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):ULD6-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:

Garman Mo

Engineer: Garman Mo

Review By:

John Li

Manager: John Li

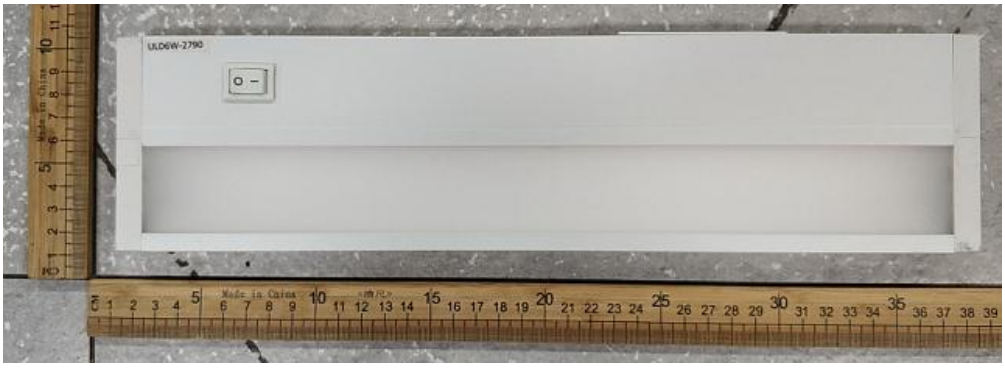
Note: 1. The results contained in this report pertain only to the rested samples.

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

1.1 Product Information:		
Model Number	ULD6-XX	
Remark	"XX" could be 27/30/35/40/50 refers to CCT.	
Representative (Tested) Model	ULD6-27	
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-C1	
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	9W
Rated Initial Lamp Lumen	--
Declared CC	2700K, 3000K, 3500K, 4000K, 5000K
Sample Number	JCE180610-C1

Photo



1.3 Test Specifications:	
Date of Receipt	Jun.30,2018
Date of Test	Jul.01,2018
Test item	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	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 °C ±1 °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 ºC ±1 ºC. 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 ºC ±1 ºC. 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 ℃
Test Orientation	As intended	**Stabilization Time (min)**	90
Model Number	ULD6-27		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
JCE180610-C1	120.0	60	0.0721	8.577	0.9910

Sphere-Spectroradiometer Method:

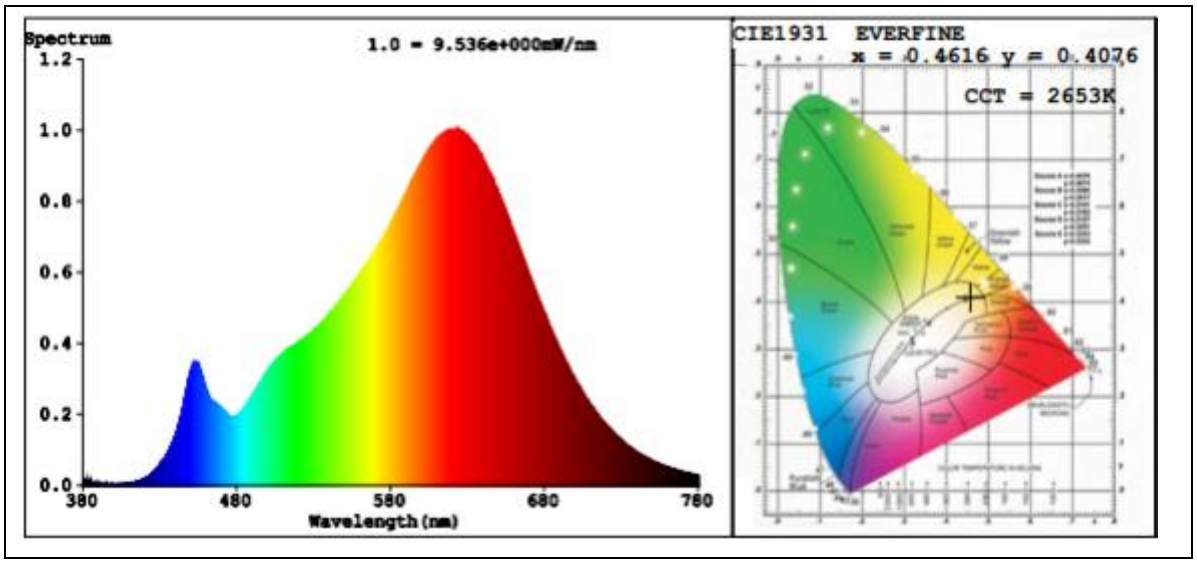
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.0
R9	53
CCT (K)	2653
Chromaticity (x, y)	x=0.4616 y=0.4076
Chromaticity (u', v')	u'=0.2650 v'=0.5264
Duv	-0.0013

