



Report No.: BLC1912039E-A

Energy Star Test Report

For

BEYOND LED TECHNOLOGY

(Brand Name: )

2725 Mountain Industrial Blvd Ste C-1, Tucker, GA 30084 USA

Downlight

Model name(s): BLT-YL4DR-A1-20Z
BLT-YL6DR-A1-20Z
BLT-YL8DR-A1-20Z

Representative (Tested) Model: BLT-YL4DR-A1-20Z(3000K)
BLT-YL6DR-A1-20Z(3000K)
BLT-YL8DR-A1-20Z(3000K)

Test & Report By:

Grace Li

Engineer: Grace Li

Date: Jan. 07, 2020

Review By:

Jason Luo

Manager: Jason Luo



1.1 Product Information:		
Model Number	BLT-YL4DR-A1-20Z BLT-YL6DR-A1-20Z BLT-YL8DR-A1-20Z	
Remark	N/A	
Representative (Tested) Model	BLT-YL4DR-A1-20Z(3000K) BLT-YL6DR-A1-20Z(3000K) BLT-YL8DR-A1-20Z(3000K)	
Model Difference	All construction and rating are the same, except lampshade and CCT.	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Downlight	
LED Manufacturer	XUYU OPTOELECTRONICS (SHENZHEN) CO.,LTD	
LED Model	9.2835W3V32F-S02	
Dimming	Dimmable	
Sample Number	BLC1912039E-B1,B2,B3	
Date of Receipt	Jan. 03, 2020	
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	100-277Vac, 50/60 Hz
Nominal Power	20W
Rated Initial Lamp Lumen	--
Declared CCT	3000K, 4000K,5000K



1.3 Product Photos

BLT-YL4DR-A1-20Z



BLT-YL6DR-A1-20Z



BLT-YL8DR-A1-20Z





Test Specifications:	
Date of Receipt	Jan. 03, 2020
Date of Test	Jan. 06, 2020
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems UL1993 4 th Edition, Self-Ballasted Lamps and Lamp Adapters ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) – Version 2.2
Reference Work Instruction	<i>BL-QP-033</i>
Remark	Below test and data are not covered by accreditation: - Operating Frequency

Test Methods

1. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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 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. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.



2.1 Summary of Test Result					
Regulatory Body	Tests to Determine Compliance	The Type of Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	Input Wattage	All	≤ Rated Wattage	YL4DR: 18.15W YL6DR: 19.22W YL8DR: 18.20W	Pass
ENERGY STAR	Luminous Efficacy	Downlight	≥55 lm/W	YL4DR: 82.48lm/w YL6DR: 73.84lm/w YL8DR: 96.71lm/w	Pass
ENERGY STAR	Luminaire Minimum Light Output	Downlight	≤ 4.5" aperture: 345 lumens > 4.5" aperture: 575 lumens	YL4DR: 1496.9lm YL6DR: 1419.2lm YL8DR: 1760.2lm	Pass
ENERGY STAR	Luminaire Zonal Lumen Density Requirement	Downlight	≥75% of total initial lumens within the 0-60° zone	YL4DR: 93.2% YL6DR: 98.3% YL8DR: 98.8%	Pass
ENERGY STAR	Correlated Color Temperature (CCT)	Solid State	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	3044K Duv=-0.00403	Pass
ENERGY STAR	Color Rendering Index (CRI)	Solid State	Ra ≥ 80 R9 >0	Ra =82.0 R9 =7	Pass
ENERGY STAR	Color Angular Uniform	Directional Solid State Indoor Luminaires	The variation of chromaticity shall be within 0.006 from the weighted average point on the CIE 1976(u',v') diagram	0.0014	Pass



2.1 Summary of Test Result					
Regulatory Body	Tests to Determine Compliance	The Type of Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	Lumen Maintenance	Solid State Option 1: Retrofit kit	L ₇₀ lumen maintenance: ≥25,000 hours for indoor ≥35,000 hours for outdoor ≥50,000 hours for inseparable luminaires	LM-80 report has been verified	Pass
ENERGY STAR	Light Source Life	Solid State	L ₇₀ lumen maintenance: ≥25,000 hours for indoor ≥35,000 hours for outdoor ≥50,000 hours for inseparable luminaires	LM-80 report has been verified	Pass
ENERGY STAR	Color Maintenance	Solid State Indoor Luminaires	$\Delta u'v' \leq 0.007$	LM-80 report has been verified	Pass
ENERGY STAR	Source Start Time	Solid State	<750 ms	697ms	Pass
ENERGY STAR	Power Factor	Solid State	Total luminaire input power ≤ 5 watts: PF ≥ 0.5 Total luminaire input power > 5 watts: PF ≥ 0.7	0.992	Pass
ENERGY STAR	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.	See 7.1 section	Pass



