ICS 29.140.30 SLOVENSKÁ TECHNICKÁ NORMA Marec 2019

STN	**Halogenidové výbojky** **Špecifikácie prevádzkových vlastností**	**STN** **EN 61167** 36 0260

Metal halide lamps - Performance specification

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/19

Obsahuje: EN 61167:2018, IEC 61167:2018

Oznámením tejto normy sa od 02.11.2021 ruší
STN EN 61167 (36 0260) z októbra 2016

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61167

November 2018

ICS 29.140.30

Supersedes EN 61167:2016

English Version

Metal halide lamps - Performance specification (IEC 61167:2018 , modified)

Lampes aux halogénures métalliques - Spécification de performances
(IEC 61167:2018 , modifiée)

Halogen-Metalldampflampen - Anforderungen an die Arbeitsweise
(IEC 61167:2018 , modifiziert)

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

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Ref. No. EN 61167:2018 E

EN 61167:2018 (E)

European foreword

The text of document 34A/2051/FDIS, future edition 4 of IEC 61167, prepared by IEC/SC 34A "Lamps" of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61167:2018.

A draft amendment, which covers common modifications to IEC 61167 (34A/2051/FDIS), was prepared by CLC/TC 34A “Lamps” and approved by CENELEC.

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2019-05-02
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2021-11-02

EN 61167:2018 supersedes EN 61167:2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 61167:2018 are prefixed “Z”.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives.

For the relationship with EU Directives see informative Annexes ZZA, ZZB and ZZC, which are integral parts of this document.

This standard provides test methods related to parameters as prescribed by EC Regulation 245/2009, EU Regulation 1194/2012 and EU Regulation 874/2012 while conformity assessment (sampling, conformity procedures as well as limits) for market surveillance are specified in the text of the above Regulations.

Endorsement notice

The text of the International Standard IEC 61167:2018 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

CONTENTS ***Add*** *the following annexes:*

Annex ZA (normative)	Normative references to international publications with their corresponding European publications
Annex ZZA (informative)	Relationship between this European Standard and the requirements of Commission Regulation (EC) No 245/2009
Annex ZZB (informative)	Relationship between this European Standard and the requirements of Commission Regulation (EU) No 1194/2012
Annex ZZC (informative)	Relationship between this European Standard and the requirements of Commission Regulation (EU) No 874/2012

Add *the following clause before Clause 2:*

Z1 Overall statement

Where a Commission Regulation specifies limits for parameters these limits shall be used instead of the limits specified in this standard.

3 Terms and definitions

After 3.18 ***add*** *new definitions 3.Z1 up to 3.Z7:*

3.Z1
directional lamp
lamp having at least 80 % light output within a solid angle of π sr (corresponding to a cone with angle of 120°)

[SOURCE: Regulation 1194/2012, Article 2]

3.Z2
beam angle
angle between two imaginary lines in a plane through the optical beam axis, such that these lines pass through the centre of the front face of the lamp and through points at which the luminous intensity is 50 % of the centre beam intensity

[SOURCE: EN 61341]

3.Z3
partial luminous flux (of a light source, within a specified cone angle)

luminous flux emitted from a light source within a specified cone angle α determined from the luminous intensity distribution $I(\theta, \varphi)$ of the source:

$$\Phi_{\alpha} = \int_{\varphi=0}^{2\pi} \int_{\theta=0}^{\alpha/2} I(\theta,\varphi) \sin\theta \, \mathrm{d}\theta \, \mathrm{d}\varphi \qquad (2)$$

Note 1 to entry: Partial luminous flux is expressed in lumen (lm).

Note 2 to entry: $(\theta, \varphi)=(0,0)$ is the direction of the cone axis.

Note 3 to entry: The cone angle α is the full angle (diameter) of the cone.

[SOURCE: EN 13032-4:2015, 3.41, modified, – Notes 4 and 5 removed]

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3.Z4
useful luminous flux, Φuse
partial luminous flux of a lamp falling within the cone used for calculating the lamp's energy efficiency according Annex III, point 1.1 of regulation (EU) No 1194/2012

Note 1 to entry: Useful luminous flux is expressed in lumen (lm).

Note 2 to entry: The regulation specifies 90° or 120° cones according to the product characteristics.

