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..... :	AOC250826020ER
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Date of issue ..... :	2025-09-02
Contents ..... :	12 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 ..... :	Guangdong Fengshang Electronics Co., Ltd.
Address..... :	Room 201, Block 8, Yi 'an Scientific Innovation Park, No.23, Gangkou Road,Guicheng Street, NanhaiDistrict, Foshan City, Guangdong Province, China

Manufacturer

Name ..... :	Guangdong Fengshang Electronics Co., Ltd.
Address..... :	Room 201, Block 8, Yi ‘an Scientific Innovation Park, No.23, Gangkou Road,Guicheng Street, NanhaiDistrict, Foshan 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 .....:	Desktop folding nail lamp
Trademark .....:	LIEQI
Model and/or type reference.....:	F-700C
Test Model…….....:	F-700C
Rating(s)(V/Hz).....:	100-240V~, 50/60Hz, 40W
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 ..... :	2024-11-14
Date(s) of performance of test….....:	2024-11-14 to 2025-08-26
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):	100-240V~
Rated lamp power ……..…..…(W):	40W
Rated useful luminous flux……..……(lm):	4300 lm
Rated CCT ……..……..(K):	3000-6000K
Rated life time ……..…..(h):	20000h
Forward current of the LED chip.....(mA):	--

LED Manufacturer ……..…….....:	Guangdong Fengshang Electronics Co., Ltd.
LED Model.....:	F-700C

Table of Contents

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℃
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℃
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 Integating 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	220V/150W	AOC-S-156	2026-06-05
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	120.1	0.358	39.0	0.906	4300.89	110.3	6213	82.3
S2	base-up	120.2	0.358	39.0	0.907	4437.05	113.6	6157	81.8
S3	base-up	120.0	0.366	40.7	0.926	4383.02	107.8	6237	81.3
S4	base-up	120.1	0.359	39.1	0.907	4378.69	112.0	6269	80.3
S5	base-up	120.0	0.366	40.7	0.926	4305.21	105.8	6169	82.5
S6	base-down	120.1	0.361	39.5	0.912	4317.31	109.3	6219	82.8
S7	base-down	120.1	0.359	39.2	0.908	4274.95	109.1	6256	81.3
S8	base-down	119.9	0.360	39.3	0.911	4313.86	109.6	6231	84.3
S9	base-down	120.1	0.365	40.5	0.923	4326.39	106.9	6188	81.3
S10	base-down	120.2	0.366	40.8	0.927	4317.75	105.9	6194	81.6
Average		120.1	0.362	39.8	0.915	4335.51	109.0	6213	81.9

Sample No.	Base Orientation	R9	Duv	x (CIE1931)	y (CIE1931)	u' (CIE1976)	v' (CIE1976)	Standby Power
S1	base-up	7	0.00822	0.3183	0.3408	0.1976	0.4756	0.34
S2	base-up	6	0.00826	0.3205	0.3425	0.1990	0.4780	0.30
S3	base-up	7	0.00823	0.3193	0.3412	0.1982	0.4761	0.35
S4	base-up	7	0.00826	0.3209	0.3425	0.1992	0.4780	0.31
S5	base-up	7	0.00824	0.3189	0.3419	0.1980	0.4770	0.32
S6	base-down	6	0.00821	0.3186	0.3405	0.1907	0.4751	0.28
S7	base-down	7	0.00820	0.3186	0.3401	0.1978	0.4746	0.27
S8	base-down	7	0.00823	0.3199	0.3415	0.1986	0.4765	0.34
S9	base-down	7	0.00823	0.3202	0.3412	0.1988	0.4761	0.32
S10	base-down	6	0.00826	0.3196	0.3425	0.1984	0.4780	0.34
Average		7	0.00823	0.3195	0.3415	0.1976	0.4765	0.32

Sample No.	R1	R2	R3	R4	R5	R6	R7	R8
S1	80	88	92	79	79	82	85	73
S2	81	87	91	78	78	81	84	74
S3	79	87	91	78	78	81	84	72
S4	78	86	90	77	77	80	83	71
S5	81	88	92	79	79	82	85	74
S6	82	88	92	79	79	82	85	75
S7	79	87	91	78	78	81	84	72
S8	82	90	94	81	81	84	87	75
S9	79	87	91	78	78	81	84	72
S10	77	88	92	79	79	82	85	71
Average	80	88	92	79	79	82	85	73

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)℃	Tested ambient Temperature (Tc)℃	Normalized to 25℃
S1	base-up	120.1	60	0.358	39.0	0.906	55.5	25.1	55.4
S2	base-up	120.2	60	0.358	39.0	0.907	55.6		55.5
S3	base-up	120.0	60	0.366	40.7	0.926	56.8		56.7
S4	base-up	120.1	60	0.359	39.1	0.907	55.1		55.0
S5	base-up	120.0	60	0.366	40.7	0.926	55.2		55.1
S6	base-down	120.1	60	0.361	39.5	0.912	56.2		56.1
S7	base-down	120.1	60	0.359	39.2	0.908	55.3		55.2
S8	base-down	119.9	60	0.360	39.3	0.911	56.3		56.2
S9	base-down	120.1	60	0.365	40.5	0.923	56.6		56.5
S10	base-down	120.2	60	0.366	40.8	0.927	55.9		55.8
Average		120.1	60	0.362	39.8	0.915	55.9		55.8

