

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):ULD11-XX

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

Test & Report By:

Vicky Sun

Engineer: Vicky Sun

Review By:

John Li

Manager: John Li

Note: 1. The results contained in this report pertain only to the tested 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>

1.1 Product Information:		
Model Number	ULD11-XX	
Remark	“XX” could be 27/30/35/40/50 refers to CCT.	
Representative (Tested) Model	ULD11-27	
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-G1	
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
1.2 Rated Values:		
Rated Voltage / Frequency	120Vac, 60 Hz	
Nominal Power	16W	
Rated Initial Lamp Lumen	--	
Declared CC	2700K, 3000K, 3500K, 4000K, 5000K	
Sample Number	JCE180610-G1	
Photo		
		
		

1.3 Test Specifications:	
Date of Receipt	Jun.30,2018
Date of Test	Jul.01,2018
Test item	<ol style="list-style-type: none">1. Total Luminous Flux2. Luminous Distribution Intensity3. Luminous Efficacy4. Correlated Color Temperature5. Color Rendering Index6. Chromaticity Coordinate7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none">1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources4. CIE 15-2004 Technical Report Colorimetry5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems7. UL1993 4th Edition, Self-Ballasted Lamps and Lamp Adapters8. ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) – Version 2.1
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° vertical intervals and 22.5° 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	ULD11-27		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
JCE180610-G1	120.0	60	0.1444	15.58	0.8989

Sphere-Spectroradiometer Method:

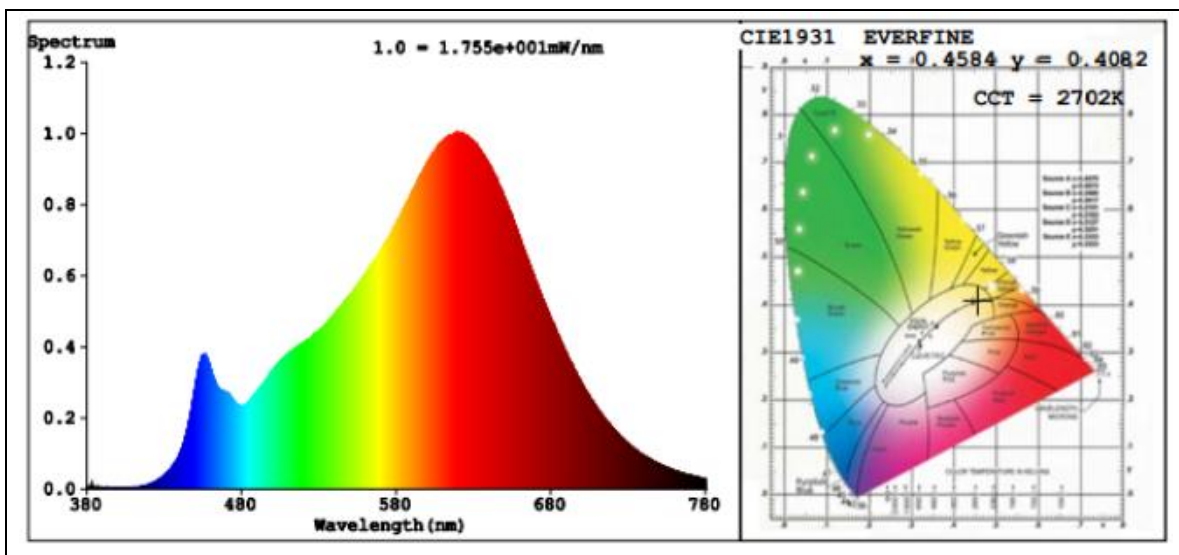
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	91.7
R9	53
CCT (K)	2702
Chromaticity (x, y)	x=0.4584 y=0.4082
Chromaticity (u', v')	u'=0.2626 v'=0.5262
Duv	-0.0008

