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**Razelektrilne sijalke (razen fluorescenčnih sijalk) – Varnostne specifikacije,  
Dopolnilo A1 (IEC 62035:1999/A1:2003, spremenjen)**

Discharge lamps (excluding fluorescent lamps) - Safety specifications - Amendment  
A1 (IEC 62035:1999/A1:2003, modified)

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EUROPEAN STANDARD

**EN 62035/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2003

ICS 29.140.30

English version

**Discharge lamps  
(excluding fluorescent lamps) –  
Safety specifications  
(IEC 62035:1999/A1:2003, modified)**

Lampes à décharge  
(à l'exclusion des lampes à fluorescence) -  
Prescriptions de sécurité  
(CEI 62035:1999/A1:2003, modifiée)

Entladungslampen  
(ausgenommen Leuchtstofflampen) -  
Sicherheitsanforderungen  
(IEC 62035:1999/A1:2003, modifiziert)

**iTeh STANDARD PREVIEW**

This amendment A1 modifies the European Standard EN 62035:2000; it was approved by CENELEC on 2003-09-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 34A/1032/FDIS, future amendment 1 to IEC 62035:1999, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 62035:2000 on 2003-09-23 with inclusion of the common modifications contained in EN 62035:2000.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-07-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2006-10-01

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## Endorsement notice

The text of amendment 1:2003 to the International Standard IEC 62035:1999 was approved by CENELEC as an amendment to the European Standard with agreed common modifications as given below.

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COMMON MODIFICATIONS  
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In Table F.1, **delete** the rows referring to E26 and E39 caps and **delete** the corresponding footnotes.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
62035

1999

AMENDEMENT 1  
AMENDMENT 1  
2003-06

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Amendement 1

**Lampes à décharge  
(à l'exclusion des lampes à fluorescence) –  
Prescriptions de sécurité**

**iTeh STANDARD PREVIEW**

Amendment 1  
(standards.iteh.ai)

**Discharge lamps  
(excluding fluorescent lamps) –  
Safety specifications**

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For price, see current catalogue*

## FOREWORD

This amendment has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

The text of this amendment is based on the following documents:

FDIS	Report on voting
34A/1032/FDIS	34A/1037/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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*Add the titles of Annexes G and H as well as the Bibliography as follows:*

Annex G (normative) Conditions of compliance for designs tests

Annex H (normative) Symbols

Bibliography

Page 7

### 1 Scope

*Delete the third paragraph.*

Page 9

### 3 Definitions

*Replace, on page 11, definition 3.8 and its note by the following new definition and note:*

**3.8****specific effective radiant UV power**

effective power of the UV radiation of a lamp related to its luminous flux

Unit: mW/klm

NOTE The effective power of the UV radiation is obtained by weighting the spectral power distribution of the lamp with the UV hazard function  $S_{UV}(\lambda)$ . Information about the relevant UV hazard function is given in CIE S009. It only relates to possible hazards regarding UV exposure of human beings. It does not deal with the possible influence of optical radiation on materials, like mechanical damage or discoloration.

*Add, after definition 3.10, the following new definitions:*

**3.11****group**

lamps of the same generic type (see 3.2 to 3.6)

**3.12****type**

lamps of the same group having the same nominal wattage, bulb shape and cap

**3.13****family**

grouping of lamps characterized by common features such as materials, components and/or method of processing

**3.14****design test**

test made on a sample for the purpose of checking compliance of the design of a family, group or a number of groups with the requirements of the relevant clause or subclause

**3.15****periodic test**

test, or series of tests, repeated at intervals in order to check that a product does not deviate in certain respects from the given design

**3.16****running test**

test repeated at frequent intervals to provide data for assessment

**3.17****batch**

all lamps in one family and/or group and identified as such and put forward at one time for checking compliance

**3.18****whole production**

production during a period of 12 months of all types of lamps within the scope of this standard and nominated in a list of the manufacturer for inclusion in the certificate

**3.19****self-shielded metal halide lamp**

metal halide lamp for which the luminaire needs no protective shield

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## 4.2 Marking

### 4.2.2 Additional information to be provided

Replace this subclause as follows:

### 4.2.2 Additional information to be provided

In addition to the above lamp marking, all details and provisions which are necessary to ensure safe installation and use shall be given in the lamp manufacturer's instructions. Alternatively, the immediate lamp wrapping or container may be marked with the corresponding symbol as shown in Annex H.

