

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):ULD10-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

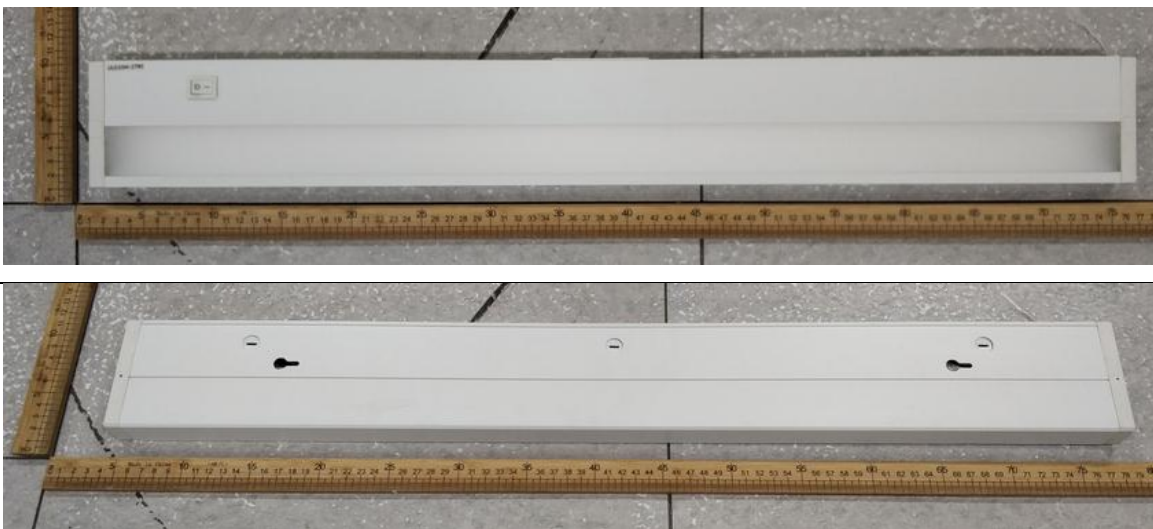
Report Format Number STD/QR4910-A/1

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

1.1 Product Information:		
Model Number	ULD10-XX	
Remark	“XX” could be 27/30/35/40/50 refers to CCT.	
Representative (Tested) Model	ULD10-27	
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-F1	
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	12.5W	
Rated Initial Lamp Lumen	--	
Declared CC	2700K, 3000K, 3500K, 4000K, 5000K	
Sample Number	JCE180610-F1	
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 Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems 7. UL1993 4th Edition, Self-Ballasted Lamps and Lamp Adapters 8. 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	ULD10-27		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
JCE180610-F1	120.0	60	0.1150	12.49	0.9047

Sphere-Spectroradiometer Method:

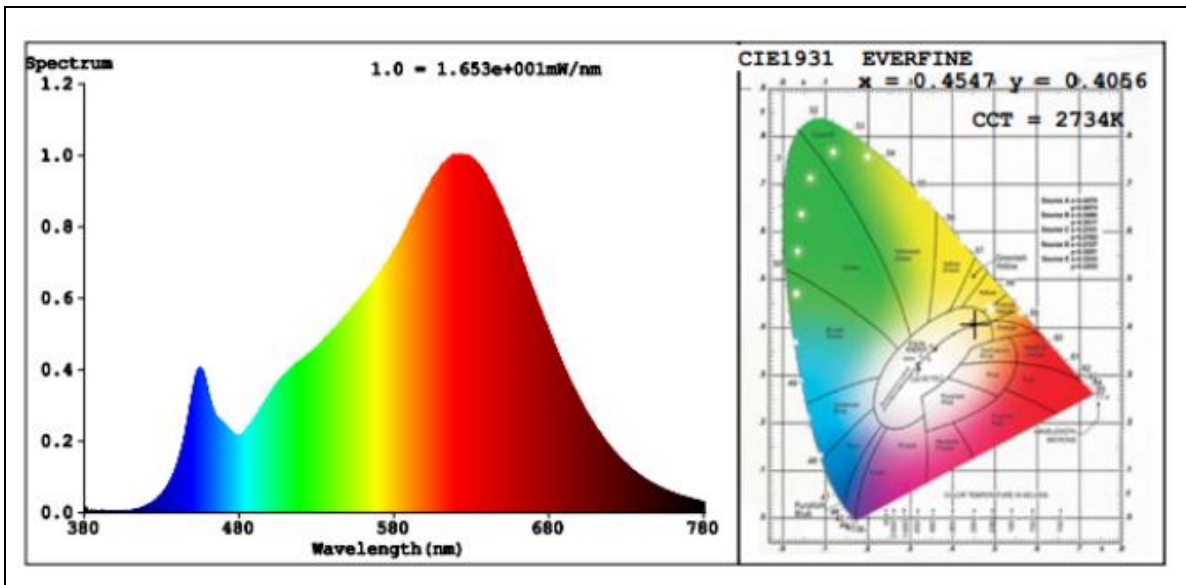
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	93.6
R9	62
CCT (K)	2734
Chromaticity (x, y)	x=0.4547 y=0.4056
Chromaticity (u', v')	u'=0.2614 v'=0.5246
Duv	-0.0014

