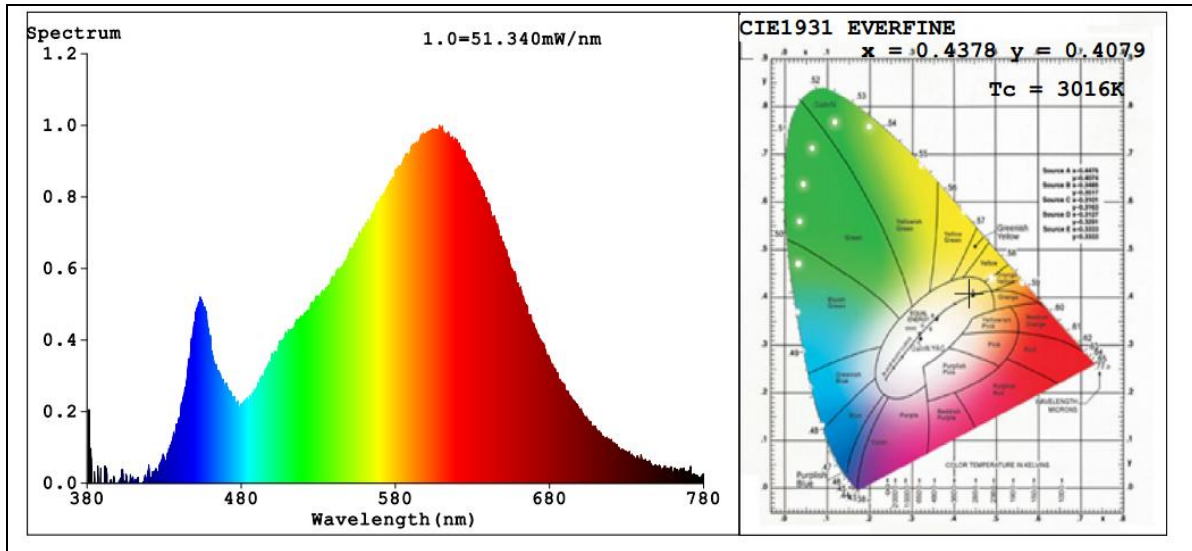
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	85.1
R9	22
CCT (K)	3016
Chromaticity (x, y)	x=0.4378 y=0.4079
Chromaticity (u', v')	u'=0.2495 v'=0.5230
Duv	0.0014

Special Color Rendering Indices			
R1	84	R9	22
R2	92	R10	82
R3	97	R11	82
R4	83	R12	72
R5	83	R13	86
R6	90	R14	99
R7	86	R15	77
R8	66	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	2924.7
Luminous Efficacy (lm/W)	70.76
Beam Angle °	78.1
Center Beam Candle Power (cd)	1771

Spectral Power Distribution and Chromaticity Diagram



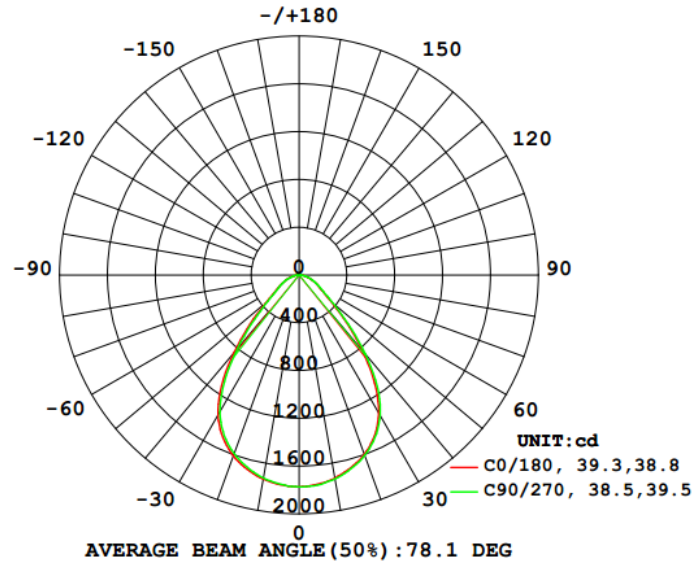
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Zonal Lumen Tabulation