2.1 Summary of Test Result					
Regulatory Body	Tests to Determine Compliance	The Type of Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	Standby Power Consumption	All Luminaires	Luminaires shall not draw power in the off state. Exception: <ul style="list-style-type: none">• with sensors, or conected functionality: 0.5 W• with sensors, and conected functionality: 1 W• power supplies connected to multiple luminaires: 1.5W• EPS employed: level V or higher under IEMP	0W	Pass
ENERGY STAR	Operating Frequency	Solid State	Frequency \geq 120 Hz	120.01Hz	Pass
ENERGY STAR	Light Source Replaceability	Solid State: Retrofit kits	LED light engines or retrofit kits shall make use of electrical interconnects that allow for consumer replacement of the engine or kit without the cutting of wires or the use of solder.	N/A	N/A



2.1 Summary of Test Result					
Regulatory Body	Tests to Determine Compliance	The Type of Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	Driver Replaceability	Solid State: Directional	Drivers shall be accessible and removable by an electrician without the cutting of wires and without damage to the luminaire housing, trim, decorative elements or the carpentry (e.g., ceiling drywall) to which the luminaire is attached. Exceptions: 1. luminaires employing self-ballasted lamps 2. line voltage directional track lights 3. solid state cove mount luminaires 4. under cabinet luminaires 5. retrofit kits	N/A	N/A
ENERGY STAR	Maximum Measured Driver Case Temperature	Solid State: retrofit kits	shall not exceed the driver manufacturer's maximum recommended temperature during in situ operation. $\leq 90\text{ }^{\circ}\text{C}$	57.1 $^{\circ}\text{C}$	Pass
ENERGY STAR	Maximum In-Situ Source Temperature	Solid State	$\leq 105\text{ }^{\circ}\text{C}$	53.9 $^{\circ}\text{C}$	Pass
ENERGY STAR	Electronic Driver Safety	Solid State: Directional	Demonstrate compliance with ANSI/UL 1310-2010, ANSI/UL 2108-2004, ANSI/UL 8750-2009, as applicable.	Driver safety report has been verified	Pass



2.1 Summary of Test Result					
Regulatory Body	Tests to Determine Compliance	The Type of Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	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.	See 4.1 section	Pass
ENERGY STAR	PRODUCT LABELING & PACKAGING REQUIREMENTS				
ENERGY STAR	WARRANTY REQUIREMENTS	Solid State	incorporating replaceable drivers: ≥ 3 years incorporating non-replaceable drivers: ≥ 5 years	5 years	Pass
ENERGY STAR	Lighting Toxics Reduction Requirements	Solid State	Luminaires and lamps shall not exceed: <ul style="list-style-type: none"> • 1000 ppm: Mercury, Lead, Hexavalent Chromium, PBB and PBDE • 100 ppm: Cadmium 	RoHS report has been verified	Pass
ENERGY STAR	CCT	Solid State	Packaging shall clearly describe the nominal color designation in units of Kelvin (e.g. 2700K).	3000K	Pass



3.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction BL-QP-033)	IES LM-79 2008
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Test date	2020-01-06	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-YL4DR-A1-20Z(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
BLC1912039E-B1	120.0	60	0.1525	18.15	0.992

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3044
Duv	-0.00403
Chromaticity (x, y)	x = 0.4282 y = 0.3912
Chromaticity (u', v')	u' = 0.2505 v' = 0.5149
Color Rendering Index (CRI)	82.0
R9	7

