



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  
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# Energy Star Test Report

For

## L-TECH CORPORATION

(Brand Name:N/A)

Shaogangtou District, Qiaotou Town, Dongguan City

**Model name(s):**  
**ULD12-5CT**

**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.



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1.1 Product Information:		
Model Number	ULD12-5CT	
Remark	According to the test data, 2700K is the most consumptive mode.	
Representative (Tested) Model	ULD12-5CT(Mode:2700K) ULD12-5CT(Mode:3000K) ULD12-5CT(Mode:3500K) ULD12-5CT(Mode:4000K) ULD12-5CT(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-G1	
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	16W
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.

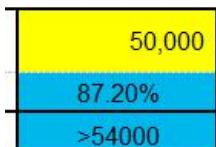
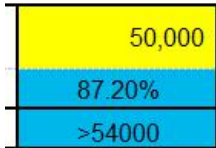
### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

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	14.56W	Pass
Luminous Efficacy	Inseparable Other SSL Luminaire	$\geq 70$ lm/W	87.64lm/W	Pass
Luminaire Minimum Light Output	Inseparable Other SSL Luminaire	$\geq 200$ lumens	1276.4lm	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	2741K Duv=-0.0007	Pass
Color Rendering Index (CRI)	Inseparable Other SSL Luminaire	$R_a \geq 80$ $R_9 > 0$	$R_a = 94.0$ $R_9 = 62$	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	48.0ms	Pass

Power Factor	Solid State	Total luminaire input power $\leq 5$ watts: PF $\geq 0.5$ Total luminaire input power > 5 watts: PF $\geq 0.7$	0.9680	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	120.003Hz	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	47.7°C	Pass
Maximum In-Situ Source Temperature	Solid State	Maximum permitted Ts temperature for L70 $\geq$ 50,000 hrs $\leq 105$ °C	37.6°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>
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Test date	2021-04-09	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD12-5CT(Mode:2700K )	Total Operating Time (min)	75

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-G1	120.1	60	0.1253	14.56	0.9680

**Sphere-Spectroradiometer Method(Self-absorption:1.1102):**

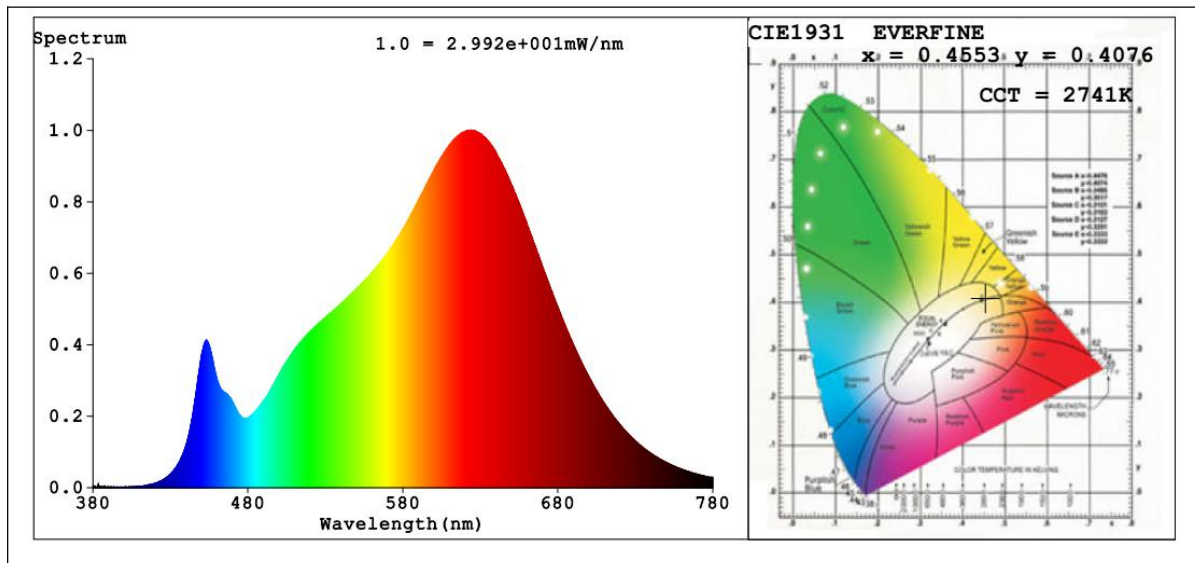
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.0
R9	62
CCT (K)	2741
Duv	-0.0007