Special Color Rendering Indices			
R1	93	R9	53
R2	99	R10	97
R3	96	R11	93
R4	91	R12	86
R5	93	R13	95
R6	97	R14	98
R7	88	R15	87
R8	77	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	951.04
Luminous Efficacy (lm/W)	61.04
Beam Angle °	106.0
Zonal Lumen Density(0-60 °)	80.4
Center Beam Candle Power (cd)	355

Spectral Power Distribution and Chromaticity Diagram



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

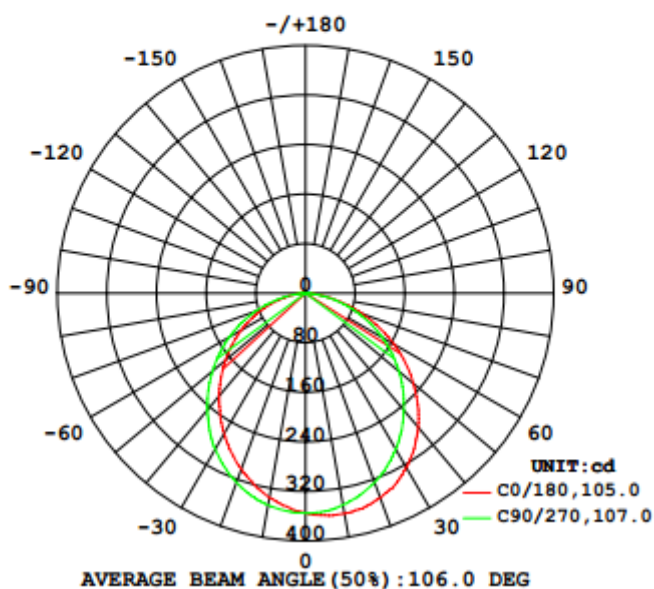
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Zonal Lumen Tabulation
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM


Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	272.2	28.6%
0-40	441.7	46.4%
0-60	765.0	80.4%
60-90	185.1	19.5%
70-100	73.4	7.7%
90-120	0.1	0%
0-90	950.1	99.9%
90-180	0.9	0.1%
0-180	950.9	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	33.6	3.5%	90-100	0.0	0%
10-20	95.5	10.0%	100-110	0.0	0%
20-30	143.1	15.0%	110-120	0.1	0%
30-40	169.5	17.8%	120-130	0.1	0%
40-50	171.9	18.1%	130-140	0.1	0%
50-60	151.4	15.9%	140-150	0.2	0%
60-70	111.6	11.7%	150-160	0.2	0%
70-80	60.0	6.3%	160-170	0.1	0%
80-90	13.5	1.4%	170-180	0.1	0%