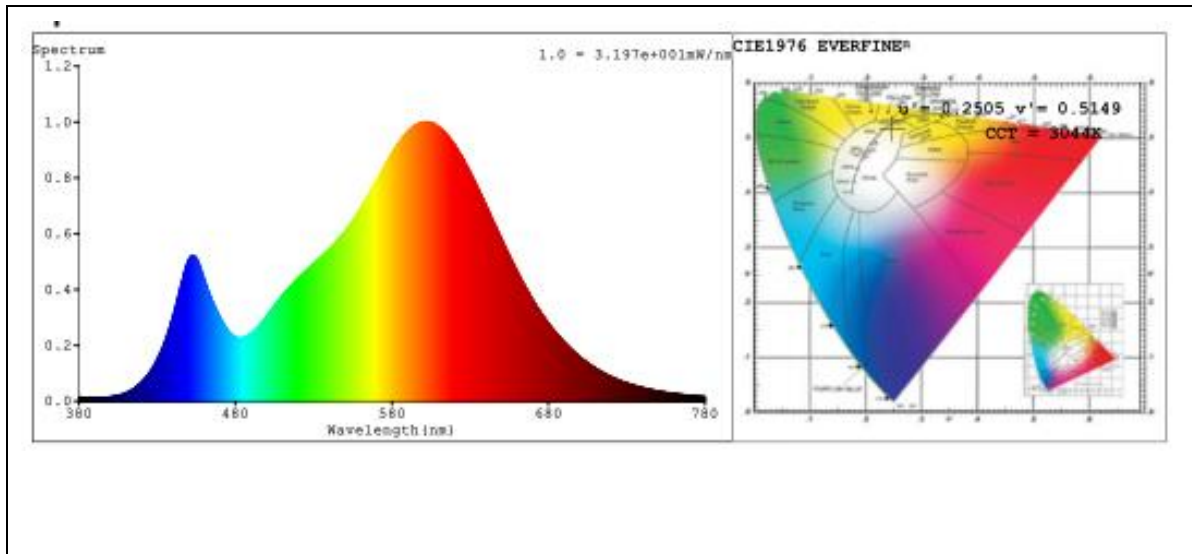
Special Color Rendering Indices			
R1	81	R9	7
R2	92	R10	81
R3	95	R11	77
R4	79	R12	76
R5	81	R13	84
R6	90	R14	98
R7	81	R15	74
R8	58	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1496.9
Luminous Efficacy (lm/W)	82.48
Zonal lumens in the 0-60 ° zone (%)	93.2
Beam Angle °	72.4
Center Beam Candle Power (cd)	980



Spectral Power Distribution and Chromaticity Diagram





Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	705.6	47.1%	47.1%
0-40	1,031.8	68.9%	68.9%
0-60	1,394.5	93.2%	93.2%
60-90	95.3	6.4%	6.4%
70-100	24.6	1.6%	1.6%
90-120	0.8	0.1%	0.1%
0-90	1,489.8	99.5%	99.5%
90-180	6.8	0.5%	0.5%
0-180	1,496.6	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	92.5	6.2%	90-100	0.2	0%
10-20	258.7	17.3%	100-110	0.2	0%
20-30	354.5	23.7%	110-120	0.4	0%
30-40	326.2	21.8%	120-130	0.7	0%
40-50	223.6	14.9%	130-140	1.1	0.1%
50-60	139.1	9.3%	140-150	1.4	0.1%
60-70	70.9	4.7%	150-160	1.4	0.1%
70-80	21.3	1.4%	160-170	1.0	0.1%
80-90	3.1	0.2%	170-180	0.4	0%



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3.2 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction BL-QP-033)	IES LM-79 2008
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Test date	2020-01-06	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-YL6DR-A1-20Z(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
BLC1912039E-B2	120.0	60	0.1615	19.22	0.992

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1419.2
Luminous Efficacy (lm/W)	73.84
Zonal lumens in the 0-60 °zone (%)	98.3
Beam Angle °	64.6
Center Beam Candle Power (cd)	1245



Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	776.1	54.7%	54.7%
0-40	1,120.0	78.9%	78.9%
0-60	1,394.8	98.3%	98.3%
60-90	14.3	1%	1%
70-100	3.1	0.2%	0.2%
90-120	1.2	0.1%	0.1%
0-90	1,409.1	99.3%	99.3%
90-180	9.8	0.7%	0.7%
0-180	1,418.9	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	114.2	8.0%	90-100	0.2	0%
10-20	292.5	20.6%	100-110	0.3	0%
20-30	369.4	26.0%	110-120	0.6	0%
30-40	343.9	24.2%	120-130	1.0	0.1%
40-50	209.8	14.8%	130-140	1.6	0.1%
50-60	65.1	4.6%	140-150	2.1	0.1%
60-70	11.4	0.8%	150-160	2.1	0.1%
70-80	2.2	0.2%	160-170	1.4	0.1%
80-90	0.7	0.0%	170-180	0.4	0%