Note 3 to entry: Useful luminous flux is similar to partial luminous flux. It is determined with the cone axis coincident with the observed optical beam axis of the light source, the axis about which the luminous intensity is substantially symmetrical.

3.Z5
efficacy
'luminous efficacy of a source', 'light source efficacy' or 'lamp efficacy' (ηsource)
quotient of the luminous flux emitted (Φ) by the power consumed by the source (Psource). ηsource = Φ / Psource. Unit: lm/W.

The power dissipated by auxiliary equipment such as ballasts is not included in the power consumed by the source

[SOURCE: Regulation 245/2009 Annex II, 1.a)]

3.Z6
Lamp Lumen Maintenance Factor (LLMF)
ratio of the luminous flux emitted by the lamp at a given time in its life to the initial luminous flux

[SOURCE: Regulation 245/2009 Annex II, 1.b)]

3.Z7
Lamp Survival Factor (LSF)
fraction of the total number of lamps which continue to operate at a given time under defined conditions and switching frequency

[SOURCE: Regulation 245/2009 Annex II, 1.c)]

4 Lamp requirements

4.2 Marking

Add *the following new sub-clause after 4.2.2*

4.2.Z1 Special purpose product

Where a lamp is to be considered as a special purpose product according to Regulation (EC) No 1194/2012 this shall be declared by the supplier.

4.8.4 Requirements and test conditions

Replace *"Under consideration" with the following new text:*

The chromaticity coordinates and correlated colour temperature of an individual lamp shall be calculated according to CIE 15 from a measurement made under the conditions of Annex B or Annex E as appropriate.

The colour rendering index of an individual lamp shall be calculated according to CIE 13.3 from a measurement made under the conditions of Annex B or Annex E as appropriate.

4.Z1 *After sub-clause 4.7* ***add*** *new sub-clause 4.Z1 as follows:*

4.Z1 Useful luminous flux

The useful luminous flux of a directional lamp shall be measured under the conditions of Annex B or Annex E as appropriate, by luminous intensity integration as described in EN 13032-4:2015, 6.3 "Partial luminous flux".

Alternative measurement methods may be used if they can be shown to give equivalent results for the product being tested, if necessary by applying correction factors. Measurements with lamps operating horizontally are often much easier to carry out. The reference method, however, uses the measurement position according to A.1.

In case of doubt a goniophotometry measurement of EN 13032-4:2015, 6.3 shall be used.

NOTE Below are a few examples of alternative measurement methods. It is not an exhaustive list.

- For small beam angles shine into integrating sphere.
- Mount lamp on internal surface of integrating sphere.
- Mount lamp inside integrating sphere with screening (LM-20 technique).
- Illuminate a surface and measure the illuminance across the surface with a photometer.
- Illuminate a surface and measure the surface luminance with a luminance camera.
- Illuminate a translucent screen and measure the surface luminance of the rear side with a luminance camera

4.Z2 *After 4.9* ***add*** *new sub-clauses 4.Z2 up to 4.Z5 as follows:*

4.Z2

The efficacy of an individual lamp shall be calculated from a measurement of luminous flux and power according to the conditions of Annex B or Annex E as appropriate.

4.Z3

The lamp lumen maintenance factor of an individual lamp shall be calculated from measurements of its luminous flux made at appropriate times according to the conditions of Annex B or Annex E as appropriate. Lamp operation between these measurements shall be as prescribed in Annex C.

4.Z4

The survival of an individual lamp shall be determined by operating lamps under the conditions prescribed in Annex C until the lamp fails to remain alight or delivers low light output (in case of doubt, low light output refers to noticeably less than 50 % of rated light output).

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4.Z5

The average mercury content shall be measured in accordance with the CV AAS method as described in EN 62321-4.

Annex B (normative) Method of measuring electrical and photometrical characteristics (lamps for operation on 50 Hz or 60 Hz supply frequencies

B.1 General

Replace *the following paragraph in* ***B.1***

Photometric characteristics shall be measured in accordance with the relevant recommendations of the CIE (Commission Internationale de l'Éclairage) 84. For measurement for the centre beam intensity of reflector lamps, IEC/TR 61341 shall be used.