Table--1 UNIT: cd

C (DEG) y (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	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	
5	360	361	358	356	353	351	350	347	346	347	347	351	353	356	358	361	
10	361	360	357	352	347	342	339	336	335	335	337	342	347	354	358	362	
15	359	357	353	346	338	331	326	322	320	321	324	331	338	345	353	358	
20	352	349	343	336	325	316	309	305	303	303	308	317	325	336	344	351	
25	341	338	330	322	310	299	291	285	284	284	290	298	309	321	331	339	
30	325	321	315	303	291	280	271	265	262	262	269	279	291	304	314	324	
35	306	300	294	283	270	258	248	243	240	240	247	258	270	282	294	303	
40	283	278	271	260	247	234	225	220	217	217	224	235	246	260	272	280	
45	256	251	246	234	223	210	202	195	193	193	199	210	222	235	246	254	
50	227	223	218	209	197	185	176	171	168	169	175	185	196	208	218	225	
55	197	193	188	180	171	160	152	146	144	143	150	159	169	179	188	194	
60	165	161	157	151	143	133	126	121	120	119	124	132	142	149	157	162	
65	131	128	125	121	115	107	101	96.1	94.9	94.8	98.8	106	114	120	125	129	
70	97.3	95.6	93.8	90.5	86.6	79.9	75.5	71.2	71.1	70.8	73.8	79.4	85.5	89.4	94.1	95.3	
75	64.8	63.3	62.7	60.9	58.4	54.4	50.7	47.9	47.9	47.3	49.6	53.1	57.0	59.8	62.1	63.6	
80	34.9	34.2	34.1	33.3	32.0	30.0	28.2	27.3	26.8	26.2	27.3	28.7	30.7	32.2	33.3	33.8	
85	12.3	12.1	12.0	11.7	10.7	10.8	10.7	10.8	10.8	10.2	10.1	9.95	9.69	10.9	11.7	11.8	
90	0.06	0.01	0.12	0.13	0.23	0.24	0.18	0.13	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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	
100	0.00	0.00	0.00	0.00	0.05	0.16	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	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.05	0.00	
110	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.05	0.05	
115	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.05	0.05	0.37	0.00	0.05	0.05	
120	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.11	0.10	0.16	0.47	0.31	0.16	0.05	
125	0.00	0.00	0.10	0.05	0.16	0.10	0.00	0.00	0.05	0.16	0.16	0.21	0.63	0.37	0.21	0.16	
130	0.00	0.00	0.05	0.16	0.26	0.21	0.00	0.00	0.22	0.21	0.21	0.21	0.68	0.37	0.32	0.16	
135	0.00	0.00	0.05	0.21	0.00	0.21	0.05	0.00	0.22	0.21	0.21	0.31	0.58	0.37	0.26	0.21	
140	0.00	0.00	0.05	0.21	0.10	0.21	0.05	0.00	0.27	0.21	0.21	0.37	0.63	0.47	0.37	0.37	
145	0.00	0.00	0.05	0.21	0.16	0.26	0.05	0.05	0.27	0.21	0.32	0.42	0.68	0.63	0.53	0.32	
150	0.00	0.00	0.05	0.26	0.21	0.47	0.21	0.11	0.27	0.21	0.42	0.42	0.62	0.63	0.63	0.37	
155	0.00	0.00	0.16	0.57	0.37	0.47	0.42	0.21	0.27	0.21	0.42	0.42	0.42	0.63	0.69	0.53	
160	0.00	0.00	0.31	0.83	0.63	0.52	0.48	0.21	0.27	0.21	0.42	0.47	0.52	0.84	0.69	0.48	
165	0.00	0.11	0.42	0.78	0.63	0.52	0.48	0.21	0.33	0.21	0.42	0.47	0.58	0.84	0.85	0.58	
170	0.11	0.16	0.47	0.83	0.73	0.63	0.74	0.21	0.33	0.21	0.42	0.68	0.78	0.89	0.85	0.80	
175	0.16	0.32	0.63	0.78	0.84	0.73	0.79	0.48	0.33	0.21	0.47	0.73	0.78	0.89	0.85	0.85	
180	0.17	0.37	0.68	0.83	0.78	0.89	0.79	0.48	0.33	0.21	0.42	0.68	0.89	0.84	0.90	0.80	

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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 :

Test date	2018-07-01	Test Ambient	25.1°C
Sample No.		Maximum $\Delta u'v'$	
JCE180610-G1		0.0014	