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	1,323.0	45.2%
0-40	2,010.0	68.7%
0-60	2,679.2	91.6%
60-90	245.0	8.4%
70-100	98.3	3.4%
90-120	0.0	0%
0-90	2,924.1	100%
90-180	0.1	0%
0-180	2,924.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	167.1	5.7%	90-100	0.0	0%
10-20	471.8	16.1%	100-110	0.0	0%
20-30	684.1	23.4%	110-120	0.0	0%
30-40	687.0	23.5%	120-130	0.0	0%
40-50	439.7	15.0%	130-140	0.0	0%
50-60	229.4	7.8%	140-150	0.0	0%
60-70	146.7	5.0%	150-160	0.0	0%
70-80	78.7	2.7%	160-170	0.0	0%
80-90	19.6	0.7%	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	CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(4000K)		

Electrical Measurement:

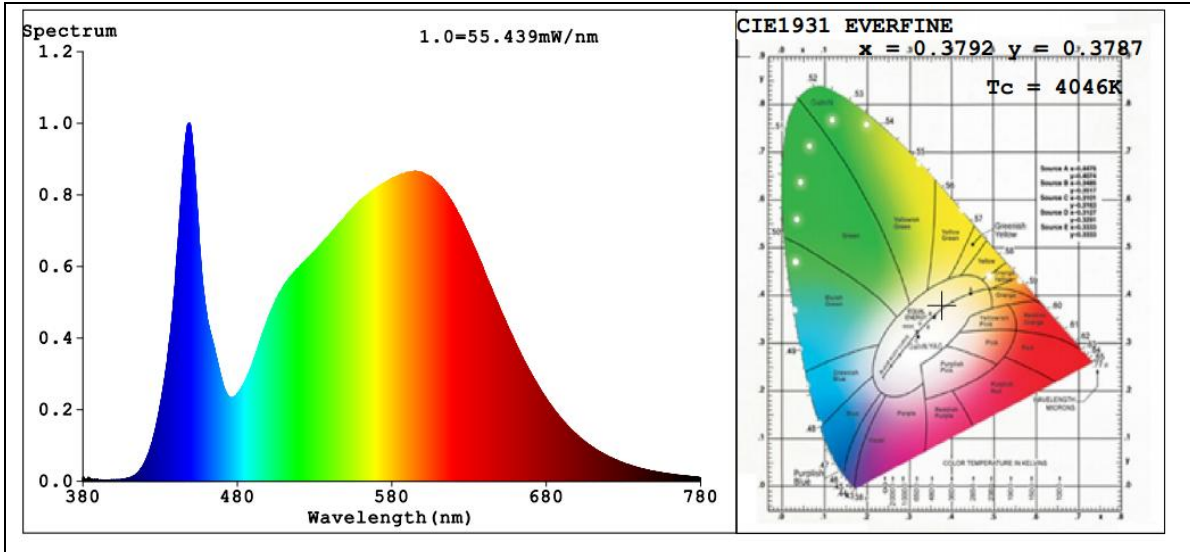
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE160118-D4	120.0	60	0.3456	41.06	0.9902

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	83.3
R9	15
CCT (K)	4046
Chromaticity (x, y)	x=0.3792 y=0.3787
Chromaticity (u', v')	u'=0.2236 v'=0.5023
Duv	0.0013
Total Luminous (lm)	2982
Luminous Efficacy (lm/W)	72.63

Special Color Rendering Indices			
R1	82	R9	15
R2	88	R10	72
R3	93	R11	82
R4	83	R12	64
R5	82	R13	83
R6	83	R14	96
R7	87	R15	76
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 CLED6A/P/R-40 WITH TCLD640HZ(CLKT640)(3000K)):

Test date	2016-01-12	Test Ambient	25.1°C
Sample No.		Maximum $\Delta u'v'$	
GZE160118-D1		0.0051	