Special Color Rendering Indices			
R1	93	R9	53
R2	98	R10	95
R3	97	R11	94
R4	92	R12	89
R5	93	R13	94
R6	97	R14	99
R7	89	R15	87
R8	77	--	--

Goniophotometer Method:

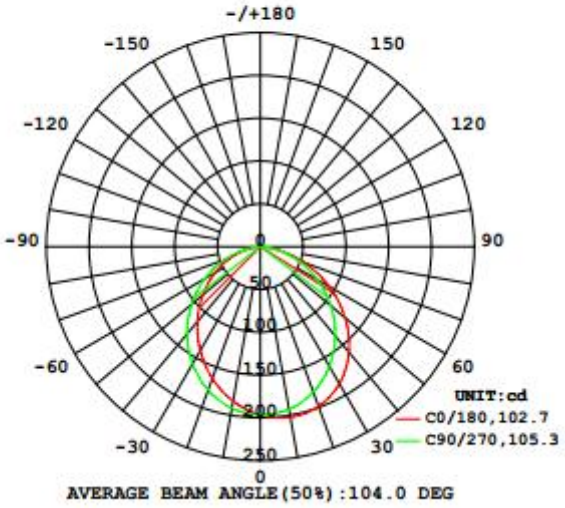
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	518.13
Luminous Efficacy (lm/W)	60.41
Beam Angle °	104.0
Zonal Lumen Density(0-60 °)	81.0
Center Beam Candle Power (cd)	197

Spectral Power Distribution and Chromaticity Diagram



Zonal Lumen Tabulation

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	150.4	29%
0-40	243.6	47%
0-60	419.8	81%
60-90	98.1	18.9%
70-100	38.1	7.4%
90-120	0.0	0%
0-90	517.9	100%
90-180	0.2	0%
0-180	518.1	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	%Total
0-10	18.6	3.6%	90-100	0.0	0%
10-20	52.8	10.2%	100-110	0.0	0%
20-30	79.0	15.2%	110-120	0.0	0%
30-40	93.2	18.0%	120-130	0.0	0%
40-50	94.0	18.2%	130-140	0.0	0%
50-60	82.2	15.9%	140-150	0.0	0%
60-70	60.0	11.6%	150-160	0.0	0%
70-80	31.7	6.1%	160-170	0.0	0%
80-90	6.4	1.2%	170-180	0.0	0%