Gamma\C	CIE u'	CIE v'	$du'v'$	CIE u'	CIE v'	$du'v'$
-79	0.2631	0.5258	0.0009	0.2621	0.525	0.0004
-78	0.2631	0.5258	0.0009	0.2621	0.525	0.0004
-77	0.2631	0.5258	0.0008	0.262	0.525	0.0005
-76	0.263	0.5258	0.0008	0.2621	0.525	0.0004
-75	0.2629	0.5257	0.0007	0.262	0.525	0.0005
-74	0.2631	0.5258	0.0009	0.2621	0.525	0.0004
-73	0.2631	0.5257	0.0008	0.262	0.525	0.0005
-72	0.263	0.5257	0.0007	0.2621	0.525	0.0004
-71	0.2631	0.5257	0.0008	0.2621	0.525	0.0004
-70	0.263	0.5257	0.0007	0.2622	0.5251	0.0003
-69	0.2632	0.5258	0.0009	0.2621	0.525	0.0004
-68	0.2632	0.5257	0.0009	0.2621	0.525	0.0004
-67	0.2631	0.5257	0.0009	0.262	0.525	0.0005
-66	0.2631	0.5257	0.0008	0.2622	0.5251	0.0004
-65	0.2631	0.5257	0.0008	0.2621	0.525	0.0004
-64	0.2634	0.5258	0.0011	0.2621	0.525	0.0004
-63	0.2633	0.5258	0.001	0.2622	0.5251	0.0003
-62	0.2633	0.5258	0.001	0.2622	0.5251	0.0003
-61	0.2632	0.5258	0.0009	0.2622	0.5251	0.0003
-60	0.2632	0.5257	0.0009	0.2621	0.5251	0.0004
-59	0.2632	0.5257	0.0009	0.2621	0.5251	0.0004
-58	0.2631	0.5257	0.0008	0.2621	0.5251	0.0004
-57	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-56	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-55	0.2631	0.5257	0.0008	0.2622	0.5251	0.0003
-54	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-53	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-52	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-51	0.2633	0.5258	0.001	0.2622	0.5251	0.0003
-50	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003

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-49	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-48	0.2632	0.5257	0.0009	0.2622	0.5251	0.0003
-47	0.2631	0.5257	0.0008	0.2622	0.5251	0.0003
-46	0.2633	0.5257	0.001	0.2623	0.5252	0.0002
-45	0.2632	0.5257	0.0009	0.2624	0.5252	0.0001
-44	0.2632	0.5257	0.0009	0.2623	0.5252	0.0002
-43	0.2631	0.5257	0.0008	0.2623	0.5252	0.0002
-42	0.2631	0.5257	0.0008	0.2624	0.5252	0.0001
-41	0.2632	0.5257	0.0009	0.2623	0.5252	0.0001
-40	0.2632	0.5257	0.0009	0.2623	0.5252	0.0001
-39	0.2631	0.5257	0.0008	0.2623	0.5252	0.0001
-38	0.2631	0.5257	0.0008	0.2623	0.5252	0.0002
-37	0.2631	0.5257	0.0008	0.2623	0.5252	0.0002
-36	0.2631	0.5257	0.0008	0.2623	0.5252	0.0001
-35	0.2632	0.5257	0.0009	0.2623	0.5252	0.0002
-34	0.2631	0.5257	0.0008	0.2623	0.5252	0.0002
-33	0.2631	0.5257	0.0008	0.2623	0.5252	0.0002
-32	0.2631	0.5257	0.0008	0.2623	0.5252	0.0001
-31	0.263	0.5257	0.0007	0.2623	0.5252	0.0002
-30	0.263	0.5257	0.0007	0.2623	0.5252	0.0001
-29	0.263	0.5256	0.0006	0.2623	0.5252	0.0002
-28	0.2629	0.5257	0.0006	0.2623	0.5252	0.0002
-27	0.2629	0.5256	0.0006	0.2623	0.5252	0.0002
-26	0.2628	0.5256	0.0005	0.2622	0.5252	0.0002
-25	0.263	0.5256	0.0006	0.2623	0.5252	0.0002
-24	0.2629	0.5256	0.0006	0.2623	0.5252	0.0001
-23	0.2629	0.5256	0.0006	0.2622	0.5252	0.0002
-22	0.2629	0.5256	0.0005	0.2622	0.5252	0.0002
-21	0.2628	0.5256	0.0005	0.2622	0.5252	0.0002
-20	0.2628	0.5256	0.0005	0.2622	0.5252	0.0002
-19	0.2627	0.5256	0.0004	0.2622	0.5252	0.0002
-18	0.2627	0.5256	0.0004	0.2622	0.5253	0.0002
-17	0.2627	0.5255	0.0004	0.2622	0.5252	0.0002
-16	0.2627	0.5255	0.0003	0.2622	0.5252	0.0002
-15	0.2626	0.5255	0.0003	0.2622	0.5252	0.0002
-14	0.2626	0.5255	0.0003	0.2622	0.5252	0.0002
-13	0.2626	0.5255	0.0003	0.2622	0.5252	0.0002
-12	0.2625	0.5255	0.0002	0.2622	0.5252	0.0002
-11	0.2625	0.5255	0.0002	0.2622	0.5252	0.0003
-10	0.2625	0.5255	0.0002	0.2622	0.5252	0.0002