By

Photometric characteristics shall be measured in accordance with EN 13032-1. For determination of the centre beam intensity of reflector lamps, EN 61341 shall be used.

Annex E (normative) Method of measuring electrical and photometrical characteristics on low frequency square wave reference ballast

E.1 Purpose of this annex

Replace *the following paragraph in* ***E.1***

Photometric characteristics shall be measured in accordance with the relevant recommendations of the CIE (Commission Internationale de l'Éclairage) 84. For measurement for the centre beam intensity of reflector lamps, IEC/TR 61341 shall be used.

By

Photometric characteristics shall be measured in accordance with EN 13032-1. For determination of the centre beam intensity of reflector lamps, EN 61341 shall be used.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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 edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
-	-	Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 1: Measurement and file format	EN 13032-1 +A1	2004 2012
-	-	Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 4: LED lamps, modules and luminaires	EN 13032-4	2015
IEC 60050-845	-	International Electrotechnical Vocabulary - Chapter 845: Lighting	-	-
IEC 60061-1	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 1: Lamp caps	EN 60061-1	1993
IEC 60598-1	-	Luminaires - General requirements and tests	EN 60598-1	2015
IEC 60923	-	Auxiliaries for lamps - Ballasts for discharge lamps (excluding tubular fluorescent lamps) - Performance requirements	EN 60923	2005
IEC 60927	-	Auxiliaries for lamps - Starting devices (other than glow starters) - Performance requirements	EN 60927	2007
IEC/TR 61341	-	Method of measurement of centre beam intensity and beam angle(s) of reflector lamps	EN 61341	2011
IEC 62035	-	Discharge lamps (excluding fluorescent lamps) - Safety specifications	EN 62035	2014
IEC 62321-4		Determination of certain substances in electrotechnical products - Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS	EN 62321-4	2014
IEC 62471	-	Photobiological safety of lamp and lamp systems	EN 62471	2008

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Publication	Year	Title	EN/HD	Year
CIE 84	-	The measurement of luminous flux	-	-
CIE 13.3	-	Method of Measuring and Specifying Colour Rendering Properties of Light Sources	-	-

Annex ZZA
(informative)

Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EC) No 245/2009 aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/495 to provide one voluntary means of conforming to the ecodesign requirements of Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council [2009 OJ L76].

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding ecodesign requirements of that Regulation and associated EFTA Regulations.

Table ZZA.1 – Correspondence between this European Standard and Commission Regulation (EC) No 245/2009 of 18 March 2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council [2009 OJ L76] and Commission's standardization request M/495

Ecodesign requirements of Regulation No 245/2009 [2009 OJ L76]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Annex III, Article 2	Annex B or Annex E as appropriate	Lamp power
Annex III, Article 1.3	Annex B or Annex E as appropriate	Luminous flux
Annex III, Article 1.2, Table 14	Subclause 4.Z4	Lamp survival factor
Annex III, Article 1.2, Table 14	Subclause 4.Z3	Lumen maintenance
Annex II, Article 3(b)	Subclause 4.8.4	Chromaticity coordinates
Annex III, Article 1.3 (h)	Subclause 4.8.4	Colour rendering index (CRI)
Annex III, Article 1.3 (g)	Subclause 4.8.4	Correlated colour temperature (CCT)
Annex III, Article 2	Annex B or Annex E as appropriate	Spectral power distribution
Annex I, Article 1(d), (h)	Annex B or Annex E as appropriate	specific effective radiant UV power
Annex I, Article 1 (i)	Subclause 4.4	Caps
Annex III, Article 1.3 (f), Annex V, Article 2	Subclause 4.Z5	Mercury content

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Annex ZZB
(informative)

Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) No 1194/2012 aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/495 to provide one voluntary means of conforming to the ecodesign requirements of Commission Regulation (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment [2012 OJ L342].

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding ecodesign requirements of that Regulation and associated EFTA Regulations.