Table--1 UNIT: cd

γ (DEG) \ C (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	197	197	197	197	197	197	196	197	197	197	197	197	197	197	196	197
5	200	200	199	198	196	194	192	191	191	191	192	194	195	197	198	200
10	202	202	200	197	193	189	186	184	183	184	185	188	192	195	198	201
15	202	201	198	193	188	183	178	175	174	175	177	181	186	191	196	200
20	199	198	193	188	181	174	169	165	164	165	167	172	178	185	191	196
25	193	192	187	180	172	164	158	154	153	153	156	162	169	177	184	191
30	185	183	178	170	161	153	146	142	140	141	144	151	158	167	175	182
35	174	173	166	158	149	140	133	129	128	128	132	138	146	155	164	171
40	161	160	153	145	136	127	120	116	114	115	118	125	133	142	151	158
45	146	145	139	131	122	113	107	102	101	102	105	112	119	128	136	143
50	129	128	124	116	108	99.2	93.3	89.0	87.8	88.2	91.4	97.6	105	113	121	127
55	111	111	106	100.0	92.4	84.9	79.3	75.8	74.6	74.9	77.6	83.6	90.2	97.1	104	109
60	92.9	92.3	88.1	83.2	76.8	70.5	65.6	62.5	61.5	61.8	64.3	69.3	74.7	80.7	86.6	91.1
65	73.8	73.3	70.4	66.6	61.4	56.1	52.0	49.2	48.6	48.9	50.8	55.0	59.6	64.2	68.8	72.2
70	54.7	54.4	52.2	49.5	45.8	41.9	38.7	36.3	36.0	36.1	37.5	40.7	44.3	47.6	51.0	53.8
75	36.2	36.0	34.7	33.1	30.6	28.0	25.6	24.2	23.9	24.3	24.8	26.7	28.9	31.2	33.7	36.2
80	19.4	19.2	18.7	17.7	16.2	15.0	14.0	13.2	12.0	12.3	13.1	14.0	14.9	16.2	17.7	19.4
85	6.59	6.48	5.89	5.40	4.62	4.68	4.71	4.98	4.42	4.33	3.65	3.84	3.85	4.54	5.51	6.22
90	0.00	0.00	0.01	0.00	0.01	0.00	0.06	0.05	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	0.10	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.05	0.00	0.00	0.00	0.10	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.05	0.05	0.05	0.00	0.00	0.05	0.00	0.00	0.00
130	0.05	0.00	0.00	0.05	0.00	0.00	0.11	0.11	0.05	0.05	0.00	0.10	0.05	0.00	0.00	0.00
135	0.05	0.00	0.00	0.05	0.00	0.00	0.05	0.11	0.05	0.05	0.00	0.10	0.10	0.00	0.00	0.00
140	0.11	0.00	0.00	0.05	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.10	0.10	0.05	0.05	0.00
145	0.11	0.00	0.00	0.05	0.00	0.05	0.05	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.11
150	0.11	0.00	0.05	0.05	0.00	0.05	0.05	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.05
155	0.11	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.16
160	0.11	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.16
165	0.11	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.16
170	0.11	0.05	0.00	0.05	0.05	0.05	0.11	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.16
175	0.11	0.00	0.11	0.05	0.05	0.05	0.11	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.11	0.16
180	0.11	0.00	0.11	0.16	0.05	0.05	0.16	0.05	0.05	0.11	0.00	0.10	0.10	0.05	0.05	0.16

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 Δu'v'	
JCE180610-C1		0.0011	

Gamma\C	CIE u'	CIE v'	du'v'	CIE u'	CIE v'	du'v'
-79	0.2658	0.5259	0.0008	0.265	0.5254	0.0002
-78	0.2657	0.5259	0.0008	0.2649	0.5253	0.0002
-77	0.2657	0.5259	0.0008	0.2649	0.5254	0.0002
-76	0.2657	0.5259	0.0008	0.2649	0.5254	0.0002
-75	0.2656	0.5259	0.0007	0.2648	0.5254	0.0003
-74	0.2656	0.5259	0.0007	0.2648	0.5254	0.0003
-73	0.2655	0.5259	0.0006	0.2647	0.5254	0.0003
-72	0.2654	0.5259	0.0005	0.2647	0.5254	0.0004
-71	0.2657	0.5258	0.0008	0.2647	0.5254	0.0003
-70	0.2657	0.5259	0.0007	0.2647	0.5253	0.0004
-69	0.2656	0.5259	0.0006	0.2646	0.5253	0.0005
-68	0.2655	0.5259	0.0006	0.2647	0.5254	0.0004
-67	0.2656	0.5259	0.0007	0.2647	0.5254	0.0004
-66	0.2656	0.5258	0.0006	0.2646	0.5254	0.0004
-65	0.2657	0.5258	0.0007	0.2648	0.5254	0.0003
-64	0.2656	0.5259	0.0006	0.2648	0.5254	0.0003
-63	0.2657	0.5258	0.0007	0.2647	0.5254	0.0004
-62	0.2656	0.5258	0.0007	0.2647	0.5254	0.0004
-61	0.2656	0.5258	0.0006	0.2648	0.5254	0.0003
-60	0.2659	0.5258	0.0009	0.2648	0.5254	0.0003
-59	0.2658	0.5259	0.0009	0.2648	0.5254	0.0003
-58	0.2658	0.5259	0.0008	0.2647	0.5254	0.0003
-57	0.2658	0.5259	0.0008	0.2647	0.5254	0.0004
-56	0.2658	0.5258	0.0008	0.2649	0.5254	0.0002
-55	0.2657	0.5258	0.0007	0.2648	0.5254	0.0002
-54	0.2657	0.5258	0.0007	0.2648	0.5254	0.0003
-53	0.2656	0.5258	0.0006	0.2648	0.5254	0.0003
-52	0.2657	0.5258	0.0007	0.2648	0.5254	0.0003
-51	0.2657	0.5258	0.0007	0.2647	0.5254	0.0003