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-9	0.2625	0.5255	0.0002	0.2622	0.5252	0.0002
-8	0.2624	0.5255	0.0002	0.2622	0.5252	0.0002
-7	0.2624	0.5255	0.0001	0.2622	0.5253	0.0002
-6	0.2624	0.5254	0.0001	0.2622	0.5252	0.0002
-5	0.2624	0.5255	0.0001	0.2622	0.5253	0.0002
-4	0.2624	0.5254	0.0001	0.2622	0.5252	0.0002
-3	0.2624	0.5254	0.0001	0.2622	0.5253	0.0002
-2	0.2624	0.5254	0.0001	0.2622	0.5253	0.0002
-1	0.2623	0.5254	0.0001	0.2622	0.5252	0.0003
0	0.2626	0.5258	0.0005	0.2626	0.5258	0.0005
1	0.2623	0.5254	0.0001	0.2622	0.5252	0.0002
2	0.2623	0.5254	0.0001	0.2622	0.5253	0.0002
3	0.2623	0.5254	0.0001	0.2622	0.5253	0.0002
4	0.2623	0.5254	0.0001	0.2622	0.5252	0.0002
5	0.2623	0.5254	0.0001	0.2622	0.5252	0.0002
6	0.2623	0.5253	0.0001	0.2622	0.5253	0.0002
7	0.2623	0.5253	0.0001	0.2622	0.5253	0.0002
8	0.2623	0.5253	0.0002	0.2622	0.5252	0.0002
9	0.2623	0.5254	0.0001	0.2622	0.5253	0.0002
10	0.2623	0.5253	0.0001	0.2622	0.5252	0.0002
11	0.2622	0.5253	0.0002	0.2622	0.5253	0.0002
12	0.2622	0.5253	0.0002	0.2622	0.5253	0.0002
13	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
14	0.2622	0.5253	0.0002	0.2622	0.5253	0.0002
15	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
16	0.2622	0.5253	0.0002	0.2622	0.5253	0.0002
17	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
18	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
19	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
20	0.2623	0.5253	0.0002	0.2622	0.5252	0.0002
21	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
22	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
23	0.2622	0.5253	0.0002	0.2622	0.5252	0.0002
24	0.262	0.5252	0.0004	0.2622	0.5252	0.0002
25	0.262	0.5252	0.0004	0.2622	0.5252	0.0002
26	0.2621	0.5252	0.0004	0.2622	0.5252	0.0002
27	0.262	0.5252	0.0004	0.2622	0.5252	0.0002
28	0.262	0.5252	0.0004	0.2621	0.5252	0.0004
29	0.2621	0.5252	0.0004	0.2621	0.5252	0.0004
30	0.262	0.5252	0.0004	0.2621	0.5252	0.0004

