

TEST REPORT DEPARTMENT OF ENERGY (10 CFR Parts 429 and 430) Energy Conservation Program: Test Procedures for Integrated Light-Emitting Diode Lamps	
Report reference No	AOC251021011ER
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Contents	11 Pages
Testing laboratory	
Name	Shenzhen AOCE Electronic Technology Service Co., Ltd
Address	Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Testing location	Same as above
Client	
Name	Zhongshan Baiminghui Lighting Technology Co., Ltd.
Address	5th Floor, Unit 1, No. 47, Yifeng 2nd Street, Sansha Village, Henglan Town, Zhongshan City, Guangdong Province, China
Manufacturer	
Name	Zhongshan Baiminghui Lighting Technology Co., Ltd.
Address	5th Floor, Unit 1, No. 47, Yifeng 2nd Street, Sansha Village, Henglan Town, Zhongshan City, Guangdong Province, China
Test specification	
Standard	DEPARTMENT OF ENERGY 10 CFR Parts 429 and 430) Energy Conservation Program: Test Procedures for Integrated Light-Emitting Diode Lamps
Test procedure	DEPARTMENT OF ENERGY (10 CFR Parts 429 and 430) Energy Conservation Program: Test Procedures for Integrated Light-Emitting Diode Lamps
Non-standard test method	N/A

Test item Description	Neon light board		
Trademark	SaikkI		
Model and/or type reference.....	neon001 (See page 3 of the report)		
Test Model.....	neon001		
Rating(s)(V/Hz).....	DC 5V, 7W		
Test case verdicts			
Test case does not apply to the test object : N(N/A)			
Test item does meet the requirement: P(Pass)			
Test item does not meet the requirement : F(Fail)			
Testing			
Date of receipt of test item	2024-11-19		
Date(s) of performance of test.....	2024-11-19 to 2025-10-22		
Test item particulars:	10 CFR Parts 429 and 430		
Lamp type:	☒ Omni directional	☐ Directional	☐ Decorative
Model type (ANSI Standard Lamp Shape):	N/A		
Base type (ANSI).....	/		
Control gear:			
- Integrated	☐		
- External	☒		
Use of lamp:			
- Indoor	☒		
- Outdoor	☐		
- Industry	☐		
Envelope transparency:			
- Clear lamp	☐		
- Non-clear lamp	☒		
Dimmable lamp:	☐		
Lamps with anti-glare shield:	☐		
Lamp cap installed:	/		
Declared data:			
Rated voltage	(V):	DC 5V	
Rated lamp power	(W):	7W	
Rated useful luminous flux.....	(lm):	700 lm	
Rated CCT	(K):	3000K	
Rated life time	(h):	50000h	
Forward current of the LED chip.....	(mA):	--	

LED Manufacturer	Zhongshan Baiminghui Lighting Technology Co., Ltd.
LED Model.....	neon001
Note: 1. Derived models: neon001~1000series. 2. All models are the same except for the model name.	

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1. Test Method

1.1 Photometric and Electrical Measurement

Test Standard.....: IES LM-79-08:Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

Ambient Condition: 25.1°C

Stabilization time: 0.5h

Orientation(burning position) of SSL product during test: 5 base-up and 5 base-down

Test Method: 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 rated voltage and was stabilized before measurement. Lumen output, Lamp efficacy, Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm. Input power, Power factor, Voltage, Current, were calculated from the digital power meter.

1.2 Standby Power Measurement

Test Standard.....: IEC 62301-2011:Household electrical appliances-Measurement of standby power

Ambient Condition.....: 25.1°C

Stabilization time: 0.5h

Orientation(burning position) of SSL product during test: 5 base-up and 5 base-down

Test Method: Sections 5.3.4 Direct meter reading method. The sample was operated at rated voltage and was stabilized before measurement. The standby power were calculated from the digital power meter.

1.3 Luminous Flux and Color Maintenance Measurement

Orientation(burning position) of SSL product

during test: 5 base-up and 5 base-down

Test Method: Season the LED Lamp from 0 hours to 6000 hours.

The sample are operated steady state (no cycling) for a period of 6000 hours, checked the lumen flux and Chromaticity Shift every 1000 hours. The samples are inspected at regular intervals (24 hours) throughout the 6000 hours. The time and date of failure of each lamp is recorded. The actual elapsed time for each light package is in hour.

