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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 36949-2018

**Double-capped LED lamps designed to retrofit linear
fluorescent lamps - Performance specifications**

双端LED灯（替换直管形荧光灯用）性能要求

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed by the China Light Industry Association. This standard is under the jurisdiction of the National Lighting Appliance Standardization Technical Committee (SAC/TC224). This standard was drafted. China Quality Certification Center, Xiamen Tongshida Lighting Co., Ltd., National Electric Light Source Quality Supervision and Inspection Center (North) Beijing), Hengdian Group Debang Lighting Co., Ltd., Hunan Beit Lyle Optoelectronics Technology Co., Ltd., Foshan Electric Lighting Co., Ltd. Chenhui Guangbao Technology Co., Ltd., Zhejiang Yingtelai Optoelectronics Technology Co., Ltd., Shenzhen Spike Optoelectronics Technology Co., Ltd., Nanjing Handerson Technology Co., Ltd., Hangzhou Jinglan Lighting Technology Co., Ltd., Zhejiang Chenfeng Technology Co., Ltd., Zhejiang Yuguang Lighting Technology Co., Ltd. Company, Ningbo Yamao Optoelectronics Co., Ltd., Foshan Huaquan Electric Lighting Co., Ltd., Zhejiang Shangguang Lighting Co., Ltd., Hangzhou Hongyan Electric Instrument Co., Ltd., Hangzhou Ande Electronics Co., Ltd., Osram (China) Lighting Co., Ltd., Beijing Electric Light Source Research Institute. The main drafters of this standard. Zheng Xuesheng, Chen Song, Chen Songbo, Zhang Debao, Zhang Wei, Chen Liang, Peng Guangming, Wei Bin, Guo Pengxin, Lian Chengjie, Wang Xianchen, Han Licheng, Wu Yongqiang, He Wenjian, Li Anjia, Cao Maojun, Ke Boquan, Lu Junmin, Sun Quanming, Wu Zhaozhao, Zhang Junbin, Zhao Xiurong. Double-ended LED light (for replacing straight tubular fluorescent lamps) Performance requirements

1 Scope

China's national performance specification for double-capped LED lamps intended to replace linear fluorescent tubes. It specifies the terms and definitions, the product classification and models, the technical requirements, the test methods and the inspection

rules, with an informative annex on classification. These are the LED tubes sold to drop into existing fluorescent fittings, and they are the most awkward product in the lighting transition. The fitting they go into was designed around a fluorescent lamp's electrical behaviour: it contains a ballast, and possibly a starter, that an LED tube neither needs nor can use directly. Some designs work with the ballast in place, some require it to be bypassed and the fitting rewired, and the two look identical on the shelf. Fitting the wrong one gives a lamp that fails early, a fitting that runs hot, or a live pin exposed during installation. A performance specification that fixes the classification is therefore as much a safety measure as a quality one.

This standard specifies double-ends with fluorescent lamps with G5 and G13 caps for replacing the same lamp head and complying with GB/T 10682 regulations. Terms and definitions of LED lights, product classification and model, technical requirements, test methods and inspection rules. This standard applies to rated power of 125W and below, frequency of 50Hz, rated voltage of AC220V, nominal length of 1500mm And below, double-ended LED lamps with a beam angle of 120° or more (for replacing straight tubular fluorescent lamps). This type of double-ended LED lamp is used to replace the double-ended fluorescent lamp without any modification to the luminaire. Existing luminaires that are replaced with double-ended LED lights can be luminaires containing inductive or electronic controls.

Note 1. Unless otherwise specified, other types of lamps appear in this standard for "lights" for "double-ended LED lamps (for replacement of straight tubular fluorescent lamps)".

Note 2. The rated voltage is the power supply voltage of the luminaire.

Note 3. Electromagnetic compatibility characteristics are only applicable to lighting systems consisting of lamps and controls.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1406.2 Types and dimensions of bases - Part 2. Pin-type caps

GB/T 1483.2 Lamp and socket inspection gauges - Part 2. Gauge for sockets and sockets

GB/T 2828.1. Sampling procedures for sampling by sampling - Part 1 . Batch-to-batch sampling plan, searched by AQL

GB/T 2829 Cycle Inspection Counting Sampling Procedures and Tables (Applicable to Inspection of Process Stability)

GB/T 10682-2010 Double-end fluorescent lamp performance requirements Ballast

performance requirements for

GB/T 14044 tubular fluorescent lamps Performance requirements for

GB/T 15144 AC electronic ballasts for tubular fluorescent lamps

GB 17625.1 Electromagnetic compatibility limit harmonic current emission limit (device input current per phase $\leq 16\text{A}$)

GB/T 17743 Limits and methods of measurement of radio disturbance characteristics for electrical lighting and similar equipment

GB/T 24826 General lighting LED products and related equipment terms and definitions

GB/T 29295-2012 Reflective self-ballasted LED lamp performance test method Lamps and lamps - Part 2-3. Particular requirements for AC and/or DC electronic controls for fluorescent lamps (Lampcontrolgear-Part 2-3.

Particularrequirementsfora.c.and/or.d.c.suppliedelectroniccontrol Gearforfluorescentlamps) Safety requirements for

IEC 62776 double-ended LED lamps (for replacement of straight tubular fluorescent lamps) (Double-cappedLEDlampsdesignedto Retrofitlinearfluorescent-Safetyspecifications)

3 Terms and definitions

The following terms and definitions as defined in GB/T 24826 and IEC 62776 apply to this document.

3.1 Initial value initialvalue The measured luminosity and electrical parameters of the lamp after the old lamp is stabilized.