Special Color Rendering Indices			
R1	95	R9	62
R2	99	R10	96
R3	98	R11	96
R4	94	R12	87
R5	95	R13	96
R6	97	R14	100
R7	90	R15	90
R8	81	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	783.93
Luminous Efficacy (lm/W)	62.76
Beam Angle °	104.8
Zonal Lumen Density(0-60 °)	80.8
Center Beam Candle Power (cd)	292

Spectral Power Distribution and Chromaticity Diagram



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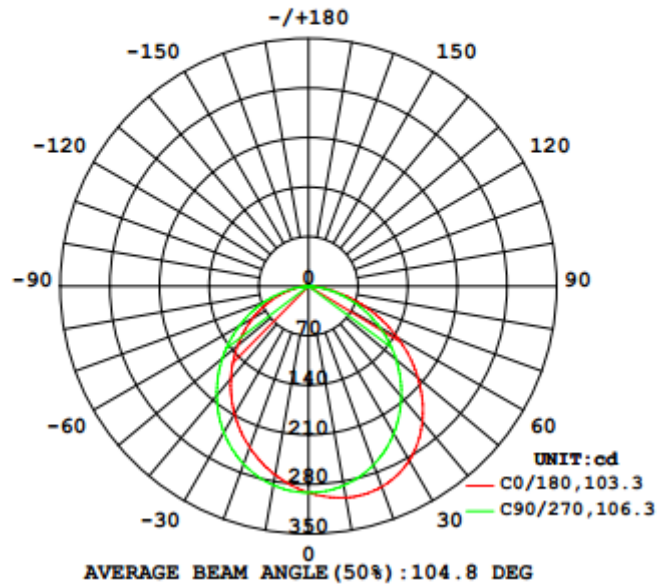
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Zonal Lumen Tabulation