-50	0.2656	0.5258	0.0007	0.265	0.5254	0.0001
-49	0.2656	0.5258	0.0007	0.2649	0.5255	0.0002
-48	0.2657	0.5258	0.0007	0.2649	0.5254	0.0002
-47	0.2657	0.5258	0.0007	0.2649	0.5254	0.0002
-46	0.2657	0.5258	0.0007	0.2649	0.5254	0.0002
-45	0.2656	0.5258	0.0006	0.2648	0.5254	0.0003
-44	0.2657	0.5258	0.0007	0.2648	0.5254	0.0003
-43	0.2657	0.5258	0.0007	0.265	0.5255	0.0001
-42	0.2656	0.5258	0.0007	0.265	0.5255	0.0001
-41	0.2656	0.5258	0.0006	0.265	0.5254	0.0001
-40	0.2655	0.5258	0.0006	0.2649	0.5254	0.0001
-39	0.2655	0.5258	0.0005	0.2649	0.5254	0.0002
-38	0.2656	0.5258	0.0006	0.2649	0.5254	0.0002
-37	0.2656	0.5258	0.0006	0.2649	0.5255	0.0002
-36	0.2656	0.5257	0.0006	0.2649	0.5254	0.0002
-35	0.2655	0.5258	0.0005	0.2648	0.5254	0.0002
-34	0.2655	0.5258	0.0005	0.2648	0.5254	0.0002
-33	0.2654	0.5258	0.0005	0.265	0.5255	0.0001
-32	0.2654	0.5257	0.0004	0.265	0.5254	0.0001
-31	0.2654	0.5257	0.0004	0.265	0.5255	0.0001
-30	0.2653	0.5257	0.0003	0.265	0.5254	0.0001
-29	0.2654	0.5257	0.0004	0.265	0.5254	0.0001
-28	0.2654	0.5257	0.0004	0.2649	0.5255	0.0002
-27	0.2654	0.5257	0.0004	0.2649	0.5255	0.0001
-26	0.2653	0.5257	0.0003	0.2649	0.5255	0.0002
-25	0.2653	0.5257	0.0003	0.2649	0.5254	0.0002
-24	0.2653	0.5257	0.0003	0.2649	0.5255	0.0002
-23	0.2652	0.5257	0.0002	0.2648	0.5254	0.0002
-22	0.2652	0.5257	0.0002	0.2648	0.5254	0.0002
-21	0.2651	0.5256	0.0001	0.2648	0.5254	0.0002
-20	0.2651	0.5256	0.0001	0.2648	0.5254	0.0003
-19	0.2651	0.5256	0.0001	0.2648	0.5254	0.0003
-18	0.2651	0.5256	0.0001	0.2648	0.5254	0.0003
-17	0.265	0.5256	0	0.2648	0.5254	0.0003
-16	0.265	0.5256	0	0.2648	0.5254	0.0003
-15	0.265	0.5256	0.0001	0.2647	0.5254	0.0003
-14	0.265	0.5256	0.0001	0.2647	0.5254	0.0003
-13	0.265	0.5256	0.0001	0.2647	0.5254	0.0004
-12	0.2649	0.5256	0.0001	0.2647	0.5254	0.0004
-11	0.2649	0.5255	0.0001	0.2647	0.5254	0.0004