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

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1276.4
Luminous Efficacy (lm/W)	87.64
Beam Angle°	98.3
Center Beam Candle Power (cd)	527



## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.4553$   $y=0.4076$  /  $u'=0.2609$   $v'=0.5255$   $Du, Dv: 0.0002, -0.0007$

CCT=2741K ( $Duv=-0.0007$ ) Dominant WL:  $\lambda_d = 584.2\text{nm}$  Purity=59.0%

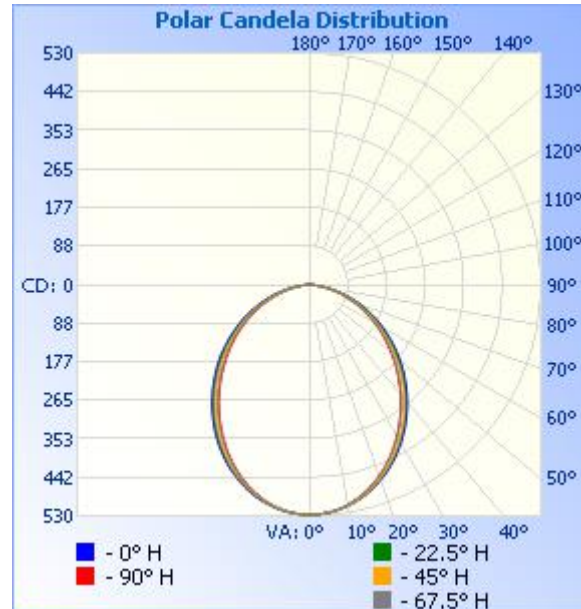
Peak WL:  $\lambda_p = 623.9\text{nm}$  FWHM=144.2nm

Render Index:  $R_a = 94.0$  Render Index: AvgR = 91.8

R1 = 95 R2 = 98 R3 = 99 R4 = 94 R5 = 95 R6 = 97 R7 = 92

R8 = 82 R9 = 62 R10 = 95 R11 = 96 R12 = 85 R13 = 96 R14 = 99 R15 = 90

## Zonal Lumen Tabulation



Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	391.8	30.7%
0-40	624.3	48.9%
0-60	1,046.1	82%
60-90	230.2	18%
70-100	90.5	7.1%
90-120	0	0%
0-90	1,276.3	100%
90-180	0.0	0%
0-180	1,276.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	49.6	3.9%	90-100	0	0%
10-20	139.2	10.9%	100-110	0	0%
20-30	203.0	15.9%	110-120	0	0%
30-40	232.5	18.2%	120-130	0	0%
40-50	227.7	17.8%	130-140	0.0	0%
50-60	194.2	15.2%	140-150	0.0	0%
60-70	139.6	10.9%	150-160	0.0	0%
70-80	74.2	5.8%	160-170	0.0	0%
80-90	16.3	1.3%	170-180	0.0	0%



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	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
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93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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
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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
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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
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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

Project No.:JCE210313 Report No.:JCE210313-G

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

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127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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
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164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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
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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
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177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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>
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Test date	2021-04-09	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD12-5CT(Mode:3000K )	Total Operating Time (min)	61