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3.3 Electrical, Photometric and Chromaticity Measurements <i>(Refer to Work Instruction BL-QP-033)</i>	IES LM-79 2008
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Test date	2020-01-06	Test Ambient:	25.0 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-YL8DR-A1-20Z(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
BLC1912039E-B3	120.0	60	0.1529	18.2	0.992

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	1760.2
Luminous Efficacy (lm/W)	96.71
Zonal lumens in the 0-60 °zone (%)	98.8
Beam Angle °	75.4
Center Beam Candle Power (cd)	1219



Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	880.1	50%	50%
0-40	1,311.0	74.5%	74.5%
0-60	1,739.2	98.8%	98.8%
60-90	13.0	0.7%	0.7%
70-100	1.6	0.1%	0.1%
90-120	0.4	0%	0%
0-90	1,752.2	99.5%	99.6%
90-180	7.7	0.4%	0.4%
0-180	1,759.9	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	115.5	6.6%	90-100	0.1	0%
10-20	323.8	18.4%	100-110	0.1	0%
20-30	440.8	25.0%	110-120	0.3	0%
30-40	430.9	24.5%	120-130	0.8	0%
40-50	314.7	17.9%	130-140	1.4	0.1%
50-60	113.5	6.4%	140-150	1.7	0.1%
60-70	11.4	0.7%	150-160	1.7	0.1%
70-80	1.2	0.1%	160-170	1.2	0.1%
80-90	0.4	0.0%	170-180	0.5	0%

**3.4 Color Spatial Uniformity**

IES LM-79 2008
ENERGY STAR® Program Requirements
Product Specification for Luminaires (Light
Fixtures) - Version 2.2

Test Data :

Test date	2020-01-06	Test Ambient	25.1°C
Sample No.		Maximum $\Delta u'v'$	
BLC1912039E-B1		0.0014	

G\C	0	22.5	45	67.5	90	112.5	135	157.5
0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
1	0.0003	0.0001	0.0004	0.0003	0.0002	0.0001	0	0
2	0.0002	0.0005	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001
3	0.0003	0.0004	0.0004	0.0003	0.0001	0.0001	0	0.0001
4	0.0002	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001
5	0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	0.0001	0.0001
6	0.0003	0.0003	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001
7	0.0002	0.0004	0.0003	0.0002	0.0001	0.0002	0.0001	0.0001
8	0.0002	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001	0.0003
9	0.0002	0.0003	0.0003	0.0001	0.0001	0.0004	0.0001	0.0004
10	0.0003	0.0003	0.0002	0.0004	0.0001	0.0005	0.0001	0.0004
11	0.0001	0.0002	0.0001	0.0004	0.0001	0.0004	0.0001	0.0005
12	0.0001	0.0002	0	0.0004	0.0001	0.0004	0.0001	0.0004
13	0.0001	0.0001	0.0001	0.0002	0	0.0004	0.0003	0.0003
14	0.0001	0.0005	0.0001	0.0002	0.0002	0.0002	0.0001	0.0004
15	0.0001	0.0003	0.0001	0.0001	0.0001	0.0002	0.0001	0.0003
16	0.0013	0.0002	0.0001	0.0001	0.0002	0.0001	0	0.0002
17	0.0001	0.0002	0.0004	0	0.001	0.0003	0.0001	0.0003
18	0.0001	0.0001	0.0004	0.0006	0	0.0004	0.0007	0.0006
19	0.0003	0.0001	0.0009	0.0002	0.0002	0.0003	0.0001	0.0004
20	0.0007	0.0001	0.0003	0.0001	0.0003	0.0003	0.0001	0.0003
21	0.0004	0.0007	0.0004	0.0001	0.0004	0.0001	0.0001	0.0002
22	0.0004	0.0001	0.0004	0.0001	0.0007	0	0.0005	0.0002
23	0.0004	0.0001	0.0009	0.0002	0.0002	0.0006	0.0001	0.0003
24	0.0007	0.0002	0.0003	0.0001	0.0004	0.0001	0.0002	0.0004
25	0.0002	0.0002	0.0004	0.0001	0.0004	0.0001	0.0002	0.0003
26	0.0004	0.0003	0.0005	0.0001	0.001	0.0001	0.0008	0.0001
27	0.0004	0.0003	0.0011	0.0002	0.0004	0.0001	0.0002	0.0001
28	0.001	0.0004	0.0003	0.0002	0.0004	0.0001	0.0001	0.0002
29	0.0003	0.0004	0.0004	0.0003	0.0008	0.0001	0.0004	0.0001
30	0.0004	0.0005	0.0009	0.0003	0.0002	0.0002	0.0001	0.0001