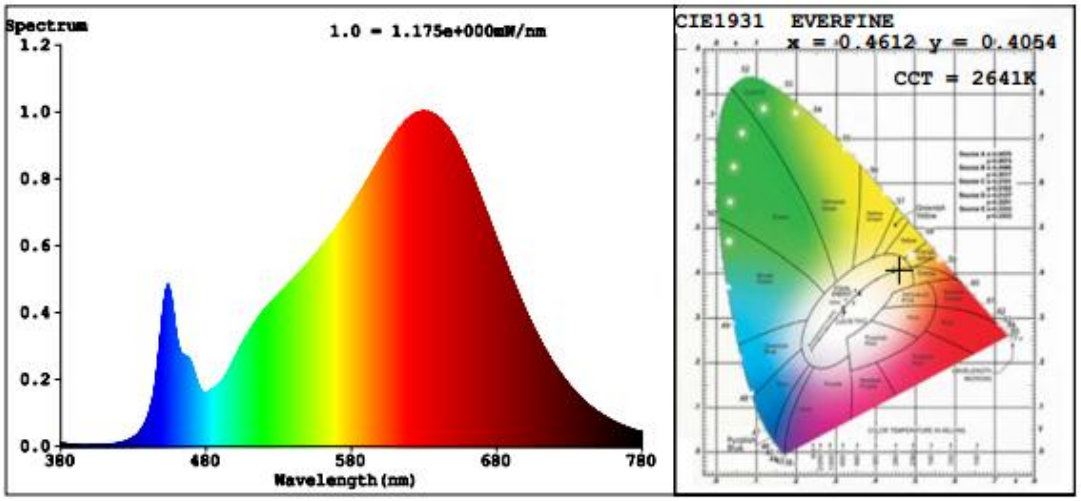
-10	0.2649	0.5255	0.0002	0.2647	0.5254	0.0004
-9	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
-8	0.2649	0.5255	0.0002	0.2647	0.5254	0.0004
-7	0.2648	0.5255	0.0002	0.2646	0.5254	0.0004
-6	0.2648	0.5255	0.0002	0.2646	0.5254	0.0004
-5	0.2648	0.5255	0.0002	0.2646	0.5254	0.0004
-4	0.2648	0.5255	0.0002	0.2646	0.5254	0.0005
-3	0.2648	0.5255	0.0002	0.2646	0.5254	0.0004
-2	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
-1	0.2648	0.5255	0.0003	0.2646	0.5254	0.0005
0	0.2651	0.5258	0.0002	0.2651	0.5258	0.0002
1	0.2648	0.5255	0.0002	0.2646	0.5254	0.0004
2	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
3	0.2648	0.5255	0.0003	0.2646	0.5254	0.0005
4	0.2648	0.5255	0.0003	0.2646	0.5254	0.0005
5	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
6	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
7	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
8	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
9	0.2648	0.5255	0.0003	0.2646	0.5254	0.0004
10	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
11	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
12	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
13	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
14	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
15	0.2648	0.5255	0.0002	0.2647	0.5254	0.0004
16	0.2648	0.5255	0.0002	0.2647	0.5254	0.0003
17	0.2648	0.5255	0.0002	0.2647	0.5254	0.0003
18	0.2648	0.5255	0.0002	0.2647	0.5254	0.0003
19	0.2649	0.5255	0.0002	0.2648	0.5254	0.0003
20	0.2648	0.5255	0.0002	0.2648	0.5254	0.0003
21	0.2649	0.5255	0.0002	0.2648	0.5254	0.0003
22	0.2647	0.5255	0.0003	0.2648	0.5254	0.0003
23	0.2647	0.5255	0.0004	0.2647	0.5254	0.0004
24	0.2647	0.5255	0.0003	0.2647	0.5254	0.0004
25	0.2647	0.5255	0.0003	0.2647	0.5255	0.0003
26	0.2647	0.5255	0.0003	0.2647	0.5254	0.0003
27	0.2647	0.5255	0.0003	0.2648	0.5255	0.0003
28	0.2647	0.5255	0.0003	0.2648	0.5255	0.0003
29	0.2648	0.5255	0.0003	0.2648	0.5255	0.0003

30	0. 2648	0. 5255	0. 0003	0. 2648	0. 5255	0. 0003
31	0. 2647	0. 5255	0. 0003	0. 2648	0. 5254	0. 0002
32	0. 2648	0. 5255	0. 0003	0. 2647	0. 5255	0. 0004
33	0. 2646	0. 5255	0. 0005	0. 2647	0. 5254	0. 0003
34	0. 2646	0. 5255	0. 0005	0. 2647	0. 5254	0. 0003
35	0. 2646	0. 5255	0. 0005	0. 2648	0. 5255	0. 0003
36	0. 2646	0. 5255	0. 0004	0. 2648	0. 5255	0. 0003
37	0. 2646	0. 5255	0. 0004	0. 2648	0. 5255	0. 0002
38	0. 2646	0. 5255	0. 0004	0. 2648	0. 5255	0. 0002
39	0. 2646	0. 5255	0. 0004	0. 2647	0. 5254	0. 0003
40	0. 2646	0. 5255	0. 0004	0. 2647	0. 5255	0. 0003
41	0. 2646	0. 5255	0. 0004	0. 2647	0. 5255	0. 0003
42	0. 2644	0. 5254	0. 0006	0. 2648	0. 5255	0. 0003
43	0. 2645	0. 5254	0. 0006	0. 2648	0. 5254	0. 0003
44	0. 2645	0. 5254	0. 0006	0. 2647	0. 5254	0. 0003
45	0. 2645	0. 5254	0. 0006	0. 2647	0. 5254	0. 0003
46	0. 2645	0. 5254	0. 0006	0. 2647	0. 5255	0. 0003
47	0. 2645	0. 5254	0. 0006	0. 2647	0. 5255	0. 0003
48	0. 2645	0. 5254	0. 0006	0. 2648	0. 5254	0. 0003
49	0. 2643	0. 5254	0. 0007	0. 2646	0. 5254	0. 0004
50	0. 2643	0. 5254	0. 0007	0. 2647	0. 5254	0. 0004
51	0. 2643	0. 5254	0. 0007	0. 2647	0. 5254	0. 0004
52	0. 2643	0. 5254	0. 0007	0. 2646	0. 5254	0. 0005
53	0. 2644	0. 5254	0. 0007	0. 2646	0. 5254	0. 0004
54	0. 2641	0. 5253	0. 0009	0. 2647	0. 5254	0. 0004
55	0. 2642	0. 5254	0. 0009	0. 2647	0. 5254	0. 0004
56	0. 2642	0. 5254	0. 0008	0. 2646	0. 5254	0. 0005
57	0. 2642	0. 5254	0. 0008	0. 2646	0. 5254	0. 0005
58	0. 2642	0. 5254	0. 0008	0. 2646	0. 5254	0. 0004
59	0. 2641	0. 5254	0. 001	0. 2647	0. 5254	0. 0004
60	0. 2641	0. 5254	0. 001	0. 2647	0. 5254	0. 0003
61	0. 2641	0. 5253	0. 001	0. 2647	0. 5254	0. 0003
62	0. 2642	0. 5254	0. 0009	0. 2648	0. 5254	0. 0003
63	0. 2642	0. 5254	0. 0009	0. 2645	0. 5254	0. 0006
64	0. 264	0. 5253	0. 0011	0. 2645	0. 5254	0. 0005
65	0. 264	0. 5253	0. 001	0. 2646	0. 5254	0. 0005
66	0. 2641	0. 5254	0. 001	0. 2645	0. 5254	0. 0006
67	0. 2639	0. 5253	0. 0011	0. 2646	0. 5254	0. 0005
68	0. 264	0. 5253	0. 0011	0. 2646	0. 5254	0. 0005
69	0. 2641	0. 5253	0. 001	0. 2647	0. 5254	0. 0004

70	0. 2641	0. 5253	0. 001	0. 2644	0. 5254	0. 0007
71	0. 2641	0. 5253	0. 001	0. 2645	0. 5254	0. 0006
72	0. 2642	0. 5254	0. 0009	0. 2645	0. 5254	0. 0005
73	0. 2642	0. 5254	0. 0009	0. 2646	0. 5254	0. 0004
74	0. 2642	0. 5254	0. 0009	0. 2647	0. 5254	0. 0004
75	0. 2642	0. 5254	0. 0008	0. 2647	0. 5254	0. 0003
76	0. 2642	0. 5254	0. 0008	0. 2648	0. 5254	0. 0003
77	0. 2642	0. 5254	0. 0008	0. 2649	0. 5254	0. 0002
78	0. 2643	0. 5254	0. 0008	0. 2648	0. 5254	0. 0003
79	0. 2643	0. 5255	0. 0007	0. 2648	0. 5254	0. 0002

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	Minimun Level
JCE180610-C1	Input: 120.0 V / 60 Hz	Light output (Lumen)	454.1	40.7
		Percentage(%)	87.6	7.9



Colorimetric Parameters

Chromaticity Coordinate:x=0.4612 y=0.4054/u'=0.2657 v'=0.5255

CCT=2641K(Duv=-0.0020) Dominant WL:Ld =585.2nm Purity=60.1%

Peak WL:Lp=630.4nm FWHM=149.7nm

Render Index:Ra=93.8 CRI=91.5

R1 =95	R2 =97	R3 =98	R4 =93	R5 =94	R6 =96	R7 =92	
R8 =85	R9 =68	R10=93	R11=94	R12=82	R13=95	R14=98	R15=92

The luminaires [can] ~~[can 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	19.6	Dimmer adjusted to lowest light output	< 1 m

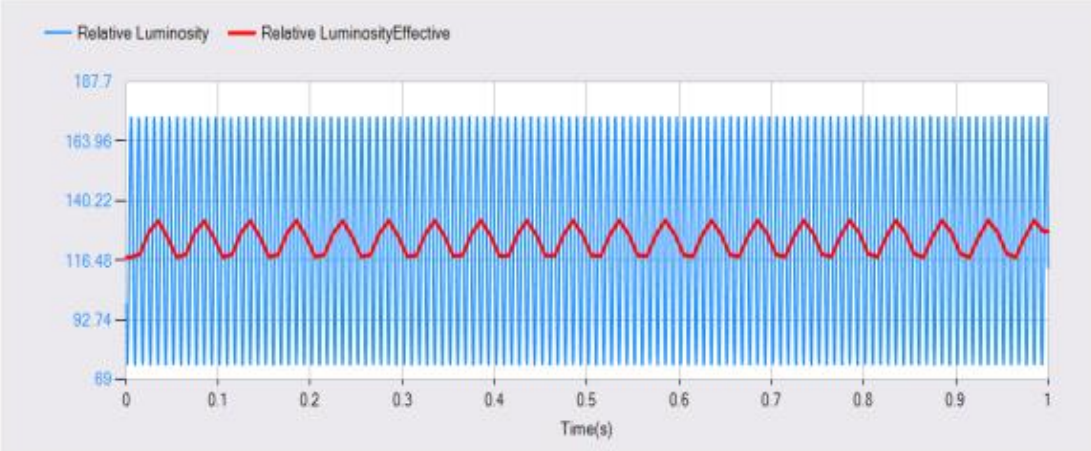
4. Flicker	NEMA 77-2017 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.1

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	0.129	1.490
Maximum Level (100%)	0.161	1.564
Minimun Level (20%)	0.238	1.505