1.4 In-Situ Temperature Measurement Test (ISTMT)

Test Method: Maximum led source operating temperature measurements were taken on one test sample per model with a thermocouple and temperature meter. The SSL sample was allowed to reach thermal equilibrium for at least 3 hours before measurements were taken. Led source temperature was measured at the point as indicated by the included diagram in accordance with manufacturers declared hot spot location. The maximum temperature was recorded for the sample.

2. Test equipment list

Instrument	Equipment ID	Model	Calibration Date	Calibration Due Date
2m Integrating Sphere	SENSING	SL-300	AOC-S-126	2026-04-13
DC source	OYHS	OYHS-Z120V-50A	AOC-S-062	2026-04-13
Digital power meter	HENGHE	WT310E	AOC-S-012	2026-04-13
Standard Lamp	SENSING	240V/150W	AOC-S-143	2026-04-13
Variable frequency power supply	WOSEN	BP6005	AOC-S-129	2026-04-13
Oscilloscope	TEKTRONIX	MDO3012	AOC-S-028	2026-04-13

3. Test Data

3.1 Initial Photometric and Electrical Measurement Test Results

Sample No.	Base Orientation	Voltage (V)	Current (A)	Lamp Power (W)	Power Factor	Light Output (Lumens)	Revised Lumen/ W	CCT (K)	CRI
S1	base-up	5.0	0.992	7.09	N/A	699.0	98.6	2920	81.0
S2	base-up	5.0	0.979	7.14	N/A	716.5	100.4	2945	81.3
S3	base-up	5.0	0.996	7.02	N/A	723.5	103.1	2939	80.9
S4	base-up	5.0	0.976	7.14	N/A	712.2	99.7	2926	80.8
S5	base-up	5.0	0.971	7.16	N/A	703.2	98.2	2930	81.2
S6	base-down	5.0	0.971	7.01	N/A	708.9	101.1	2935	80.9
S7	base-down	5.0	0.977	7.17	N/A	706.4	98.5	2918	81.1
S8	base-down	5.0	0.980	7.06	N/A	710.1	100.6	2936	80.7
S9	base-down	5.0	0.979	7.04	N/A	711.6	101.1	2941	81.1
S10	base-down	5.0	0.964	7.06	N/A	730.6	103.5	2924	81.0
Average		5.0	0.979	7.09	N/A	712.2	100.5	2931	81.0

Sample No.	Base Orientation	R9	Duv	x (CIE1931)	y (CIE1931)	u' (CIE1976)	v' (CIE1976)	Standby Power
S1	base-up	3	0.00134	0.1939	0.5267	0.1939	0.4692	--
S2	base-up	2	0.00138	0.1953	0.5291	0.1953	0.4716	--
S3	base-up	2	0.00135	0.1945	0.5272	0.1945	0.4697	--
S4	base-up	3	0.00138	0.1955	0.5291	0.1955	0.4716	--
S5	base-up	3	0.00136	0.1943	0.5281	0.1943	0.4706	--
S6	base-down	3	0.00134	0.1871	0.5262	0.1871	0.4687	--
S7	base-down	3	0.00133	0.1941	0.5258	0.1941	0.4683	--
S8	base-down	2	0.00136	0.1949	0.5277	0.1949	0.4702	--
S9	base-down	3	0.00135	0.1951	0.5272	0.1951	0.4697	--
S10	base-down	3	0.00138	0.1947	0.5291	0.1947	0.4716	--
Average		3	0.00138	0.1939	0.5276	0.4111	0.4701	--

Sample No.	R1	R2	R3	R4	R5	R6	R7	R8
S1	80	90	95	79	79	85	84	56
S2	81	91	96	80	80	84	84	54
S3	79	91	94	78	78	85	84	58
S4	78	90	93	79	79	85	85	57
S5	81	93	96	80	80	83	84	52
S6	79	91	94	78	78	85	84	58
S7	81	91	94	80	80	84	84	54
S8	78	90	93	79	79	85	85	57
S9	80	90	95	79	79	85	84	56
S10	80	90	95	79	79	85	84	56
Average	80	91	95	79	79	85	84	56