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People' s Republic of China. Website: <http://www.bltest.com>

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G\C	180	202.5	225	247.5	270	292.5	315	337.5
0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
1	0.0001	0.0001	0.0004	0.0002	0.0001	0.0001	0.0001	0
2	0.0002	0.0001	0.0003	0.0003	0.0001	0.0001	0	0.0001
3	0.0003	0.0001	0.0003	0.0001	0.0001	0.0001	0.0004	0
4	0.0003	0.0001	0.0004	0.0001	0.0001	0.0001	0.0004	0.0001
5	0.0003	0.0001	0.0004	0.0003	0.0001	0.0001	0.0003	0.0001
6	0.0003	0.0001	0.0003	0.0001	0.0002	0.0002	0.0003	0.0002
7	0.0003	0.0001	0.0003	0.0001	0.0001	0.0001	0.0003	0.0001
8	0.0003	0.0001	0.0003	0.0003	0.0002	0.0002	0.0003	0
9	0.0002	0.0001	0.0003	0.0001	0.0001	0.0002	0.0003	0.0001
10	0.0006	0.0001	0.0003	0.0001	0.0004	0.0002	0.0003	0.0001
11	0.0005	0.0001	0.0003	0.0003	0.0004	0.0002	0.0003	0.0001
12	0.0006	0.0002	0.0003	0.0003	0.0005	0.0001	0.0002	0
13	0.0006	0.0001	0.0003	0.0001	0.0004	0	0.0001	0.0001
14	0.0006	0.0003	0.0006	0.0002	0.0004	0	0.0004	0.0001
15	0.0006	0.0002	0.0006	0.0001	0.0003	0.0001	0.0004	0.0001
16	0.0004	0.0002	0.0004	0.0001	0.0002	0.0001	0.0003	0.0007
17	0.0005	0.0002	0.0004	0.0001	0.0002	0.0014	0.0003	0.0001
18	0.0007	0.0005	0.0004	0.0006	0.0003	0.0001	0.0003	0.0001
19	0.0005	0.0002	0.0003	0.0001	0.0004	0.0001	0.0001	0.0003
20	0.0004	0.0001	0.0002	0.0001	0.0003	0.0001	0	0.0009
21	0.0005	0.0002	0.0003	0.0001	0.0001	0.0002	0.0006	0.0002
22	0.0004	0.0001	0.0004	0.0002	0.0001	0.0003	0.0001	0.0004
23	0.0003	0.0004	0.0004	0.0004	0.0001	0.0007	0.0001	0.0004
24	0.0002	0.0002	0.0002	0.0001	0.0004	0.0003	0.0001	0.0009
25	0.0006	0.0001	0.0002	0.0002	0.0003	0.0004	0.0001	0.0004
26	0.0005	0.0001	0.0002	0.0006	0.0002	0.0006	0.0002	0.0005
27	0.0004	0.0005	0.0002	0.0001	0.0001	0.0002	0.0001	0.0005
28	0.0003	0.0002	0.0001	0.0001	0.0001	0.0002	0.0003	0.0009
29	0.0003	0.0001	0	0.0001	0.0001	0.0008	0.0003	0.0003
30	0.0003	0.0001	0.0001	0.0004	0.0001	0.0002	0.0004	0.0005



4.1 Electrical and Photometric Measurements, with dimming	IES LM-79 2008 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2
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Test date	2020-01-06	Test Ambient:	25.1°C	
Dimmer Model		TGCL-153P		
Sample No.	Input	Luminous flux (lm)	CCT (K)	P.F.
BLC1912039E-B1	120.0 V / 60 Hz	212.8	3032	0.502
BLC1912039E-B2	120.0 V / 60 Hz	213.5	3049	0.498
BLC1912039E-B3	120.0 V / 60 Hz	210.7	3038	0.495
Average		212.3	3040	0.498