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	

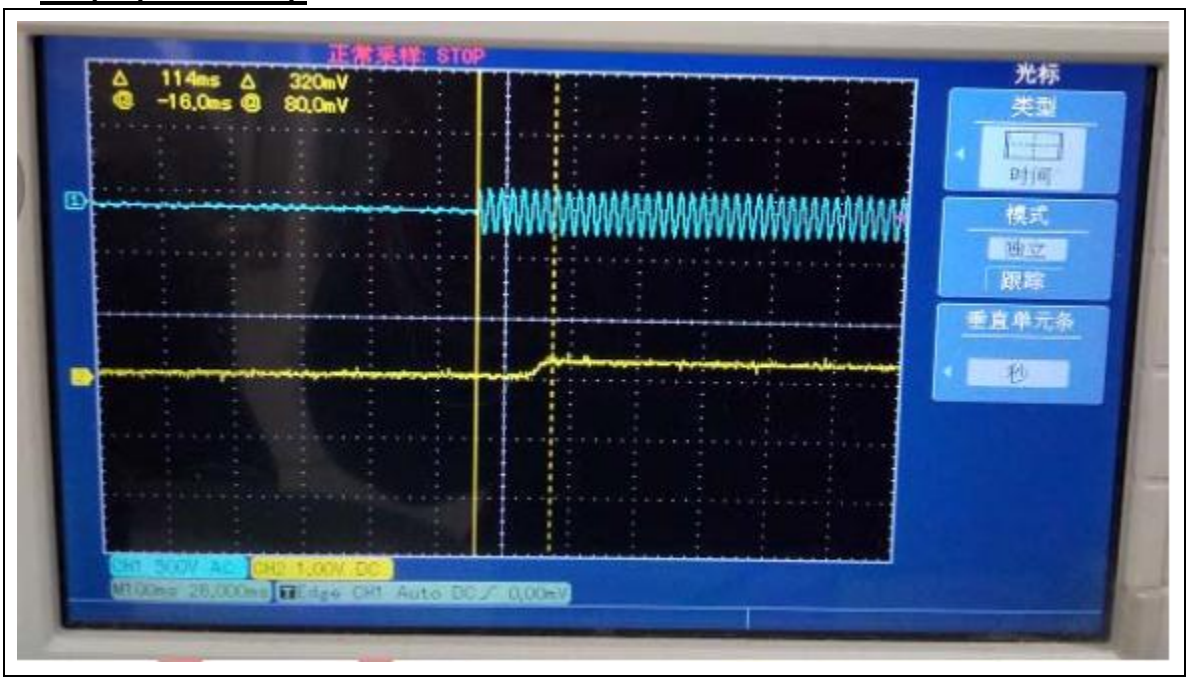
Test date	2018-07-01	Test Ambient:	25.1°C
Sample No.		Operating Frequency (Hz)	
JCE180610-C1		120.02	



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-C1	114		

Graph (Start Time):



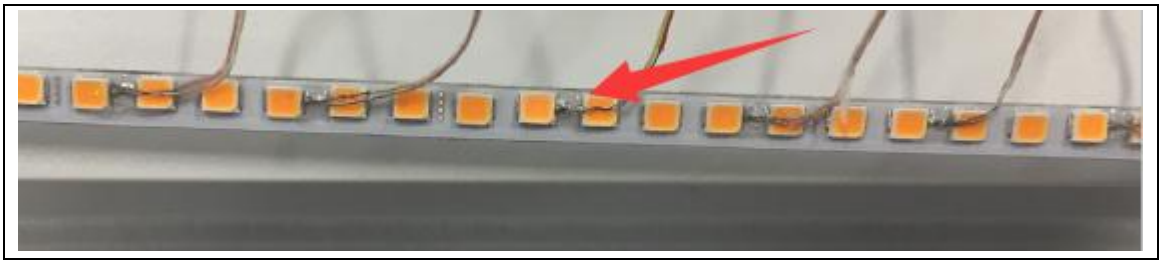
7. Transient Protection Test *(Refer to Work Instruction QD34)*	**ANSI/IEEE C62.41** **ENERGY STAR® Program Requirements for Luminaires – Version 2.1**

Test date	2018-07-01	**Test Ambient**	25.1°C
Sample No.		**Transient Protection Test - Seven Strikes**	
JCE180610-C1		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)	42.9
Sample No.	**LED Package Model**	**Maximum Measured LED Ts Point Temperature (°C)**	**Maximum LED Ts Point Temperature Limited (°C)**
JCE180610-C1	67-21S Series (3000K)	53.4	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-C1	50.9	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 ℃
Model Number	ULD6-27	Stabilization Time (min)	90

Electrical Measurement – when the luminaires turned off:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)
JCE180610-C1	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 ********