NOTE In North America, a suitable cautionary notice is required. Additional use of symbols is optional.

If applicable, information shall be given about

- a) the provision that the lamp shall be operated in an enclosed luminaire only (for symbol, see H.1);
- b) the hazard associated with a high level of UV radiation emitted by the lamp (for symbol, see H.2). The value of the specified maximum specific effective radiant UV power shall be made available for proper luminaire design (see Clause F.5) if it exceeds
  - 6 mW/klm for a non-reflector lamp, or
  - 6 mW/(m<sup>2</sup> × klx) for a reflector lamp;

NOTE In CIE S009 exposure limits are given as effective irradiance values (unit W/m<sup>2</sup>) and for risk group classification the values for general lighting lamps are to be reported at an illuminance level of 500 lx. For example, the borderline for risk group exempt is 0,001 W/m<sup>2</sup> at an illuminance level of 500 lx. In other words the specific value, related to the illuminance, is 0,001 divided by 500 in W/(m<sup>2</sup>.lx), which is 2 mW/(m<sup>2</sup>.klx). Since lx=lm/m<sup>2</sup> this equals 2 mW/klm specific effective UV power. The borderline between risk group 1 and 2 is 0,003 W/m<sup>2</sup>, which equals 6 mW/klm specific effective UV power.

- c) the risk of the occurrence of a rectifying effect at the end of lamp life;
- d) the hazard(s) that exist(s) when the outer envelope is broken (for symbol, see H.3).

Compliance is checked by visual inspection.

## 4.3 Mechanical requirements

### 4.3.1.1 Dimensions

Replace the second paragraph as follows:

Compliance is checked on finished lamps by gauging and/or measurement. For standardized caps, the gauges of IEC 60061-3 listed in Annex A shall be used.



Page 19

#### 4.5 Thermal requirements

*Replace the third paragraph as follows:*

These tests are not made on parts of ceramic or glass material.

Page 21

## 5.2 Metal halide lamps

### 5.2.1 UV radiation

*Replace the title and text of this subclause as follows:*

#### 5.2.1 General metal halide lamps (not self-shielded)

##### 5.2.1.1 Marking

In addition to the requirements of 4.2, the following applies.

The immediate lamp wrapping or container of lamps with a specified maximum specific effective radiant UV power exceeding

- 6 mW/klm for a non-reflector lamp, or
- 6 mW/(m<sup>2</sup> × klx) for a reflector lamp

shall be marked with the cautionary symbol given in H.2 or, alternatively, contain a suitable cautionary notice.

NOTE In North America a suitable cautionary notice is required. A risk group marking is also required on the lamp. (For further information, consult the national standards.) Use of the symbol is optional.

Compliance is checked by visual inspection.

##### 5.2.1.2 UV radiation

For lamps standardized in IEC 61167, the specific effective radiant UV power emitted by the lamp shall not exceed the maximum value specified on the relevant lamp data sheet.

For non-standardized lamps, the specific effective radiant UV power emitted by the lamp shall not exceed the maximum value specified by the manufacturer.

Compliance is checked by spectroradiometric measurement, under the same conditions as for the lamp's electrical and photometric characteristics as given in IEC 61167.

Add, on page 21, the following new subclause:

### 5.2.2 Self-shielded metal halide lamps

Self-shielded lamps shall meet the following requirements.

#### 5.2.2.1 Marking

In addition to the requirements of 4.2, the following applies.

