

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Metal halide lamps – Performance specification

Lampes aux halogénures métalliques – Spécifications de performance



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL STANDARD

NORME INTERNATIONALE



Metal halide lamps – Performance specification

Lampes aux halogénures métalliques – Spécifications de performance

INTERNATIONAL
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COMMISSION

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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references.....	9
3 Terms and definitions.....	10
4 Lamp requirements.....	12
4.1 General.....	12
4.2 Marking.....	12
4.3 Dimensions.....	12
4.4 Caps.....	12
4.5 Starting and warm-up characteristics.....	12
4.5.1 Lamps that may operate on electromagnetic ballasts.....	12
4.5.2 Lamps suitable for low frequency square wave ballasts only.....	13
4.6 Electrical characteristics.....	13
4.7 Photometric characteristics.....	13
4.8 Colour characteristics.....	13
4.8.1 Lamps with non-standardised chromaticity co-ordinates.....	13
4.8.2 Lamps with standardised chromaticity co-ordinates.....	13
4.8.3 Colour rendering index.....	13
4.8.4 Requirements and test conditions.....	14
4.9 Lumen maintenance and life.....	14
5 Information for ballast, ignitor and luminaire design.....	14
6 Data sheets.....	14
6.1 General principles of numbering sheets.....	14
6.2 Lists of data sheets.....	14
6.2.1 List of diagrammatic lamp data sheets.....	14
6.2.2 List of lamp data sheets.....	27
6.3 List of maximum lamp outline sheets (<i>construction according to IEC 61126</i>).....	175
Annex A (normative) Method of measuring lamp starting and warm-up characteristics.....	178
A.1 General.....	178
A.2 Measurements.....	178
Annex B (normative) Method of measuring electrical and photometrical characteristics (lamps for operation on 50 Hz or 60 Hz supply frequencies).....	180
B.1 General.....	180
B.2 Particular requirements for double-capped lamps.....	180
B.3 Colour characteristics.....	181
B.4 Supply.....	181
B.5 Instruments.....	181
B.6 Measurement.....	181
Annex C (normative) Method of test for lumen maintenance and life.....	184
C.1 General.....	184
C.2 Lamps for operation on 50 Hz or 60 Hz supply frequencies.....	184
C.3 Lamps for operation on low frequency square wave.....	184
Annex D (informative) Information for luminaire design.....	186
D.1 Maximum lamp outlines.....	186

D.2	Replacement of lamps	186
Annex E (normative)	Method of measuring electrical and photometrical characteristics on low frequency square wave reference ballast	187
E.1	Purpose of this annex	187
E.2	Characteristics	187
E.3	Test procedure	187
E.3.1	General	187
E.3.2	Start-up	188
E.3.3	Steady state	188
Annex F (normative)	Spectral analysis of power ripple: calculation procedure for amplitude spectrum ratio and guidance	189
F.1	General	189
F.2	Mathematical background	189
F.2.1	General	189
F.2.2	Description of the algorithm	189
F.3	Measurement procedure	190
F.4	Test signal	190
F.4.1	General	190
F.4.2	Description of the test signal	191
F.4.3	Outcome of the test signal	191
Annex G (informative)	Low frequency square wave operation	192
G.1	General	192
G.2	Information for square wave ballast design	192
Annex H (informative)	Information for ballast design	198
H.1	General	198
H.2	Explanation of the ignition schemes	198
Annex I (informative)	Information regarding lamp performance temperature limits for luminaire design	200
Annex J (informative)	ILCOS codes	202
Bibliography	205
Figure A.1	– Circuit diagram for measurement of lamp starting and warm-up characteristics	179
Figure B.1	– Circuit diagram for measurement of lamp characteristics	182
Figure B.2	– Luminaire simulator for use with double-capped lamps	183
Figure E.1	– Circuit for lamp measurement under reference conditions	188
Figure G.1	– DC current component	195
Figure G.2	– HF ripple and fast Fourier transformation (power curve)	196
Figure G.3	– Measurement of PCR during run-up and steady state	196
Figure G.4	– Example of a measurement circuit of lamp potential against earth	197
Figure G.5	– Commutation time, deviating waveform	197
Figure H.1	– Example 1 for ignition scheme according to option (1) (see Annex G and lamp data sheets)	198
Figure H.2	– Example 2 for ignition scheme according to option (1) (see Annex G and lamp data sheets)	198
Figure H.3	– Example for ignition scheme according to option (2) (see Annex G and lamp data sheets)	199
Figure I.1	– Principle ways of heat transport in a lamp	200

Table 1 – List of diagrammatic lamp data sheets.....	15
Table 2 – List of lamp data sheets	27
Table 3 – List of maximum lamp outline sheets	175
Table B.1 – Correlated colour temperature and chromaticity co-ordinates x and y	181
Table E.1 – Characteristics of the reference ballast	187
Table F.1 – Settings of the analysing oscilloscope	190
Table G.1 – Requirements for square wave operation	192
Table J.1 – Lamp coding.....	202

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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 third edition replaces the second edition published in 2011. This third 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 (20 W, 35 W, 50 W, 100 W) is introduced.
- b) Reference to ILCOS (International lamp coding system) is removed from the lamp data sheets and now located in a new annex.
- c) Information on outer bulb temperature (and in some cases also on pin temperature and temperature adjacent to cap) is replaced with an explanation on differences in manufacturers' construction; this explanation is given in detail in a new annex.

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

FDIS	Report on voting
34A/1809/FDIS	34A/1830/RVD

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

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

NOTE In this standard, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*
- Explanatory matter: in smaller roman type.

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- withdrawn,
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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 have been reached for introduction of new lamp types and in aspects of operation which led to the third edition.

Major changes of the **second edition** are as follows. Since IEC 62035 *Discharge lamps (excluding fluorescent lamps) – Safety specifications* was published in 1999, the related lamp specific performance standards like 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 has already been carried out with other HID lamps. So, in some instances, the “pilot” text of IEC 60188 has been used. Moreover, the measurement part has been 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 were needed for long time, the new technique of low frequency square wave (LFSW) operation was implemented. This has 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 for experts from lamp and control gear side in order to accommodate the interface between control gear and lamp to these requirements.

IEC SC34A MT PRESCO took the opportunity to add further lamp types which were considered of having market relevance and needing normative support.

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 1039-1, 1041-1, 1080-1, and 1082-1.

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

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

Panasonic Corporation
1-1 Saiwai-cho,
Takatsuki City,
Osaka 569-1193,
Japan

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Major changes of the **third edition** are as follows. Compared to the 2nd edition, a set of new lamp data sheets (20 W, 35 W, 50 W, 100 W) is introduced. Reference to ILCOS (International lamp coding system) is removed from the lamp data sheets and now located in a new annex. Information on outer bulb temperature (and in some cases also on pin temperature and temperature adjacent to cap) is replaced with an explanation on differences in manufacturers' construction; this explanation is given in detail in a new annex.

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METAL HALIDE LAMPS – PERFORMANCE SPECIFICATION

1 Scope

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

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

The requirements of this standard relate only to type testing.

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

It may be expected that with the tolerances given in the standard, the product manufactured in accordance with the type test sample will comply with the standard 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 IEC 60410.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-845:1987, *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*

IEC 60598-1, *Luminaires – General requirements and tests*

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*