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NVLAP CODE: 201011-0

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31	0.2621	0.5252	0.0004	0.2621	0.5252	0.0004
32	0.262	0.5252	0.0004	0.2621	0.5252	0.0003
33	0.262	0.5252	0.0004	0.2621	0.5252	0.0004
34	0.262	0.5252	0.0004	0.2621	0.5252	0.0004
35	0.2618	0.5251	0.0006	0.2621	0.5252	0.0004
36	0.2618	0.5251	0.0006	0.2621	0.5252	0.0004
37	0.2618	0.5251	0.0006	0.2621	0.5252	0.0004
38	0.2618	0.5251	0.0006	0.2621	0.5252	0.0004
39	0.2618	0.5251	0.0006	0.262	0.5252	0.0004
40	0.2619	0.5251	0.0006	0.2621	0.5252	0.0004
41	0.2618	0.5251	0.0006	0.262	0.5252	0.0004
42	0.2618	0.5251	0.0006	0.262	0.5252	0.0004
43	0.2618	0.5251	0.0006	0.2621	0.5252	0.0004
44	0.2616	0.5251	0.0008	0.2621	0.5252	0.0004
45	0.2616	0.525	0.0008	0.2619	0.5251	0.0005
46	0.2616	0.525	0.0008	0.2619	0.5251	0.0005
47	0.2617	0.525	0.0008	0.2619	0.5251	0.0005
48	0.2617	0.525	0.0008	0.262	0.5251	0.0005
49	0.2616	0.525	0.0008	0.262	0.5251	0.0004
50	0.2616	0.525	0.0008	0.262	0.5251	0.0004
51	0.2614	0.5249	0.001	0.262	0.5251	0.0004
52	0.2615	0.5249	0.001	0.262	0.5251	0.0004
53	0.2615	0.5249	0.001	0.2619	0.5251	0.0005
54	0.2615	0.5249	0.001	0.2619	0.5251	0.0005
55	0.2615	0.5249	0.001	0.262	0.5251	0.0004
56	0.2615	0.5249	0.001	0.262	0.5251	0.0004
57	0.2613	0.5249	0.0012	0.262	0.5252	0.0004
58	0.2614	0.5249	0.0011	0.2621	0.5252	0.0004
59	0.2614	0.5249	0.0011	0.2621	0.5251	0.0004
60	0.2614	0.5249	0.0011	0.2621	0.5252	0.0003
61	0.2612	0.5248	0.0013	0.2622	0.5251	0.0003
62	0.2612	0.5249	0.0013	0.2618	0.5251	0.0006
63	0.2613	0.5248	0.0012	0.2619	0.5251	0.0006
64	0.2613	0.5248	0.0012	0.2619	0.5251	0.0005
65	0.2611	0.5248	0.0014	0.2618	0.5251	0.0006
66	0.2612	0.5248	0.0013	0.2619	0.5251	0.0006
67	0.2612	0.5248	0.0013	0.2619	0.5251	0.0005
68	0.2613	0.5248	0.0012	0.262	0.5251	0.0005
69	0.2611	0.5248	0.0014	0.262	0.5251	0.0004
70	0.2612	0.5248	0.0013	0.2617	0.5251	0.0007

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71	0.2612	0.5248	0.0013	0.2618	0.525	0.0006
72	0.2611	0.5248	0.0014	0.2619	0.5251	0.0006
73	0.2612	0.5248	0.0013	0.262	0.5251	0.0005
74	0.2612	0.5248	0.0013	0.2617	0.525	0.0008
75	0.2612	0.5248	0.0013	0.2618	0.525	0.0007
76	0.2613	0.5248	0.0012	0.2618	0.525	0.0007
77	0.2613	0.5248	0.0012	0.2618	0.525	0.0006
78	0.2613	0.5249	0.0011	0.2617	0.525	0.0008
79	0.2614	0.5249	0.0011	0.2618	0.525	0.0006

