

## Energy Star Test Report

For

**Best Lighting Products, Inc.**

**(Brand Name: Best Lighting Products, Inc.)**

1213, Etna Pkwy PATASKALA, Ohio, U.S.A.

**Model name(s):ULD4-XX**

<b>Report Type:</b>	Testing and Report According to ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.1
<b>Type of Luminaire:</b>	Cove or Under Cabinet Mount
<b>Report Date:</b>	2018-07-17

Test & Report By:

*Garman Mo*

Engineer: Garman Mo

Review By:

*John Li*

Manager: John Li

Note: 1. The results contained in this report pertain only to the rested samples.

2. 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

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<http://www.standard-tech.com>

<b>1.1 Product Information:</b>		
Model Number	ULD4-XX	
Remark	“XX” could be 27/30/35/40/50 refers to CCT.	
Representative (Tested) Model	ULD4-27	
Model Difference	N/A	
Type of Luminaire	Cove or Under Cabinet Mount	
LED Manufacturer	EVERLIGHT ELECTRONICS CO., LTD	
LED Model	67-21S Series (3000K)	
Dimming	Dimmable	
Sample Number	JCE180610-B1	
Date of Receipt	Jun.30,2018	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
<b>1.2 Rated Values:</b>		
Rated Voltage / Frequency	120Vac, 60 Hz	
Nominal Power	6W	
Rated Initial Lamp Lumen	--	
Declared CC	2700K, 3000K, 3500K, 4000K, 5000K	
Sample Number	JCE180610-B1	
<b>Photo</b>		
		
		

1.3 Test Specifications:	
Date of Receipt	Jun.30,2018
Date of Test	Jul.01,2018
Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> <li>7. UL1993 4<sup>th</sup> Edition, Self-Ballasted Lamps and Lamp Adapters</li> <li>8. ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) – Version 2.1</li> </ol>
Reference Work Instruction	QD25
Remark	Below test and data are not covered by NVLAP accreditation: - Operating Frequency

**1.4 Test Methods****1) Photometric and Light Distribution Measurement – Goniophotometer Method:**

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , 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 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

**2) Chromaticity Measurement – Sphere-Spectroradiometer Method:**

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . 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 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

**3) Electrical Measurements:**

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

**2.1 Electrical, Photometric and Chromaticity Measurements**  
*(Refer to Work Instruction QD25)*

IES LM-79 2008

Test date	2018-07-01	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	ULD4-27		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
JCE180610-B1	120.0	60	0.0502	5.905	0.9809

**Sphere-Spectroradiometer Method:**

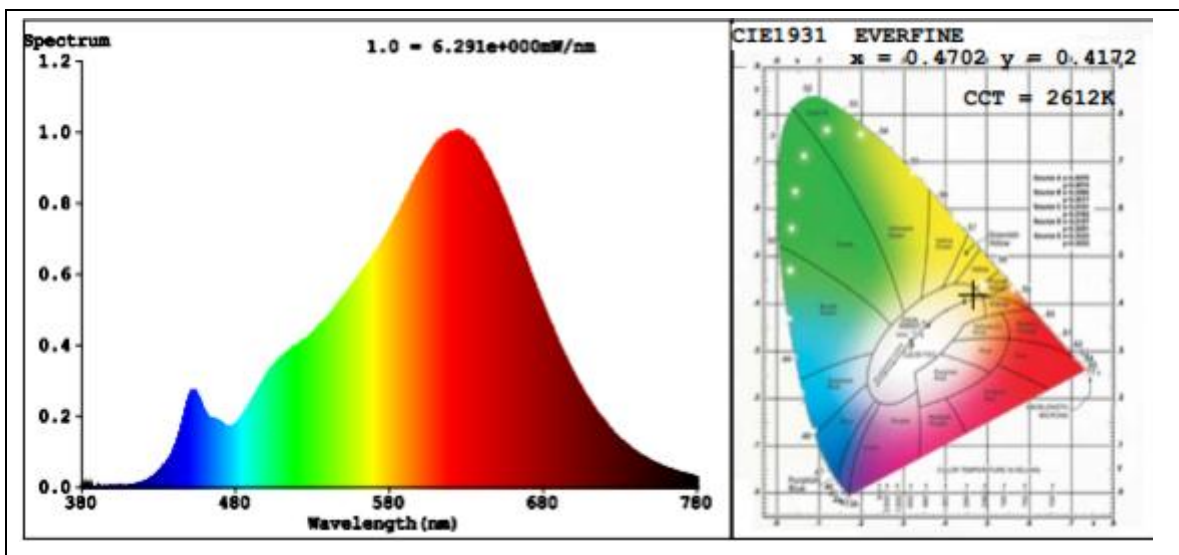
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.5
R9	54
CCT (K)	2612
Chromaticity (x, y)	x=0.4702 y=0.4172
Chromaticity (u', v')	u'=0.2662 v'=0.5314
Duv	0.0016