Gamma\C	CIE u'	CIE v'	$du'v'$	CIE u'	CIE v'	$du'v'$
-62	0.2443	0.5204	0.0045	0.2442	0.5205	0.0045
-61	0.2444	0.5204	0.0043	0.2443	0.5205	0.0044
-60	0.2446	0.5206	0.0041	0.2444	0.5206	0.0043
-59	0.2447	0.5206	0.004	0.2445	0.5206	0.0042
-58	0.2448	0.5207	0.0039	0.2448	0.5208	0.0039
-57	0.2452	0.5209	0.0035	0.2449	0.5209	0.0037
-56	0.2453	0.521	0.0033	0.2451	0.5209	0.0036
-55	0.2454	0.5211	0.0032	0.2452	0.521	0.0034
-54	0.2455	0.5211	0.0031	0.2455	0.5211	0.0032
-53	0.2456	0.5212	0.003	0.2455	0.5211	0.0031
-52	0.2459	0.5213	0.0027	0.2456	0.5211	0.003
-51	0.246	0.5212	0.0027	0.2458	0.5211	0.0029

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-50	0.246	0.5211	0.0027	0.2458	0.521	0.0029
-49	0.246	0.521	0.0027	0.246	0.5209	0.0027
-48	0.2463	0.521	0.0024	0.246	0.5208	0.0027
-47	0.2464	0.521	0.0023	0.2463	0.5208	0.0024
-46	0.2465	0.5209	0.0022	0.2464	0.5208	0.0023
-45	0.2469	0.521	0.0018	0.2467	0.5208	0.002
-44	0.2471	0.521	0.0016	0.2469	0.5208	0.0018
-43	0.2472	0.5211	0.0014	0.2473	0.521	0.0014
-42	0.2477	0.5213	0.001	0.2475	0.521	0.0012
-41	0.2479	0.5213	0.0008	0.2479	0.5211	0.0008
-40	0.2481	0.5214	0.0006	0.2481	0.5213	0.0006
-39	0.2482	0.5214	0.0005	0.2484	0.5214	0.0003
-38	0.2488	0.5216	0.0004	0.2486	0.5215	0.0003
-37	0.249	0.5218	0.0006	0.2488	0.5216	0.0004
-36	0.2492	0.5219	0.0009	0.2491	0.5218	0.0007
-35	0.2494	0.522	0.001	0.2493	0.5218	0.0009
-34	0.2496	0.5221	0.0013	0.2494	0.5219	0.001
-33	0.2497	0.5221	0.0014	0.2495	0.522	0.0012
-32	0.2498	0.5222	0.0015	0.2498	0.5221	0.0014
-31	0.25	0.5223	0.0017	0.2498	0.5222	0.0015

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-30	0.25	0.5223	0.0017	0.2498	0.5222	0.0015
-29	0.25	0.5223	0.0017	0.2499	0.5222	0.0016
-28	0.25	0.5224	0.0017	0.2499	0.5223	0.0016
-27	0.2503	0.5225	0.0021	0.2498	0.5222	0.0016
-26	0.2503	0.5225	0.0021	0.25	0.5223	0.0017
-25	0.2503	0.5225	0.002	0.2501	0.5223	0.0018
-24	0.2502	0.5225	0.002	0.25	0.5223	0.0018
-23	0.2502	0.5225	0.002	0.25	0.5223	0.0017
-22	0.2502	0.5224	0.002	0.25	0.5223	0.0017
-21	0.2502	0.5225	0.002	0.2499	0.5223	0.0017
-20	0.2501	0.5224	0.0019	0.25	0.5223	0.0017
-19	0.2501	0.5224	0.0019	0.2499	0.5223	0.0017
-18	0.2502	0.5224	0.002	0.2499	0.5223	0.0017
-17	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016
-16	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016
-15	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016
-14	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016
-13	0.2501	0.5224	0.0019	0.2499	0.5223	0.0017
-12	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016
-11	0.2501	0.5224	0.0019	0.2499	0.5223	0.0016