Table ZZB.1 – Correspondence between this European Standard and Commission Regulation (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment [2012 OJ L342] and Commission's standardization request M/495

Ecodesign requirements of Regulation No 1194/2012 [2012 OJ L342]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Article 2.4, 3.1, Annex I	Subclause 4.2	Technical description of special purpose lamps for eco-design
Annex III, Article 1 Annex III, Article 3.1	Annex B or Annex E as appropriate	Lamp power
Annex III, Article 3.1.1, 3.1.2 (a), 3.1.3 (c)	Subclause 4.Z1	Useful luminous flux
Annex III, Article 3.1.2 (i), 3.1.3 (k)	Annex B or Annex E as appropriate	Beam angle
Annex III, Table 4, Article 3.1.3	Subclause 4.Z4	Lamp life
Annex III, Table 4, Table 7, Article 3.1.3	Subclause 4.Z3	Lumen maintenance
	Not covered in this standard	Number of switching cycles before failure
Annex III, Table 4	Subclause 4.5, Annex A	Starting time
Annex III, Table 4	Subclause 4.5, Annex A	Warm-up time to 60% ϕ
Annex I	Subclause 4.8.4	Chromaticity coordinates
Annex III, article 3.1.3 (h)	Subclause 4.8.4	Colour rendering index (CRI)
Annex III, article 3.1.1, 3.1.2 (c)	Subclause 4.8.4	Correlated colour temperature (CCT)
	Not covered in this standard	Power factor (only for lamps with integrated control gear)
Annex III, article 3.1.2 (h)	Subclause 4.3 (Data sheets Clause 6)	Lamp dimensions
Annex III, article 3.1.3 (m)	Annex B or Annex E as	Spectral power distribution

Ecodesign requirements of Regulation No 1194/2012 [2012 OJ L342]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
	appropriate	
Annex III, article 3.1.2 (n), (o)	Subclause 4.Z5	Mercury content
	Not covered in this standard	Dimmability
	Not covered in this standard	Lamp type (MR11 GU4 etc.)
Annex III, article 3.1.3 (j)	Annex B or Annex E as appropriate	Peak intensity in candela

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Annex ZZC
(informative)

Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 874/2012 aimed to be covered

This European standard has been prepared under a Commission's standardisation request M/495 to provide one voluntary means of conforming to the energy labelling requirements of Commission Delegated Regulation (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires [2012 OJ L258].

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZZC.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding energy labelling requirements of that Regulation and associated EFTA Regulations.

Table ZZC.1 – Correspondence between this European Standard and Commission Delegated Regulation (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires [2012 OJ L258] and Commission's standardisation request M/495

Energy labelling requirements of Regulation No 874/2012 [2012 OJ L258]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Article 1	Annex B or Annex E as appropriate	Applicable parameter according to Article 1: luminous flux
Annex VII	Annex B or Annex E as appropriate	Lamp power
Annex VII	Annex B or Annex E as appropriate	Luminous flux (non-directional only)
Annex VII	Subclause 4.Z1	Useful luminous flux (directional only)
Annex VII	Annex B or Annex E as appropriate	Beam angle

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Bibliography

Add *the following notes for the standards indicated:*

IEC 60081	NOTE	Harmonized as EN 60081.
IEC 60188	NOTE	Harmonized as EN 60188.
IEC 60357:2002	NOTE	Harmonized as EN 60357:2003 (modified).
IEC 60682	NOTE	Harmonized as EN 60682.
IEC 61231	NOTE	Harmonized as EN 61231.

Add *the following documents:*

COMMISSION REGULATION (EC) No 245/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC of the European Parliament and of the Council

COMMISSION REGULATION (EU) No 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of electrical lamps and luminaires

COMMISSION REGULATION (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment

IEC 61167

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INTERNATIONAL STANDARD

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Metal halide lamps – Performance specification

Lampes aux halogénures métalliques – Spécifications de performances

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INTERNATIONAL STANDARD

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colour inside

Metal halide lamps – Performance specification

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METAL HALIDE LAMPS – PERFORMANCE SPECIFICATION

FOREWORD

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International Standard IEC 61167 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This fourth edition cancels and replaces the third edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

a) A set of new lamp data sheets has been introduced for lamp types designed for replacing high pressure sodium lamps.
b) A set of new lamp data sheets has been introduced for 4 200 K versions of 3 000 K lamp types already in the standard.
c) A set of new lamp data sheets has been introduced for new lamp types where high frequency ignition data is important.
d) Annex G has been revised to incorporate high frequency ignition. As a consequence of this change, all data sheets in the standard have been revised to a new format.
e) A new informative Annex K has been introduced, giving recommended methods of making lamp temperature measurements.