Special Color Rendering Indices			
R1	92	R9	54
R2	97	R10	93
R3	99	R11	94
R4	93	R12	88
R5	93	R13	93
R6	98	R14	100
R7	91	R15	87
R8	79	--	--

**Goniophotometer Method:**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	372.61
Luminous Efficacy (lm/W)	63.10
Beam Angle °	104.5
Zonal Lumen Density(0-60 °)	80.6
Center Beam Candle Power (cd)	139

## Spectral Power Distribution and Chromaticity Diagram



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

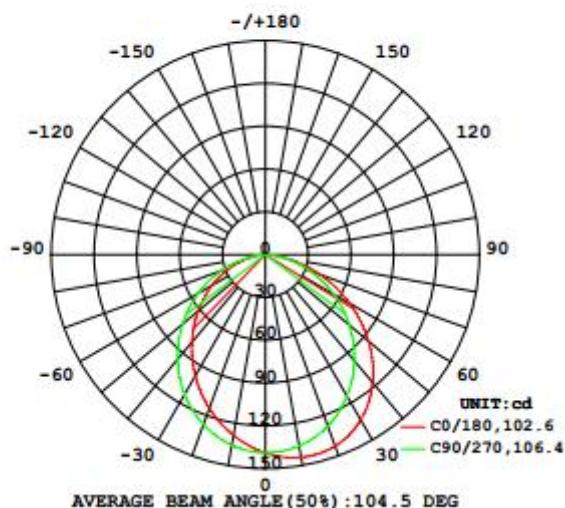
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**Zonal Lumen Tabulation**
**LUMINOUS INTENSITY DISTRIBUTION DIAGRAM**


Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	106.8	28.7%
0-40	173.4	46.6%
0-60	300.2	80.6%
60-90	72.4	19.4%
70-100	28.8	7.7%
90-120	0.0	0%
0-90	372.6	100%
90-180	0.0	0%
0-180	372.6	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	13.1	3.5%	90-100	0.0	0%
10-20	37.4	10.0%	100-110	0	0%
20-30	56.2	15.1%	110-120	0	0%
30-40	66.7	17.9%	120-130	0	0%
40-50	67.5	18.1%	130-140	0	0%
50-60	59.2	15.9%	140-150	0	0%
60-70	43.6	11.7%	150-160	0	0%
70-80	23.5	6.3%	160-170	0	0%
80-90	5.3	1.4%	170-180	0	0%



Table--1 UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	
0	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	
5	142	142	141	140	138	137	135	135	134	134	135	136	138	140	141	142	
10	144	144	142	139	136	133	131	129	129	129	130	133	136	139	142	143	
15	144	144	141	137	133	129	125	123	122	123	124	128	132	136	141	143	
20	143	142	138	134	128	123	118	115	115	115	118	122	127	133	138	141	
25	139	138	134	129	122	116	111	108	107	107	110	115	121	127	133	138	
30	134	132	128	122	114	108	102	99.1	98.1	98.9	102	107	113	121	127	132	
35	126	125	121	114	106	99.0	93.6	90.2	89.2	89.9	92.8	97.9	105	113	120	125	
40	117	116	111	105	97.1	89.8	84.4	81.0	80.0	80.8	83.6	88.6	95.7	104	111	115	
45	106	105	101	94.8	87.1	80.1	75.0	71.7	70.7	71.5	74.2	79.1	85.8	93.4	100	105	
50	94.4	93.4	89.7	83.8	76.8	70.1	65.4	62.4	61.5	62.2	64.7	69.3	75.6	82.7	88.9	93.1	
55	81.5	80.8	77.5	72.3	66.1	60.1	55.8	53.0	52.2	52.9	55.2	59.4	65.1	71.5	76.9	80.5	
60	68.2	67.5	64.9	60.5	55.2	50.0	46.1	43.8	43.1	43.7	45.7	49.4	54.5	59.8	64.3	67.4	
65	54.5	54.1	51.9	48.4	44.1	39.8	36.6	34.6	34.1	34.6	36.3	39.5	43.7	48.0	51.6	54.0	
70	40.7	40.4	38.9	36.3	33.1	29.7	27.2	25.7	25.3	25.7	27.1	29.5	32.8	36.1	38.7	40.4	
75	27.3	27.2	26.1	24.4	22.2	19.9	18.2	17.1	17.0	17.2	18.2	19.7	21.9	24.2	26.2	27.2	
80	15.1	15.0	14.4	13.4	11.9	10.7	9.98	9.48	9.44	9.56	9.96	10.6	11.7	13.2	14.4	15.2	
85	5.62	5.56	5.14	4.55	3.62	3.65	3.57	3.62	3.78	3.74	3.64	3.58	3.50	4.44	5.15	5.68	
90	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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**2.2 Color Spatial Uniformity**

**IES LM-79 2008**  
**ENERGY STAR® Program Requirements**  
**Product Specification for Luminaires (Light**  
**Fixtures) - Version 2.1**

**Test Data :**

<b>Test date</b>	2018-07-01	<b>Test Ambient</b>	25.1°C
<b>Sample No.</b>		<b>Maximum <math>\Delta u'v'</math></b>	
JCE180610-B1		0.0008	

Gamma\C	CIE $u'$	CIE $v'$	$du'v'$	CIE $u'$	CIE $v'$	$du'v'$
-80	0.2626	0.5284	0.0006	0.2619	0.5282	0.0002
-79	0.2627	0.5284	0.0007	0.2619	0.5282	0.0002
-78	0.2627	0.5284	0.0007	0.2619	0.5282	0.0002
-77	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002
-76	0.2627	0.5284	0.0007	0.2619	0.5282	0.0002
-75	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002
-74	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002
-73	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002
-72	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-71	0.2626	0.5284	0.0006	0.2618	0.5282	0.0003
-70	0.2625	0.5284	0.0005	0.2617	0.5283	0.0003
-69	0.2625	0.5284	0.0005	0.2617	0.5283	0.0003
-68	0.2624	0.5284	0.0004	0.2617	0.5283	0.0003
-67	0.2627	0.5284	0.0007	0.2616	0.5283	0.0004
-66	0.2626	0.5284	0.0006	0.2617	0.5283	0.0003
-65	0.2626	0.5284	0.0006	0.2616	0.5283	0.0004
-64	0.2625	0.5284	0.0005	0.2616	0.5283	0.0004
-63	0.2625	0.5284	0.0005	0.2617	0.5283	0.0003
-62	0.2626	0.5284	0.0006	0.2617	0.5283	0.0003
-61	0.2625	0.5284	0.0005	0.2617	0.5283	0.0003
-60	0.2625	0.5284	0.0005	0.2616	0.5283	0.0004
-59	0.2628	0.5285	0.0008	0.2616	0.5283	0.0004
-58	0.2628	0.5285	0.0008	0.2618	0.5283	0.0003
-57	0.2628	0.5284	0.0008	0.2618	0.5283	0.0003
-56	0.2627	0.5284	0.0007	0.2617	0.5283	0.0003
-55	0.2627	0.5284	0.0007	0.2617	0.5283	0.0003
-54	0.2627	0.5284	0.0007	0.2617	0.5283	0.0004
-53	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-52	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-51	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002

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-50	0.2627	0.5284	0.0007	0.2618	0.5283	0.0002
-49	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-48	0.2626	0.5284	0.0006	0.2617	0.5283	0.0003
-47	0.2627	0.5285	0.0007	0.2617	0.5283	0.0003
-46	0.2627	0.5284	0.0007	0.2619	0.5283	0.0001
-45	0.2626	0.5284	0.0006	0.2619	0.5283	0.0001
-44	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-43	0.2626	0.5284	0.0006	0.2619	0.5283	0.0001
-42	0.2627	0.5284	0.0007	0.2619	0.5283	0.0001
-41	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-40	0.2626	0.5285	0.0006	0.2618	0.5283	0.0002
-39	0.2626	0.5284	0.0006	0.2618	0.5283	0.0002
-38	0.2625	0.5284	0.0005	0.2619	0.5284	0.0001
-37	0.2625	0.5284	0.0005	0.2619	0.5283	0.0001
-36	0.2625	0.5284	0.0005	0.2619	0.5284	0.0001
-35	0.2626	0.5284	0.0006	0.2619	0.5284	0.0001
-34	0.2625	0.5284	0.0005	0.2619	0.5284	0.0001
-33	0.2625	0.5284	0.0005	0.2619	0.5284	0.0001
-32	0.2624	0.5284	0.0004	0.2618	0.5283	0.0002
-31	0.2624	0.5284	0.0004	0.2618	0.5284	0.0002
-30	0.2624	0.5284	0.0004	0.2618	0.5283	0.0002
-29	0.2623	0.5284	0.0003	0.2618	0.5284	0.0002
-28	0.2623	0.5284	0.0003	0.2618	0.5284	0.0002
-27	0.2623	0.5284	0.0003	0.2617	0.5284	0.0003
-26	0.2622	0.5284	0.0002	0.2619	0.5284	0.0001
-25	0.2623	0.5284	0.0003	0.2619	0.5284	0.0001
-24	0.2623	0.5284	0.0003	0.2619	0.5283	0.0001
-23	0.2622	0.5284	0.0002	0.2619	0.5284	0.0001
-22	0.2622	0.5284	0.0002	0.2619	0.5283	0.0001
-21	0.2622	0.5284	0.0002	0.2618	0.5283	0.0002
-20	0.2622	0.5284	0.0002	0.2618	0.5283	0.0002
-19	0.2621	0.5284	0.0001	0.2618	0.5283	0.0002
-18	0.2621	0.5284	0.0001	0.2618	0.5283	0.0002
-17	0.2621	0.5283	0.0001	0.2618	0.5283	0.0002
-16	0.2621	0.5284	0.0001	0.2618	0.5283	0.0002
-15	0.262	0.5284	0	0.2618	0.5283	0.0002
-14	0.262	0.5283	0	0.2617	0.5283	0.0003
-13	0.262	0.5283	0	0.2617	0.5283	0.0003
-12	0.262	0.5283	0.0001	0.2617	0.5283	0.0003
-11	0.2619	0.5283	0.0001	0.2618	0.5283	0.0002

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-10	0.2619	0.5283	0.0001	0.2617	0.5283	0.0003
-9	0.2619	0.5283	0.0001	0.2617	0.5283	0.0003
-8	0.2619	0.5283	0.0001	0.2617	0.5283	0.0003
-7	0.2618	0.5283	0.0002	0.2617	0.5283	0.0003
-6	0.2618	0.5283	0.0002	0.2617	0.5283	0.0003
-5	0.2618	0.5283	0.0002	0.2617	0.5283	0.0004
-4	0.2618	0.5283	0.0002	0.2617	0.5283	0.0003
-3	0.2618	0.5283	0.0002	0.2617	0.5283	0.0003
-2	0.2618	0.5283	0.0002	0.2616	0.5283	0.0004
-1	0.2618	0.5283	0.0002	0.2616	0.5283	0.0004
0	0.2621	0.5284	0.0001	0.2621	0.5284	0.0001
1	0.2618	0.5283	0.0002	0.2617	0.5283	0.0004
2	0.2618	0.5283	0.0002	0.2615	0.5283	0.0005
3	0.2618	0.5283	0.0002	0.2615	0.5283	0.0005
4	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
5	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
6	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
7	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
8	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
9	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
10	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
11	0.2618	0.5284	0.0002	0.2615	0.5283	0.0005
12	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
13	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
14	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
15	0.2619	0.5284	0.0001	0.2616	0.5283	0.0004
16	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
17	0.2617	0.5284	0.0003	0.2616	0.5283	0.0004
18	0.2617	0.5284	0.0003	0.2617	0.5283	0.0004
19	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
20	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
21	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
22	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
23	0.2617	0.5284	0.0003	0.2616	0.5283	0.0004
24	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
25	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
26	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
27	0.2618	0.5284	0.0002	0.2616	0.5283	0.0004
28	0.2618	0.5285	0.0002	0.2617	0.5283	0.0003
29	0.2616	0.5284	0.0004	0.2617	0.5283	0.0003

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

Report Format Number STD/QR4910-A/1

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30	0.2616	0.5285	0.0004	0.2617	0.5283	0.0003
31	0.2617	0.5284	0.0004	0.2617	0.5283	0.0003
32	0.2617	0.5285	0.0003	0.2616	0.5283	0.0004
33	0.2617	0.5285	0.0003	0.2616	0.5283	0.0004
34	0.2617	0.5285	0.0003	0.2617	0.5283	0.0003
35	0.2617	0.5285	0.0003	0.2617	0.5283	0.0003
36	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
37	0.2617	0.5284	0.0003	0.2617	0.5283	0.0003
38	0.2617	0.5285	0.0003	0.2616	0.5283	0.0004
39	0.2616	0.5284	0.0005	0.2616	0.5283	0.0004
40	0.2616	0.5284	0.0004	0.2616	0.5283	0.0004
41	0.2616	0.5284	0.0004	0.2617	0.5283	0.0003
42	0.2616	0.5284	0.0004	0.2617	0.5283	0.0003
43	0.2616	0.5284	0.0004	0.2616	0.5283	0.0004
44	0.2616	0.5284	0.0004	0.2616	0.5283	0.0004
45	0.2616	0.5284	0.0004	0.2616	0.5283	0.0004
46	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004
47	0.2615	0.5284	0.0005	0.2617	0.5283	0.0003
48	0.2615	0.5284	0.0005	0.2615	0.5283	0.0005
49	0.2615	0.5284	0.0005	0.2616	0.5283	0.0005
50	0.2615	0.5284	0.0005	0.2616	0.5283	0.0004
51	0.2615	0.5284	0.0005	0.2616	0.5283	0.0004
52	0.2613	0.5284	0.0007	0.2615	0.5283	0.0005
53	0.2613	0.5284	0.0007	0.2615	0.5283	0.0005
54	0.2614	0.5284	0.0006	0.2615	0.5283	0.0005
55	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004
56	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004
57	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004
58	0.2612	0.5284	0.0008	0.2616	0.5283	0.0004
59	0.2613	0.5284	0.0007	0.2617	0.5283	0.0003
60	0.2613	0.5284	0.0007	0.2614	0.5283	0.0007
61	0.2613	0.5284	0.0007	0.2614	0.5282	0.0006
62	0.2612	0.5283	0.0008	0.2615	0.5283	0.0006
63	0.2613	0.5283	0.0007	0.2614	0.5282	0.0007
64	0.2613	0.5284	0.0007	0.2614	0.5282	0.0006
65	0.2613	0.5284	0.0007	0.2615	0.5282	0.0006
66	0.2613	0.5284	0.0007	0.2615	0.5283	0.0005
67	0.2613	0.5284	0.0007	0.2616	0.5283	0.0005
68	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004
69	0.2614	0.5284	0.0006	0.2616	0.5283	0.0004

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

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70	0.2614	0.5284	0.0006	0.2617	0.5283	0.0003
71	0.2614	0.5284	0.0006	0.2617	0.5283	0.0004
72	0.2614	0.5284	0.0006	0.2617	0.5283	0.0003
73	0.2614	0.5284	0.0006	0.2617	0.5283	0.0003
74	0.2614	0.5284	0.0006	0.2617	0.5283	0.0003
75	0.2614	0.5284	0.0006	0.2618	0.5283	0.0002
76	0.2614	0.5284	0.0006	0.2617	0.5283	0.0003
77	0.2614	0.5284	0.0006	0.2618	0.5283	0.0002
78	0.2613	0.5284	0.0007	0.2618	0.5283	0.0002
79	0.2613	0.5284	0.0007	0.2618	0.5283	0.0002
80	0.2614	0.5285	0.0006	0.2618	0.5282	0.0003

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

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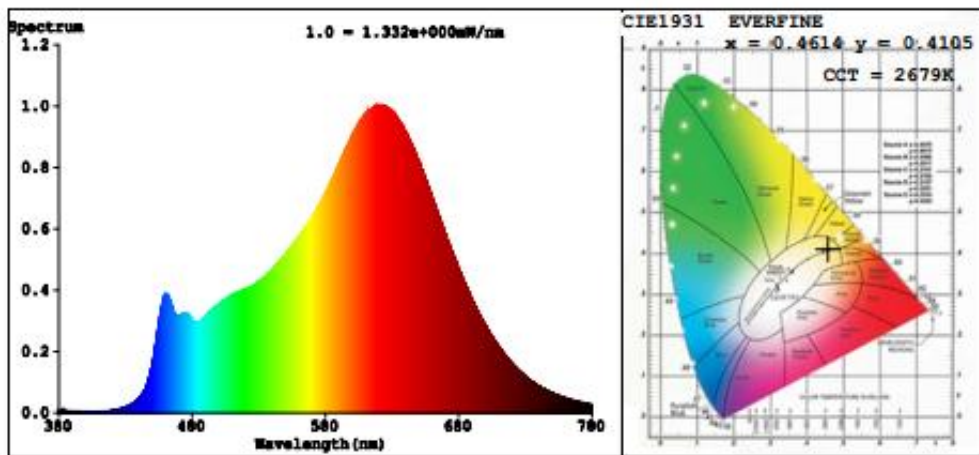
Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

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

**3. Electrical and Photometric Measurements, with dimming**

**IES LM-79 2008  
ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.1**

Test date	2018-07-01	Test Ambient:	25.1°C
Dimmer Model	LEVITON MFG CO INC (E31373), Cat. No. 6681		
Sample No.		Maximum Level	Minimum Level
JCE180610-B1	Input: 120.0 V / 60 Hz	Light output (Lumen)	301.7
		Percentage(%)	81.0
			25.4
			6.8



**Colorimetric Parameters**

Chromaticity Coordinate: x=0.4614 y=0.4105/u'=0.2635 v'=0.5276

CCT=2679K(Duv=-0.0002) Dominant WL:Ld =584.4nm Purity=61.7%

Peak WL:Lp=621.0nm FWHM=129.5nm

Render Index:Ra=91.2 CRI=89.7

R1 =96 R2 =98 R3 =92 R4 =91 R5 =96 R6 =92 R7 =87

R8 =79 R9 =59 R10=95 R11=95 R12=83 R13=98 R14=96 R15=90

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	17.6	Dimmer adjusted to lowest light output	< 1 m

**4. Flicker**

**NEMA 77-2017**  
**ENERGY STAR<sup>®</sup> Program Requirements Product**  
**Specification for Luminaires (Light Fixtures) -**  
**Version 2.1**

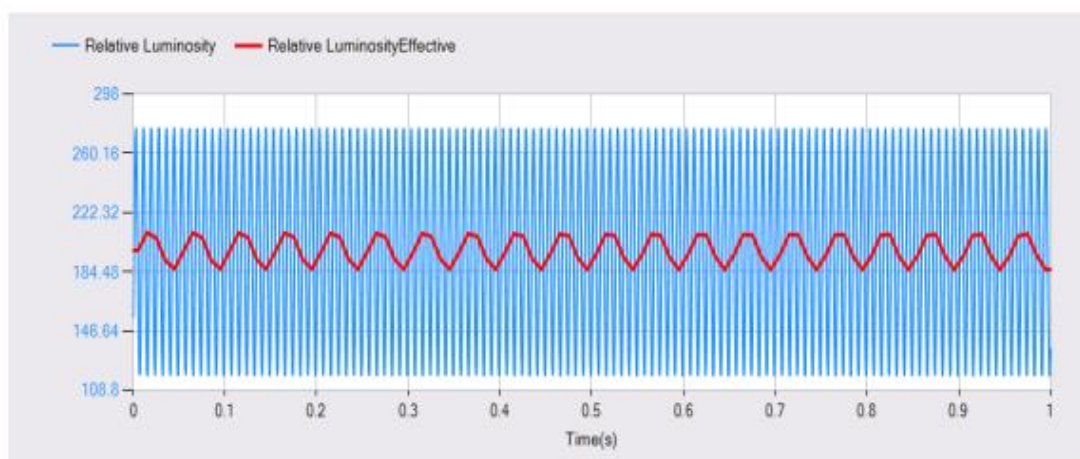
<b>Dimming Technology</b>	phase-cut
<b>Dimmer</b>	LEVITON MFG CO INC (E31373), Cat. No. 6681

Item	Short Term Flicker Indicator (Pst)	Stroboscopic Visibility Measure (SVM)
<b>Full light output</b>	0.096	1.476
<b>Maximum Level (100%)</b>	0.156	1.639
<b>Minimum Level (20%)</b>	0.472	1.720