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	225.1	28.7%
0-40	366.1	46.7%
0-60	633.2	80.8%
60-90	150.1	19.1%
70-100	59.1	7.5%
90-120	0.1	0%
0-90	783.3	99.9%
90-180	0.6	0.1%
0-180	783.8	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	27.6	3.5%	90-100	0.0	0%
10-20	78.8	10.1%	100-110	0.0	0%
20-30	118.7	15.1%	110-120	0.0	0%
30-40	141.0	18.0%	120-130	0.1	0%
40-50	142.6	18.2%	130-140	0.1	0%
50-60	124.5	15.9%	140-150	0.1	0%
60-70	91.0	11.6%	150-160	0.1	0%
70-80	48.4	6.2%	160-170	0.1	0%
80-90	10.7	1.4%	170-180	0.0	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	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	292	
5	299	299	296	293	290	287	284	283	282	283	285	287	290	293	296	298	
10	303	302	298	292	286	280	275	272	271	272	274	279	285	292	297	302	
15	304	303	297	288	279	270	263	259	257	258	262	269	278	287	296	302	
20	302	300	291	280	268	257	249	244	242	244	248	256	268	279	291	299	
25	295	292	283	270	256	242	233	228	226	228	232	241	254	268	282	292	
30	284	281	270	255	240	226	216	211	209	210	215	225	239	254	270	281	
35	269	266	254	239	223	208	198	192	190	191	196	206	221	237	254	265	
40	250	246	235	220	204	188	178	173	170	172	176	187	201	218	235	246	
45	227	224	213	199	183	168	158	152	150	151	156	166	181	196	212	223	
50	202	199	188	176	161	146	138	132	130	131	136	145	159	173	188	198	
55	174	171	163	152	139	125	118	112	110	111	116	123	136	148	162	170	
60	145	143	137	127	116	104	97.4	91.8	90.9	91.2	95.5	102	113	123	135	142	
65	115	114	109	101	93.0	82.6	77.3	72.3	71.7	71.6	75.4	80.8	90.3	97.9	108	112	
70	85.4	84.3	81.4	75.3	70.1	61.8	57.7	53.4	52.9	53.0	55.8	59.9	67.4	73.0	79.7	83.1	
75	56.5	56.0	54.2	50.4	47.1	41.6	38.7	35.9	35.4	35.3	36.9	39.6	44.6	48.4	52.5	55.6	
80	30.7	30.4	29.5	27.7	25.5	22.7	21.2	20.4	19.8	19.5	20.1	21.1	23.6	26.0	28.2	29.6	
85	10.5	10.5	10.4	9.78	8.31	8.19	8.18	8.29	8.00	7.78	7.38	7.15	6.92	8.60	9.92	10.1	
90	0.06	0.06	0.17	0.12	0.12	0.13	0.02	0.16	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	0.05	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	0.10	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	0.16	0.10	0.00	0.00	
110	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.11	0.00	0.00	0.00	0.16	0.05	0.00	0.00	
115	0.00	0.00	0.10	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.05	0.00	0.16	0.05	0.00	0.05	
120	0.00	0.00	0.05	0.00	0.00	0.10	0.05	0.00	0.05	0.05	0.11	0.05	0.21	0.16	0.00	0.10	
125	0.00	0.11	0.11	0.00	0.05	0.10	0.05	0.00	0.16	0.05	0.11	0.21	0.31	0.26	0.06	0.05	
130	0.00	0.11	0.11	0.00	0.10	0.10	0.05	0.00	0.16	0.05	0.16	0.21	0.31	0.26	0.16	0.05	
135	0.00	0.05	0.11	0.00	0.10	0.21	0.05	0.00	0.16	0.21	0.21	0.26	0.31	0.31	0.16	0.16	
140	0.00	0.05	0.05	0.00	0.10	0.16	0.05	0.00	0.21	0.21	0.21	0.26	0.31	0.37	0.21	0.16	
145	0.00	0.05	0.05	0.05	0.10	0.16	0.05	0.00	0.21	0.21	0.21	0.26	0.26	0.37	0.32	0.21	
150	0.00	0.05	0.05	0.16	0.10	0.21	0.11	0.00	0.21	0.21	0.21	0.36	0.21	0.47	0.59	0.27	
155	0.00	0.05	0.11	0.16	0.16	0.21	0.16	0.00	0.21	0.21	0.21	0.36	0.10	0.47	0.53	0.32	
160	0.00	0.05	0.26	0.21	0.21	0.26	0.80	0.11	0.21	0.21	0.21	0.36	0.10	0.58	0.53	0.37	
165	0.00	0.05	0.26	0.36	0.26	0.26	0.53	0.11	0.21	0.21	0.21	0.42	0.05	0.69	0.64	0.48	
170	0.00	0.05	0.26	0.31	0.37	0.37	0.53	0.11	0.21	0.21	0.21	0.52	0.00	0.79	0.69	0.64	
175	0.11	0.05	0.26	0.31	0.58	0.47	0.64	0.11	0.21	0.21	0.21	0.52	0.47	0.79	0.69	0.69	
180	0.16	0.21	0.26	0.31	0.68	0.58	0.64	0.16	0.21	0.16	0.21	0.36	0.31	0.73	0.69	0.69	

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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-F1		0.0009	

Gamma\C	CIE u'	CIE v'	$du'v'$	CIE u'	CIE v'	$du'v'$
-80	0.2635	0.5269	0.0006	0.263	0.5266	0.0002
-79	0.2635	0.5269	0.0006	0.2629	0.5266	0.0002
-78	0.2635	0.5269	0.0006	0.2628	0.5266	0.0002
-77	0.2634	0.5269	0.0005	0.2627	0.5265	0.0003
-76	0.2634	0.5269	0.0004	0.2627	0.5266	0.0003
-75	0.2633	0.5269	0.0004	0.2626	0.5265	0.0004
-74	0.2635	0.5269	0.0006	0.2627	0.5266	0.0003
-73	0.2635	0.5269	0.0005	0.2626	0.5265	0.0004
-72	0.2634	0.5268	0.0004	0.2627	0.5266	0.0003
-71	0.2637	0.5269	0.0007	0.2627	0.5266	0.0004
-70	0.2636	0.5269	0.0007	0.2628	0.5266	0.0002
-69	0.2636	0.5269	0.0006	0.2627	0.5266	0.0003
-68	0.2635	0.5269	0.0005	0.2627	0.5266	0.0003
-67	0.2636	0.5269	0.0006	0.2628	0.5266	0.0002
-66	0.2635	0.5269	0.0006	0.2628	0.5266	0.0002
-65	0.2636	0.5269	0.0007	0.2627	0.5266	0.0003
-64	0.2636	0.5269	0.0006	0.2627	0.5266	0.0003
-63	0.2636	0.5269	0.0007	0.2628	0.5266	0.0002
-62	0.2636	0.5269	0.0006	0.2628	0.5266	0.0002
-61	0.2636	0.5269	0.0006	0.2627	0.5266	0.0003
-60	0.2638	0.5269	0.0009	0.2627	0.5266	0.0003
-59	0.2638	0.5269	0.0009	0.2629	0.5266	0.0002
-58	0.2638	0.5269	0.0009	0.2628	0.5266	0.0002
-57	0.2638	0.5269	0.0008	0.2628	0.5266	0.0002
-56	0.2637	0.5269	0.0008	0.2628	0.5266	0.0002
-55	0.2637	0.5269	0.0007	0.2627	0.5266	0.0003
-54	0.2636	0.5269	0.0007	0.2627	0.5266	0.0003
-53	0.2636	0.5269	0.0006	0.2629	0.5266	0.0002
-52	0.2637	0.5269	0.0008	0.2628	0.5266	0.0002
-51	0.2637	0.5268	0.0007	0.2628	0.5266	0.0002

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-50	0.2636	0.5269	0.0007	0.2628	0.5266	0.0002
-49	0.2636	0.5269	0.0006	0.2628	0.5266	0.0002
-48	0.2637	0.5269	0.0007	0.2628	0.5266	0.0002
-47	0.2637	0.5269	0.0007	0.2627	0.5266	0.0003
-46	0.2636	0.5269	0.0007	0.2627	0.5266	0.0003
-45	0.2636	0.5269	0.0006	0.2627	0.5266	0.0003
-44	0.2635	0.5269	0.0006	0.2629	0.5266	0.0001
-43	0.2636	0.5269	0.0007	0.2628	0.5266	0.0002
-42	0.2636	0.5269	0.0006	0.2629	0.5266	0.0001
-41	0.2636	0.5269	0.0006	0.2628	0.5266	0.0002
-40	0.2635	0.5268	0.0006	0.2628	0.5266	0.0002
-39	0.2635	0.5268	0.0005	0.2628	0.5266	0.0002
-38	0.2634	0.5268	0.0005	0.2628	0.5266	0.0002
-37	0.2635	0.5268	0.0006	0.2628	0.5266	0.0002
-36	0.2635	0.5268	0.0005	0.2628	0.5266	0.0002
-35	0.2635	0.5268	0.0005	0.2628	0.5266	0.0002
-34	0.2634	0.5268	0.0005	0.2628	0.5266	0.0002
-33	0.2634	0.5268	0.0004	0.2627	0.5266	0.0002
-32	0.2633	0.5268	0.0003	0.2627	0.5266	0.0003
-31	0.2633	0.5268	0.0003	0.2627	0.5266	0.0003
-30	0.2632	0.5268	0.0003	0.2627	0.5266	0.0003
-29	0.2632	0.5268	0.0002	0.2627	0.5266	0.0003
-28	0.2633	0.5268	0.0003	0.2627	0.5266	0.0003
-27	0.2632	0.5268	0.0003	0.2627	0.5266	0.0003
-26	0.2632	0.5268	0.0002	0.2627	0.5266	0.0003
-25	0.2632	0.5267	0.0002	0.2627	0.5266	0.0003
-24	0.2631	0.5267	0.0001	0.2626	0.5266	0.0003
-23	0.2631	0.5267	0.0001	0.2626	0.5266	0.0004
-22	0.263	0.5267	0.0001	0.2626	0.5266	0.0004
-21	0.263	0.5267	0	0.2626	0.5266	0.0004
-20	0.263	0.5267	0	0.2626	0.5266	0.0004
-19	0.263	0.5267	0	0.2626	0.5266	0.0004
-18	0.2629	0.5267	0	0.2626	0.5266	0.0004
-17	0.2629	0.5267	0.0001	0.2626	0.5266	0.0004
-16	0.2629	0.5267	0.0001	0.2626	0.5266	0.0004
-15	0.2628	0.5267	0.0001	0.2625	0.5266	0.0005
-14	0.2628	0.5267	0.0002	0.2625	0.5266	0.0005
-13	0.2628	0.5267	0.0002	0.2625	0.5266	0.0005
-12	0.2628	0.5267	0.0002	0.2625	0.5266	0.0005
-11	0.2627	0.5267	0.0003	0.2625	0.5266	0.0005

