BRITISH STANDARD

BS EN
50285:1999

Energy efficiency of electric lamps for household use — Measurement methods

The European Standard EN 50285:1999 has the status of a British Standard

ICS 29.140.20; 29.140.30

National foreword

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The UK participation in its preparation was entrusted to Technical Committee CPL/34/1, Lamps, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 4, an inside back cover and a back cover.

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English version

Energy efficiency of electric lamps for household use — Measurement methods

Efficience énergétique des lampes électriques à usage domestique — Méthodes de mesure

Energieeffizienz von elektrischen Lampen für den Hausgebrauch — Meßverfahren

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by the CENELEC Task Force BTTF 85-2, Energy efficiency of electric lamps for household use, under Standardization Mandate M/202.

The text of the draft was submitted to the unique acceptance procedure and was approved by CENELEC as EN 50285 on 1998-08-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-08-01
- latest date by which national standards conflicting with the EN have to be withdrawn (dow) 1999-08-01

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1 Scope

This European Standard has been produced under Standardization Mandate M/202 in response to the European Commission Directive implementing Council Directive 92/75/EEC with regard to energy labelling of household lamps. A method of classification of lamps according to energy efficiency is given in the Directive and is not a part of this standard.

This standard specifies the test conditions and method of measurement of luminous flux, lamp wattage and lamp life as given on a label on the lamp packaging, together with a procedure for verification of the declared values. Only those parameters that are specific to the above mentioned Directive are included in this standard. All other parameters are included in the relevant lamp performance standards.

Lamps covered by this standard are:

— mains voltage tungsten filament lamps;

— mains voltage tungsten halogen lamps;

— self-ballasted lamps;

— double-capped fluorescent lamps;

— single-capped fluorescent lamps.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

IEC 60050(845), *International Electrotechnical Vocabulary — Chapter 845: Lighting.*

EN 60064, *Tungsten filament lamps for domestic and similar general lighting purposes — Performance requirements.*
(IEC 60064, mod)

EN 60081, *Double-capped fluorescent lamps — Performance specifications.*
(IEC 60081)

EN 60901, *Single-capped fluorescent lamps — Performance specifications.*
(IEC 60901)

EN 60969, *Self-ballasted lamps for general lighting services — Performance requirements.*
(IEC 60969)

CIE 84, *The measurement of luminous flux.*

3 Definitions

For the purpose of this European Standard the definitions given in the normative references apply, together with the following.

3.1

average life

number of operating hours after which 50 % of a representative group of lamps have survived, when operated under specified test conditions (life to 50 % lamp failure). For tungsten filament lamps average life is defined as the mean value of the truncated life distribution as specified in EN 60064.

3.2

rated average life

the average life declared by the manufacturer or responsible vendor

NOTE The rated average life is not necessarily the average of all individual lamp lives. It may only be used for comparison, since operating conditions in practice may differ from the specified conditions used in life testing.

3.3

lamp failure

failure of a lamp to light up, or to meet the starting requirements of the relevant lamp standard or to remain alight

4 Test conditions

Lamps shall be tested in accordance with the relevant clauses of the standards listed below.

For tungsten filament lamps:	EN 60064.
For tungsten halogen lamps:	EN 60064 (the accelerated life test does not apply).
For self-ballasted lamps:	EN 60969.
For double-capped fluorescent lamps:	EN 60081.
For single-capped fluorescent lamps:	EN 60901.

For the measurement of the luminous flux CIE 84 also applies.

5 Verification

The minimum sample size shall be twenty lamps. The sample shall be representative of a manufacturer's production. This can be achieved by randomly selecting lamps from at least four different points of sale.

The results of the tests shall comply with the requirements given in **6.1** to **6.3**. If the test results do not comply with these requirements, the manufacturer's test records shall be requested.

6 Requirements

6.1 Luminous flux

The average value of the initial readings of the luminous flux of the sample shall be not less than the percentage of the declared value, given in Table 1.

6.2 Lamp wattage

The average value of the initial readings of the lamp wattage of the sample shall not exceed the percentage of the declared value, given in Table 1.

6.3 Lamp life

For tungsten filament lamps the average life of the sample , i.e. the mean value of the truncated life distribution as defined in EN 60064, shall be not less than 90 % of the declared value.

For other lamp types the average life of the sample, i.e. life to 50 % lamp failure, shall be not less than 90 % of the declared value.

Table 1 — Percentages of the declared values to be achieved for average luminous flux and average lamp wattage

Lamp type	Average luminous flux min. lm	Average lamp wattage max. W
Tungsten filament (GLS)	95 %	104 %
Tungsten halogen	90 %	108 %
Self-ballasted	95 %	110 %
Double-capped fluorescent	95 %	105 %*
Single-capped fluorescent	95 %	105 %*

* The average maximum lamp wattage is related to the rated value as given on the lamp data sheets. There may be a difference between the rated and nominal values (see relevant standard).

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