The immediate lamp wrapping or container shall be marked with the self-shielded lamp symbol given in H.4.

NOTE In North America this symbol is not required; the lamp marking includes a luminaire code (for further information, consult the national standards).

Compliance is checked by visual inspection.

#### 5.2.2.2 UV radiation

The specific effective radiant UV power emitted by the lamp shall not exceed

- 2 mW/klm for a non-reflector lamp, or
- 2 mW/(m<sup>2</sup> × klx) for a reflector lamp.

Compliance is checked by measurement as detailed in 5.2.1.2.

#### 5.2.2.3 Containment

The lamp shall be designed to contain all particles within the outer bulb in case an arc tube rupture occurs.

Test procedures and conditions of compliance are under consideration.

Add after Clause 6, on page 21, a new Clause 7 as follows:

## 7 Assessment

### 7.1 General

This clause specifies the method a manufacturer shall use to show that his product conforms to this standard on the basis of whole production assessment, in association with his test records on finished products. This method can also be applied for certification purposes. Subclause 7.2 gives details of assessment by means of the manufacturer's records.

Details of a batch test procedure which can be used to make a limited assessment of batches are given in 7.3. Requirements for batch testing are included in order to enable the assessment of batches presumed to contain unsafe lamps. As some safety requirements cannot be checked by batch testing, and as there may be no previous knowledge of the manufacturer's quality, batch testing cannot be used for certification purposes nor in any way for an approval of the batch. Where a batch is found to be acceptable, a testing agency may only conclude that there is no reason to reject the batch on safety grounds.

## 7.2 Assessment of whole production by means of manufacturer's records

The manufacturer shall show evidence that his products comply with the particular requirements of 7.2.1. To this end, the manufacturer shall make available all the results of his product testing pertinent to the requirements of this standard.

The test results may be drawn from working records and, as such, may not be immediately available in collated form.

The assessment shall be based in general on individual factories, each meeting the acceptance criteria of 7.2.1. However, a number of factories may be grouped together, providing they are under the same quality management. For certification purposes, one certificate may be issued to cover a nominated group of factories, but the certification authority shall have the right to visit each plant to examine the local relevant records and quality control procedures.

For certification purposes, the manufacturer shall declare a list of marks of origin and corresponding lamp families, groups and/or types which are within the scope of this standard and manufactured in a nominated group of factories. The certificate shall be taken to include all lamps so listed made by the manufacturer. Notification of additions or deletions may be made at any time.

In presenting the test results, the manufacturer may combine the results of different lamp families, groups and/or types according to column 4 of Table 1.

The whole production assessment requires that the quality control procedures of a manufacturer shall satisfy recognized quality system requirements for final inspection. Within the framework of a quality system based also on in-process inspection and testing, the manufacturer may show compliance with some of the requirements of this standard by means of in-process inspection instead of finished product testing.

The manufacturer shall provide sufficient test records with respect to each clause and subclause as indicated in column 5 of Table 1.

The number of nonconformities in the manufacturer's records shall not exceed the limits shown in Tables 2 or 3 relevant to the acceptable quality level (AQL) values shown in column 6 of Table 1.

The period of review for assessment purposes need not be limited to a predetermined year, but may consist of 12 consecutive calendar months immediately preceding the date of review.

A manufacturer who has met, but no longer meets, the specified criteria shall not be disqualified from claiming compliance with this standard providing he can show that

- a) action has been taken to remedy the situation as soon as the trend was reasonably confirmed from his test records;
- b) the specified acceptance level was re-established within a period of
  - 1) six months for 4.3.2.1 b) and 4.3.2.2 b);
  - 2) one month for the other clauses and subclauses.

When compliance is assessed after corrective action has been taken in accordance with items a) and b), the test records of these lamp families, groups and/or types which do not comply shall be excluded from the 12-month summation for their period of non-compliance. The test results relating to the period of corrective action shall be retained in the records.