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-10	0.2627	0.5267	0.0002	0.2625	0.5266	0.0005
-9	0.2627	0.5267	0.0003	0.2625	0.5266	0.0005
-8	0.2627	0.5267	0.0003	0.2625	0.5266	0.0005
-7	0.2627	0.5267	0.0003	0.2625	0.5266	0.0005
-6	0.2627	0.5267	0.0003	0.2624	0.5266	0.0005
-5	0.2626	0.5267	0.0003	0.2624	0.5266	0.0005
-4	0.2626	0.5267	0.0003	0.2624	0.5266	0.0005
-3	0.2626	0.5267	0.0003	0.2625	0.5266	0.0005
-2	0.2626	0.5267	0.0004	0.2624	0.5266	0.0005
-1	0.2626	0.5267	0.0003	0.2624	0.5266	0.0006
0	0.2627	0.5269	0.0003	0.2627	0.5269	0.0003
1	0.2626	0.5267	0.0004	0.2624	0.5266	0.0006
2	0.2627	0.5267	0.0003	0.2624	0.5266	0.0005
3	0.2626	0.5267	0.0003	0.2624	0.5266	0.0005
4	0.2627	0.5267	0.0003	0.2624	0.5266	0.0005
5	0.2626	0.5267	0.0003	0.2624	0.5266	0.0005
6	0.2626	0.5267	0.0003	0.2625	0.5266	0.0005
7	0.2627	0.5268	0.0003	0.2625	0.5266	0.0005
8	0.2627	0.5267	0.0003	0.2624	0.5266	0.0005
9	0.2627	0.5268	0.0003	0.2625	0.5266	0.0005
10	0.2627	0.5268	0.0002	0.2625	0.5266	0.0005
11	0.2627	0.5268	0.0002	0.2625	0.5266	0.0005
12	0.2628	0.5268	0.0002	0.2625	0.5266	0.0005
13	0.2628	0.5268	0.0002	0.2625	0.5266	0.0005
14	0.2628	0.5268	0.0002	0.2625	0.5266	0.0005
15	0.2628	0.5268	0.0002	0.2625	0.5266	0.0005
16	0.2628	0.5268	0.0002	0.2625	0.5266	0.0004
17	0.2628	0.5268	0.0002	0.2626	0.5266	0.0004
18	0.2629	0.5268	0.0001	0.2625	0.5266	0.0004
19	0.2627	0.5268	0.0003	0.2626	0.5266	0.0004
20	0.2627	0.5268	0.0003	0.2625	0.5266	0.0004
21	0.2627	0.5269	0.0003	0.2626	0.5266	0.0004
22	0.2628	0.5269	0.0002	0.2626	0.5266	0.0004
23	0.2628	0.5269	0.0002	0.2626	0.5266	0.0004
24	0.2628	0.5269	0.0002	0.2626	0.5266	0.0003
25	0.2628	0.5269	0.0002	0.2626	0.5266	0.0004
26	0.2629	0.5269	0.0002	0.2627	0.5266	0.0003
27	0.2629	0.5269	0.0002	0.2627	0.5266	0.0003
28	0.2629	0.5269	0.0002	0.2625	0.5266	0.0004
29	0.2629	0.5269	0.0002	0.2625	0.5266	0.0004