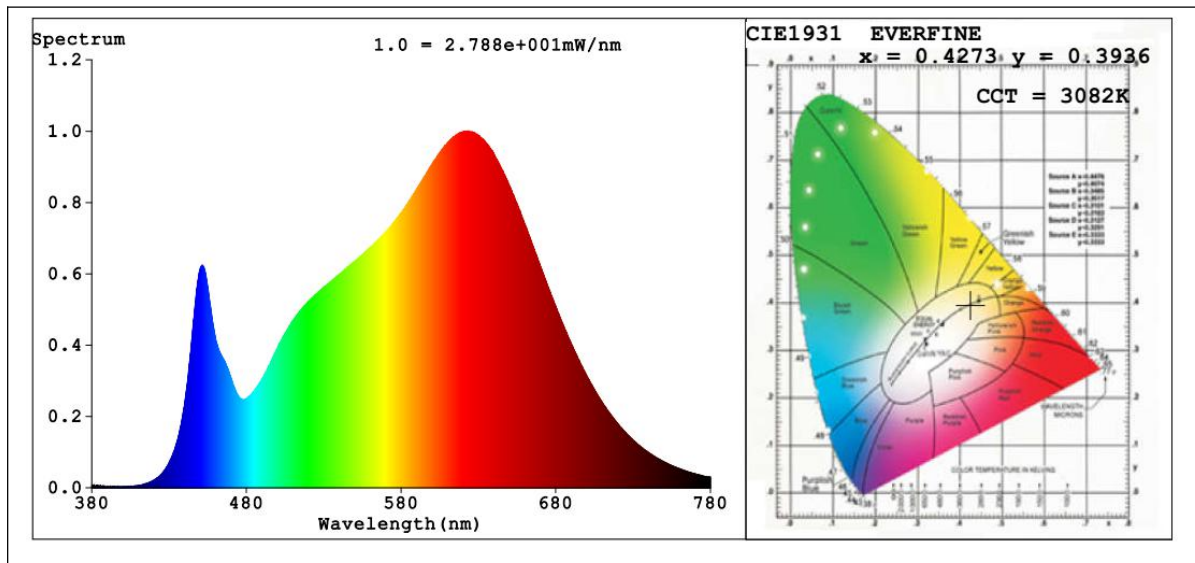
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-G1	120.0	60	0.1256	14.44	0.9584

**Sphere-Spectroradiometer Method(Self-absorption:1.1102):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	95.1
R9	70
CCT (K)	3082
Duv	-0.0029
Total Luminous (lm)	1298
Luminous Efficacy (lm/W)	89.88

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.4273, y=0.3936, u'=0.2488, v'=0.5157$  Du, Dv: 0.0011, -0.0027

CCT=3082K (Duv=-0.0029) Dominant WL:  $\lambda_d = 583.6 \text{ nm}$  Purity=46.4%

Peak WL:  $\lambda_p = 623.1 \text{ nm}$  FWHM=165.1nm

Render Index:  $R_a = 95.1$  Render Index: AvgR = 93.0

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

R8 = 87 R9 = 70 R10 = 95 R11 = 96 R12 = 84 R13 = 97 R14 = 99 R15 = 93

<b>2.2.3 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
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<b>Test date</b>	2021-04-09	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ULD12-5CT(Mode:3500K )	<b>Total Operating Time (min)</b>	61

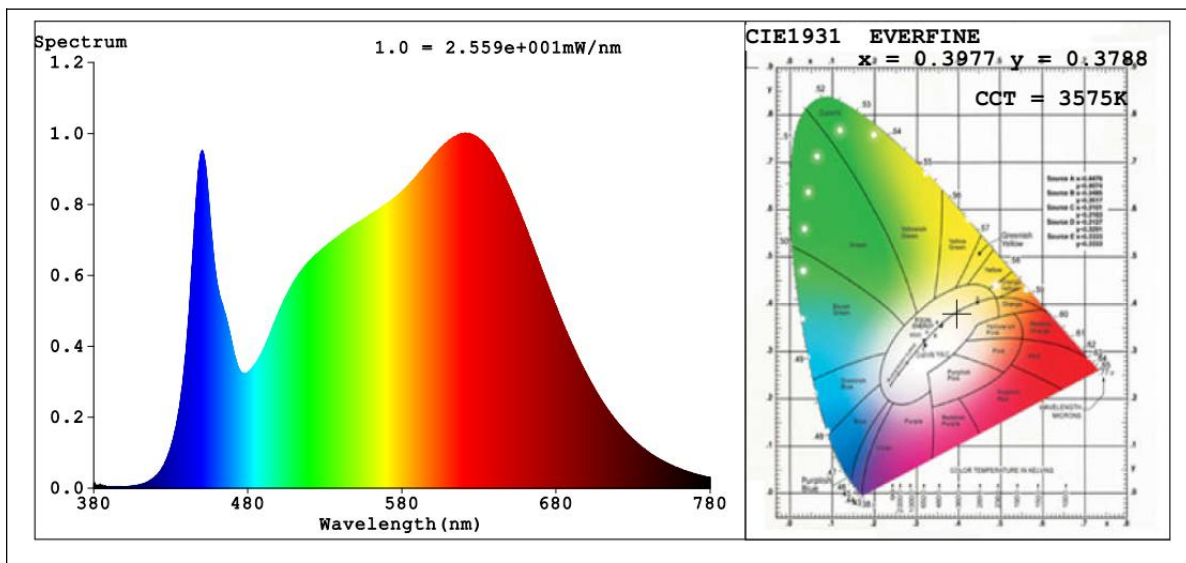
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-G1	120.0	60	0.1253	14.41	0.9586