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	4300.89	100	99.32	99.22	99.12	99.01	99.00	98.86
S2	base-up	4437.05	100	99.76	97.76	97.52	97.42	97.30	97.19
S3	base-up	4383.02	100	99.08	98.08	97.85	97.74	97.63	97.51
S4	base-up	4378.69	100	99.20	98.20	97.97	97.86	97.74	97.63
S5	base-up	4305.21	100	98.70	97.71	97.47	97.37	97.25	97.14
S6	base-down	4317.31	100	98.66	97.67	97.43	97.33	97.21	97.10
S7	base-down	4274.95	100	98.46	97.47	97.24	97.13	97.01	96.90
S8	base-down	4313.86	100	99.08	98.08	97.85	97.74	97.62	97.51
S9	base-down	4326.39	100	99.12	98.13	97.89	97.79	97.67	97.56
S10	base-down	4317.75	100	98.75	97.76	97.53	97.42	97.30	97.19
Average		4335.51	100	99.01	98.01	97.79	97.68	97.57	97.46
Median		4317.53	100	99.08	97.92	97.69	97.58	97.46	97.35
Std.dev		46.28	0	0.36	0.46	0.50	0.50	0.53	0.52
Max		4437.05	100	99.76	99.22	99.12	99.01	99.00	98.86
Min		4274.95	100	98.46	97.47	97.24	97.13	97.01	96.90

3.4 Chromaticity Shift (Δ u'v')

Sample No.	Base Orientation	u'	v'	CCT(K)	Chromaticity Shift(Δu'v')					
		0hr(Initial)			1000 hours	2000 hours	3000 hours	4000 hours	5000 hours	6000 hours
S1	base-up	0.1976	0.4756	6213	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S2	base-up	0.1990	0.4780	6157	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S3	base-up	0.1982	0.4761	6237	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S4	base-up	0.1992	0.4780	6269	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010
S5	base-up	0.1980	0.4770	6169	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S6	base-down	0.1907	0.4751	6219	0.0009	0.0011	0.0011	0.0011	0.0011	0.0012
S7	base-down	0.1978	0.4746	6256	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S8	base-down	0.1986	0.4765	6231	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
S9	base-down	0.1988	0.4761	6188	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010

S10	base-down	0.1984	0.4780	6194	0.0008	0.0009	0.0009	0.0009	0.0010	0.0010
Average		0.1976	0.4765	6213	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
Median		0.1983	0.4763	6216	0.0009	0.0010	0.0010	0.0010	0.0010	0.0011
Std.dev		0.0024	0.0012	35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Max		0.1992	0.4780	6269	0.0009	0.0011	0.0011	0.0011	0.0011	0.0012
Min		0.1907	0.4746	6157	0.0008	0.0009	0.0009	0.0009	0.0009	0.0010

3.5 Test Summary

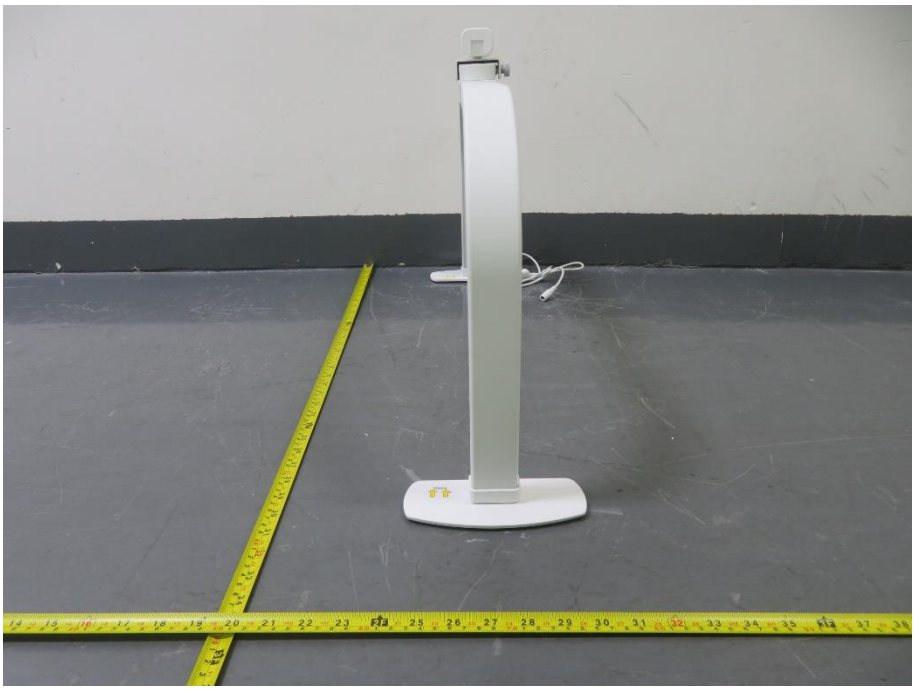
Tested Ambient Temperature (Ta)℃	Test Case Temperature (Ts)℃	Numbet of failures	Input Voltage (V)	Frequency (Hz)	Input current (A)	Input Power (W)	Average Lumen Maintenance at 6000 hours	Average Chromaticity Shift (Δ u'v') at 6000 hours
25.1	55.8	100%	120.1	60	0.362	39.8	97.46	0.0011

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

Criteria Item	Result
15000hours luminance of LED light source	94.88 %
Drive current on each LED light source	/
Reported L_{70} lumen maintenance life	40000 hours

4. Photo of sample

ATTACHMENT 1(S)



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