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

Report Format Number STD/QR4910-A/1

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30	0.263	0.5269	0.0002	0.2626	0.5266	0.0004
31	0.263	0.527	0.0002	0.2626	0.5267	0.0004
32	0.2628	0.5269	0.0003	0.2626	0.5266	0.0004
33	0.2628	0.5269	0.0002	0.2626	0.5266	0.0004
34	0.2628	0.5269	0.0002	0.2626	0.5267	0.0003
35	0.2629	0.5269	0.0002	0.2627	0.5267	0.0003
36	0.2629	0.5269	0.0002	0.2627	0.5267	0.0003
37	0.2629	0.5269	0.0002	0.2627	0.5267	0.0003
38	0.2629	0.5269	0.0002	0.2627	0.5267	0.0003
39	0.2629	0.5269	0.0002	0.2627	0.5267	0.0003
40	0.2628	0.5269	0.0003	0.2626	0.5267	0.0004
41	0.2628	0.5269	0.0003	0.2626	0.5267	0.0003
42	0.2628	0.5269	0.0003	0.2627	0.5267	0.0003
43	0.2628	0.5269	0.0003	0.2627	0.5267	0.0003
44	0.2628	0.5269	0.0003	0.2627	0.5267	0.0003
45	0.2629	0.5269	0.0002	0.2627	0.5267	0.0002
46	0.2629	0.527	0.0002	0.2627	0.5267	0.0002
47	0.2629	0.5269	0.0002	0.2628	0.5267	0.0002
48	0.2627	0.5269	0.0003	0.2626	0.5267	0.0004
49	0.2627	0.5269	0.0003	0.2626	0.5266	0.0003
50	0.2627	0.5269	0.0003	0.2627	0.5266	0.0003
51	0.2628	0.5269	0.0003	0.2627	0.5267	0.0003
52	0.2628	0.5269	0.0003	0.2628	0.5267	0.0002
53	0.2628	0.5269	0.0003	0.2628	0.5267	0.0002
54	0.2626	0.5269	0.0004	0.2628	0.5267	0.0002
55	0.2626	0.5269	0.0004	0.2628	0.5267	0.0001
56	0.2626	0.5269	0.0004	0.2629	0.5267	0.0001
57	0.2627	0.5269	0.0003	0.2629	0.5267	0.0001
58	0.2627	0.5269	0.0003	0.2629	0.5267	0.0001
59	0.2625	0.5269	0.0005	0.2626	0.5267	0.0003
60	0.2626	0.5269	0.0004	0.2626	0.5267	0.0003
61	0.2626	0.5269	0.0004	0.2627	0.5267	0.0003
62	0.2626	0.5269	0.0004	0.2627	0.5267	0.0002
63	0.2624	0.5269	0.0006	0.2628	0.5267	0.0002
64	0.2625	0.5269	0.0005	0.2628	0.5267	0.0001
65	0.2625	0.5269	0.0005	0.2629	0.5267	0.0001
66	0.2626	0.5269	0.0004	0.2626	0.5266	0.0004
67	0.2624	0.5268	0.0006	0.2626	0.5267	0.0004
68	0.2625	0.5269	0.0005	0.2627	0.5267	0.0003
69	0.2625	0.5268	0.0005	0.2627	0.5267	0.0002

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70	0.2623	0.5268	0.0006	0.2628	0.5267	0.0001
71	0.2624	0.5268	0.0006	0.2625	0.5267	0.0004
72	0.2624	0.5268	0.0006	0.2626	0.5266	0.0004
73	0.2625	0.5269	0.0005	0.2626	0.5267	0.0004
74	0.2625	0.5269	0.0004	0.2627	0.5267	0.0003
75	0.2625	0.5269	0.0004	0.2627	0.5267	0.0003
76	0.2626	0.5269	0.0004	0.2625	0.5266	0.0005
77	0.2626	0.5269	0.0004	0.2626	0.5266	0.0004
78	0.2626	0.5269	0.0004	0.2627	0.5267	0.0003
79	0.2626	0.5269	0.0004	0.2628	0.5266	0.0002
80	0.2626	0.5269	0.0004	0.2629	0.5267	0.0001

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

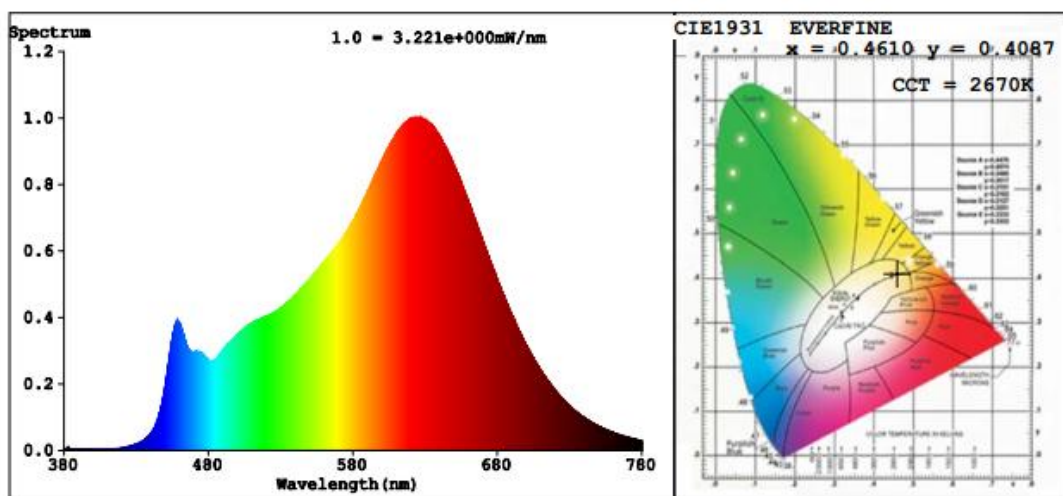
Report Format Number STD/QR4910-A/1

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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-F1	Input: 120.0 V / 60 Hz	Light output (Lumen)	751.5
		Percentage(%)	95.9
			71.4
			9.1


Colorimetric Parameters

 Chromaticity Coordinate: $x=0.4610$ $y=0.4087$ $u'=0.2641$ $v'=0.5268$

CCT=2670K (Duv=-0.0008) Dominant WL:Ld =584.6nm Purity=61.1%

Peak WL:Lp=624.1nm FWHM=133.6nm

Render Index: Ra=93.0 CRI=91.8

R1 =98 R2 =97 R3 =93 R4 =94 R5 =97 R6 =92 R7 =89

R8 =83 R9 =69 R10=94 R11=97 R12=83 R13=99 R14=97 R15=93

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	19.1	Dimmer adjusted to lowest light output	< 1 m

4. Flicker

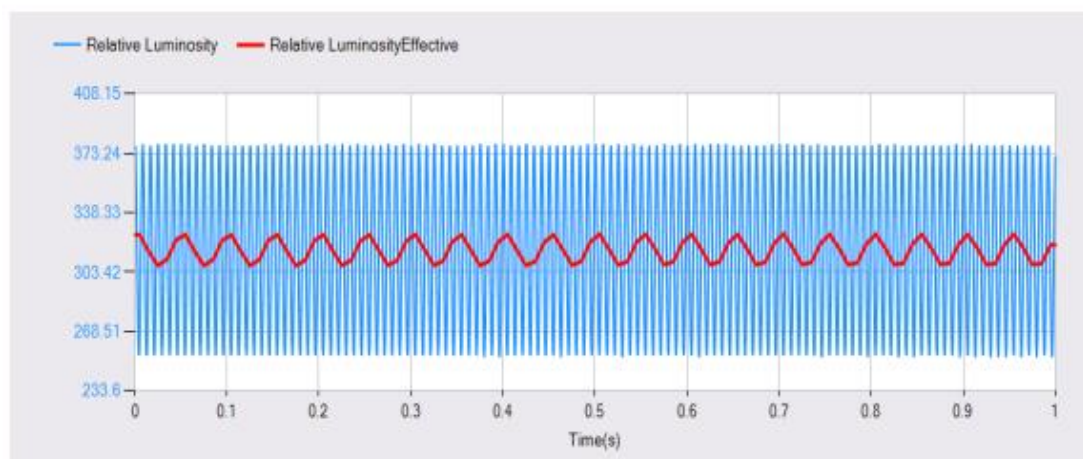
NEMA 77-2017
ENERGY STAR® Program Requirements Product
Specification for Luminaires (Light Fixtures) -
Version 2.1

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	0.091	0.735
Maximum Level (100%)	0.117	0.753
Minimum Level (20%)	0.197	0.559