**Sphere-Spectroradiometer Method(Self-absorption:1.1102):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	95.5
R9	77
CCT (K)	3575
Duv	-0.0036
Total Luminous (lm)	1331
Luminous Efficacy (lm/W)	92.37

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.3977, y=0.3788, u'=0.2357, v'=0.5050, Du, Dv: 0.0018, -0.0032$

$\text{CCT}=3575\text{K} (\text{Duv}=-0.0036)$  Dominant WL:  $\text{Ld} = 582.4\text{nm}$  Purity=33.0%

Peak WL:  $\text{Lp}=621.1\text{nm}$  FWHM=180.7nm

Render Index:  $\text{Ra}=95.5$  Render Index:  $\text{AvgR} = 93.4$

R1 =97 R2 =98 R3 =96 R4 =96 R5 =96 R6 =95 R7 =95

R8 =90 R9 =77 R10=94 R11=96 R12=80 R13=98 R14=97 R15=96

<b>2.2.4 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
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Test date	2021-04-09	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD12-5CT(Mode:4000K )	Total Operating Time (min)	61

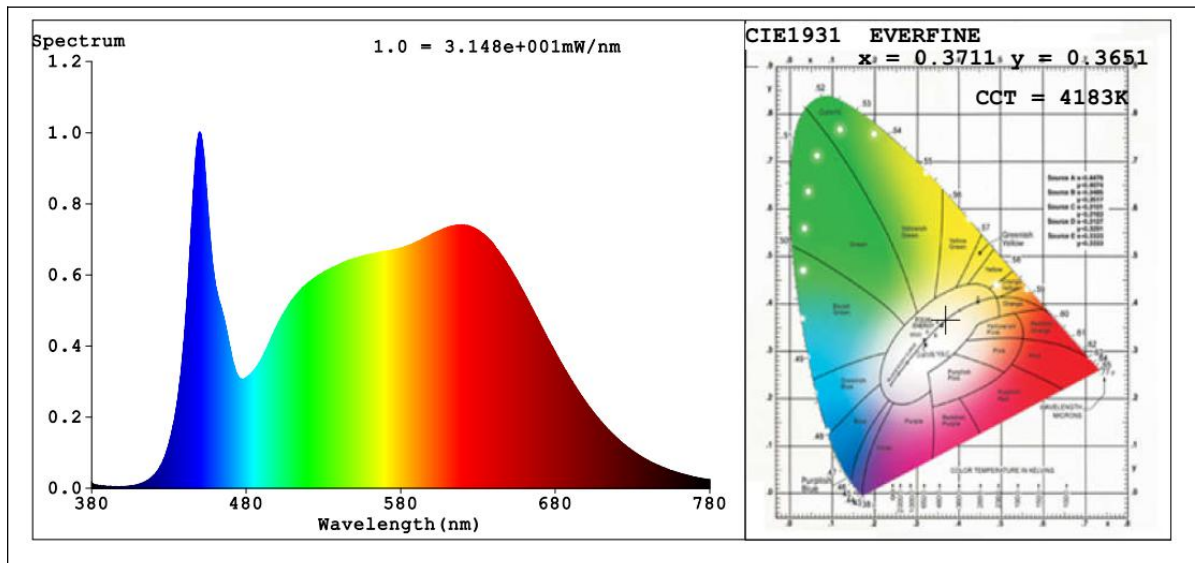
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-G1	120.0	60	0.1252	14.39	0.9583

**Sphere-Spectroradiometer Method(Self-absorption:1.1102):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	94.9
R9	79
CCT (K)	4183
Duv	-0.0027
Total Luminous (lm)	1360
Luminous Efficacy (lm/W)	94.51

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.3711$   $y=0.3651$   $u'=0.2236$   $v'=0.4950$   $Du, Dv: 0.0016, -0.0022$

CCT=4183K ( $Duv=-0.0027$ ) Dominant WL:Ld =580.2nm Purity=20.9%

Peak WL:Lp=450.1nm FWHM=23.0nm

Render Index: Ra=94.9 Render Index: AvgR =92.4

R1 =96 R2 =97 R3 =95 R4 =96 R5 =95 R6 =93 R7 =96

R8 =92 R9 =79 R10=90 R11=95 R12=75 R13=97 R14=97 R15=95

<b>2.2.5 Electrical, Photometric and Chromaticity Measurements</b>	<b>IES LM-79 2008</b>
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Test date	2021-04-09	Test Ambient:	25 ± 1° C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	ULD12-5CT(Mode:5000K )	Total Operating Time (min)	61

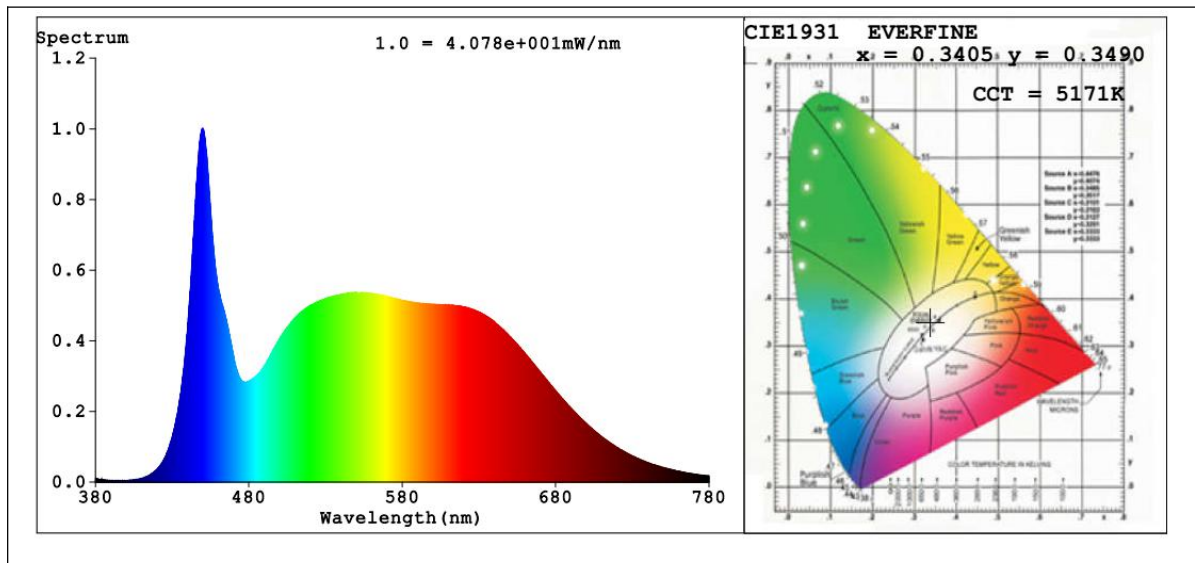
**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor
JCE210313-G1	120.0	60	0.1249	14.36	0.9584

**Sphere-Spectroradiometer Method(Self-absorption:1.1102):**

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	92.6
R9	71
CCT (K)	5171
Duv	0.0005
Total Luminous (lm)	1391
Luminous Efficacy (lm/W)	96.87

## Spectral Power Distribution and Chromaticity Diagram



## Colorimetric Parameters

### Colorimetric Parameters

Chromaticity Coordinate:  $x=0.3405$   $y=0.3490$   $u'=0.2093$   $v'=0.4827$   $Du, Dv: -0.0004, 0.0004$

$\text{CCT}=5171\text{K}$  ( $Duv=0.0005$ ) Dominant WL:  $L_d = 569.1\text{nm}$  Purity=6.9%

Peak WL:  $L_p = 449.7\text{nm}$  FWHM=21.8nm

Render Index:  $R_a = 92.6$  Render Index: AvgR =89.6

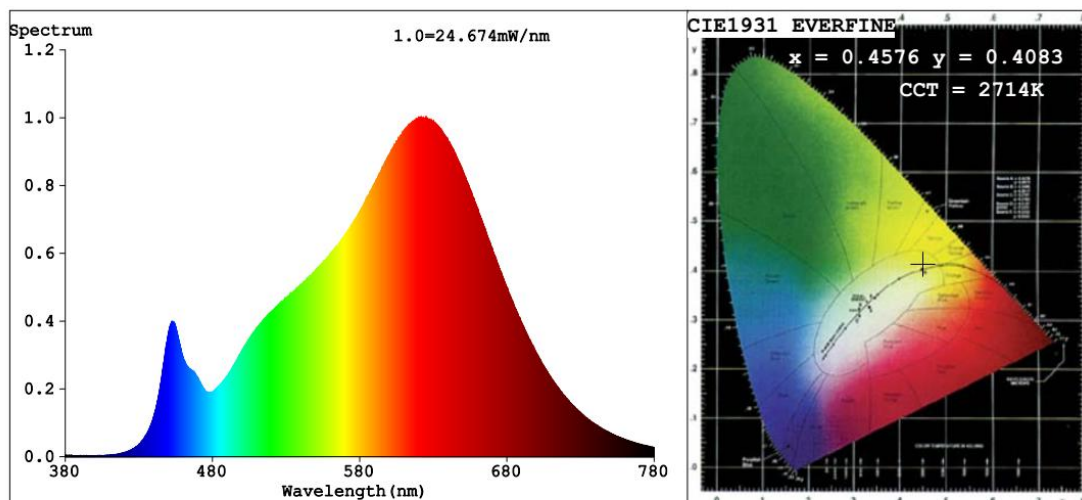
R1 =93 R2 =94 R3 =92 R4 =93 R5 =93 R6 =90 R7 =95

R8 =90 R9 =71 R10=84 R11=93 R12=72 R13=93 R14=96 R15=93



<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	2021-04-09		Test Ambient:	25±1° C
Dimmer Technology			Forward phase-cut	
Sample No.			Maximum Level	Minimum Level
JCE210313-G1	Input:	Light outout(Lumen)	1217	55.88
	120.0V / 60Hz	Percentage	95.34%	4.59%



### Color Parameters:

Chromaticity Coordinate:  $x=0.4576$   $y=0.4083$   $u'=0.2621$   $v'=0.5261$   
 CCT=2714K (Duv=-0.0007) Dominant WL:Ld =584.4nm WL:Lc = --nm Purity=59.9%  
 Ratio:R=26.6% G=70.9% B=2.6% Peak WL:Lp=625.0nm FWHM=141.2nm  
 Render Index:Ra=93.6 AvgR=91.3 TM30:Rf=92 Rg=99

R1 =94 R2 =98 R3 =99 R4 =94 R5 =94 R6 =97 R7 =91  
 R8 =81 R9 =60 R10=95 R11=96 R12=86 R13=96 R14=99 R15=90

The luminaires [can] ~~lean not~~ provide less than 20% of total light output with continuous dimmer.

Dimmer	Peak Noise Reading (dBA)	Test Condition	Distance between the microphone and the UUT
LUTRON MACL-153M	14.8	Dimmer adjusted to lowest light output	< 1 m



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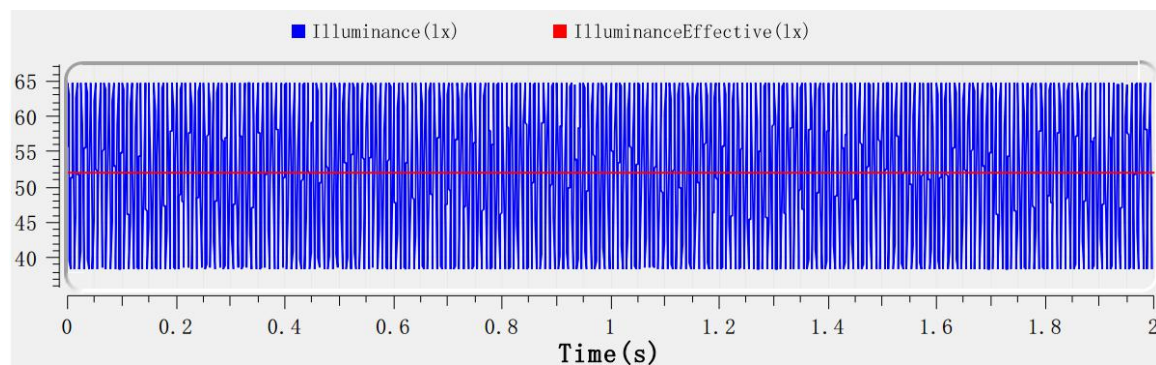
<b>2.4 Flicker</b>	<b>NEMA 77-2017 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2</b>
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<b>Dimming Technology</b>	Forward phase-cut
<b>Dimmer</b>	LUTRON MACL-153M

Item	Short Term Flicker Indicator (Pst)	Stroboscopic Visibility Measure (SVM)
<b>Maximum conduction</b>	0.055	0.975
<b>Intermediate conduction</b>	0.187	1.461
<b>Minimum conduction</b>	0.606	0.656

<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>	

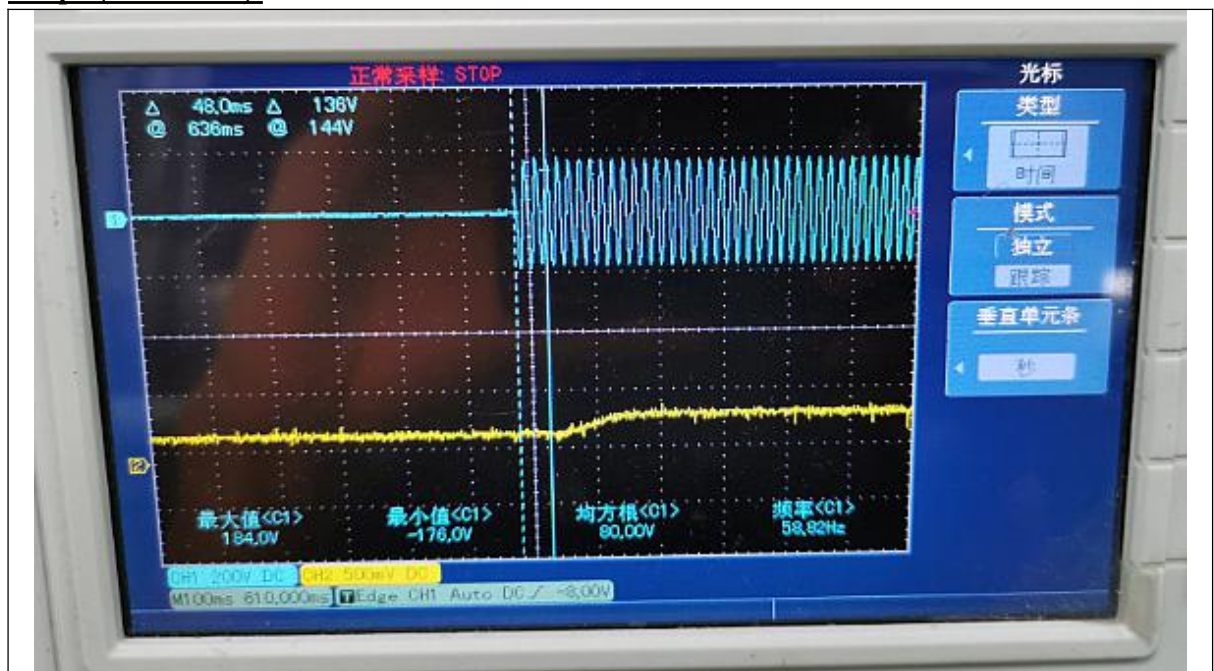
<b>Test date</b>	2021-04-09	<b>Test Ambient:</b>	25±1° C
<b>Sample No.</b>	<b>Operating Frequency (Hz)</b>		
JCE210313-G1	120.003		



2.6 Starting Time	ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2
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Test date	2021-04-09	Test Ambient:	25±1° C
Sample No.	Start Time (ms)		
JCE210313-G1	48.0		

**Graph (Start Time):**





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<b>2.7 Transient Protection Test</b>	<b>ANSI/IEEE C62.41 ENERGY STAR® Program Requirements for Luminaires – Version 2.2</b>
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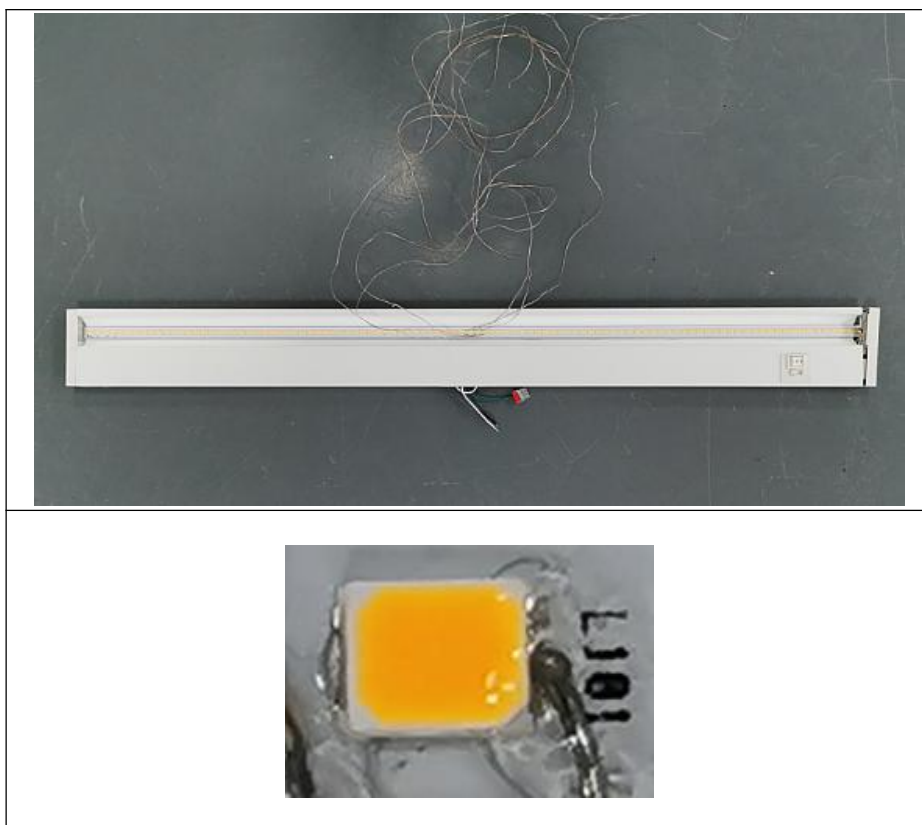
## Test voltage: 120V,60Hz

<b>Test date</b>	2021-04-09	<b>Test Ambient</b>	25±1° C
<b>Sample No.</b>		<b>Transient Protection Test - Seven Strikes</b>	
JCE210313-G1		Survival	

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

Test date	2021-04-09	Test Ambient	25±5° C
Input Vol./Frequency	120.0V / 60Hz	Output Current of Single LED(mA)	43.30
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum permitted Ts temperature for L70≥ 50,000 hrs (°C)
JCE210313-G1	67-21S Series	37.6	105

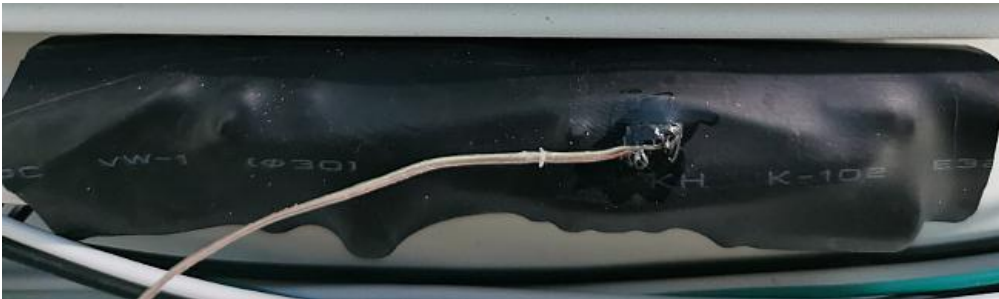
**In-Situ Picture - Ts:**



<b>2.9 Maximum Measured Ballast or Driver Case Temperature</b>	<b>UL1598-2008, 3<sup>rd</sup> Edition</b>
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<b>Test date</b>	<b>2021-04-09</b>	<b>Test Ambient</b>	<b>25±5° C</b>
<b>Sample No.</b>	<b>Maximum Measured Driver Case Temperature (°C)</b>	<b>Maximum Driver Case Temperature Limited (°C)</b>	
JCE210313-G1	47.7	105	

**In-Situ Picture - Ts:**





<b>2.10 Standby Power Consumption:</b>	<b>ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2</b>
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<b>Test date</b>	2021-04-09	<b>Test Ambient:</b>	25±1° C
<b>Model Number</b>	ULD12-5CT(Mode:2700K)	<b>Stabilization Time (min)</b>	60

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

<b>Sample No.</b>	<b>Standby Power Consumption(W):</b>
JCE210313-G1	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	2021-04-09	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	2021-04-09	2022-04-06
ST-R-S-027	Digital Luxmeter	2021-04-09	2022-04-07
ST-R-S-016	Oscillograph	2021-04-09	2022-04-06
ST-R-S-017	Probe	2021-04-09	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 \*\*\*\*\*