**5. Operating Frequency****ENERGY STAR<sup>®</sup> Program Requirements  
Product Specification for Luminaires  
(Light Fixtures) - Version 2.1****Noted: This test and data are not covered by NVLAP accreditation**

Test date	2018-07-01	Test Ambient:	25.1°C
Sample No.	Operating Frequency (Hz)		
JCE180610-B1	120.02		

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

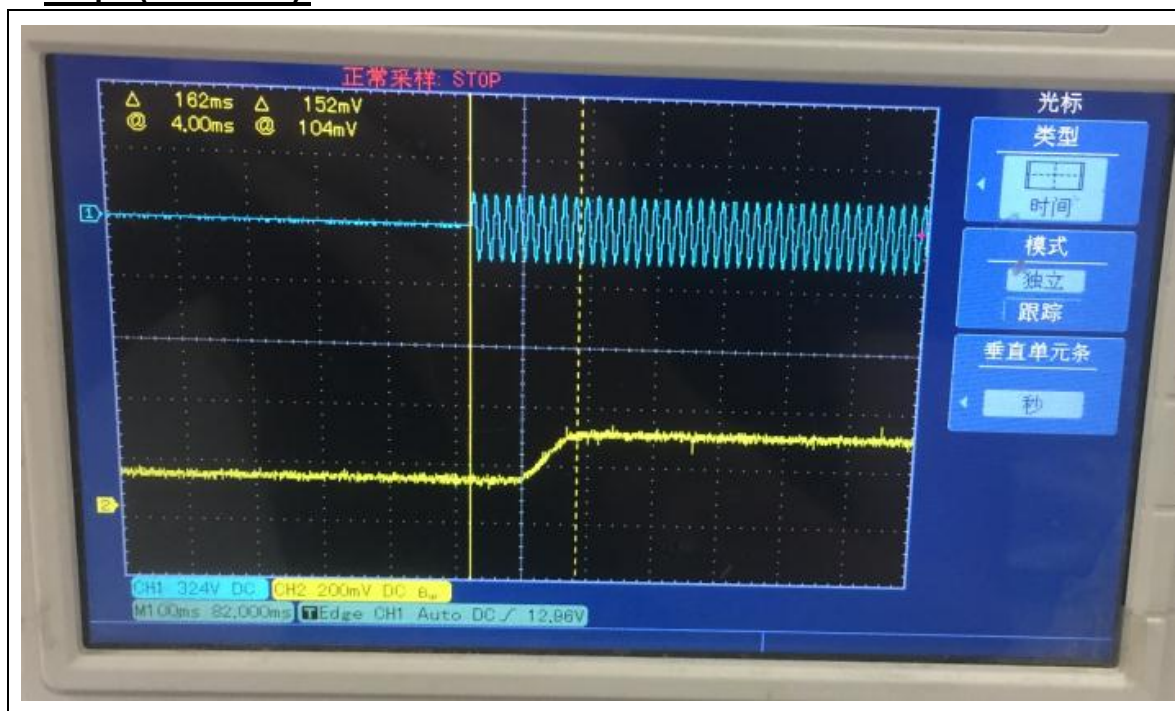
Report Format Number STD/QR4910-A/1

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**6. Starting Time**  
(Refer to Work Instruction QD28)**ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.1**

Test date	2018-07-01	Test Ambient:	25.1°C
Sample No.	Start Time (ms)		
JCE180610-B1	162		

**Graph (Start Time):**

<b>7. Transient Protection Test</b> <i>(Refer to Work Instruction QD34)</i>	<b>ANSI/IEEE C62.41</b> <b>ENERGY STAR® Program Requirements for</b> <b>Luminaires – Version 2.1</b>
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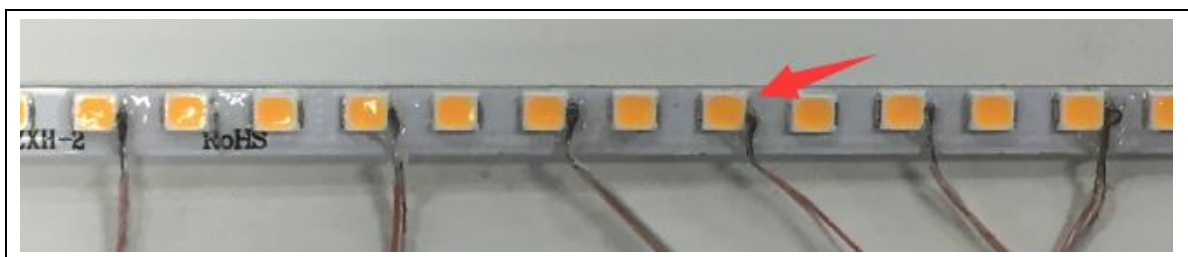
<b>Test date</b>	2018-07-01	<b>Test Ambient</b>	25.1°C
<b>Sample No.</b>		<b>Transient Protection Test - Seven Strikes</b>	
JCE180610-B1		Pass	