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-F1	120.02		

**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

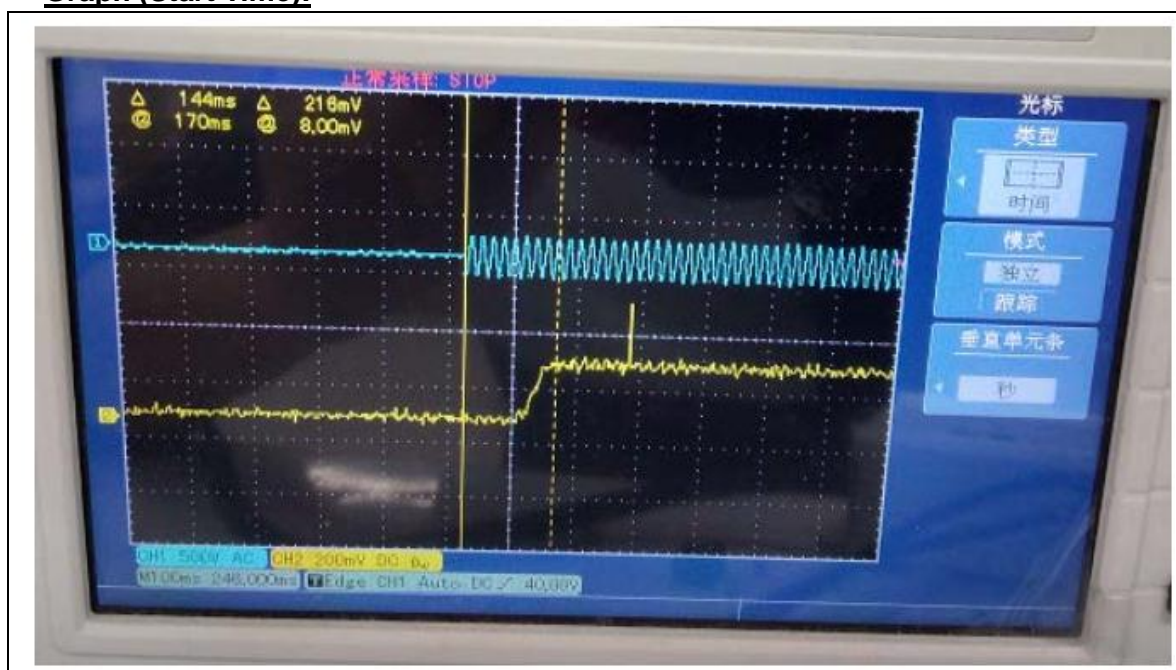
Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

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-F1	144		

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
--------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

Test date	2018-07-01	Test Ambient	25.1°C
Sample No.		Transient Protection Test - Seven Strikes	
JCE180610-F1		Pass	

8.1 In-Situ Temperature Measurement Test (ISTMT)

UL1598-2008, 3rd Edition

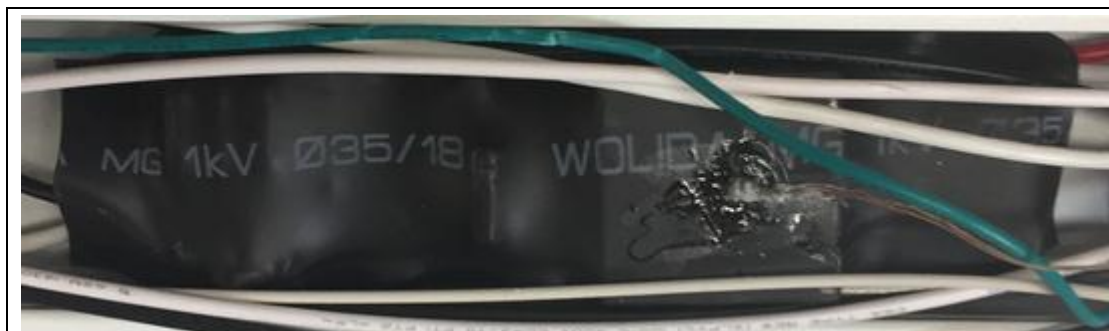
Test date	2018-07-01	Test Ambient	25.1°C
Input Vol./Frequency	120 V / 60 Hz	Output Current of Single LED(mA)	40.44
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
JCE180610-F1	67-21S Series (3000K)	54.7	105

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-F1	54.1	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	ULD10-27	Stabilization Time (min)	90

Electrical Measurement – when the luminaires turned off:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)
JCE180610-F1	120.0	60	0	0.007

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 *******