

Technical Report



Product Service

Technical Report No.: 87.402.23.134.05-06

Date: 2023-05-12

Client: Name: Removed by K.I.
Address:

Manufacturer: Contact person:
Name:
Address:

Factory: Contact person:
Name:
Address:

Test object: Contact person: N/A
Product: LED lighting chain
Model: AX8404050
Trade mark: N/A

Test specification: (EU) 2019/2015:2019-03-11;
(EU) 2021/340:2020-12-17

Purpose of examination: Energy Efficiency Class measurement according to the applicant's demand

Test result: The energy efficiency class is G

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1. Description of the test object

1.1 Picture(s)



AX8404050

1.2 Function

LED lighting chain is intended for general outdoor lighting applications.

Manufacturer’s specification for intended use:

See above

1.3 Consideration of the foreseeable use

- Not applicable
- Covered through the applied standard
- Covered by the following comment*
- Covered by attached risk analysis

*

1.4 Technical Data

Declared technical data:

Rated voltage	(V):	31V DC
Rated current	(mA):	330
Rated power	(W):	12
Rated useful luminous flux.....	(lm):	780
Rated CCT	(K):	2500



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Rated Ra.....: 55

2. Order

2.1 Date of Purchase Order, Customer's Reference

2023-02-22

2.2 Test Sample(s)

- Reception date(s): 2023-02-22
- Location(s) of reception: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch ; No. 1999, Duhui Road, Shanghai, 201108, P. R. China
- Condition of test sample(s): Completely

2.3 Testing

- Testing date(s): 2023-02-22 to 2023-05-12
- Location(s) of testing: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No. 1999, Duhui Road, Shanghai, 201108, P. R. China

2.4 Points of Non-Compliance or Exceptions of the Test Procedure

- None

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3. Test Results

Table 1	Test data		
Voltage (V):	31VDC	Frequency (Hz):	-
Φ_{use} measured at:	sphere (360°)	Ambient (T/rh) (°C / %)	25/55
Test item	Measured Value	Limit	
Sample:	1	-	
U (V) ¹⁾	31.0	-	
I (mA) ¹⁾	326	-	
P (W) ¹⁾	10.1	≤ 12.0	
Initial Φ_{use} (lm) ¹⁾	801	≥ 780	
CCT (K) ¹⁾	2434	-	
CRI ¹⁾²⁾	58.8	- ³⁾	
Color consistency ¹⁾²⁾	≤ 6	≤ 6-step	
R ₉ ¹⁾⁴⁾	-71	-	
Supplementary information: ¹⁾ initial measurement value after aging of: 30 min ²⁾ for LED and OLED ³⁾ except for HID with $\Phi_{use} > 4$ klm and for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI < 80 ⁴⁾ means the colour rendering index for a red coloured object as defined in standards ⁵⁾ 'survival factor' (SF) means the defined fraction of the total number of light sources that continue to operate at a given time under defined conditions and switching frequency Additional measurement Chromaticity coordinates (x,y) ¹⁾ : 0.4868, 0.4205			

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Energy Efficiency class:

Item	Rated value	Measured value	Deviation
Beam angle (°)	-	-	-
Φ_{use} (lm)	780	801	+2.7%
P_{on} (W)	12.00	10.10	-15.8%
η_{TM}	60	73	+22.0%
Energy efficiency class	G	G	Same Class
E_c (kWh/1000h)	12	11	-

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4. Test History

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5. Remarks

Disclaimer Measurement Uncertainty:

Unless otherwise agreed upon, Pass or Fail verdict are given based on the measured values without any considerations of measurement uncertainties.

Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements.

By taking measurement uncertainties into account it might happen that measured values can neither be assessed as PASS nor as FAIL.

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6. Documentation

N/A

7. Summary

The energy efficiency class is G

Choose legal entity

Tested by:

Hongtian Gu,
Project Handler

printed name, function & signature



Approved by:

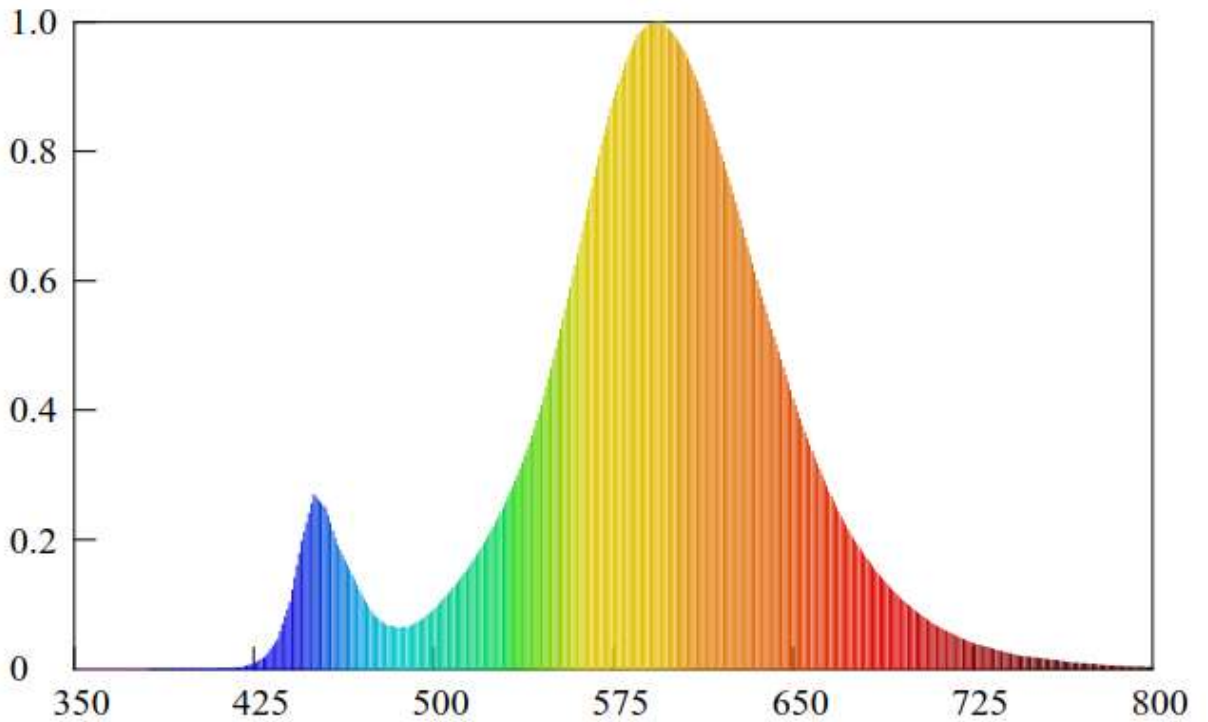
Tianchen Zhang,
Designated Reviewer

printed name, function & signature



Attachment 1: Photometric test data of initial measurement (sample 1#)

光色参数 Spectroradiometric Parameters



光谱分布 Spectral Distribution

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Attachment 2: Equipment list

No.	Type	Manufacture	Model	Equipment ID	Next Calibration
1184	Digital Power Meter	YOKOGAWA (Japan)	WT310E-C2-H/G5	S18101184-YQ	2024-06-01
1240	High Accuracy Array Spectroradio Meter	Everfine	HAAS-2000_VIR3510	S18121240-YQ	2024-06-01
525	Reference Lamp	Sensing	0.8422A (110V 100W)	S1004525-YQ	2024-06-01
415	Thermometer	Fluke (USA)	Fluke 52-II	S0712415-YQ	2024-06-01
714	Full-field Speed Goniophotometer	Everfine	GO-R5000	S1207714-YQ	2024-06-01
714a	High-accuracy Intelligent Photometer Head	Everfine	ID-1000_P-B/ID-1000_P-C	S1207714a-YQ	2024-06-01
714b	High-accuracy Digital Photometer Head	Everfine	ID-1000_P-B/ID-1000_P-C	S1207714b-YQ	2024-06-01
714c	High Accuracy Array Spectroradio Meter	Everfine	HAAS-2000	S1207714c-YQ	2024-06-01
714d	Standard Light Source	Everfine	D908	S1207714d-YQ	2024-06-01
714e	Digital Power Meter	Everfine	PF2010	S1207714e-YQ	2024-06-01
714f	Digital CC & CV DC Power Supply	Everfine	WY12010	S1207714f-YQ	2024-06-01
714g	Intelligent AC Power Source	Everfine	DPS1060	S1207714g-YQ	2024-06-01
1080	Light Flickering Analyzer	Everfine	LFA-3000	S17041080-YQ	2024-06-01
1036	Precision Digital Power Meter	YOKOGAWA (Japan)	WT3001E-2A1-30A0-H/G6	S16111036-YQ	2024-06-01

--- End of Report ---

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