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

Dimmer	Peak Noise Reading (dBA)	Test Condition	Distance between the microphone and the UUT
TGCL-153P	19.9	Dimmer adjusted to lowest light output	< 1 m



4.2 Flicker	NEMA 77-2017 ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2
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Test date	2020-01-06	Test Ambient:	25.1 °C
Sample No.	BLC1912039E-B1		
Input	120.0 V / 60 Hz		
Dimmer Technology	Phase-cut		
Dimmer Model	TGCL-153P		

Item	Short Term Flicker Indicator (Pst)	Stroboscopic Visibility Measure (SVM)
Full light output	0.214	1.058
Maximum Level (100%)	0.264	1.124
Minimum Level (20%)	0.178	0.436



Report No.: BLC1912039E-A

5.1 Operating Frequency	ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2
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Test date	2020-01-06	Test Ambient:	25.1°C
Sample No.	Operating Frequency (Hz)		
BLC1912039E-B1	120.01		
BLC1912039E-B2	120.00		
BLC1912039E-B3	120.02		
Average	120.01		

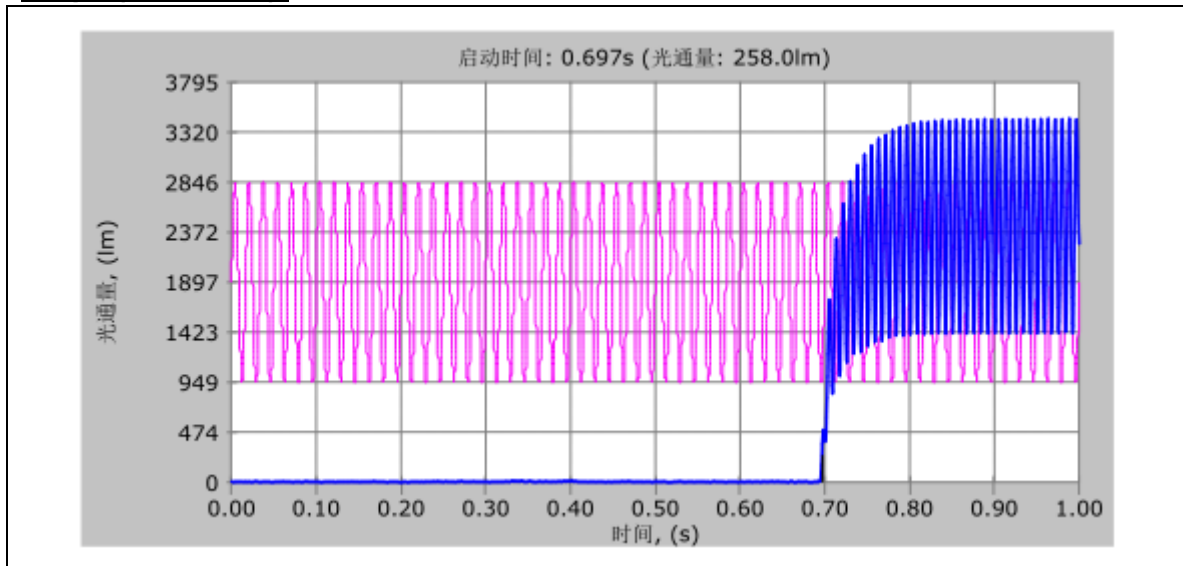


6.1 Starting Time
(Refer to Work Instruction
BL-QP-033)

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

Test date	2020-01-06	Test Ambient:	25.1°C
Sample No.	Start Time (ms)		
BLC1912039E-B1	697		
BLC1912039E-B2	699		
BLC1912039E-B3	695		
Average	697		

Graph (Start Time):





Report No.: BLC1912039E-A

7.1 Transient Protection Test <i>(Refer to Work Instruction BL-QP-033)</i>	ANSI/IEEE C62.41 ENERGY STAR® Program Requirements for Luminaires – Version 2.2
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Test voltage: 120V,60Hz

