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Replacing GB 19043-2013, GB 19044-2013, GB 19415-2013,
GB 29142-2012, GB 29144-2012

**Minimum allowable values of energy efficiency and energy
efficiency grades of fluorescent lamps for general lighting**

普通照明用荧光灯能效限定值及能效等级

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

This document replaces GB 19044-2013 *Minimum allowable values of energy efficiency and the energy efficiency grades of self-ballasted fluorescent lamps for general lighting service*, GB 19043-2013 *Minimum allowable values of energy efficiency and the energy efficiency grades of double-capped fluorescent lamps for general lighting service*, GB 19415-2013 *Minimum allowable values of energy efficiency and evaluating values of energy conservation for single-capped fluorescent lamps*, GB 29144-2012 *Minimum allowable values of energy efficiency and the energy efficiency grades for self-ballasted electrodeless fluorescent lamps with general lighting service*, and GB 29142-2012 *Minimum allowable values of energy efficiency and energy efficiency grades for single-capped electrodeless fluorescent lamps*. Compared with GB 19044-2013, GB 19043-2013, GB 19415-2013, GB 29144-2012, GB 29142-2012, except for structural adjustment and editorial changes, the main technical changes are as follows:

- a) Add the terms and definitions of luminous efficacy of fluorescent lamps and minimum allowable value of energy efficiency of fluorescent lamps (see Chapter 3);
- b) Remove the terms and definitions of the initial luminous efficacy of self-ballasted fluorescent lamps, the minimum allowable value of energy efficiency of self-ballasted fluorescent lamps, the evaluating value of energy conservation of self-ballasted fluorescent lamps, the initial luminous efficacy of double-capped fluorescent lamps, the minimum allowable value of double-capped fluorescent lamps, the evaluating value of energy conservation of double-capped fluorescent lamps, the initial luminous efficacy of single-capped fluorescent lamps, the minimum allowable value of single-capped fluorescent lamps, the evaluating values of energy conservation of single-capped fluorescent lamps, the initial luminous efficacy of self-ballasted electrodeless fluorescent lamps, the minimum allowable value of self-ballasted electrodeless fluorescent lamps, the evaluating values of energy conservation of self-ballasted electrodeless fluorescent lamps, the initial luminous efficacy of single-capped electrodeless fluorescent lamps, the minimum allowable value of single-capped electrodeless fluorescent lamps, and the evaluating values of energy conservation of single-capped electrodeless fluorescent lamps (see Chapter 3 of GB 19044-2013, Chapter 3 of GB 19043-2013, Chapter 3 of GB 19415-2013, Chapter 3 of GB 29144-2012, Chapter 3 of GB 29142-2012);
- c) Delete the basic requirements (see 4.1 of GB 19044-2013, 4.1 of GB 19043-2013, 4.1 of GB 19415-2013, 4.1 of GB 29144-2012, 4.1 of GB 29142-2012);

Minimum allowable values of energy efficiency and energy efficiency grades of fluorescent lamps for general lighting

1 Scope

This document specifies the energy efficiency grades, minimum allowable values and test methods of fluorescent lamps for general lighting.

This document applies to the following types of fluorescent lamps:

- Self-ballasted fluorescent lamps with a rated power of 3 W ~ 60 W and self-ballasted electrodeless fluorescent lamps with a rated power of 10 W ~ 60 W, both of which are of rated voltage 220 V, frequency 50 Hz AC power supply, using screw lamp cap or bayonet lamp cap, integrating control, start and stable ignition components.
- Preheated cathode lamps (hereinafter referred to as double-capped fluorescent lamps) that work on lines with starters at AC power frequency and can work on high-frequency lines, and work on high-frequency lines;
- Single-capped fluorescent lamps with preheated cathodes;
- Single-ended electrodeless fluorescent lamps of rated power 30 W ~ 400 W.

This document does not apply to self-ballasted fluorescent lamps with shades.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 10682, Double-capped fluorescent lamps - Performance specifications

GB/T 17262, Single-capped fluorescent lamps - Performance specification

GB/T 17263, Self-ballasted lamps for general lighting service - Performance requirements

GB/T 21091, Self-ballasted electrodeless fluorescent lamps for general lighting services - Performance requirements

GB/T 34841, Fluorescent induction lamps - Performance specification

3 Terms and definitions

Terms and definitions determined by GB/T 10682, GB/T 17262, GB/T 17263, GB/T 21091, GB/T 34841, as well as the following, are applicable to this document.

3.1 Luminous efficacy of fluorescent lamps

The ratio of the measured initial luminous flux to the input power of the fluorescent lamp under the test conditions specified in the standard.

Note: The unit is lumens per watt (lm/W).

3.2 Minimum allowable value of energy efficiency of fluorescent lamps

The minimum allowable value of luminous efficacy of the fluorescent lamp under the test conditions specified in the standard.

4 Technical requirements

4.1 Energy efficiency grades

4.1.1 The energy efficiency grades of fluorescent lamps are divided into 3 grades, of which grade 1 has the highest energy efficiency.

4.1.2 The luminous efficacy of self-ballasted fluorescent lamps of each grade shall not be lower than those specified in Table 1.

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