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-10	0.2501	0.5224	0.0018	0.2499	0.5223	0.0016
-9	0.2501	0.5224	0.0019	0.2498	0.5222	0.0016
-8	0.2501	0.5224	0.0018	0.2499	0.5223	0.0016
-7	0.2501	0.5224	0.0019	0.2498	0.5223	0.0016
-6	0.25	0.5224	0.0018	0.2498	0.5222	0.0016
-5	0.2501	0.5224	0.0018	0.2499	0.5223	0.0016
-4	0.2501	0.5224	0.0018	0.2498	0.5222	0.0016
-3	0.25	0.5223	0.0018	0.2498	0.5222	0.0016
-2	0.25	0.5223	0.0018	0.2499	0.5223	0.0016
-1	0.25	0.5223	0.0018	0.2498	0.5222	0.0016
0	0.2503	0.5225	0.002	0.2503	0.5225	0.002
1	0.2501	0.5224	0.0018	0.2498	0.5222	0.0015
2	0.25	0.5223	0.0017	0.2498	0.5222	0.0015
3	0.2501	0.5223	0.0018	0.2499	0.5222	0.0016
4	0.25	0.5223	0.0018	0.2498	0.5222	0.0015
5	0.2501	0.5223	0.0018	0.2498	0.5222	0.0016
6	0.2501	0.5223	0.0018	0.2498	0.5222	0.0016
7	0.2501	0.5223	0.0018	0.2498	0.5222	0.0015
8	0.25	0.5223	0.0018	0.2498	0.5222	0.0015
9	0.2501	0.5223	0.0018	0.2498	0.5222	0.0015

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10	0.2501	0.5223	0.0018	0.2498	0.5222	0.0015
11	0.2501	0.5223	0.0018	0.2499	0.5222	0.0016
12	0.25	0.5223	0.0017	0.2499	0.5222	0.0016
13	0.25	0.5223	0.0018	0.2498	0.5222	0.0015
14	0.25	0.5223	0.0017	0.2499	0.5222	0.0016
15	0.2501	0.5223	0.0018	0.2498	0.5222	0.0015
16	0.2501	0.5223	0.0018	0.2498	0.5222	0.0015
17	0.25	0.5223	0.0017	0.2497	0.5221	0.0014
18	0.2501	0.5223	0.0018	0.2497	0.5221	0.0014
19	0.2501	0.5223	0.0018	0.2497	0.5221	0.0014
20	0.25	0.5223	0.0017	0.2497	0.5221	0.0014
21	0.25	0.5222	0.0017	0.2497	0.5221	0.0014
22	0.25	0.5223	0.0017	0.2497	0.5221	0.0014
23	0.25	0.5223	0.0017	0.2497	0.5221	0.0014
24	0.25	0.5223	0.0017	0.2497	0.5221	0.0014
25	0.25	0.5222	0.0017	0.2497	0.5221	0.0014
26	0.25	0.5222	0.0017	0.2497	0.5221	0.0014
27	0.25	0.5222	0.0017	0.2497	0.5221	0.0014
28	0.2498	0.5221	0.0015	0.2498	0.5221	0.0014
29	0.2498	0.5221	0.0015	0.2497	0.5221	0.0014

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30	0.2498	0.5221	0.0015	0.2497	0.522	0.0013
31	0.2497	0.5221	0.0013	0.2497	0.522	0.0013
32	0.2497	0.5221	0.0013	0.2496	0.522	0.0012
33	0.2496	0.522	0.0012	0.2493	0.5218	0.0009
34	0.2493	0.5219	0.0009	0.2492	0.5218	0.0008
35	0.2492	0.5218	0.0007	0.2491	0.5217	0.0007
36	0.2491	0.5217	0.0007	0.2489	0.5216	0.0005
37	0.2489	0.5216	0.0005	0.2488	0.5215	0.0003
38	0.2485	0.5215	0.0003	0.2485	0.5214	0.0002
39	0.2484	0.5214	0.0003	0.2484	0.5213	0.0003
40	0.2482	0.5213	0.0005	0.2482	0.5212	0.0005
41	0.2478	0.5212	0.0008	0.2479	0.5211	0.0007
42	0.2476	0.5211	0.001	0.2475	0.5209	0.0012
43	0.2473	0.521	0.0014	0.2473	0.5209	0.0014
44	0.2471	0.5209	0.0016	0.2471	0.5208	0.0016
45	0.2467	0.5208	0.002	0.2466	0.5206	0.0021
46	0.2465	0.5208	0.0022	0.2465	0.5207	0.0023
47	0.2462	0.5208	0.0025	0.2462	0.5206	0.0025
48	0.246	0.5208	0.0027	0.246	0.5206	0.0027
49	0.2457	0.5208	0.003	0.2459	0.5207	0.0028

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50	0.2456	0.5209	0.0031	0.2458	0.5208	0.0029
51	0.2454	0.521	0.0033	0.2455	0.5208	0.0032
52	0.2453	0.5211	0.0033	0.2455	0.521	0.0032
53	0.2451	0.5211	0.0035	0.2454	0.5211	0.0033
54	0.2451	0.5212	0.0036	0.2451	0.521	0.0035
55	0.245	0.5212	0.0037	0.245	0.521	0.0036
56	0.2447	0.5211	0.0039	0.2449	0.521	0.0038
57	0.2446	0.521	0.0041	0.2447	0.5209	0.0039
58	0.2444	0.5209	0.0042	0.2445	0.5208	0.0041
59	0.2443	0.5208	0.0044	0.2442	0.5206	0.0045
60	0.244	0.5207	0.0046	0.244	0.5205	0.0047
61	0.244	0.5206	0.0047	0.2438	0.5205	0.0049
62	0.2438	0.5205	0.0049	0.2436	0.5204	0.0051

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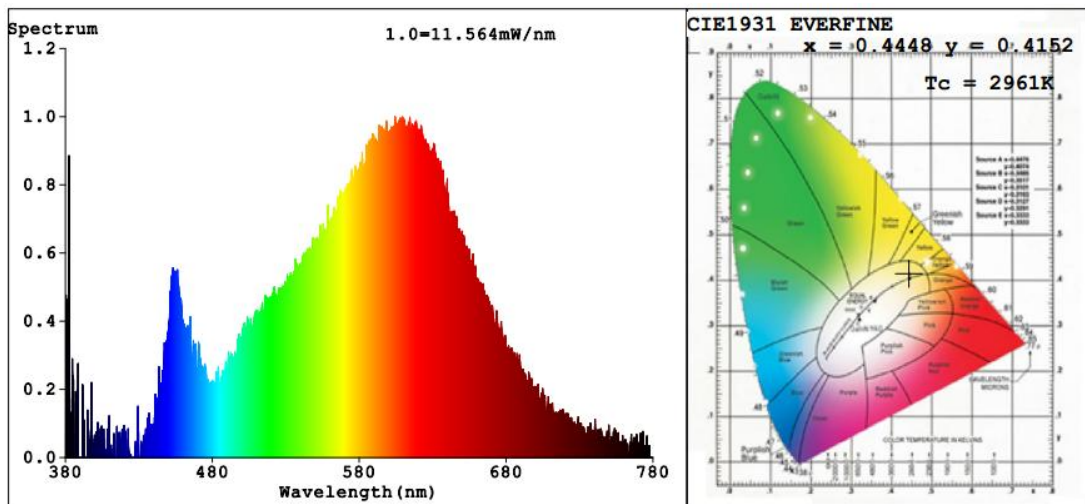
Report Format Number STD/QR4910-A/1

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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>
--	--

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-D1	120.0 V / 60 Hz	510.2	2961	84.9	0.2526
GZE160118-D2	120.0 V / 60 Hz	535.7	2963	85.4	0.2691
GZE160118-D3	120.0 V / 60 Hz	547.6	2959	85.7	0.2843
Average		531.2	2961	85.3	0.2687



Color Parameters:

Chromaticity Coordinate: $x=0.4448$ $y=0.4152$ / $u'=0.2508$ $v'=0.5268$

$T_c=2961K$ (Duv=0.0033) Dominant WL: $L_d = 581.9nm$ Purity=58.1%

Peak WL: $L_p=604.3nm$ HWL: $L_{hd}=132.4nm$

Render Index: $R_a=84.9$ CRI=79.8

R1 =83 R2 =93 R3 =97 R4 =82 R5 =83 R6 =91 R7 =85

R8 =64 R9 =20 R10=83 R11=81 R12=68 R13=86 R14=99 R15=76

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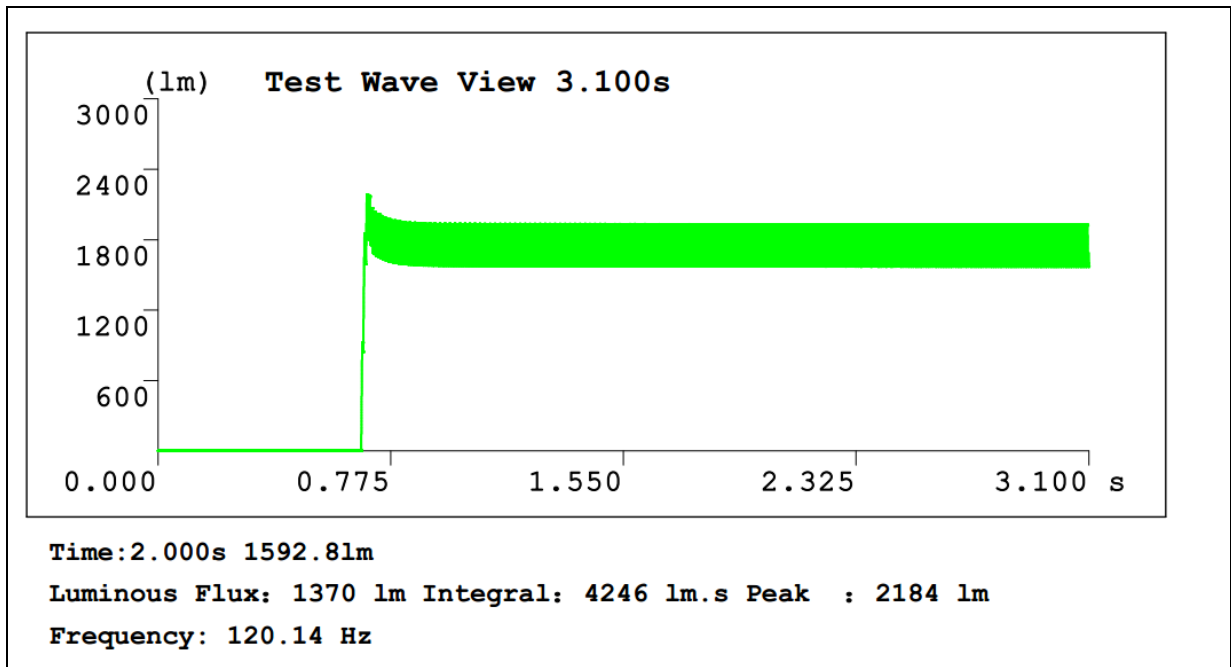
The luminaires [can] ~~lean not~~ provide less than 20% of total light output with continuous dimmer.

Dimmer	Peak Noise Reading (dBA)	Test Condition	Distance between the microphone and the UUT
LEVITON MFG CO INC (E31373), Cat. No. 6681	19.8	Dimmer adjusted to lowest light output	< 1 m

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

Test date	2016-01-12	Test Ambient:	25.1°C
Sample No.		Operating Frequency (Hz)	
GZE160118-D1		120.14	
GZE160118-D2		120.07	
GZE160118-D3		120.06	
Average		120.09	