3.2 In-Situ Temperature Measurement Test (ISTMT)

Sample No.	Base Orientation	Voltage (V)	Frequency (Hz)	Current (A)	Lamp Power (W)	Power Factor	Tested Case Temperature (Ts)°C	Tested ambient Temperature (Tc)°C	Normalized to 25°C
S1	base-up	5.0	N/A	0.992	7.09	N/A	35.9	25.2	35.7
S2	base-up	5.0	N/A	0.979	7.14	N/A	36.0		35.8
S3	base-up	5.0	N/A	0.996	7.02	N/A	37.2		37.0
S4	base-up	5.0	N/A	0.976	7.14	N/A	35.5		35.3
S5	base-up	5.0	N/A	0.971	7.16	N/A	35.6		35.4
S6	base-down	5.0	N/A	0.971	7.01	N/A	36.6		36.4
S7	base-down	5.0	N/A	0.977	7.17	N/A	35.7		35.5
S8	base-down	5.0	N/A	0.980	7.06	N/A	36.7		36.5
S9	base-down	5.0	N/A	0.979	7.04	N/A	37.0		36.8
S10	base-down	5.0	N/A	0.964	7.06	N/A	36.3		36.1
Average		5.0	N/A	0.979	7.09	N/A	36.3		36.1

3.3 Lumen Maintenance (%)

Sample No.	Base Orientation	Initial Light Output (lm)	Lumen Maintenance(%)						
			0 hours	1000 hours	2000 hours	3000 hours	4000 hours	5000 hours	6000 hours
S1	base-up	699.0	100	101.24	99.84	98.69	98.62	98.21	96.36
S2	base-up	716.5	100	101.02	99.62	98.47	98.40	98.00	96.14
S3	base-up	723.5	100	101.36	99.96	98.80	98.73	98.32	96.46
S4	base-up	712.2	100	101.48	100.08	98.92	98.85	98.44	96.58
S5	base-up	703.2	100	100.97	99.57	98.42	98.35	97.95	96.09
S6	base-down	708.9	100	100.93	99.53	98.38	98.31	97.91	96.05
S7	base-down	706.4	100	100.72	99.33	98.18	98.11	97.71	95.86
S8	base-down	710.1	100	101.35	99.95	98.79	98.73	98.32	96.46
S9	base-down	711.6	100	101.40	100.00	98.84	98.78	98.37	96.51
S10	base-down	730.6	100	101.02	99.63	98.47	98.41	98.00	96.14
Average		712.2	100	101.15	99.75	98.59	98.53	98.12	96.27
Median		710.9	100	101.13	99.74	98.58	98.51	98.11	96.25
Std.dev		8.9	0	0.24	0.23	0.23	0.23	0.23	0.23
Max		730.6	100	101.48	100.08	98.92	98.85	98.44	96.58
Min		699.0	100	100.72	99.33	98.18	98.11	97.71	95.86

3.4 Chromaticity Shift ($\Delta u'v'$)

Sample No.	Base Orientation	u'	v'	CCT(K)	Chromaticity Shift($\Delta u'v'$)					
		0hr(Initial)			1000 hours	2000 hours	3000 hours	4000 hours	5000 hours	6000 hours
S1	base-up	0.1939	0.4692	2920	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
S2	base-up	0.1953	0.4716	2945	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
S3	base-up	0.1945	0.4697	2939	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006
S4	base-up	0.1955	0.4716	2926	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006
S5	base-up	0.1943	0.4706	2930	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
S6	base-down	0.1871	0.4687	2935	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007
S7	base-down	0.1941	0.4683	2918	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
S8	base-down	0.1949	0.4702	2936	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006
S9	base-down	0.1951	0.4697	2941	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006

S10	base-down	0.1947	0.4716	2924	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006
Average		0.1939	0.4701	2931	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006
Median		0.1946	0.4700	2933	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006
Std.dev		0.0023	0.0012	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Max		0.1955	0.4716	2945	0.0005	0.0006	0.0006	0.0006	0.0006	0.0007
Min		0.1871	0.4683	2918	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006

3.5 Test Summary

Tested Ambient Temperature (Ta)°C	Test Case Temperature (Ts)°C	Number of failures	Input Voltage (V)	Frequency (Hz)	Input current (A)	Input Power (W)	Average Lumen Maintenance at 6000 hours	Average Chromaticity Shift ($\Delta u'v'$) at 6000 hours
25.1	36.1	100%	5.0	N/A	0.979	7.09	96.27	0.0006

3.6 Lumen Maintenance Projection (IESNA TM-28-14 Method)

Criteria Item	Result
15000hours luminance of LED light source	96.13%
Drive current on each LED light source	/
Reported L ₇₀ lumen maintenance life	55000 hours

4. Photo of sample**ATTACHMENT 1(S)**

-----END OF REPORT-----