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

FDIS	Report on voting
34A/2051/FDIS	34A/2058/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

A big step forward when standardising metal halide lamps and their operation was made with the second edition which was published in 2011. Meanwhile, agreements were reached for the introduction of new lamp types and in aspects of operation which led to the third edition.

Major changes in the second edition were as follows. Since IEC 62035 was published in 1999, the related lamp specific performance standards such as IEC 61167 needed to be reviewed in an editorial action, splitting performance and safety requirements, but also to include all items in abeyance, stored for this occasion. The separation had already been carried out with other HID lamps. So, in some instances, the “pilot” text of IEC 60188 was used. Moreover, the measurement part was introduced with the assistance of IEC 60188 and IEC 60081.

It may also be noted that the colour coordinates for CCT 3 000 K and 4 200 K were adjusted to a point two units below Planck in order to take account of the life time shift to higher *y*-values.

Apart from these basic changes which had been needed for a long time, the new technique of low frequency square wave (LFSW) operation was implemented. This led to additional pages to the existing lamp data sheets and several annexes describing and specifying the requirements. Further, detailed requirements and measurement methods for the ignition (break down/take-over/run-up) were introduced. Intense discussions took place on measurement and specification of the peak-current ratio during ignition and steady state. Workshops were held in order to come to a broad worldwide acceptance of the concepts. The workshops were open to experts from the lamp and control gear side in order to accommodate the interface between control gear and lamp to these requirements.

Further lamp types which were considered to have market relevance and needing normative support were also added.

Major changes in the third edition were as follows. Compared to the second edition, a set of new lamp data sheets (20 W, 35 W, 50 W, 100 W) was introduced. Reference to ILCOS (International lamp coding system) was removed from the lamp data sheets and located in a new annex. Information on outer bulb temperature (and in some cases also on pin temperature and temperature adjacent to cap) was replaced with an explanation on differences in manufacturers’ construction; this explanation was given in detail in a new annex.

Major changes of this fourth edition are as follows. A total of 28 new data sheets have been introduced to specify lamp types designed for replacing high pressure sodium lamps, 4 200 K versions of 3 000 K lamp types already in the standard and lamp types where high frequency ignition is important. Annex G has been revised to incorporate high frequency ignition. As a consequence of this change, all data sheets in the standard have been revised to a new format. A new informative Annex K has been introduced, giving recommended methods of making lamp temperature measurements.

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning the lamp given in standard sheets 1035E, 1035F, 1070C and 1070D.

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

Panasonic Corporation

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Takatsuki City,

Osaka 569-1193,

Japan

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This document specifies the performance requirements for metal halide lamps for general lighting purposes.

For some of the requirements given in this document, reference is made to “the relevant lamp data sheet”. For some lamps, these data sheets are contained in this document. For other lamps, falling under the scope of this document, the relevant data are supplied by the lamp manufacturer or responsible vendor.

The requirements of this document relate only to type testing.

The requirements and tolerances specified in this document correspond to testing of a type test sample submitted by the manufacturer for that purpose. In principle this type test sample consists of units having characteristics typical of the manufacturer’s production and being as close to the production centre point values as possible.

It can be expected that with the tolerances given in this document, the product manufactured in accordance with the type test sample will comply with this document for the majority of production. Due to the production spread however, it is inevitable that there will sometimes be products outside the specified tolerances. For guidance on sampling plans and procedures for inspection by attributes, see ISO 2859-10.

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 edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-845, *International Electrotechnical Vocabulary – Part 845: Lighting* (available at http://www.electropedia.org)

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps*

IEC 60923, *Auxiliaries for lamps – Ballasts for discharge lamps (excluding tubular fluorescent lamps) – Performance requirements*

IEC 60927, *Auxiliaries for lamps – Starting devices (other than glow starters) – Performance requirements*

IEC TR 61341, *Method of measurement of centre beam intensity and beam angle(s) of reflector lamps*

IEC 62035, *Discharge lamps (excluding fluorescent lamps) – Safety specifications*

IEC 62471, *Photobiological safety of lamp and lamp systems*

CIE 084, *Measurement of luminous flux*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN