



Report No.: RKEYS250212178


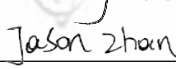
Date: Feb. 26, 2025

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# TEST REPORT

EN IEC 60598-2-1

## Luminaires - Part 2-1: Particular requirements - Fixed general purpose luminaires

Report Number..... :	RKEYS250212178
Total number of pages.....	11 pages
Tested by (name + signature)..... :	Sunny Li 
Approved by (name + signature).... :	Jason Zhan 
Testing Laboratory Name..... :	Guangdong KEYS Testing Technology Co., Ltd.
Address..... :	Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China
Applicant's name..... :	Shanghai Cyanlite Technology Co.,Ltd
Address..... :	No.93 Jianhao Road ,Pudong District,ShangHai201318,china
Manufacturer's name..... :	Shanghai Cyanlite Technology Co.,Ltd
Address..... :	No.93 Jianhao Road ,Pudong District,ShangHai201318,china
Test specification:	
Standard..... :	EN IEC 60598-2-1:2021 EN IEC 60598-1:2021+A11:2022
Test procedure..... :	
Non-standard test method..... :	N/A
Test item description..... :	LED Luminaire
Trade Mark..... :	N/A
Model/Type reference..... :	Test Model : T81.5M-36WX2

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Guangdong KEYS Testing Technology Co., Ltd.

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<b>Test item particulars.....</b>	See test report
<b>Classification of installation and use.....</b>	Class I
<b>Supply Connection.....</b>	Power cord
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
<b>Testing.....</b>	
<b>Date of receipt of test item.....</b>	Feb. 12, 2025
<b>Date (s) of performance of tests.....</b>	Feb. 12, 2025 to Feb. 17, 2025
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report.	
"(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
<b>Name and address of factory (ies).....</b>	Jiaxing Cyanlite Technology Co.,Ltd 2nd Floor building 2, 333 guangnan Road, Guangchen Town Pinghu Zhejiang China
<b>General product information:</b>	
1.The appliance/equipment is “LED Luminaire” with model “T81.5M-36WX2”, class I appliance for indoor use only.	
2. All test mode on T81.5M-36WX2 .	
3.The ambient temperature is 25°C.	

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## 1. General conditions for measurements

- a) The luminaire shall be mounted in a thermal enclosure with means for controlling the ambient temperature within the enclosure. The luminaire shall be positioned on a similar supporting surface (and in the same operating position) as for the normal operation thermal test (see 12.4.1).
- b) The ambient temperature within the enclosure shall be maintained within  $\pm 2\text{ }^{\circ}\text{C}$  of  $(t_a + 10)\text{ }^{\circ}\text{C}$  during the test;  $t_a$  is  $25\text{ }^{\circ}\text{C}$  unless otherwise marked on the luminaire. The ambient temperature within the enclosure shall be measured in accordance with Annex K. Ballasts for operation separate from the luminaire shall be mounted in free air, not necessarily in the thermal enclosure, and shall be operated in an ambient temperature of  $25\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ .
- c) The luminaire shall be tested in the enclosure for a total duration of 168 h consisting of seven successive cycles of 24 h. Supply voltage as specified in item d) below shall be applied to the luminaire for the first 21 h and disconnected for the remaining 3 h of each cycle. The initial heating period of the luminaire is part of the first test cycle. The circuit condition shall be as in normal operation for the first six cycles, and as in abnormal operation (see Annex C) for the seventh cycle. For luminaires containing an electrical motor (e.g. a fan) the abnormal condition which most adversely affects the result of the test shall be selected. For luminaires for which there is no abnormal condition test according to 12.5.1, the total test duration shall be 240 h (i.e. 10 x 24 cycles at normal operation). For filament luminaires, the total test duration of 240 h shall apply in all cases.
- d) During operating periods, the supply voltage for filament lamp luminaires, other than ELV, shall be  $1,05 \pm 0,015$  times the voltage at which the rated wattage of the lamp is obtained and  $1,10 \pm 0,015$  times (the rated voltage or the maximum of the rated voltage range) for ELV luminaires with tungsten filament lamps, tubular fluorescent and other discharge lamp luminaires. After the test of 12.3.1, the luminaire and, for track-mounted luminaires, also the track and component parts of the track system, shall be visually inspected. No part of the luminaire shall have become unserviceable (other than as a chance failure as described in item e) of 12.3.1) and plastic ES lampholders shall not be deformed. The luminaire shall not have become unsafe and shall not have caused damage to the track system. The marking of the luminaire shall be legible.
- e) Under conditions representing normal service, no part of the luminaire (including the lamp), the supply wiring within the luminaire, or the mounting surface shall attain a temperature which would impair safety. In addition, parts intended to be touched, handled, adjusted or gripped by hand while the luminaire is at operating temperature shall not be too hot for the purpose. Luminaires shall not cause excessive heating of lighted objects. Track-mounted luminaires shall not cause excessive heating of tracks on which they are mounted. Compliance is checked by carrying out the test described in 12.4.1. The test conditions for measuring the track temperature shall be as given in 12.1 of IEC 60570: 2003. For luminaires containing an electrical motor, this motor shall operate as intended during the test



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### 3. Test Condition

During the testing lampshade is mounted on the provide luminaires and give the most unfavourable test conditions.  
Ambient temperature: 40 °C.



EN IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>1.12 (12)</b>	<b>ENDURANCE TEST AND THERMAL TEST</b>		<b>P</b>
1.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 4.13		—
1.12 (12.3)	Endurance test:		<b>P</b>
	- mounting- position..... :	As normal used	—
	- test temperature (°C)..... :	40°C	—
	- total duration (h)..... :	240h	—
	- supply voltage: Un factor; calculated voltage (V).:	264V	—
	- lamp used..... :	LED	—
1.12 (12.3.2)	After endurance test:		<b>P</b>
	- no part unserviceable		<b>P</b>
	- luminaire not unsafe		<b>P</b>
	- no damage to track system		N/A
	- marking legible		<b>P</b>
	- no cracks, deformation etc.		<b>P</b>
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	<b>P</b>
1.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
1.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) ..... :		—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un ... :		—
	- measured mounting surface temperature (°C) at 1,1 Un..... :		N/A
	- calculated mounting surface temperature (°C) .... :		N/A



EN IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- track- mounted luminaires		N/A
1.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions..... :		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut- out		N/A
	- measured mounting surface temperature (°C)..... :		N/A
	- track- mounted luminaires		N/A
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.12 (12.7.1)	Luminaire without temperature sensing control		N/A
1.12 (12.7.1.1)	Luminaire with fluorescent lamp $\leq 70W$		N/A
	Test method 12.7.1.1 or Annex W ..... :		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions..... :		—
	- Ballast failure at supply voltage (V) .....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions..... :		—
	- measured winding temperature (°C): at 1,1 Un..... :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		—
	- calculated temperature of fixing point/exposed part (°C)..... :		—
	Ball-pressure test..... :	See Table 1.15 (13.2.1)	N/A



EN IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions..... :		—
	- measured winding temperature (°C): at 1,1 Un..... :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C)..... :		—
	Ball-pressure test..... :	See Table 1.15 (13.2.1)	N/A
1.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
1.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link..... :	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- manual reset cut-out..... :	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- auto reset cut-out..... :	Yes <input type="checkbox"/> No <input type="checkbox"/>	—
	- case of abnormal conditions..... :		—
	- highest measured temperature of fixing point/exposed part (°C):..... :		—
	Ball-pressure test:..... :	See Table 1.15 (13.2.1)	N/A

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
EN IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type reference.....:	T81.5M-36WX2	—			
	Lamp used.....:	LED	—			
	Lamp control gear used.....:	LED Driver	—			
	Mounting position of luminaire..... :	Normal mounting	—			
	Supply wattage (W)..... :	72W	—			
	Supply current (A)..... :	0.3A	—			
	Calculated power factor..... :		—			
	Table: measured temperatures corrected for ta = 25 °C:		P			
	- abnormal operating mode..... :		—			
	- test 1: rated voltage..... :		—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1.06*240V	—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :		—			
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage..... :		—			
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :		—			
Temperature measurements, (°C)						
Part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Power supply TC	--	78.1	--	90	--	--
Three-proof lamp fixed partition plate	--	63.1	--	90	--	--
Center back of lamp tube	--	66.7	--	110	--	--
LED TC	--	66.1	--	90	--	--
Surface of lamp cover (center)	--	57.3	--	90	--	--





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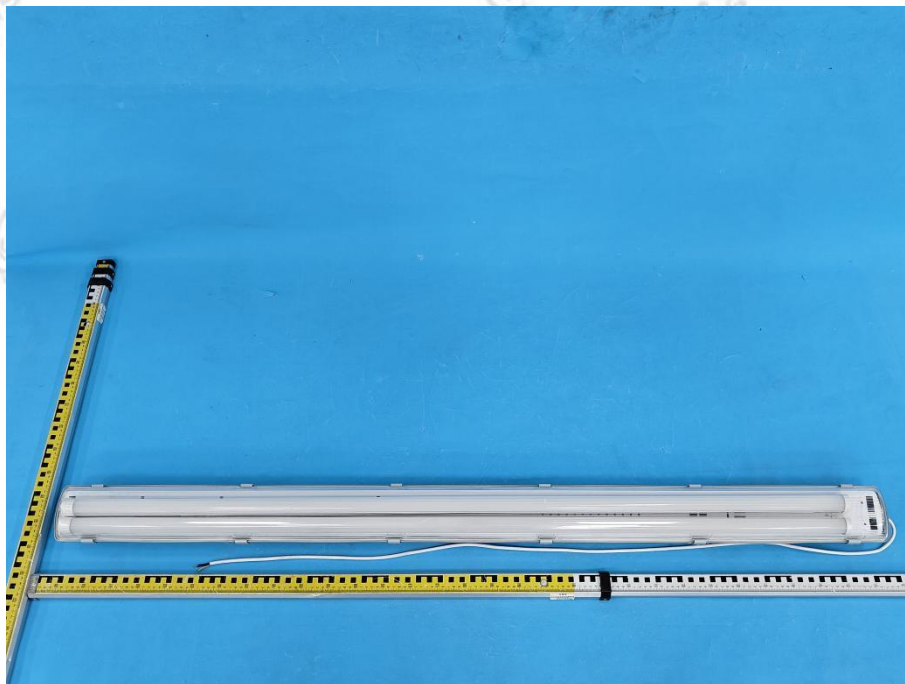
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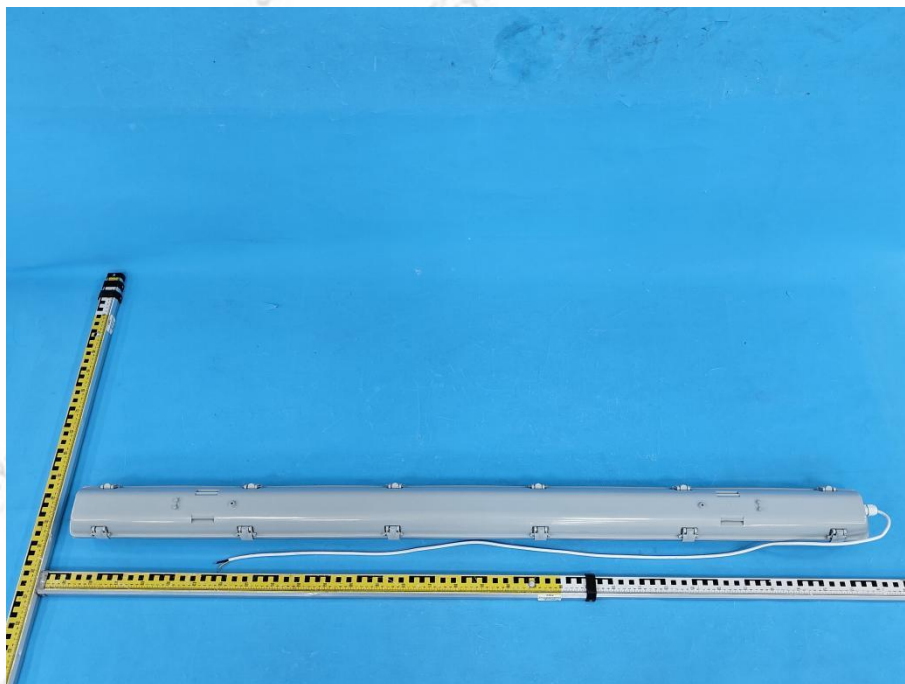
Front of the lamp tube in the air(not in direct contact)	--	46.5	--	90	--	--
Enclosure outside	--	48.8	--	60	--	--
Supplementary information:						

### Photo documentation

- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



- ☐ front
- ☒ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



- ☐ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☒ internal



- ☒ front
- ☐ rear
- ☐ right side
- ☐ left side
- ☐ top
- ☐ bottom
- ☐ internal



\*\*\* End of Report \*\*\*