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NVLAP CODE: 201011-0

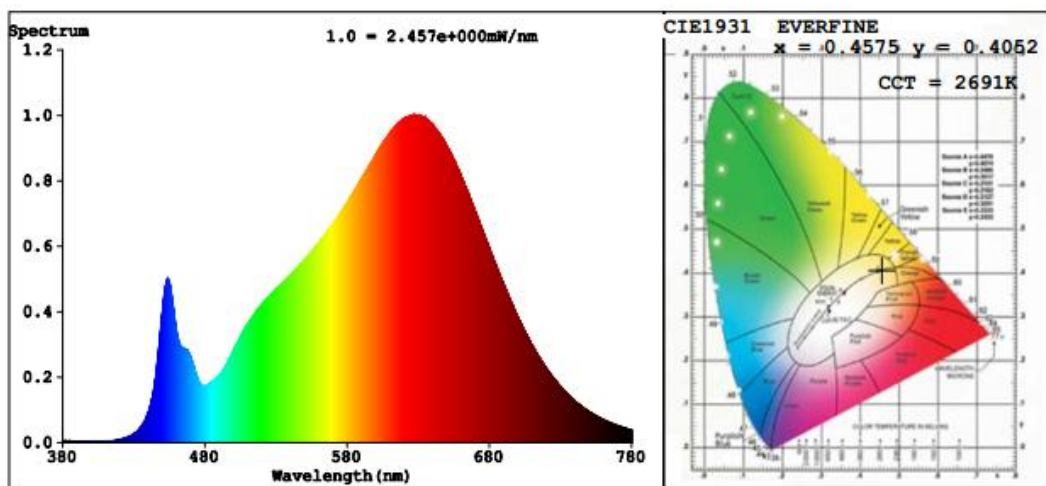
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3. Electrical and Photometric Measurements, with dimming
**IES LM-79 2008
 ENERGY STAR® Program Requirements Product
 Specification for Luminaires (Light Fixtures) -
 Version 2.1**

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-G1	Input: 120.0 V / 60 Hz	Light output (Lumen)	880.2
		Percentage(%)	92.6
			83.7
			8.8


Colorimetric Parameters

 Chromaticity Coordinate: $x=0.4575$ $y=0.4052$ $u'=0.2634$ $v'=0.5249$

 CCT=2691K (Duv=-0.0018) Dominant WL: $\lambda_d = 584.9\text{nm}$ Purity=58.9%

 Peak WL: $\lambda_p = 627.6\text{nm}$ FWHM=150.5nm

 Render Index: $R_a = 93.6$ CRI=91.2

R1 =94 R2 =98 R3 =98 R4 =93 R5 =94 R6 =96 R7 =92

R8 =84 R9 =66 R10=93 R11=94 R12=82 R13=95 R14=99 R15=91

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	19.2	Dimmer adjusted to lowest light output	< 1 m

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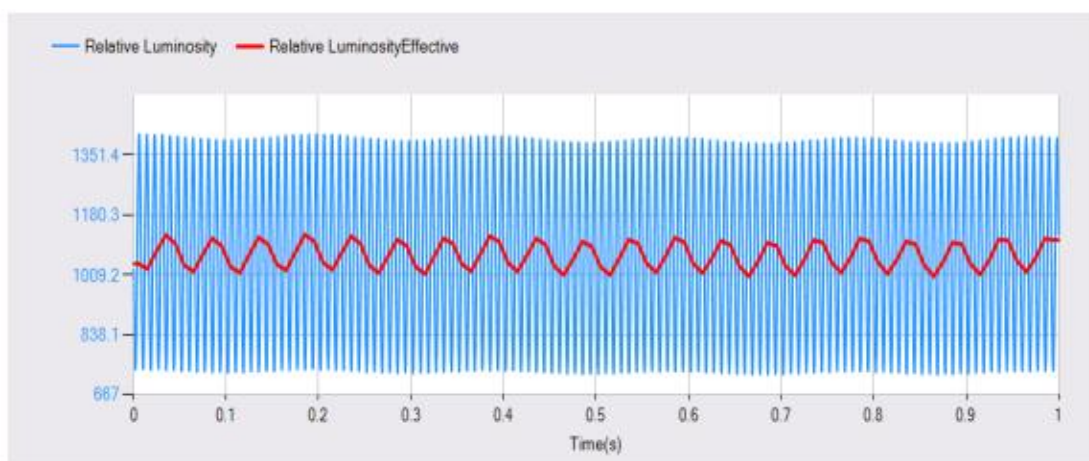
4. Flicker	NEMA 77-2017 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.1
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Dimming Technology	phase-cut
Dimmer	LEVITON MFG CO INC (E31373), Cat. No. 6681