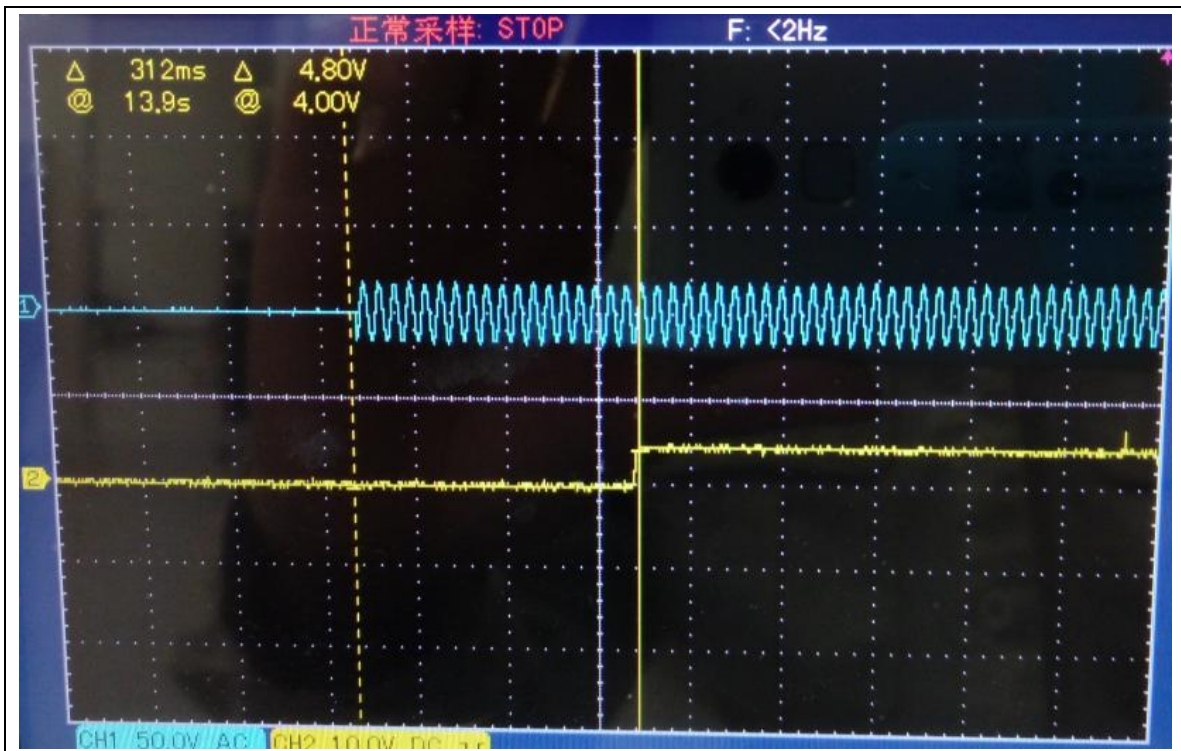
Graph:



5 Starting Time <i>(Refer to Work Instruction QD28)</i>	ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.0
---	--

Test date	2016-01-12	Test Ambient:	25.1°C
Sample No.	Start Time (ms)		
GZE160118-D1	312		
GZE160118-D2	284		
GZE160118-D3	309		
Average	302		

Graph (Start Time):



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Report No.: GZE160118-D

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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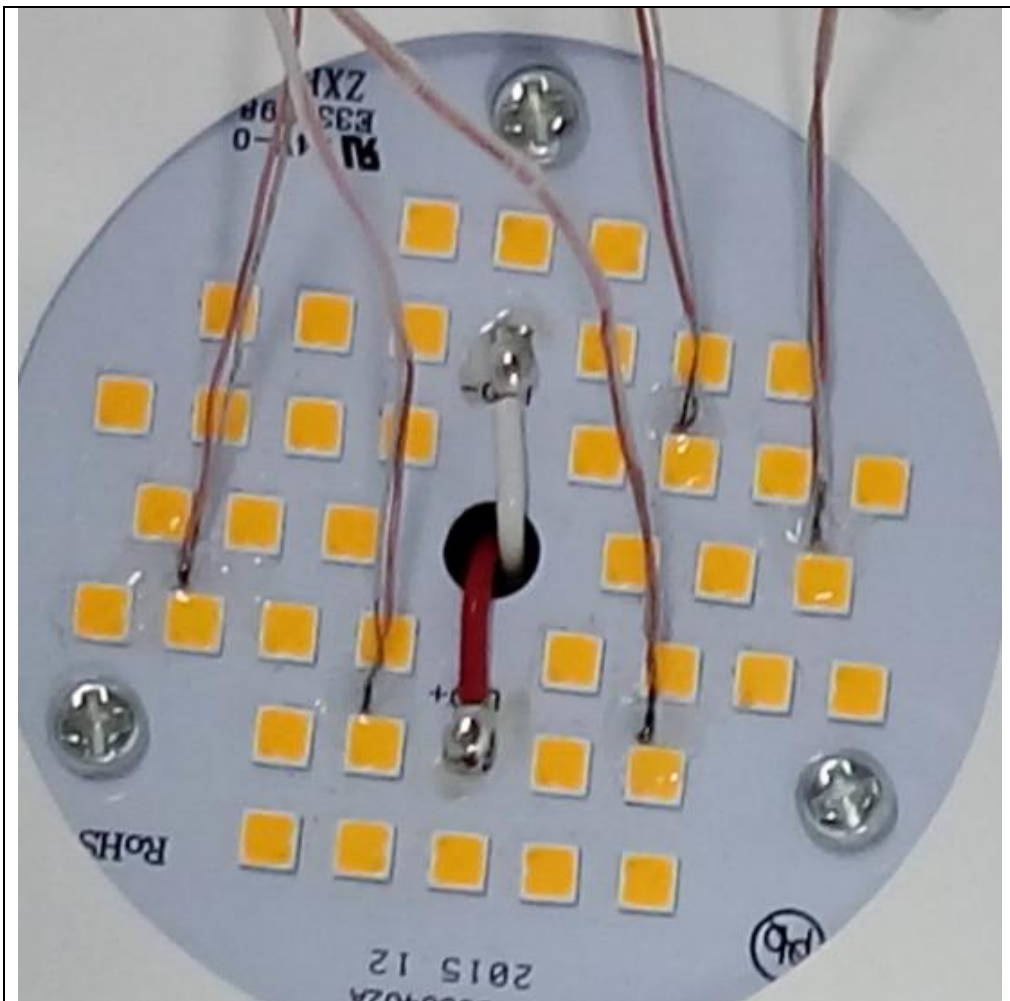
Test voltage: 120V,60Hz