## 8.1 In-Situ Temperature Measurement Test (ISTMT)

UL1598-2008, 3<sup>rd</sup> Edition

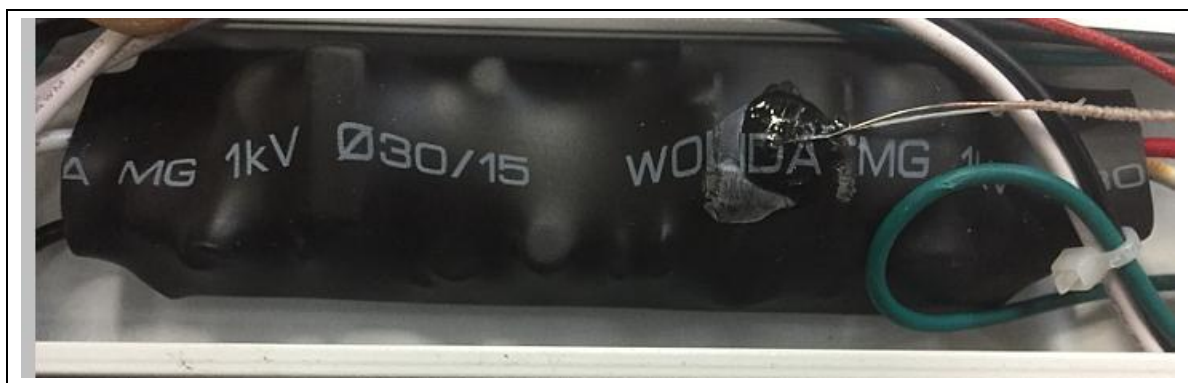
Test date	2018-07-01	Test Ambient	25.1°C
Input Vol./Frequency	120 V / 60 Hz	Output Current of Single LED(mA)	41.8
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
JCE180610-B1	67-21S Series (3000K)	51.7	105

## In-Situ Picture - Ts:



**8.2 Maximum Measured Ballast or Driver Case Temperature** **UL1598-2008, 3<sup>rd</sup> Edition**

Test date	2018-07-01	Test Ambient	25.1°C
Sample No.	Maximum Measured Driver Case Temperature (°C)	Maximum Driver Case Temperature Limited (°C)	
JCE180610-B1	49.7	105	

**In-Situ Picture - Ts:**

**9. Off-State Power Consumption:****ENERGY STAR® Program Requirements  
Product Specification for Luminaires  
(Light Fixtures) - Version 2.1**

<b>Test date</b>	2018-07-01	<b>Test Ambient:</b>	25.0 °C
<b>Model Number</b>	ULD4-27	<b>Stabilization Time (min)</b>	90

**Electrical Measurement – when the luminaires turned off:**

<b>Sample No.</b>	<b>Voltage (Vac)</b>	<b>Frequency (Hz )</b>	<b>Current (A)</b>	<b>Power (W)</b>
JCE180610-B1	120.0	60	0	0. 0071

**10. Test Equipment**

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2018-07-01	2019-06-30
ST-R-331	Spectral analysis system HAAS-2000	2018-07-01	2019-06-30
EE-09	Goniophotometer system	2018-07-01	2019-06-30
D908S	Standard Lamp	2018-07-01	2019-06-30
D204	Standard Lamp	2018-07-01	2019-06-30
PF2010	Power Meter for Integrating Sphere	2018-07-01	2019-06-30
PF210	Power Meter for Goniophotometer	2018-07-01	2019-06-30
EE-015	Flux Meter	2018-07-01	2019-06-30
ST-R-277	Oscillograph	2018-07-01	2019-06-30
ST-R-EM01	Surge Generator	2018-07-01	2019-06-30
ST-R-EM02	EMC Coupler/Decoupler Module	2018-07-01	2019-06-30
Uncertainty Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

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