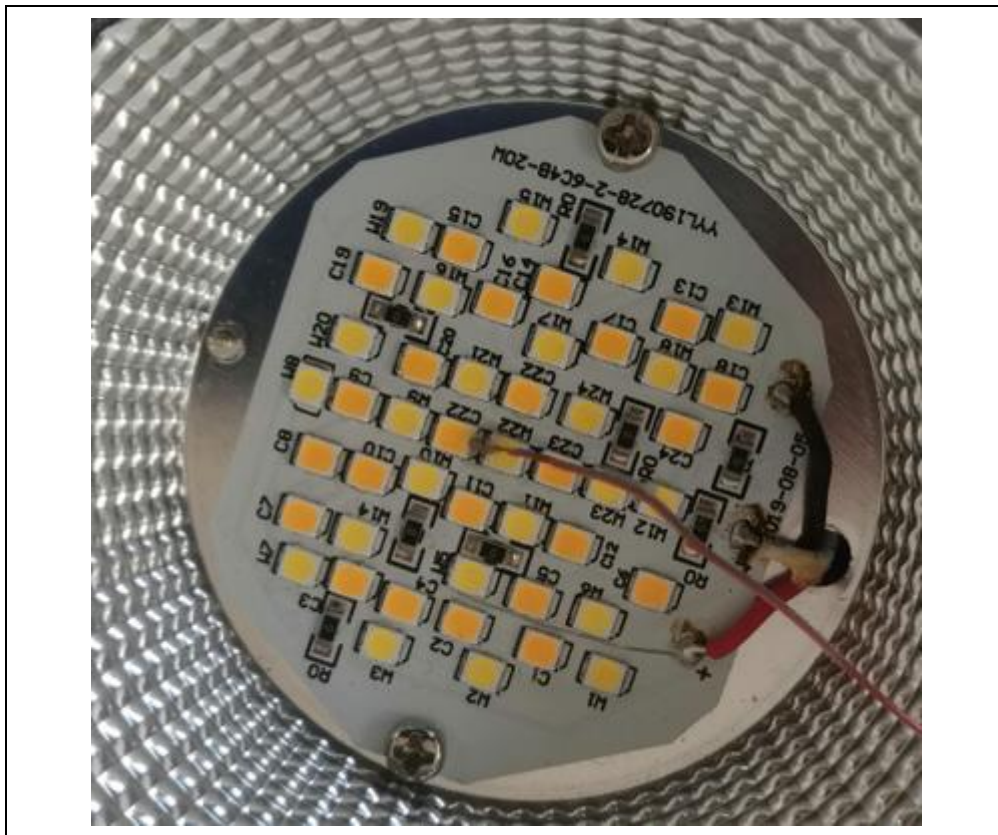
Test date	2020-01-06	Test Ambient	25.1°C
Sample No.		Transient Protection Test - Seven Strikes	
BLC1912039E-B1		Pass	
BLC1912039E-B2		Pass	
BLC1912039E-B3		Pass	



8.1 In-Situ Temperature Measurement Test (ISTMT)	UL1598-2008, 3rd Edition
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Test date	2020-01-06	Test Ambient	25.1°C
Input Vol./Frequency	120 V / 60 Hz	Output Current of Single LED(mA)	-
Sample No.	LED Package Model	Maximum Measured LED Ts Point Temperature (°C)	Maximum LED Ts Point Temperature Limited (°C)
BLC1912039E-B1	9.2835W3V32F-S02	53.9	105

In-Situ Picture - Ts:





8.2 Maximum Measured Ballast or Driver Case Temperature	UL1598-2008, 3rd Edition
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Test date	2020-01-06	Test Ambient	25.1°C
Sample No.	Maximum Measured Driver Case Temperature (°C)	Maximum Driver Case Temperature Limited (°C)	
BLC1912039E-B1	57.1	90	

In-Situ Picture - Ts:





9.1 Off-State Power Consumption:	ENERGY STAR® Program Requirements Product Specification for Luminaires (Light Fixtures) - Version 2.2
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Test date	2020-01-06	Test Ambient:	25.0 °C
Model Number	IK-RDA8-0020-27-DZZ	Stabilization Time (min)	90

Electrical Measurement – when the luminaires turned off:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)
BLC1912039E-B1	120.0	60	0	0



Report No.: BLC1912039E-A

10. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2020-01-14
AC Power Source	CHP-500C	N/A	2020-01-13
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2020-01-21
Digital Power Meter	WT500	DYDWQ200006	2020-01-13
Integral Sphere (2M)	2M	DYJCE120067	2020-01-14
Digital Power Meter	WT500	DYDWQ200006	2020-01-13
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2020-01-14
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

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