Test date	2016-01-16	Test Ambient	25.1°C
Sample No.		Transient Protection Test - Seven Strikes	
GZE160118-D1		Pass	
GZE160118-D2		Pass	
GZE160118-D3		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)	147
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
GZE160118-D1	STWxC2SB	65.2	105

In-Situ Picture - Ts:



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Report No.: GZE160118-D

Laboratory: Standard-Tech Co. Ltd Testing Center
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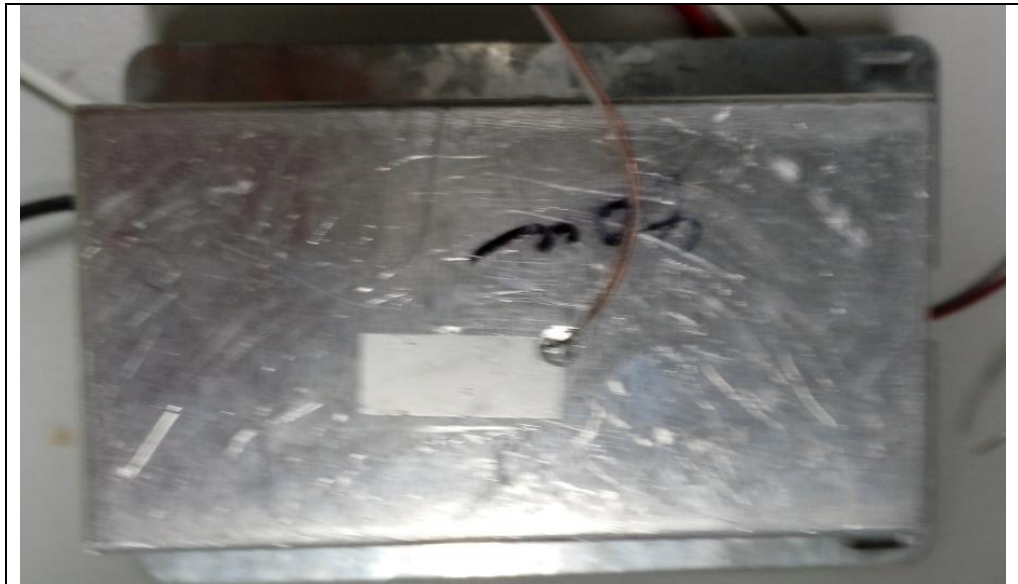
Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

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

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-D1	70.1	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 *******