



ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107

Tel: (+86)755-2319 2554

Fax: (+86)755-2319 2815

# Energy Star Test Report

For

## L-TECH CORPORATION

(Brand Name:N/A)

Shaogangtou District, Qiaotou Town, Dongguan City

### Model name(s):

### ULD8-5CT

**Report Type:** Testing and Report According to ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2

**Type of Luminaire:** Inseparable Other SSL Luminaire

**Report Date:** 2021-04-20

Test & Report By:

*Garman Mo*

Engineer: Garman Mo

Review By:

*Johnson Sun*

Manager: Johnson Sun

- 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 A2LA or any agency of the Federal Government.
- 3.This report contains data that are not covered by the A2LA accreditation.

Project No.:JCE210313 Report No.:JCE210313-D

Report Format Number STP-QP019-103-A/1

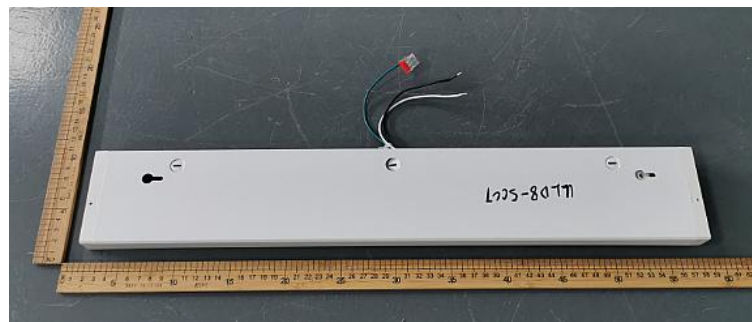
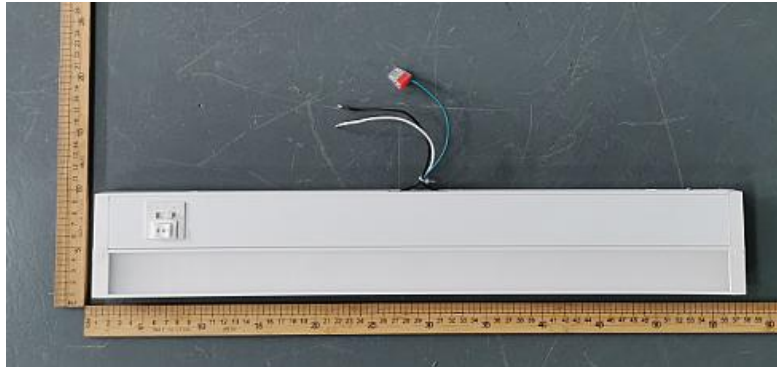
<http://www.new-standard-test.com/>

1 / 33

1.1 Product Information:		
Model Number	ULD8-5CT	
Remark	According to the test data, 2700K is the most consumptive mode.	
Representative (Tested) Model	ULD8-5CT(Mode:2700K) ULD8-5CT(Mode:3000K) ULD8-5CT(Mode:3500K) ULD8-5CT(Mode:4000K) ULD8-5CT(Mode:5000K)	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Inseparable Other SSL Luminaire	
LED Manufacturer	EVERLIGHT ELECTRONICS CO., LTD	
LED Model	67-21S Series	
Dimming	10%-100%	
Sample Number	JCE210313-D1	
Date of Receipt	2021-04-05	
Luminaire Aperture (for Downlight retrofits)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	120V,50/60Hz
Nominal Power	11W
Rated Initial Lamp Lumen	--
Declared CCT	2700K,3000K,3500K,4000K,5000K

### 1.3 Product Photos



#### 1.4 Test Specifications:

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> <li>8. Color Angular Uniformity</li> <li>9. Dimming</li> <li>10. Flicker</li> <li>11. Operating Frequency</li> <li>12. Starting Time</li> <li>13. Transient Protection Test</li> <li>14. In-Situ Temperature Measurement Test</li> <li>15. Standby Power Consumption</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 C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. C82.77-10:2014 American National Standard for Lighting Equipment-Harmonic Emission Limits-Related Power Quality Requirements</li> <li>4. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>5. CIE 15-2004 Technical Report Colorimetry</li> <li>6. UL1993 4<sup>th</sup> Edition, Self-Ballasted Lamps and Lamp Adapters</li> <li>7. ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) – Version 2.2</li> <li>8. ANSI/IEEE C62.41.2:2002 IEEE Recommended Practice on Characterization of Surges in Low-Voltage(1000V and Less) AC Power Circuits</li> <li>9. IEC 62301:2011 Household electrical appliances - Measurement of standby power</li> <li>10. NEMA 77-2017 Standard for Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria</li> </ol>
Remark	<p>Below test and data are not covered by A2LA accreditation:</p> <ul style="list-style-type: none"> <li>- Operating Frequency</li> <li>- Noise</li> </ul>

## 1.5 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.

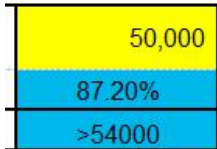
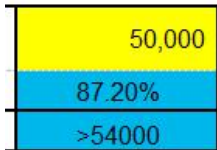
### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

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 Summary of Test Result

Criteria Item	The Type of Luminaires	Requirement (ES for Luminaires V2.2)	Measured Value	Status
Input Wattage	All	$\leq$ Rated Wattage	9.678W	Pass
Luminous Efficacy	Inseparable Other SSL Luminaire	$\geq 70$ lm/W	77.56lm/W	Pass
Luminaire Minimum Light Output	Inseparable Other SSL Luminaire	$\geq 200$ lumens	750.66lm	Pass
Correlated Color Temperature (CCT)	Inseparable Other SSL Luminaire	Shall be capable of providing at least one of the following nominal correlated color temperatures (CCTs): • 2700 Kelvin • 3000 Kelvin • 3500 Kelvin • 4000 Kelvin • 5000 Kelvin	2716K Duv=-0.0010	Pass
Color Rendering Index (CRI)	Inseparable Other SSL Luminaire	$R_a \geq 80$ $R_9 > 0$	$R_a = 92.9$ $R_9 = 65$	Pass
Lumen Maintenance	Solid State Option 1:	L70 lumen maintenance: $\geq 25,000$ hours for indoor $\geq 35,000$ hours for outdoor $\geq 50,000$ hours for inseparable luminaires		Pass
Light Source Life	Solid State	L70 lumen maintenance: $\geq 25,000$ hours for indoor $\geq 35,000$ hours for outdoor $\geq 50,000$ hours for inseparable luminaires		Pass
Color Maintenance	Inseparable Other SSL Luminaire	$\Delta u'v' \leq 0.007$	Max. 0.00687 in LM-80 report*	Pass
Source Start Time	Inseparable Other SSL Luminaire	$< 750$ ms	68.0ms	Pass