Item	Short Term Flicker Indicator (Pst)	Stroboscopic Visibility Measure (SVM)
Full light output	0.087	1.076
Maximum Level (100%)	0.111	1.141
Minimum Level (20%)	0.273	1.171

5. Operating Frequency**ENERGY STAR[®] 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-G1	120.02		



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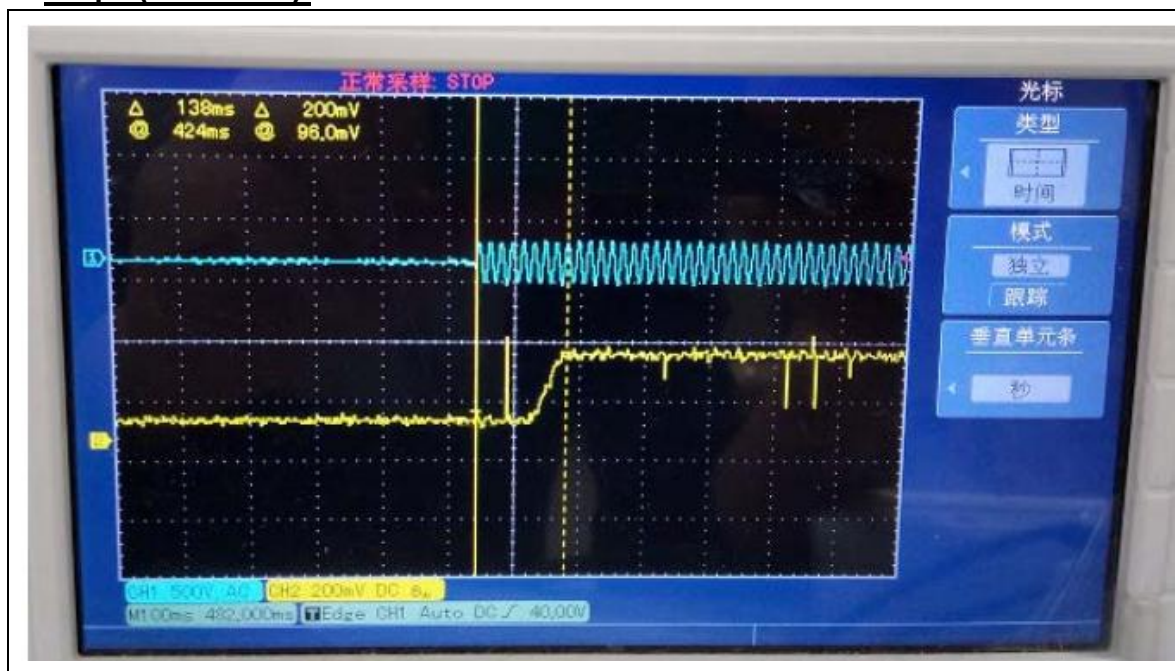
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6. Starting Time

(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-G1	138		

Graph (Start Time):

7. Transient Protection Test <i>(Refer to Work Instruction QD34)</i>	ANSI/IEEE C62.41 ENERGY STAR® Program Requirements for Luminaires – Version 2.1
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Test date	2018-07-01	Test Ambient	25.1°C
Sample No.		Transient Protection Test - Seven Strikes	
JCE180610-G1		Pass	

8.1 In-Situ Temperature Measurement Test (ISTMT)

UL1598-2008, 3rd Edition

Test date	2018-07-01	Test Ambient	25.1°C
Input Vol./Frequency	120 V / 60 Hz	Output Current of Single LED(mA)	41.28
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
JCE180610-G1	67-21S Series (3000K)	55.2	105

In-Situ Picture - Ts:



8.2 Maximum Measured Ballast or Driver Case Temperature **UL1598-2008, 3rd 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-G1	53.8	105	

In-Situ Picture - Ts:

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

Test date	2018-07-01	Test Ambient:	25.0 °C
Model Number	ULD11-27	Stabilization Time (min)	90

Electrical Measurement – when the luminaires turned off:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)
JCE180610-G1	120.0	60	0	0.009

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 *******