Power Factor	Solid State	Total luminaire input power $\leq 5$ watts: PF $\geq 0.5$ Total luminaire input power > 5 watts: PF $\geq 0.7$	0.9438	Pass
Transient Protection	Solid State	The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both common mode and differential mode.	Survival	Pass
Standby Power Consumption	All Luminaires	Luminaires shall not draw power in the off state.	0 W	Pass
Operating Frequency	Solid State	Frequency $\geq 120$ Hz	120.005Hz	Pass
Maximum Measured Driver Case Temperature	Solid State	shall not exceed the driver manufacturer's maximum recommended temperature during in situ operation. $\leq 105$ °C	42.5°C	Pass
Maximum In-Situ Source Temperature	Solid State	Maximum permitted Ts temperature for L70 $\geq$ 50,000 hrs $\leq 105$ °C	37.7°C	Pass
Dimming	Solid State	The luminaire and its components shall provide continuous dimming from 100% to 20% of total light output. Luminaire shall not emit noise above 24dBA at 1 meter or less at the minimum output.	Validated	Pass
CCT	Solid State	Packaging shall clearly describe the nominal color designation in units of Kelvin (e.g. 2700K, 3000K).	2700K,3000K, 3500K,4000K, 5000K	Pass

Note: The information or data with an “\*” are provided by the manufacturer.

Our laboratory has no responsibility for the decision of compliance with specification that based on the data or information with the “\*”.

<b>2.2.1 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
--	-----------------------

Test date	2021-04-07	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD8-5CT(Mode:2700K)	Total Operating Time (min)	75

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-D1	120.1	60	0.0854	9.678	0.9438

**Sphere-Spectroradiometer Method(Self-absorption:1.1005):**

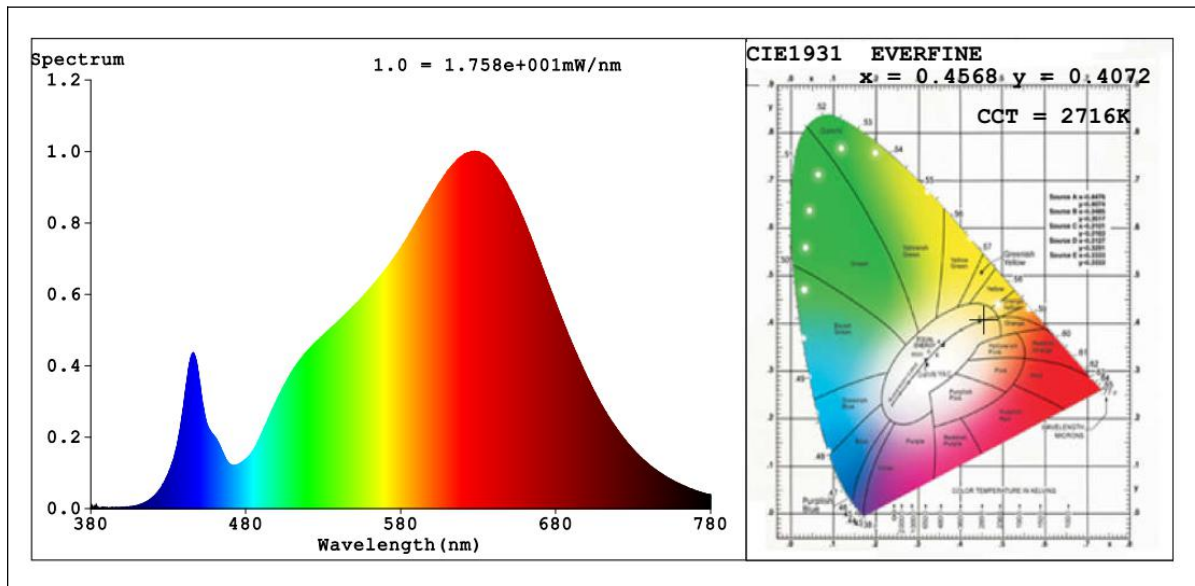
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.9
R9	65
CCT (K)	2716
Duv	-0.0010

**Goniophotometer Method(Test Distance:26.000m):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	750.66
Luminous Efficacy (lm/W)	77.56
Beam Angle°	98.1
Center Beam Candle Power (cd)	312



## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.4568$   $y=0.4072$   $u'=0.2621$   $v'=0.5256$   $Du, Dv: 0.0003, -0.0010$

CCT=2716K ( $Duv=-0.0010$ ) Dominant WL:  $\lambda_d = 584.5 \text{ nm}$  Purity=59.4%

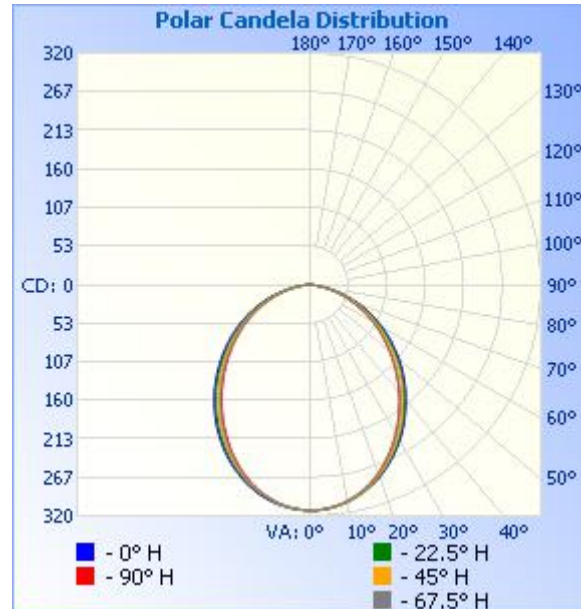
Peak WL:  $\lambda_p = 628.2 \text{ nm}$  FWHM=153.2nm

Render Index:  $R_a = 92.9$  Render Index: AvgR = 90.5

R1 = 94 R2 = 95 R3 = 96 R4 = 94 R5 = 93 R6 = 95 R7 = 93

R8 = 84 R9 = 65 R10 = 88 R11 = 95 R12 = 86 R13 = 94 R14 = 97 R15 = 90

## Zonal Lumen Tabulation



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	231.9	30.9%
0-40	369.4	49.2%
0-60	618.6	82.4%
60-90	132.0	17.6%
70-100	49.7	6.6%
90-120	0	0%
0-90	750.6	100%
90-180	0	0%
0-180	750.6	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	29.4	3.9%	90-100	0	0%
10-20	82.4	11.0%	100-110	0	0%
20-30	120.2	16.0%	110-120	0	0%
30-40	137.5	18.3%	120-130	0	0%
40-50	134.5	17.9%	130-140	0	0%
50-60	114.7	15.3%	140-150	0	0%
60-70	82.2	11.0%	150-160	0	0%
70-80	42.1	5.6%	160-170	0	0%
80-90	7.6	1.0%	170-180	0	0%



# ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107  
Tel: (+86)755-2319 2554  
Fax: (+86)755-2319 2815

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312
1	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312	312
2	312	312	312	312	312	312	312	312	312	311	311	312	312	311	312	312	312
3	311	312	312	312	312	312	311	311	311	311	311	311	311	311	311	311	311
4	311	311	311	311	311	311	311	311	310	310	310	310	310	310	310	311	311
5	310	311	310	310	310	310	310	310	310	309	309	309	309	309	310	310	310
6	310	310	310	309	309	309	309	309	309	308	308	308	308	308	309	309	310
7	309	309	309	308	308	308	308	308	308	307	307	307	306	307	307	308	309
8	308	308	307	307	307	307	307	307	307	306	305	305	305	305	306	307	308
9	306	306	306	305	306	305	305	305	305	304	304	303	303	304	305	306	306
10	305	305	305	304	304	303	304	304	304	303	302	301	301	302	303	304	305
11	303	303	303	302	302	301	302	302	302	301	300	299	299	300	301	302	303
12	301	301	301	300	300	300	300	300	300	299	298	297	297	297	299	300	301
13	300	300	299	298	298	297	298	298	298	297	296	295	294	295	297	298	300
14	298	297	297	296	295	295	295	296	296	295	293	293	292	293	295	296	298
15	295	295	295	293	293	292	293	294	294	292	291	290	289	290	292	294	295
16	293	293	292	291	290	290	291	291	291	290	288	287	286	288	290	292	293
17	291	291	290	288	287	287	288	289	289	287	286	284	283	285	287	289	291
18	289	288	287	285	284	284	285	286	286	285	283	281	279	281	284	287	289
19	286	285	284	282	281	281	282	284	284	282	280	278	276	278	281	284	286
20	283	282	281	278	278	277	279	281	280	279	276	274	273	275	278	281	283
21	280	280	278	275	274	274	276	278	277	276	273	271	269	271	275	278	280
22	277	276	274	272	271	270	272	274	274	272	270	267	265	268	271	275	277
23	274	273	271	268	267	267	269	271	271	269	266	263	262	264	268	272	274
24	271	270	267	265	263	263	265	268	268	266	262	259	258	260	264	268	271
25	268	266	264	261	259	259	262	264	264	262	259	256	254	256	260	265	268
26	264	263	260	257	255	255	258	261	261	258	255	252	250	252	257	261	264
27	261	259	256	253	251	251	254	257	257	254	251	248	245	248	253	258	261
28	257	255	253	249	247	247	250	253	253	251	247	243	241	244	249	254	257
29	253	251	249	245	243	242	246	249	250	247	243	239	237	240	245	250	253
30	249	247	244	240	239	238	242	245	246	243	239	235	232	236	241	246	249

Project No.:JCE210313 Report No.:JCE210313-D

Report Format Number STP-QP019-103-A/1

<http://www.new-standard-test.com/>



# ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107  
Tel: (+86)755-2319 2554  
Fax: (+86)755-2319 2815

31	246	243	240	236	234	234	238	241	242	239	235	230	228	231	236	242	246
32	242	239	236	232	230	229	233	237	238	235	230	226	224	227	232	238	242
33	237	235	232	227	225	225	229	233	234	230	226	222	219	222	228	234	237
34	233	231	228	223	221	220	225	229	230	226	222	217	215	218	223	230	233
35	229	227	223	218	216	216	220	224	225	222	217	213	210	213	219	226	229
36	225	222	219	213	212	211	215	220	221	218	213	208	206	209	215	221	225
37	220	218	214	209	207	206	211	216	217	213	208	204	201	204	210	217	220
38	216	213	210	204	203	202	206	211	212	209	204	199	197	200	205	213	216
39	212	209	205	200	198	197	202	207	208	204	200	195	192	195	201	208	212
40	207	204	201	195	193	193	197	203	204	200	195	190	187	191	197	204	207
41	203	200	197	190	188	188	193	198	199	196	191	185	183	186	192	199	203
42	199	195	192	185	184	183	188	194	195	191	186	181	178	181	187	195	199
43	194	191	187	181	179	179	183	189	190	186	181	176	173	177	183	190	194
44	190	186	183	176	174	174	179	184	186	182	177	171	169	172	178	186	190
45	185	182	178	171	169	169	174	180	181	177	172	167	164	168	174	181	185
46	181	177	173	166	165	164	169	175	176	172	168	162	159	163	169	176	181
47	176	172	169	162	160	160	165	170	172	168	163	158	155	158	164	172	176
48	172	168	164	157	155	155	160	166	167	163	158	153	150	154	160	167	172
49	167	163	159	152	151	151	155	161	162	158	154	148	146	149	155	162	167
50	162	158	154	148	146	146	151	156	158	154	149	144	141	145	150	158	162
51	158	154	150	143	141	142	146	152	153	149	145	139	137	140	146	153	158
52	153	149	145	138	137	137	142	147	149	144	140	135	132	135	141	148	153
53	148	144	140	134	132	132	137	142	144	140	136	130	128	131	136	144	148
54	143	140	135	129	128	128	132	138	139	135	131	126	123	126	132	139	143
55	139	135	131	124	123	123	128	133	135	131	127	121	119	122	127	134	139
56	134	130	126	120	119	119	123	128	130	126	122	117	115	117	123	130	134
57	129	126	121	115	114	115	119	124	125	121	117	113	110	113	118	125	129
58	124	121	117	111	110	110	115	119	121	117	113	108	106	109	114	120	124
59	119	116	112	106	105	106	110	114	116	112	109	104	102	104	109	116	119
60	115	112	108	102	101	101	106	110	111	108	104	99	97	100	105	111	115
61	110	107	103	97	96	97	101	105	107	103	100	95	93	95	100	107	110
62	105	103	98	93	92	92	96	101	102	99	95	90	89	91	96	102	105

63	101	98	94	88	88	88	92	96	98	94	90	86	84	87	91	98	101
64	96	94	89	84	83	84	87	91	93	90	86	82	80	82	87	93	96
65	91	89	85	79	79	79	83	87	88	85	82	77	76	78	83	88	91
66	86	84	81	75	75	75	78	82	84	81	77	73	72	74	78	83	86
67	82	80	76	71	70	71	74	78	79	76	73	69	67	70	74	79	82
68	77	75	72	66	66	66	69	73	74	72	68	65	63	65	70	74	77
69	72	71	67	62	62	62	65	68	70	67	64	61	59	61	65	70	72
70	67	66	63	58	58	58	61	64	65	63	60	56	55	57	61	65	67
71	63	61	58	54	53	54	56	59	61	58	55	52	51	53	56	60	63
72	58	57	54	50	49	50	52	55	56	54	51	48	47	49	52	56	58
73	53	52	49	46	45	46	48	50	51	50	47	44	43	45	48	51	53
74	49	48	45	42	41	42	44	46	47	45	43	41	39	40	43	47	49
75	44	43	41	38	37	38	39	42	42	41	38	37	35	37	39	42	44
76	40	39	37	34	34	34	35	37	38	37	34	33	31	33	35	38	40
77	35	34	33	31	30	30	31	33	33	32	30	29	28	29	31	34	35
78	31	30	29	27	26	27	28	29	29	29	27	26	25	26	27	29	31
79	27	27	25	24	23	23	24	25	25	25	23	22	21	22	24	26	27
80	23	23	21	20	19	20	20	21	21	21	19	19	18	19	20	22	23
81	19	19	17	17	16	16	17	18	17	17	16	15	15	16	17	18	19
82	15	15	14	14	13	13	14	14	13	13	13	12	12	13	13	15	15
83	12	12	11	11	11	11	11	11	10	10	10	9	10	10	10	12	12
84	8	9	9	9	8	8	8	8	7	7	7	7	8	8	8	9	8
85	6	6	6	6	6	6	5	5	4	5	5	5	6	6	6	6	6
86	3	4	4	5	4	4	3	3	2	3	3	3	4	4	4	4	3
87	1	2	3	3	2	2	1	1	0	1	1	1	2	2	2	2	1
88	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



<b>2.2.2 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
--	-----------------------

Test date	2021-04-07	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD8-5CT(Mode:3000K)	Total Operating Time (min)	61

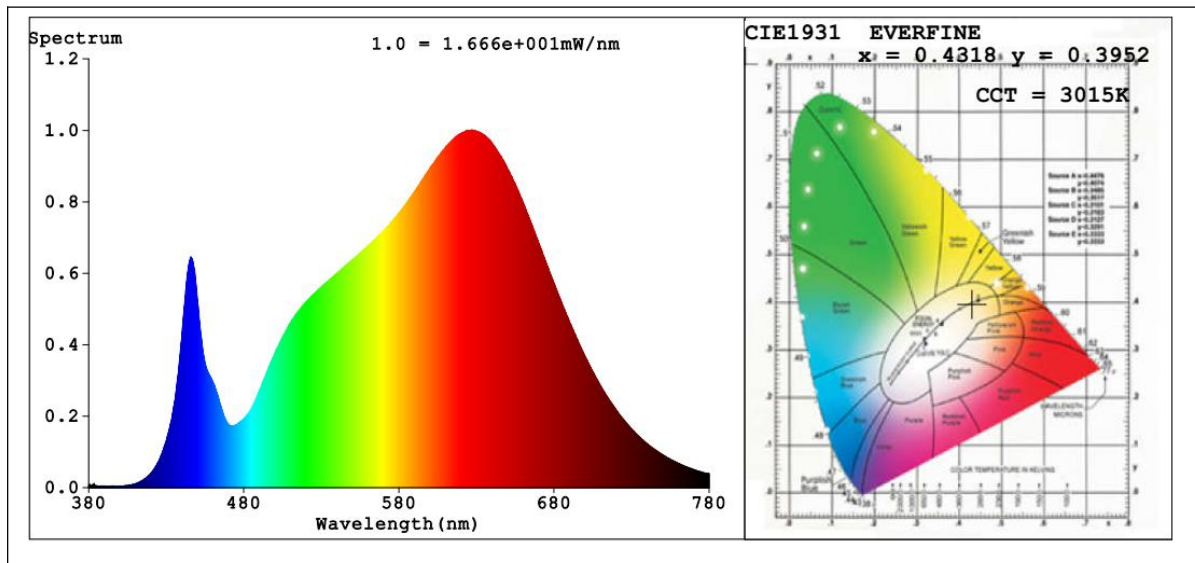
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-D1	120.0	60	0.0857	9.656	0.9390

**Sphere-Spectroradiometer Method(Self-absorption:1.1005):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	93.9
R9	72
CCT (K)	3015
Duv	-0.0029
Total Luminous (lm)	768.7
Luminous Efficacy (lm/W)	79.61

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.4318$   $y=0.3952$   $u'=0.2511$   $v'=0.5170$   $Du, Dv: 0.0010, -0.0027$

CCT=3015K ( $Duv=-0.0029$ ) Dominant WL:  $L_d = 583.9\text{nm}$  Purity=48.2%

Peak WL:  $L_p = 627.2\text{nm}$  FWHM=170.1nm

Render Index:  $R_a = 93.9$  Render Index: AvgR = 92.0

R1 =96 R2 =96 R3 =95 R4 =94 R5 =95 R6 =95 R7 =93

R8 =88 R9 =72 R10=90 R11=94 R12=87 R13=96 R14=96 R15=93

<b>2.2.3 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
--	-----------------------

Test date	2021-04-07	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD8-5CT(Mode:3500K)	Total Operating Time (min)	61

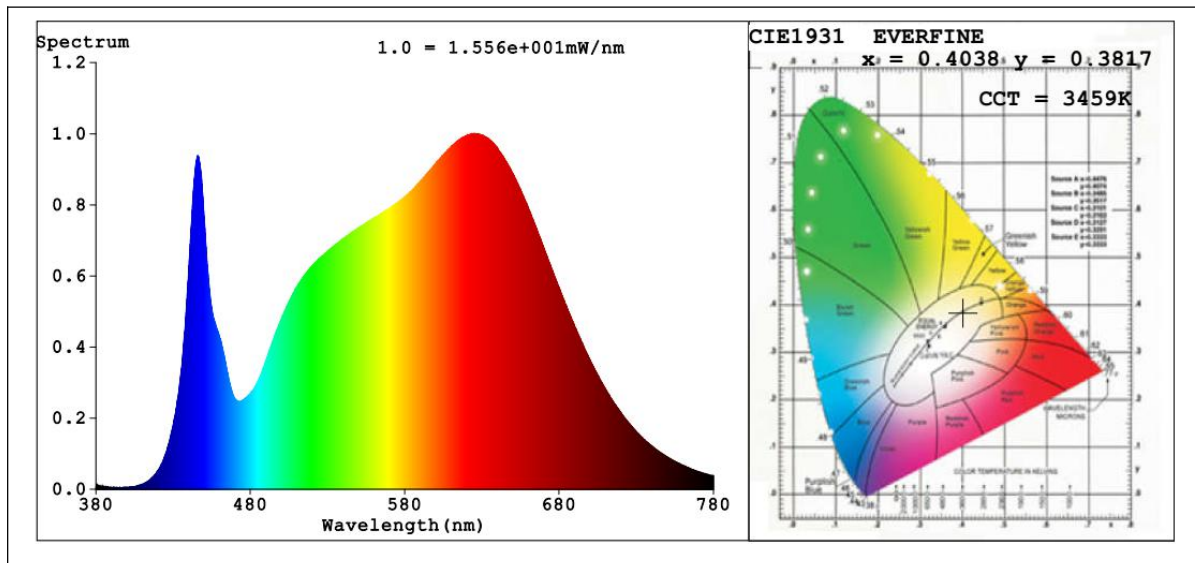
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-D1	120.0	60	0.0857	9.658	0.9392

**Sphere-Spectroradiometer Method(Self-absorption:1.1005):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.4
R9	79
CCT (K)	3459
Duv	-0.0037
Total Luminous (lm)	793.1
Luminous Efficacy (lm/W)	82.12

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.4038$   $y=0.3817$  /  $u'=0.2384$   $v'=0.5072$   $Du, Dv: 0.0017, -0.0032$

CCT=3459K ( $Duv=-0.0037$ ) Dominant WL:  $\lambda_d = 582.7 \text{ nm}$  Purity=35.7%

Peak WL:  $\lambda_p = 623.5 \text{ nm}$  FWHM=183.9nm

Render Index:  $R_a = 94.4$  Render Index: AvgR = 92.7

R1 =97 R2 =96 R3 =94 R4 =94 R5 =96 R6 =94 R7 =94

R8 =91 R9 =79 R10=90 R11=94 R12=85 R13=96 R14=96 R15=95

<b>2.2.4 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
--	-----------------------

Test date	2021-04-07	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD8-5CT(Mode:4000K)	Total Operating Time (min)	61

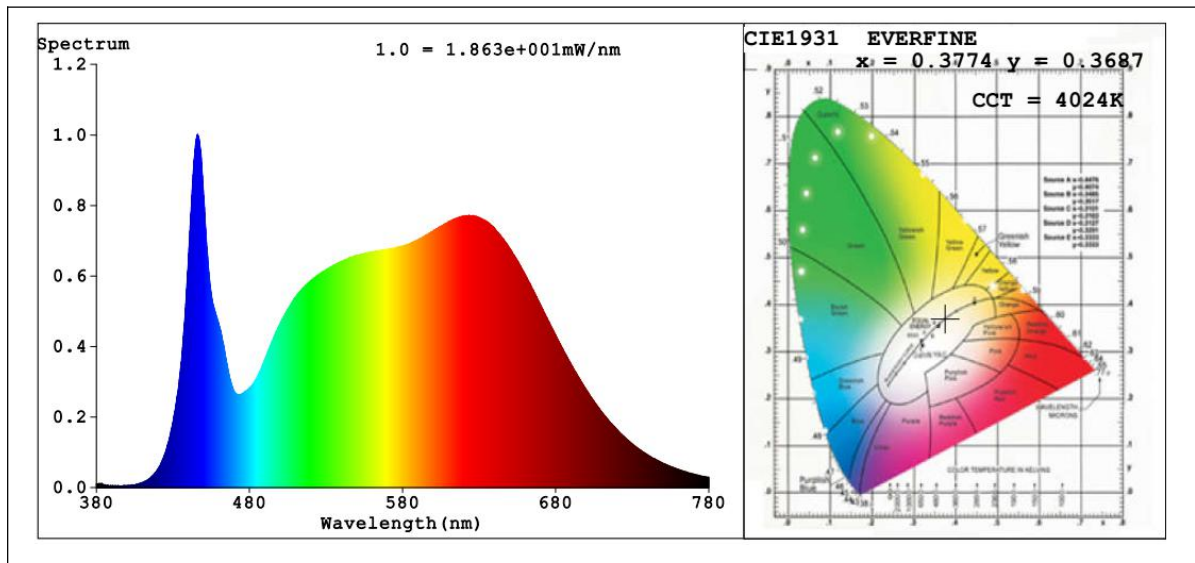
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-D1	120.0	60	0.0857	9.657	0.9392

**Sphere-Spectroradiometer Method(Self-absorption:1.1005):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.3
R9	82
CCT (K)	4024
Duv	-0.0029
Total Luminous (lm)	816.8
Luminous Efficacy (lm/W)	84.58

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.3774, y=0.3687, u'=0.2263, v'=0.4975$   $Du, Dv: 0.0017, -0.0024$

$\text{CCT}=4024\text{K} (\text{Duv}=-0.0029)$  Dominant WL:  $\text{Ld} = 580.8\text{nm}$  Purity=23.9%

Peak WL:  $\text{Lp}=445.9\text{nm}$  FWHM=19.3nm

Render Index:  $\text{Ra}=94.3$  Render Index:  $\text{AvgR} = 92.4$

R1 =97 R2 =95 R3 =92 R4 =94 R5 =96 R6 =92 R7 =94

R8 =93 R9 =82 R10=88 R11=94 R12=80 R13=96 R14=95 R15=96

<b>2.2.5 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
--	-----------------------

Test date	2021-04-07	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD8-5CT(Mode:5000K)	Total Operating Time (min)	61

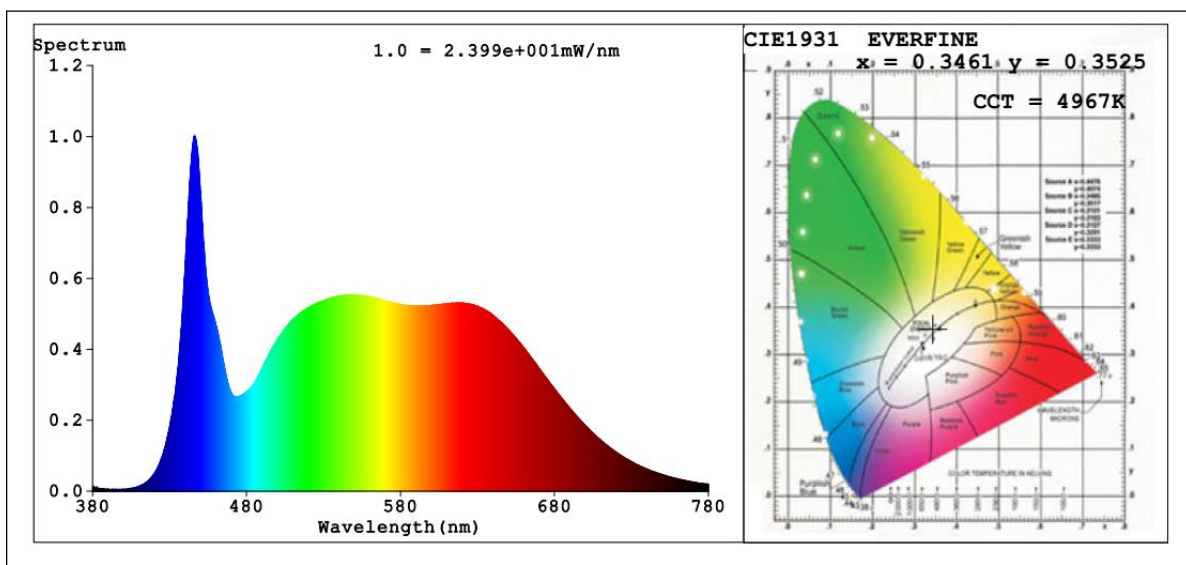
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-D1	120.0	60	0.0856	9.644	0.9392

**Sphere-Spectroradiometer Method(Self-absorption:1.1005):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.8
R9	78
CCT (K)	4967
Duv	0.0001
Total Luminous (lm)	843.6
Luminous Efficacy (lm/W)	87.47

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.3461, y=0.3525, u'=0.2117, v'=0.4853, Du, Dv: -0.0001, 0.0001$

$\text{CCT}=4967\text{K} (Duv=0.0001)$  Dominant WL:Ld =573.1nm Purity=9.6%

Peak WL:Lp=446.6nm FWHM=19.9nm

Render Index:  $R_a=92.8$  Render Index: AvgR =90.1

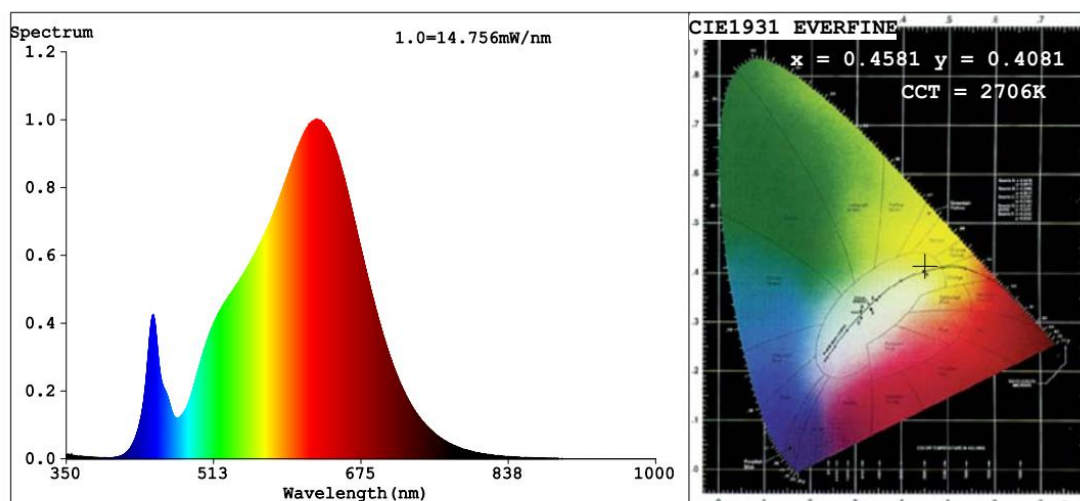
R1 =94 R2 =93 R3 =91 R4 =94 R5 =93 R6 =90 R7 =95

R8 =93 R9 =78 R10=83 R11=93 R12=73 R13=94 R14=95 R15=94



<b>2.3 Electrical and Photometric Measurements, with dimming</b>	<b>IES LM-79 2008 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2</b>
<b>Noted: The noise test and data are not covered by A2LA accreditation</b>	

Test date	2021-04-07		Test Ambient:	25±1° C
Dimmer Technology			Forward phase-cut	
Sample No.			Maximum Level	Minimum Level
JCE210313-D1	Input:	Light outout(Lumen)	694.8	37.57
	120.0V / 60Hz	Percentage	92.56%	4.98%



### Color Parameters:

Chromaticity Coordinate: x=0.4581 y=0.4081/u'=0.2625 v'=0.5261  
CCT=2706K (Duv=-0.0008) Dominant WL:Ld =584.4nm WL:Lc = --nm Purity=60.0%  
Ratio:R=26.4% G=71.5% B=2.2% Peak WL:Lp=627.3nm FWHM=151.1nm  
Render Index:Ra=92.6 AvgR=90.1 TM30:Rf=90 Rg=102

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
LUTRON MACL-153M	14.6	Dimmer adjusted to lowest light output	< 1 m



## ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107  
Tel: (+86)755-2319 2554  
Fax: (+86)755-2319 2815

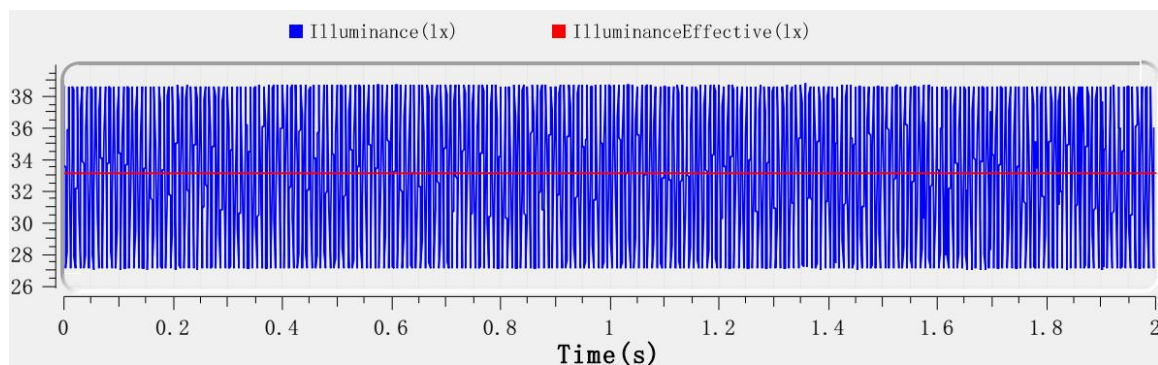
<b>2.4 Flicker</b>	<b>NEMA 77-2017 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2</b>
--------------------	---

<b>Dimming Technology</b>	Forward phase-cut
<b>Dimmer</b>	LUTRON MACL-153M

Item	Short Term Flicker Indicator (Pst)	Stroboscopic Visibility Measure (SVM)
<b>Maximum conduction</b>	0.078	0.673
<b>Intermediate conduction</b>	0.205	1.032
<b>Minimum conduction</b>	0.845	0.497

<b>2.5 Operating Frequency</b>	<b>ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2</b>
<b>Noted: This test and data are not covered by A2LA accreditation</b>	

<b>Test date</b>	2021-04-07	<b>Test Ambient:</b>	25±1° C
<b>Sample No.</b>	<b>Operating Frequency (Hz)</b>		
JCE210313-D1	120.005		

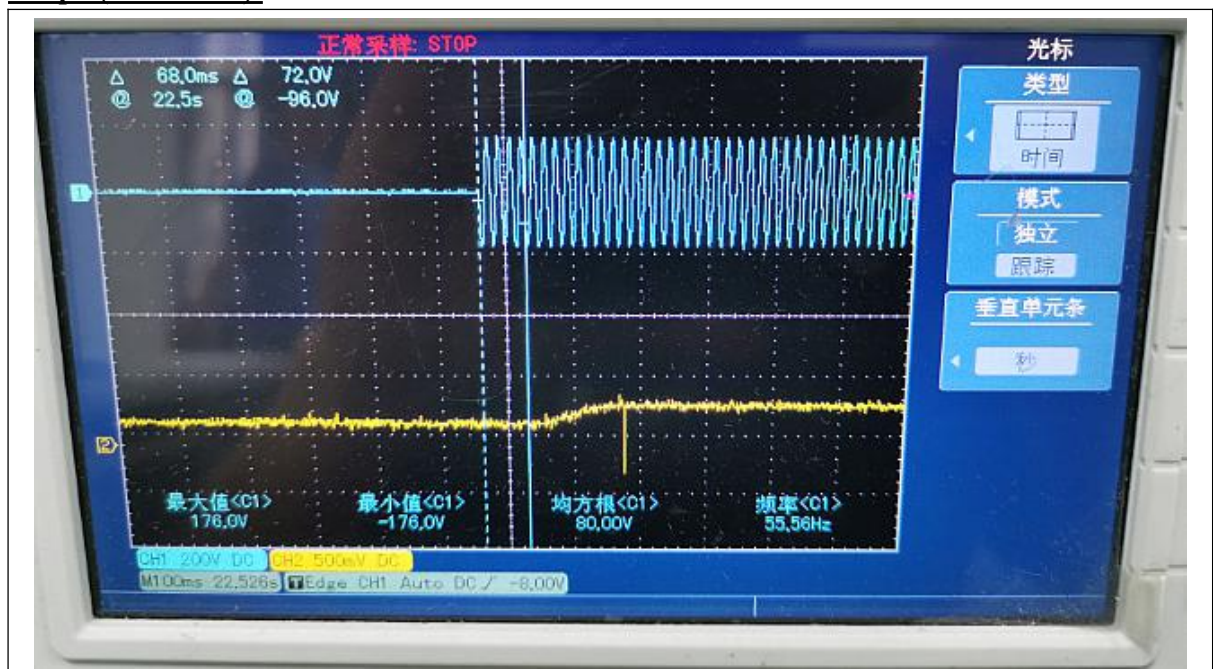


## 2.6 Starting Time

### ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2

Test date	2021-04-07	Test Ambient:	25±1° C
Sample No.	Start Time (ms)		
JCE210313-D1	68.0		

### Graph (Start Time):





# ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107  
 Tel: (+86)755-2319 2554  
 Fax: (+86)755-2319 2815

<b>2.7 Transient Protection Test</b>	<b>ANSI/IEEE C62.41 ENERGY STAR® Program Requirements for Luminaires – Version 2.2</b>
--------------------------------------	--

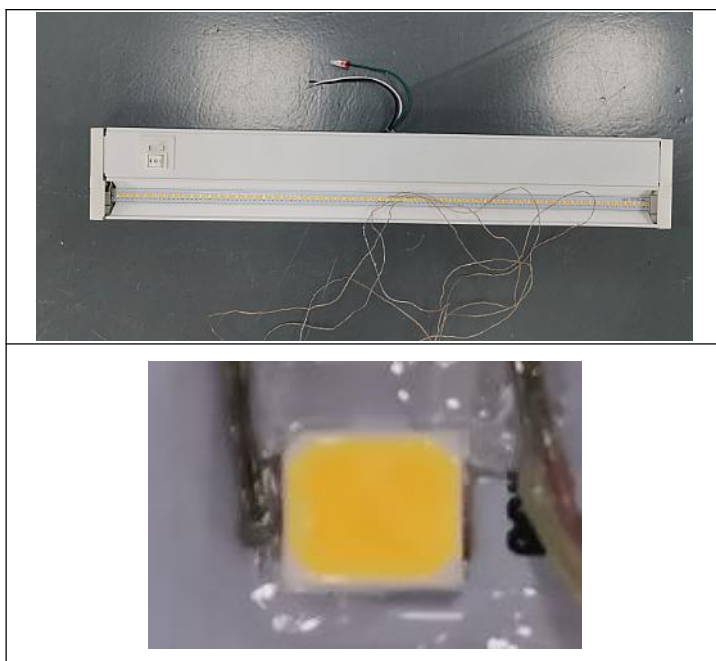
## Test voltage: 120V,60Hz

<b>Test date</b>	2021-04-07	<b>Test Ambient</b>	25±1° C
<b>Sample No.</b>		<b>Transient Protection Test - Seven Strikes</b>	
JCE210313-D1		Survival	

<b>2.8 In-Situ Temperature Measurement Test (ISTMT)</b>	<b>UL1598-2008, 3<sup>rd</sup> Edition</b>
---	--

Test date	2021-04-07	Test Ambient	25±5° C
Input Vol./Frequency	120.0V / 60Hz	Output Current of Single LED(mA)	47.76
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum permitted Ts temperature for L70≥ 50,000 hrs (°C)
JCE210313-D1	67-21S Series	37.7	105

**In-Situ Picture - Ts:**



<b>2.9 Maximum Measured Ballast or Driver Case Temperature</b>	<b>UL1598-2008, 3<sup>rd</sup> Edition</b>
--	--

Test date	2021-04-07	Test Ambient	25±5° C
Sample No.	Maximum Measured Driver Case Temperature (°C)	Maximum Driver Case Temperature Limited (°C)	
JCE210313-D1	42.5	105	

**In-Situ Picture - Ts:**





# ShenZhen Xin An Biao Technology Service Co. Ltd Testing Center

Floor 3,Building 3, No. 17,Yigongliu road,Loucun community building, Xinhua Street,Guangming New district,Shenzhen 518107  
Tel: (+86)755-2319 2554  
Fax: (+86)755-2319 2815

## 2.10 Standby Power Consumption:

## ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2

Test date	2021-04-07	Test Ambient:	25±1° C
Model Number	ULD8-5CT(Mode:2700K)	Stabilization Time (min)	60

## Electrical Measurement – when the luminaires turned off:

Sample No.	Standby Power Consumption(W):
JCE210313-D1	0



### 3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-S-451	2 meter Integrating Sphere	Verified by D204 standard lamp	
ST-R-S-455	Spectral analysis system HAAS-1200	Verified by D204 standard lamp	
ST-R-S-452	Standard Lamp D204	2021-04-15	2022-04-14
ST-R-S-453	Power Meter for Integrating Sphere	2021-04-07	2022-04-06
ST-R-S-407	Goniophotometer system	Verified by S1530039 standard lamp	
ST-R-S-410	Standard Lamp S1530039	2021-04-15	2022-04-14
ST-R-S-408	Power Meter for Goniophotometer	2021-04-07	2022-04-06
ST-R-S-027	Digital Luxmeter	2021-04-08	2022-04-07
ST-R-S-016	Oscillograph	2021-04-07	2022-04-06
ST-R-S-017	Probe	2021-04-08	2022-04-07
ST-R-361	ZLB61012X	2020-08-19	2021-08-20
ST-R-414	LFA-3000	2020-12-18	2021-12-17
Uncertainty: Photometric Measurement (Sphere):2.72%, k=2 Chromaticity Measurement(Sphere):43.60K, k=2 Photometric Measurement(Goniophotometer): 3.44%, k=2			

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